OXFORD ECONOMICS AUSTRALIA

Regional Economic Transition Analysis – Worker Transitions in Latrobe Valley

Final report

December 2025

Disclaimer

The modelling and results presented here are based on information provided by third parties, upon which Oxford Economics Australia has relied in producing its report and forecasts in good faith. Any subsequent revision or update of those data will affect the assessments and projections shown.

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EXECUTIVE SUMMARY

KEY FINDINGS

There are an estimated 1,250 fossil fuel workers in the Latrobe Valley, with skills aligned with industrial sector needs

- Fossil fuel workers have high rates of vocational education with the potential to underpin priority investment areas in the region.
- These workers are predominantly employed in electricity generation facilities where closures are expected to result in significant job losses.
- An estimated 73% of these workers are in highly specialized roles with skillsets closely linked to the electricity generation sector.
- Fossil fuel workers are more likely to be male and closer to retirement age than the broader non-fossil fuel workforce.

Around 650 fossil fuel jobs are expected to be lost by 2035, with 350 workers retiring and 300 workers likely to undergo a workforce transition.

- Around 96% of fossil fuel workers requiring transition are potentially able to pursue a pathway into similar roles over the next decade, noting challenges for highly specialised mining roles.
- Just 4% of fossil fuel workers requiring transition are likely to move into a skill adjacent role, though this would increase if the Loy Yang A closure date is brought forward. Reskilling will be a critical component for workers to capture these opportunities.
- Priority investment areas will be important for supporting demand of similarly skilled roles. Growth opportunities for emerging workforce are also focused around health and education,

Strong VET infrastructure and investment will support training needs, but weak apprenticeship completion rates indicate some capacity risks.

- There are strong fundamentals to support the training needs of fossil fuel workers undergoing workforce transitions.
- The region has strong vocational skills footprint combined with extensive VET infrastructure, but apprenticeship completions have dropped sharply over the past few years, which may reflect constraints in the sector.
- Recent investments, such as the new Clean Energy Centre at Morwell, expanded capacity in renewables, EV servicing and smart grids, aligning well with priority investment areas and potential workforce transitions.

Employment demand in Latrobe Valley is sufficient to absorb fossil fuel workers.

- There is sufficient job availability in the region to absorb displaced fossil fuel workers, but relatively weaker growth in industrial roles compared to other parts of the workforce presents a risk to fossil fuel workers.
- The fossil fuel workforce is older with low rates of university education, which matches the profile of those at risk of longer unemployment duration.
- The higher wage levels combined with lower rates of education and generalist skill competencies compared to the broader workforce may pose challenges for workforce transitions.

Policy support for the region has been strong, but outcomes have been uneven.

- Hazelwood's 2017 closure triggered $1.6bn state investment via the Latrobe Valley Authority, boosting regional jobs and supporting workers to reskill.
- The initial transition support package devoted 90% of funding to economic diversification, with redeployment and reskilling sharing the remaining 10%.
- However, 26% of Hazelwood's workers remained unemployed 3 years later indicating that these policies did not guarantee positive outcomes. Coordinated, targeted transition supports through the EIJP, RWTP and state government programs will be important to support worker transition.

Learnings from previous policies could reduce the risk of sub-optimal outcomes.

- Diversification and retraining are currently the key levers to overcoming workforce transition barriers.
- A review of employment outcomes for the 2,000 qualifications acquired through previous funding could inform future retraining efforts.
- The staggered closure of the remaining power stations provides an opportunity for redeployment policies similar to the previous Worker Transfer Scheme.

INTRODUCTION

NZEA has engaged Oxford Economics to support evidence-based action in transition-affected regions.

Project Overview

The Net Zero Economy Authority (NZEA) commissioned this project to understand opportunities presented by the net zero transition for regional communities. There are a number of regions central to Australia's energy system and industrial base that face disproportionate exposure to structural shifts as emissions-intensive activities decline. The Hunter, Central Queensland and Latrobe Valley were prioritised for this project due to the size and complexity of their region and economies, but the analytical framework can be deployed in other regions. These regions also present opportunities to lead in clean energy generation, advanced manufacturing, and resource-based value-adding, provided that the right policy, investment and workforce conditions are in place. The project seeks to inform strategic planning and intervention by forecasting how regional economies will evolve under different decarbonisation scenarios.

Oxford Economics was engaged to deliver a structured, scenario-led analysis across three core domains. These include forward-looking forecasts of industry and labour market change, an assessment of each region's comparative advantages and investment potential, and a detailed examination of transition pathways for fossil fuel and related workers. The analytical framework integrates AEMO's 2025 transition scenarios with regional planning assumptions, closure timelines, and infrastructure settings to ensure alignment with real-world transition drivers. Regional priorities and economic exposures have been informed by the NZEA's own statistical framework, which identifies both downside risks and economic opportunities across Australia's key regions.[1] The analytical framework used within this project can be deployed across other NZEA priority regions beyond the Hunter, Central Queensland and Latrobe Valley.

The project aims to generate region-specific insights that can support practical decision-making across multiple levels of government. By quantifying the scale and timing of industrial change, identifying investment barriers, and mapping reskilling needs, the work creates an evidence base that links long-term economic modelling with near-term policy and program levers. This enables a more coordinated approach to managing transition risk while positioning each region to attract and retain high-value activity.

This work provides a foundation for coordinated, place-based action across governments, industry and communities. Outputs will support the NZEA's role in shaping policy, allocating resources, and engaging stakeholders on transition risks and opportunities. By identifying emerging demand for labour and skills, sectoral growth trajectories, and enablers of investment readiness, the project aims to assist in sequencing investment, workforce support and infrastructure development. Ultimately, the analysis will help ensure that transition efforts are locally grounded, forward-looking, and capable of delivering resilient and inclusive economic outcomes.

Project Components

The project was structured into three core analytical components to align with NZEA's transition objectives. Each stream was applied consistently across the Hunter, Central Queensland, and Latrobe Valley regions. Separate reports were developed for each component in each region to ensure depth, comparability, and regional specificity. In addition, a summary report has been developed synthesizing the key insights across all three project components.

Regional Economic Forecasts

This stream provides scenario-based projections of industry composition, employment, and skills demand across 5, 10, and 25 years. These forecasts are based on AEMO's 2025 transition scenarios and represent regional futures based on current trends and industrial structures within the region. Outputs include identification of sectors likely to decline, grow, or emerge, the timing of major structural shifts, and profiles of key workforce cohorts.

Regional Investment Analysis

Focusing on each region's strategic position, this stream identifies comparative economic advantages, evaluates barriers to investment, and highlights opportunities to attract net zero aligned industries. It also outlines region-specific enablers such as infrastructure, workforce capability, and resource availability that could support long-term industrial development beyond what is identified in the *Regional Economic Forecasts* report.

Worker Transition Analysis

Centred on transition-affected workers, this stream delivers occupational pathway mapping, retraining requirements, and an assessment of local training system capacity. It also provides targeted support strategies to address cohort-specific barriers and enable workforce mobility within the regional economy. The analysis considers both the likely future economic structure of the region as identified in the *Regional Economic Forecasts* report and opportunities identified in the *Regional Investment Analysis* report.

This report identifies the potential training needs of Latrobe Valley based on the fossil fuel workforce transitions expected over the coming decade.

Purpose of this Report

This report provides an assessment of potential workforce transition pathways for fossil fuel workers in the region. It forms part of the Net Zero Economy Authority's (NZEA) worker transition stream and supports its broader mandate to support workers and communities in adapting to the changes under the net zero transition. The focus is on analysing various worker transitions pathways available to the region's fossil fuel workers, and developing evidence-based advice to support these workers as they transition to different roles over the next 5 and 10 years.

The report draws on a wide range of data and inputs to develop the evidence base underpinning potential transition pathways available to fossil fuel workers in the region. Key inputs to this work are the labour market forecasts for the region from the *Regional Economic Forecasts* report under the *Step Change* scenario. This is supplemented with detailed labour market information on the current fossil fuel workers, job mobility information from Seek's candidate dataset, and skills and qualifications analysis developed by Oxford Economics. The forecasts produced within the *Regional Economics Forecasts* report are underpinned by the Australian Energy Market Operator's (AEMO's) energy transition scenarios* and do not include any crowding-in investment from the areas identified in the *Regional Investment Analysis* report.

Findings from this report will help identify potential transition pathways available to fossil fuel workers in the region, and the policy levers available to support these transitions. The outputs are designed to help NZEA and its partners understand the potential pathways fossil fuel workers may transition to new roles as facilities close in the region, the types of support required to make these transitions, the magnitude of training required within the region's labour market, and the policy levers that could be implemented to improve worker transition outcomes. These findings are intended to be validated by NZEA with regional stakeholders.

The structure and methodology are consistent across all NZEA priority regions. While the specific pathways and magnitude of training varies by place, each report follows a shared framework to ensure comparability and provides a basis for validation with local communities. The analysis is forward-looking and designed to inform decision-making over the next 5 to 10 years.

Report Structure

The report is structured around four core analytical components: identification of the region's fossil fuel workforce, analysis of potential transition pathways, analysis of the education & training needs of fossil fuel workers in the region and identification of transition barriers & enablers facing these workers. Each of these analytical components are critical to informing a wholistic view of the policy levers required to support fossil fuel worker transitions in the region which is outlined in the final section of this report.

LATROBE VALLEY'S FOSSIL FUEL WORKFORCE: This section provides an overview of Latrobe Valley's fossil fuel workforce including characteristics of the workers and changes to future demand under the *Step Change* scenario as modelled in the *Regional Economic Forecasts* report.

POTENTIAL TRANSITION PATHWAYS: This section outlines the three core transition pathways available for Latrobe Valley's fossil fuel workers and provides an estimate of the training needs for these workers to support worker transitions.

EDUCATION & TRAINING ENVIRONMENT: This section assesses the current training capacity of Latrobe Valley and provides an estimate of the training needs for fossil fuel workers under the identified transition pathways.

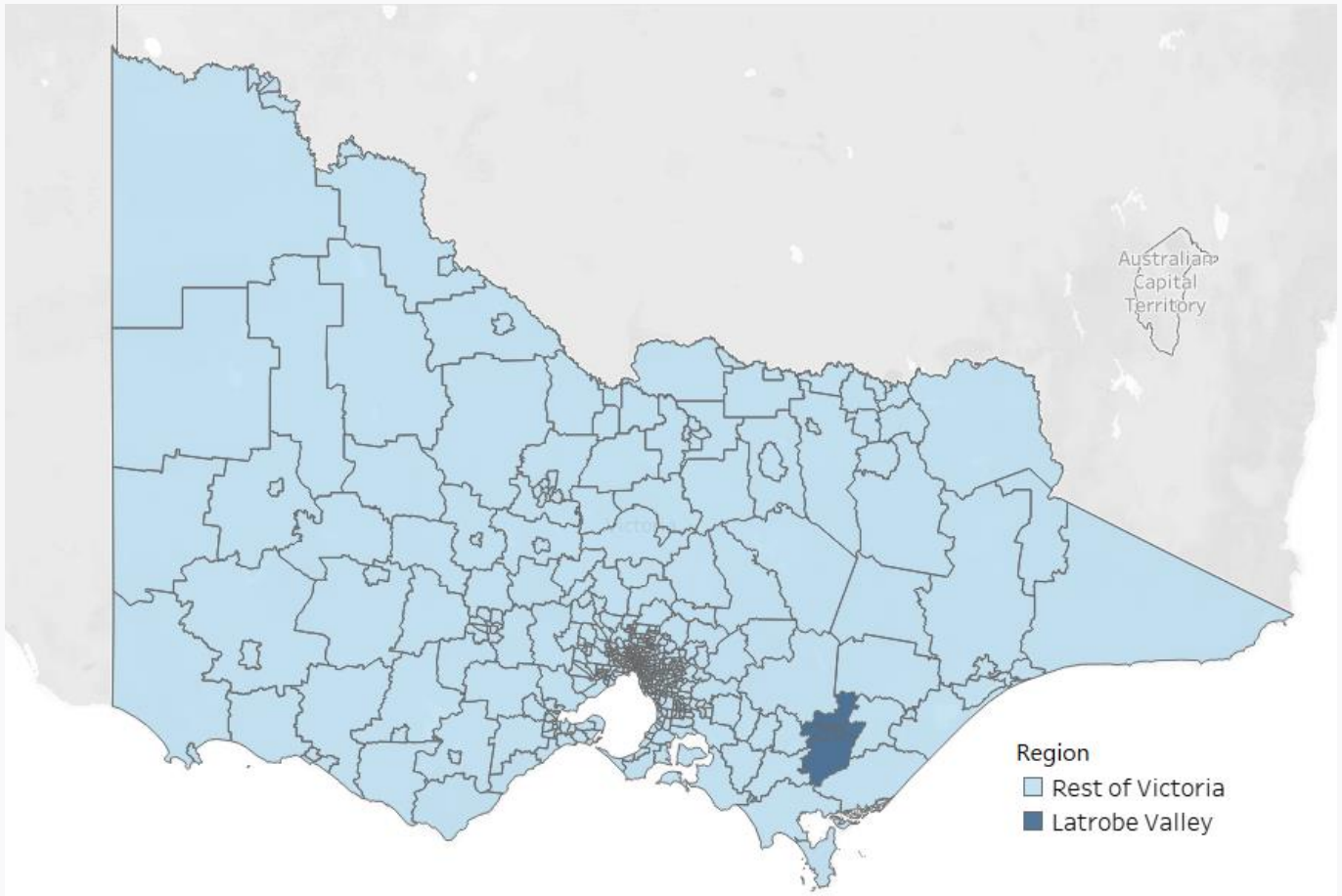
TRANSITION BARRERS & ENABLERS: This section identifies the key barriers and enablers facing worker transitions including the regional capacity of the labour force, differences in role characteristics, demographic considerations, and current support programs and alternative support programs to be considered.

POLICY GAP ASSESSMENT: This section outlines the recommended policy levers that could be used to support fossil fuel worker transitions in Latrobe Valley.

APPENDICES: This section provides technical detail on the definitions, approaches and data sources used within the analysis of this report.

The analysis in this report is focused on the Latrobe Valley which is defined as the combination of six SA2 regions.

Latrobe Valley map



Latrobe Valley SA2 listing

State	Working Zone Name	SA2 Name	SA2 Code
VIC	Latrobe Valley	Churchill	205041094
VIC	Latrobe Valley	Moe - Newborough	205041095
VIC	Latrobe Valley	Morwell	205041096
VIC	Latrobe Valley	Traralgon - East	205041493
VIC	Latrobe Valley	Traralgon - West	205041494
VIC	Latrobe Valley	Yallourn North - Glengarry	205041098

Source: Net Zero Economy Authority, Australian Bureau of Statistics
Note: *All analysis in this report is for the Latrobe Valley region. Gippsland (the area to the South of Latrobe Valley down to the coast) is considered a different Working Zone and is not covered in this report. Where Gippsland is mentioned throughout this report, this is in reference to specific projects that may be outside of the Latrobe Valley region but have impacts on the employment outlook for Latrobe Valley. All employment figures refer specifically to Latrobe Valley.*

LATROBE VALLEY REGION'S FOSSIL FUEL WORKFORCE

The fossil fuel workforce has an older age profile, suggesting many workers will enter retirement in the coming decade as the industry declines.

The current fossil fuel workforce in Latrobe Valley

The Latrobe Valley is estimated to employ approximately 1,250 fossil fuel workers as of 2024, representing 3.5% of the region's total workforce. The fossil fuel workforce is spread evenly between coal mining and fossil fuel electricity generation. Most fossil fuel employees work at AGL, Energy Australia and Alinta Energy, who together operate the Yallourn and Loy Yang A&B power stations and associated coal mines. In 2021, Energy Australia announced that the Yallourn coal mine and power station are set to close in 2028. The Loy Yang A power station and mine are set for closure in June 2035, with power station B set for closure in 2047. A large portion of the workforce will be required to transition into new roles over the next 10 years.

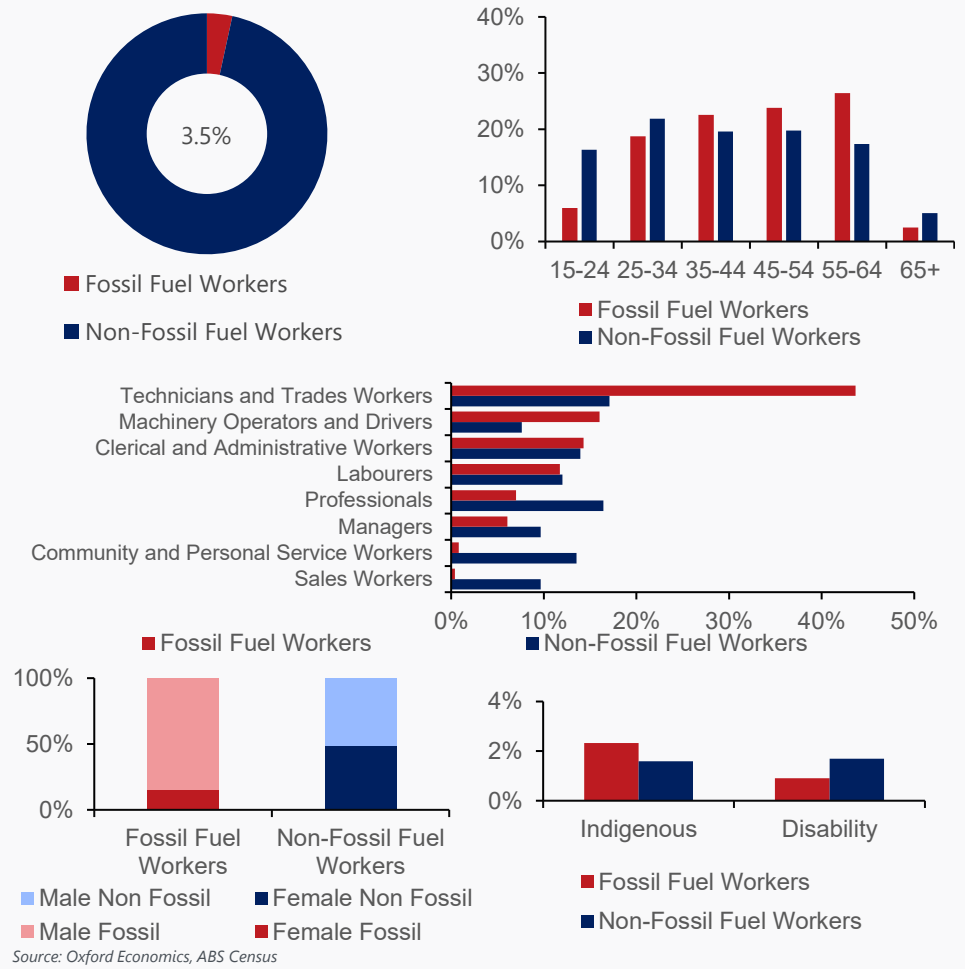
The occupational makeup of the fossil fuel workforce has some significant differences from the wider Latrobe Valley. The fossil fuel workforce is heavily concentrated around technicians & trade workers (43.7%), followed by machinery operators & drivers (16.0%), clerical & administrative workers (14.3%), and labourers (11.7%). Clerical & administrative workers and labourers are likely to find new roles outside the fossil fuel industry, given the similar levels of concentration in the non-fossil fuel workforce. However, the larger concentration of technicians & trade workers and machinery operators & drivers suggests that pathways into alternate occupations may be required.

Fossil fuel workers skew older, with 50.3% falling between the ages of 45-64 compared to 37.1% for the non-fossil fuel workforce. The age difference is predominantly driven by more 55-44-year-olds in fossil fuel jobs, potentially related to the specialised nature of the roles. The workforce age profile of Latrobe Valley's fossil fuel workforce suggests a greater-than-average proportion may exit the labour force through retirement and will not require transition support.

The Latrobe Valley fossil fuel workforce is primarily male. Males make up 84.5% of fossil fuel workers compared to 51% of the non-fossil fuel workforce. The prevalence of male workers is partially explained by the concentration of machinery operators & drivers and technicians & trades workers, which tend to skew heavily towards male workers. However, the share of men within these male-dominated occupations is even higher within mining, skewing the workforce more heavily towards male workers than the occupation makeup would suggest.

Workers who identify as needing assistance with core activities are underrepresented in the fossil fuel industry. Only 0.9% of workers identify as having a disability compared to 1.7% of the region's non-fossil fuel workers. Meanwhile, there is a higher percentage of First Nation peoples employed in the fossil fuel workforce (2.3%) compared to in the non-fossil fuel workforce (1.6%). The higher representation of First Nations peoples suggests targeted support measures may be needed for this group.

Latrobe Valley fossil fuel worker profile



Source: Oxford Economics, ABS Census

Staggered power station closures will drive the decline in demand for the region's fossil fuel workers, with closures expected in 2028, 2035 & 2047.

Outlook for fossil fuel worker employment in the Latrobe Valley

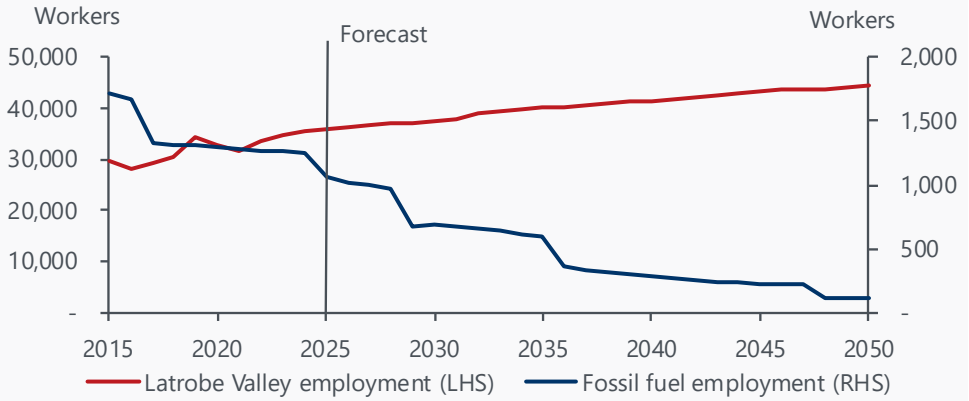
Latrobe Valley's fossil fuel employment has been in structural decline since the 2017 closure of the Hazelwood Power Station, despite the region's overall workforce growing at 2.8% p.a. to 2024. As a result, the proportion of fossil fuel workers within the total workforce has fallen from 5.8% in 2015 to an estimated 3.0% in 2025.

The contraction of the fossil fuel workforce over the last 10 years can largely be attributed to the closure of the Hazelwood Power Station. The region's fossil fuel workforce did receive a small boost in 2021 when Alinta Energy reshored its contact centre operations in Morwell. However, the planned closures of Yallourn (2028), Loy Yang A (2035) and Loy Yang B (2047) are expected to continue to put this downward pressure on the region's fossil fuel workforce in the coming decades.

Projections indicate a sharp reduction in demand for fossil fuel workers in the region, with employment expected to fall by 52% by 2035, with a further downturn expected in 2036 when Loy Yang A is closed. Were Loy Yang A to close earlier than announced, the decline in employment of fossil fuel workers could increase to 72% by 2035. As it stands, an estimated 650 roles are projected to be lost by 2035 over the forecast period, leaving 600 workers in the sector by 2035*. Drillers, miners and shot firers represent 14% of the current fossil fuel workforce and are expected to decline 43% by 2035. The decline in fossil fuel employment demand is expected to continue beyond 2035, with the regions power stations all slated to close by 2050.

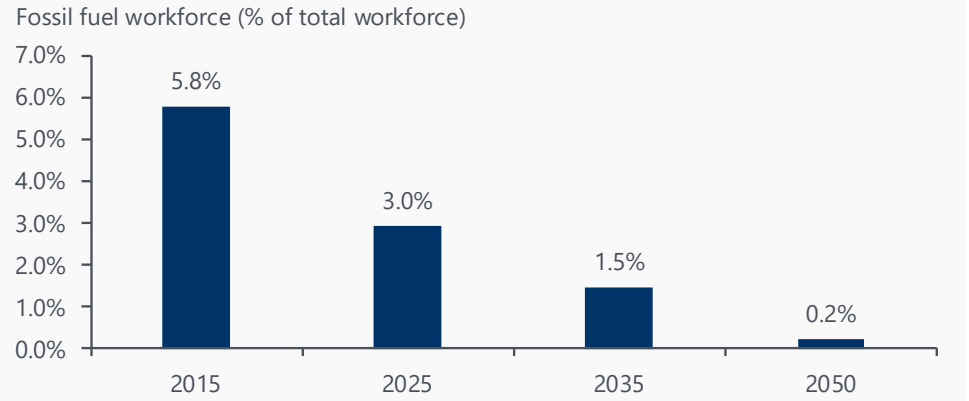
The fossil fuel workforce is largely concentrated in the older working-age cohort, with approximately 29% expected to retire by 2035. This natural attrition is likely to reduce the number of workers requiring support through transition pathways, even as fossil fuel employment demand declines. Around 300 fossil fuel workers are expected to transition into new roles within the region by 2035.

Fossil fuel worker employment, 000's, 2015 - 2050



Source: Oxford Economics based on AEMO Step Change Scenario

Fossil fuel share of workforce, 2015 - 2050



Source: Oxford Economics based on AEMO Step Change Scenario

**Roles lost to 2035 include only the Yallourn closure, alongside a gradual decline in demand for fossil fuel workers.*

POTENTIAL TRANSITION PATHWAYS

We have estimated 300 fossil fuel workers are likely to undertake a workforce transition by 2035 based on the current make up of the workforce and changes to demand over time.

Method for quantifying the workforce transition need

650
fewer fossil fuel roles

Under the *Step Change Scenario* the expected loss of fossil fuel roles is 650 due to closures in fossil fuel generators and mines.*

350
workers likely to retire

Around a third of the current fossil fuel workforce is aged 55+. We assume that these workers exit the labour market in the 10 years to 2035, reducing the size of the workforce likely to undertake workforce transitions to 300**.

300
workers likely to undertake a workforce transition

Most of the workers likely to undergo a transition into a new role are in key specialist roles (73%), followed by highly transferable roles (26%) and a small number of other specialist roles (1%).

Key specialist roles - 73%
Largest 10 roles with skills highly relevant to fossil fuel activities including drillers, miners & shot firers, metal fitters & machinists, structural steel construction workers, chemical, gas, petroleum & power generation plant operators, structural steel & welding trades workers, electricians, other building & engineering technicians, other miscellaneous labourers, production managers and earthmoving plant operators

Other specialist roles - 1%
Other roles with skills highly relevant to fossil fuel activities

Highly transferable roles - 26%
Back office functions and transferable on-site functions

Source: Oxford Economics based on AEMO Step Chance scenario

**Roles lost to 2035 include only the Yallourn closure, alongside a gradual decline in demand for fossil fuel workers. The closure of Loy Yang A in 2035 is expected to result in job losses from 2036, although there is a risk this is brought forward, in which case the loss of fossil fuel roles would be much larger.*
***While these 350 workers are expected to leave the workforce over the next decade, many may be impacted in the short-term with the closure of Yallourn in 2028.*

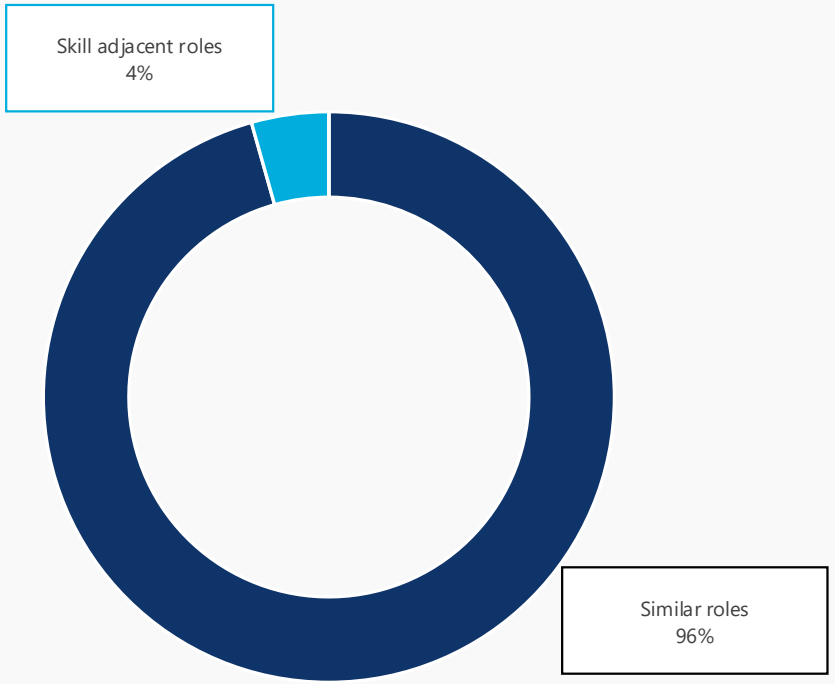
There are four pathways that fossil fuel workers can take as they transition to other roles in the Latrobe Valley economy.

Transition pathway	Similar roles	Skill adjacent roles	Growth roles	Workforce exits
	Similar roles are those that are the same or nearly identical to other roles within the regional workforce.	Skill adjacent roles are roles where qualifications and/or skills have similarities to other roles within the regional workforce.	Growth roles are those with strong demand in the region where specialist skills and qualifications are not well aligned to fossil fuel workers' skill sets.	A proportion of fossil fuel workers will continue to retire each year, exiting the workforce naturally as they enter retirement.
Support measures	**Transition support** will enable workers to identify the types of roles they are suitable for and the industries these roles are often in. This support often takes the form of employment services or financial assistance. Supporting workers into equivalent roles where their qualifications and skills are aligned should be prioritized as this pathways has the lowest investment requirement. Emphasis should be placed on growing and stable industries to provide longer-term role security for transitioning workers.	Supporting workers to identify and undertake **reskilling and upskilling** opportunities that align with current skills and qualifications will enable workers to transition to a skill adjacent role. Minimal training is needed to bridge the gap between a worker's current role and an identified skill adjacent role which can reduce pressure on the education system. Reskilling & upskilling should focus on pathways that minimise time out of employment and educational resources needed, while offering access to stable employment that leverages workers' existing skills and experience.	**Retraining** pathways should highlight qualifications that lead to roles in growing or stable industries to support long-term job security and living standards for at-risk workers. Significant training will be needed to retrain at-risk roles requiring investment from the worker, their employer and the region's education system. There are two key components of retraining support – the provision of training through educational pathways, and support to enable at-risk roles to identify new employment opportunities.	Workers exiting the workforce due to retirement will not require workforce transition support. In some cases, these workers may need financial advice to support their retirement decisions and planning*.
Additional considerations	Regional demand will determine how many workers can access transition support. Where a surplus of similar roles exists, prioritisation should be given to reskilling & upskilling over retraining.	Where workforce supply exceeds demand for workers in skill-adjacent roles, retraining may be required.	Retraining will also be required where there is a surplus of workers with similar and skill-adjacent roles.	Consideration should be given to the types of roles that tend to have older age cohorts and how this will impact workforce support pathways.

Notes: The workforce transition methodology appendix presents a decision tree outlining how fossil fuel workers can be assessed to ensure they receive the most appropriate employment support for their transition.
** A review of retirement support policies and requirements is outside the scope of this project.*

Employment demand in similar and skill adjacent roles is sufficient to absorb the 300 fossil fuel workers likely to undergo workforce transitions.

Fossil fuel workforce transition pathways



Source: Oxford Economics

Headline analysis of transition pathways

Similar roles across other industries present a significant opportunity for the transition of fossil fuel workers, with the potential to absorb the majority of workers displaced by the sector's decline. Many fossil fuel workers possess transferable skills that enable them to remain within their current occupations or transition into closely related roles in different industries such as infrastructure, utilities and industrial services. There may be some challenges early in the forecast period when demand from other industries is relatively muted but many roles begin transitioning with the closure of Yallourn power station. Highly specialised roles, particularly relating to mining, have limited opportunities to move into similar roles, while all highly transferable roles are expected to find opportunities outside the fossil fuel industry.

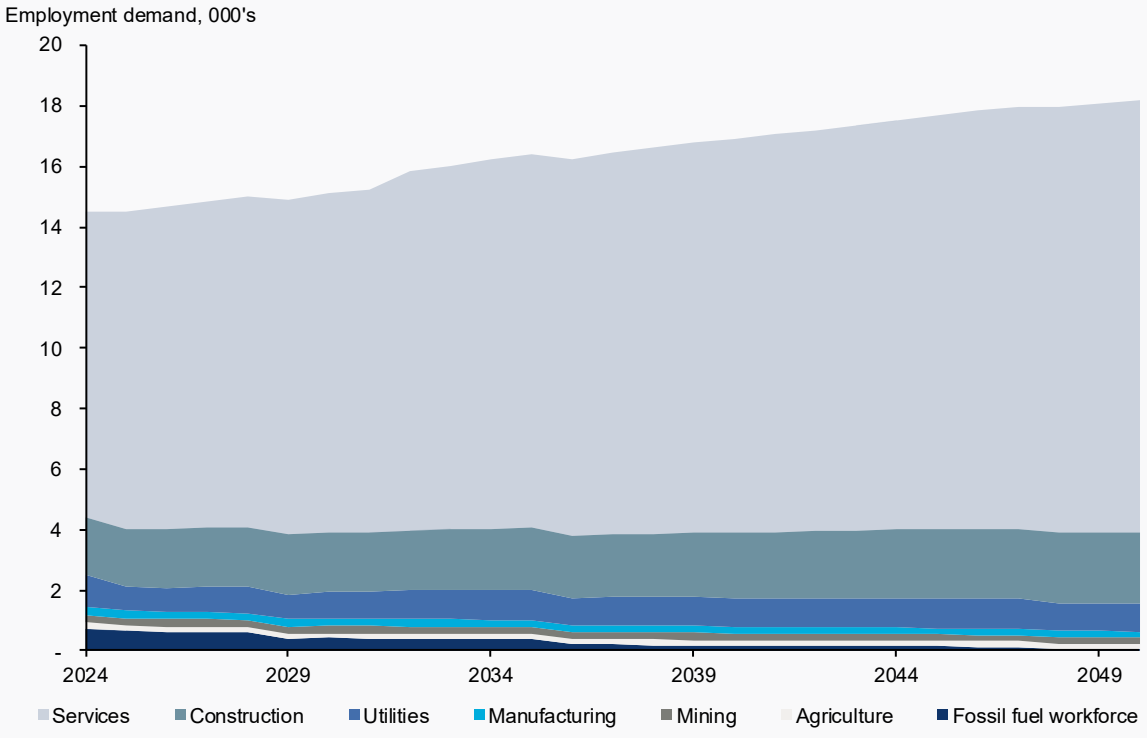
Skill adjacent roles are not the primary pathway for most fossil fuel workforce transitions, but are critical for some highly specialised roles and also remain a viable alternative capable of absorbing a portion of the transitioning workforce. Roles that are specialised in mining related activities generally fall into this category. In addition, these roles may appeal to workers seeking greater job security or better alignment with emerging industry needs. Pursuing this pathway is likely to require support regarding reskilling into different specialist skills areas and upskilling in generalist skills such as digital engagement, planning & organising and communication. This may need to include activities to recognise on-the-job experience within the qualifications framework and comply with required competencies in new specialist areas through accredited training providers.

Growth roles are not a critical pathway for fossil fuel workforce transitions, as similar and skill adjacent roles are more likely to absorb the majority of displaced workforce. However, competition from new entrants may limit access to similar and skill adjacent roles for transitioning workers. As such, facilitating pathways into high-growth occupations remain an important element of transitioning pathways consideration. Given that growth roles often exist in entirely different industries, fossil fuel workers are unlikely to be able to utilise their specialised skills directly. As a result, support is likely required to equip fossil fuel workers with necessary skills and qualifications to transition into these opportunities. Under a *Step Change* scenario, high growth roles are concentrated in high skill health roles, alongside lower skill roles in administrative support and hospitality. Professional services also present opportunities for engineering-related positions. Priority investment areas for the region also present important growth opportunities for fossil fuel workers, as these industries are well aligned to the fossil fuel workforce skillset.

Note: Roles lost to 2035 do not include the closure of Loy Yang A in 2035 which is expected to result in job losses from 2036. If these job losses are included in the analysis we would expect that a much larger proportion of impacted workers would need to transition into skill adjacent roles, and there is a risk that there is not enough capacity outside the fossil fuel industry to absorb these workers ultimately requiring reskilling to capture growth roles in the economy.

The majority of the 300 estimated workers needing transition by 2035 could be absorbed into similar roles in non-fossil fuel related industries such as construction and utilities.

Employment demand for similar roles, by industry



Source: Oxford Economics based on AEMO Step Change Scenario

Analysis of similar role transition pathways

Employment demand for similar roles across the region is expected to grow steadily over the forecast period. Demand from industrial sectors is relatively muted in the near-term when the closure of Yallourn power station is likely to result in significant demand from fossil fuel workers. Post 2030 demand begins to pick up in industrial sectors which provides opportunities for fossil fuel workers.

Around 96% of roles in the fossil fuel workforce are expected to be able to transition to similar roles within the Latrobe economy, requiring minimal formal training or intensive support programs. Nonetheless, workforce transition could benefit from programs such as career guidance, job search assistance, recognition of experience in formal training and support for obtaining specific credentials with accredited training providers.

Latrobe's construction growth and consistent demand across utilities and manufacturing sector offer sufficient capacity to absorb specialist fossil fuel workers, aligning their existing skills with emerging demand. Even highly specialised roles such as chemical, gas, petroleum and power generation plant operators have opportunities in similar roles across the energy and chemical manufacturing sector. Additionally, many workers in these roles belong to older age group, with a large proportion expected to retire over the next 10 years. Given the sufficient demand and projected natural turnover, these roles are also highly transferable across industry and represent a relatively small proportion of the regional workforce.

The widespread presences of office roles across all industries present a viable pathway for transferable workers within the fossil fuel sector. These workers are highly mobile and ready to transition with limited support needed. Transferable roles account for 26% of the fossil fuel workforce, including roles in HR, cleaning and food preparation which are in significant demand across the services sector. The region's employment outlook suggests these workers can transition into other industries, especially the large and growing services sector.

Fossil fuel workers transitioning into comparable roles may face some competition from new entrants to the labour market. This challenge is particularly significant for key specialist roles, given the broader slowdown in industrial employment growth under a Step Change Scenario. However, their prior experience is likely to make them more competitive than relatively newer workers. In addition, priority opportunities identified in the Regional Investment Analysis are also likely to present additional opportunities for these roles.

Skill adjacent pathways may be required for some highly specialised fossil fuel roles with most requiring some form of reskilling.

Analysis of skill adjacent roles

Around 4% of fossil fuel workers will need to transition into skill adjacent roles after taking into account similar role possibilities. This represents the remainder of the fossil fuel workforce after accounting for potential similar role opportunities. Skill adjacent workforce transitions are likely to require formal training support in either upskilling or reskilling.

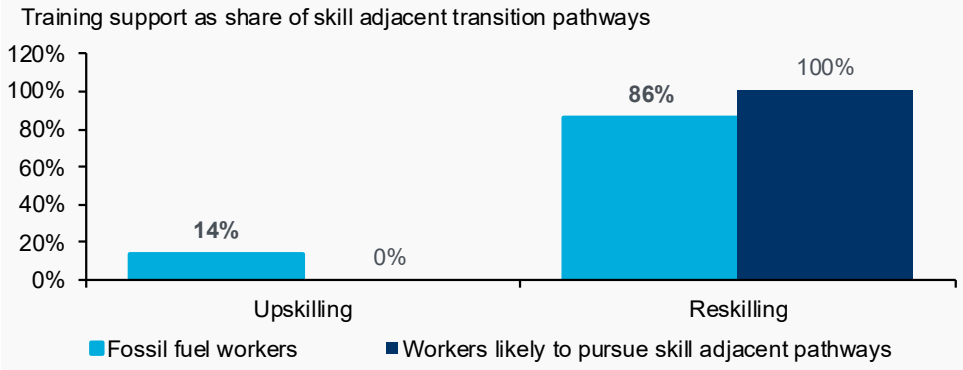
Transitioning into skill-adjacent roles for the general fossil fuel workforce is likely to require reskilling given the specialised nature of fossil fuel skill sets. Most reskilling is likely focus on building and business & management specialist skills. Regarding foundational and generalist skills, fossil fuel workers are likely to need to upskill in most areas, particularly in digital engagement, communication and planning & organising.

Production mangers (e.g. mine manager, mine superintendent) and other building & engineering technicians (e.g. mine deputy, metallurgical or materials technicians) are highly likely to pursue skill adjacent roles pathways due to their specialised skills set in the mining industry. These occupations account for 7% of the fossil fuel workforce with the majority of these workers likely to pursue skill adjacent role opportunities. Skill adjacent opportunities for other building & engineering technicians are predominantly in technician and trades worker roles, while production managers are more likely to move into office management roles. Reskilling will be required to enable these movements, with business & management as well as engineering related specialist areas likely to be most relevant.

Workers needing to undergo a transition into skill adjacent roles are likely to require upskilling in key generalist skills. Other building and engineering technicians are highly skilled and are likely to need minimal upskilling to transition to skill-adjacent roles given the strong alignment between roles. Whereas production managers, though also highly-skilled workers, may need upskilling in numeracy, writing, planning & organising and problem solving.

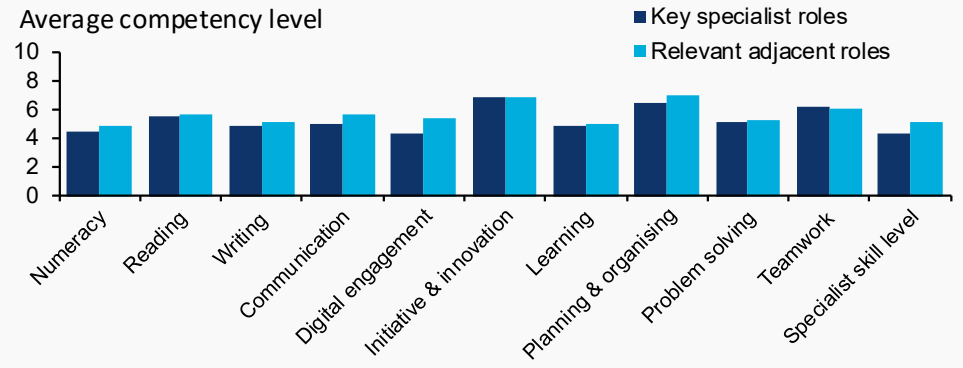
Development of priority industries as identified in the *Regional Investment Analysis* report would further support skill adjacent opportunities. Most of the fossil fuel workforce exploring this transition pathway are likely to have relatively high skill levels associated with industrial activities. Training focused on expanding skill sets into high priority areas such as renewables and manufacturing will be important.

Upskilling and reskilling requirements for skill adjacent roles



Source: Oxford Economics

Average skills competency for key specialist roles



Source: Oxford Economics

High growth roles under the current outlook would require fossil fuel workers to significantly invest in retraining, while priority investment areas present skill aligned opportunities.

Analysis of growth role opportunities in the Latrobe region

While fossil fuel workers will be able to move into similar or skills adjacent roles within Latrobe Valley, there are broader opportunities across the workforce that may be of interest for some workers that require retraining.

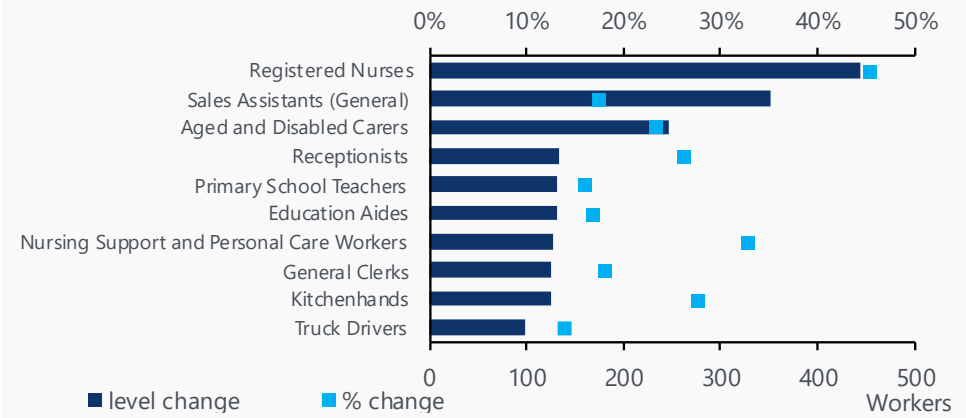
Demand for fossil fuel roles is expected to decline in Latrobe Valley, but there are roles that are expected to grow strongly over the forecast period. These high growth roles present additional opportunities for fossil fuel workers undertaking workforce transitions. Total employment demand in the Latrobe region is expected to grow from 36,000 in 2025 to 40,000 by 2035 under *Step Change* scenario. This translates to net employment gains over 10 years of around 4,400, which is below the approximately 6,000 increase experienced in the prior decade. This slowing pace suggests increased competition and structural shifts in key industries.

There is limited overlap of the skills and experience held by fossil fuels workers and those required in the high growth roles. Registered nurses are projected to experience the largest increase in job demand, driven by the region's aging population and growing need for healthcare services. The outlook for healthcare and education positions in general are in high demand. The fossil fuel workforce is primarily composed of machine operators (24%) and trades workers (36%). However, these are not the types of roles in high demand over the forecast period. Due to the differences in skill sets and industry requirements, the transition pathways into these high growth occupations are likely to require significant retraining investment and are more suitable for some of the support roles within the fossil fuel workforce.

Specialist skills in nursing, human welfare studies & services, teacher education, and business & management are anticipated to experience significant demand over the forecast period. These fields highlight the growing need for specialized skills that can support the societal needs of the regions. The demand for specialist skills held by fossil fuel workers is projected to decline significantly by 2035, as the region undergoes an industrial shift. This indicates that fossil fuel workers will need to reskill into areas that are significantly removed from their current area of specialization to tap into the high growth opportunities. This may be easier for some of the highly transferable roles, especially in back-office positions, but presents challenges for key specialist roles with specialist skill sets focused on areas in decline. Furthermore, while on-the-job training roles presents opportunities for fossil fuel workers, the challenge remains as these roles often do not leverage their existing specialized skills and experience.

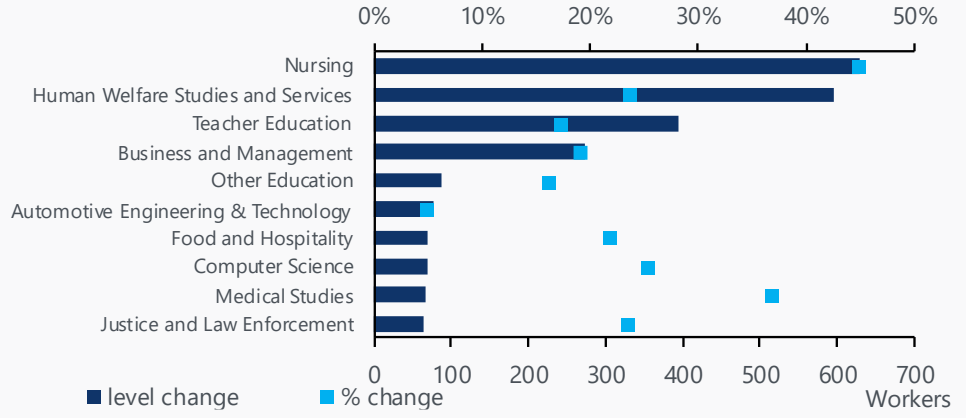
The priority areas identified in the *Regional Investment Analysis* present potential growth opportunities which leverage off the skills set of fossil fuel workers. Machinery operators & technicians, logistics support and operational management are all areas where workforce demand is likely to increase under off-shore wind, food & fibre manufacturing and transport & logistics projects. Challenges around transitioning mining and coal generation specific skills sets are likely to remain, but the industrial nature of the work is well aligned to the fossil fuel workforce with a high percentage of workers able to move to similar job roles.

Largest growth opportunities by role, 2024-2035



Source: Oxford Economics based on AEMO Step Change Scenario

Largest growth opportunities by specialist skill, 2024-2035



Source: Oxford Economics based on AEMO Step Change Scenario

EDUCATION & TRAINING REQUIREMENTS

Vocational training uptake has been strong, with the potential to underpin priority investment areas, provided completion rates can be improved.

VET sector analysis

The vocational and education training (VET) sector is a critical pathway for supplying skills into the Latrobe Valley's workforce. Around 43% of the workforce hold a VET qualification as their highest qualification, with high concentrations in mining, construction, utilities and other services industries.

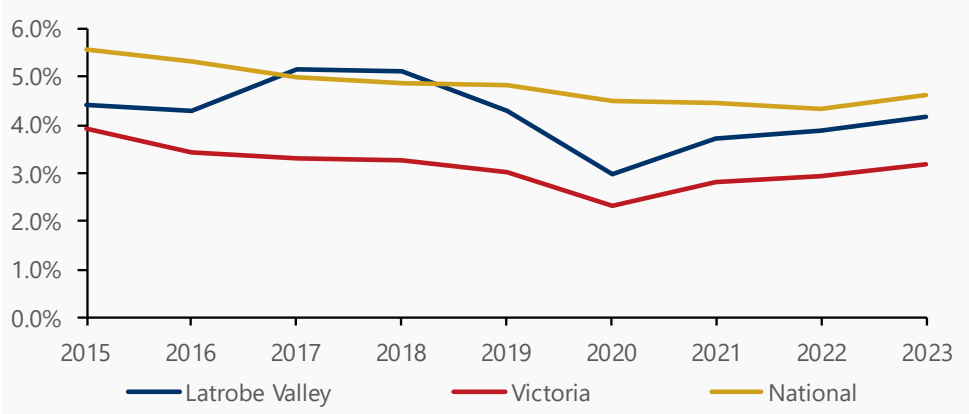
The region is serviced by TAFE Gippsland, which operates three campuses within the Latrobe Valley (Morwell, Yallourn, Traralgon) and a further six across the wider Gippsland region[1]. Each campus has a distinct industry focus: Morwell specialises in horticulture and hospitality, Yallourn in traditional trades such as automotive, metal fabrication, gas-fitting, and electrotechnology, and Traralgon in service-oriented fields including hair and beauty, community support, and business[2,3,4].

Looking forward, TAFE Gippsland is investing in clean energy skills through a new Clean Energy Centre at the Morwell campus, with capacity for 200 students in its first year[5]. The centre will deliver training in onshore and offshore wind, hybrid and electric vehicle servicing, and smart-grid technologies. These programs align with the Victorian Government's Fee-Free TAFE initiative, which currently supports courses in electrotechnology and civil construction as well as short courses in hybrid and battery EV servicing and rooftop renewable energy systems[6]. This expansion is designed to ensure local workers and school-leavers are positioned to participate in the state's energy transition. The strong presence of VET provision in the region, alongside recent investments to expand capacity, indicates that the relatively small number of directly affected workers could be effectively supported to access retraining services where required, ensuring alignment between transition needs and available training pathways.

Completion trends in the Latrobe Valley mirror broader state and national dynamics. While VET completion rates have rebounded since the pandemic, they remain below pre-pandemic levels. In 2023, 4.2% of the local population completed a VET course, compared to 4.4% in 2015 and below the national average of 4.6%. Total completions in 2023 were 5.3% lower (110 fewer completions) than in 2015, largely due to a decline in commencements. Enrolments fell from a post-pandemic high of 7,850 in 2022 to 7,000 in 2023, suggesting modest pressure on future completion levels despite the recent upward trend.

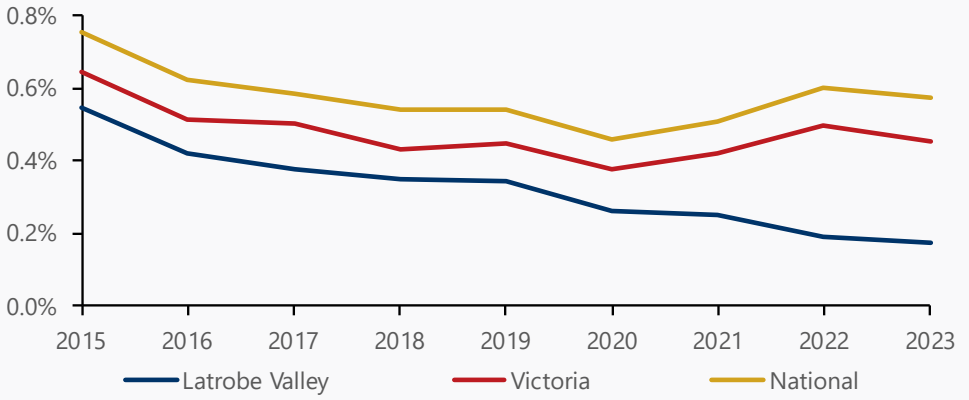
Apprenticeships remain central to meeting skill needs in trades such as construction, utilities, and manufacturing; however, completions have declined sharply. The apprenticeship completion rate fell from 1.9% in 2015 to 0.6% in 2023, reducing completions from 900 to 300 over the period. The Latrobe Valley, once well above state and national apprenticeship completion benchmarks, now sits closer to parity, with particularly steep declines in engineering and related technologies, architecture and building, and management and commerce. This trend could be a result of capacity challenges in the apprenticeship sectors in the region.

VET program completion rates, 2015 to 2023



Source Oxford Economics, NCVER

VET apprenticeship completion rates, 2015 to 2023



Source Oxford Economics, NCVER

**Completion rate is calculated as total completions as a share of the 15 to 64 year old population.*

The higher education sector has invested in research and training resources to help the region adapt to the net-zero transition and create clear education-to-job pipelines.

Higher education sector analysis

The higher education (HE) sector is an important education pathway for the supply of a highly skilled workforce in the Latrobe Valley. Around 21% of the workforce hold a HE qualification as their highest qualification, with high concentrations in education, health industries and professional services.

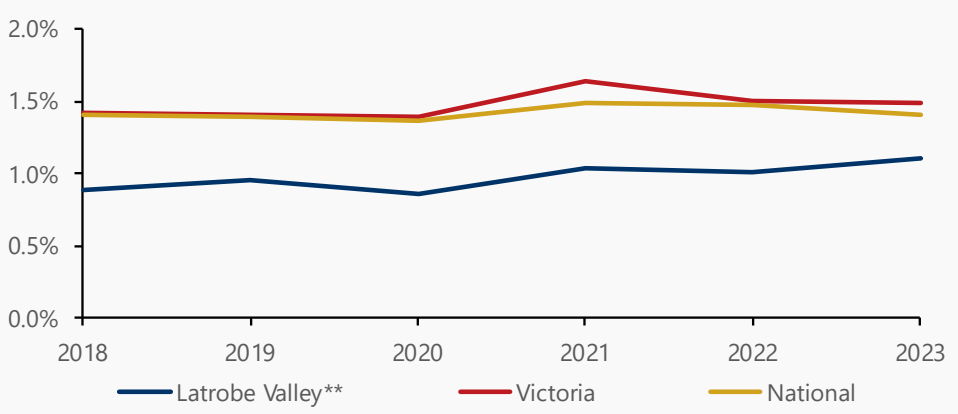
Federation University Australia is the primary provider of higher education in the region, anchored by its Gippsland (Churchill) campus in Latrobe City. Monash Rural Health also maintains a presence in the Valley, with teaching sites at Churchill (co-located with Federation University) and at Traralgon (co-located with Latrobe Regional Hospital).

Domestic student completions at Federation University reached a record 2,000 in 2023. Completion rates have strengthened in recent years, primarily driven by stronger health completions, enabling the Latrobe Valley to close the gap with state and national benchmarks, which have remained relatively stable since 2018. Enrolments have remained resilient, even during the pandemic, indicating that the 2023 peak is sustainable and will support a steady pipeline of graduates in the coming years.

Federation University is recognised for excellence in nursing, clinical sciences, human movement and sport sciences, and civil engineering. Targeted investments in civil engineering are supporting the region's transition to net zero. In 2022, the university established the Centre for New Energy Transition Research with $2.43 million in federal funding, enhancing its capacity to produce research and graduates equipped with skills in microgrids, renewable energy integration, low-emission fuels, and hydrogen[7]. In parallel, the Asia Pacific Renewable Energy Training Centre Gippsland (APRETC) opened in 2024, further strengthening renewable energy training and research[8]. Backed by industry partners including Corio Generation, OSMI Australia, Iberdrola Renewables Australia, and Origin, the centre has secured $2.6 million in investment, with $1.6 million allocated to fund 300 scholarships over the next decade.

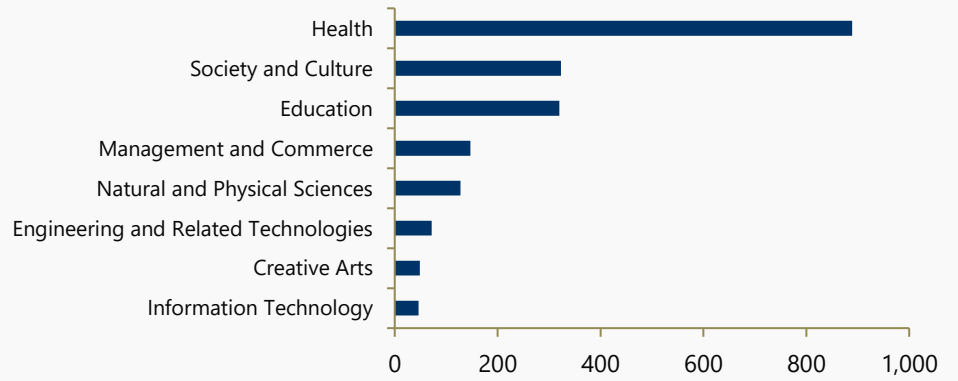
Building on these initiatives, Federation University is seeking a structured legislative framework and coordinated government investment to expand student capacity in health, business, education and utilities[9]. Specific funding requests designed to accelerate the Latrobe Valley's clean energy transition include priority funding requests of $3.9 million to expand APRETC with new teaching spaces, a clean energy research hub, and an energy jobs portal; $8 million for a Latrobe Valley Energy Careers Transition Hub in Traralgon to support worker retraining and school-leaver engagement; and $15 million to revitalise the Churchill campus through upgraded learning spaces, expanded hydrogen education, and conversion to net-zero operations. A further $5 million is proposed for a Mixed Energy Demand and Micro-Production Hub, which would develop five regional test sites to deliver practical training in micro-energy production across rural, industrial, and commercial settings.

HE course completion rates, 2018 to 2023



Source Oxford Economics, Department of Education

Most common HE course completions by field of education, 2023



Source Oxford Economics, Department of Education

*Completion rate is calculated as total completions as a share of the 15 to 64-year-old population.
** Federation University serves the wider Latrobe-Gippsland region; the completion rate is calculated from the Latrobe-Gippsland population.*

TRANSITION BARRIERS & ENABLERS

Role specific barriers around skills, qualifications and wages present significant barriers to workforce transitions, exacerbated by the age structure of the workforce.

Workforce barrier analysis

Regional barriers to workforce transition for fossil fuel workers appear to be relatively limited, with sufficient capacity to absorb displaced workers and enable their mobility. There are numerous opportunities for these workers to transition into other industries, particularly construction and utilities sector, with strong demand by 2035. Furthermore, the region is well equipped with training facilities, which can support workers who require upskilling or reskilling as part of their career transition. While diversification challenges are also present, these are mitigated by job availability. However, geographic mobility might be a barrier, fossil fuel workers tend to commute shorter distances than the broader workforce average, largely because their current roles are based at fixed sites near regional towns. Many live locally due to historical concentration of employment in Latrobe Valley, which could limit their ability or willingness to travel for new opportunities.

Role-specific barriers present more significant challenges, particularly when considering the alignment between required skill level and income expectations. The fossil fuel workforce displays a varied skill profile. While some groups have sufficient foundational and generalist skills set to support a smooth transition, the majority of workers moving into skill adjacent roles are likely to need reskilling. Engineering and managerial workers are usually highly skilled, whereas trades workers and machine operators generally score lower in skill assessment compared to the broader workforce average, particularly other miscellaneous labourers, with skill level almost 2 point lower than the average regional workforce. This could limit the direct transferability of their skills to other sectors without targeted training. Furthermore, the fossil fuel workforce typically earn significantly higher wages, largely due to their specialised skills and industry productivity. The wage gap is a potential barrier to transition pathways as many alternative roles may offer lower wages. There is also a degree of competition between displaced fossil fuel workforce and new entrants into the job market, which may further limit the opportunities. However, the current number of graduates entering these fields remains moderate, suggesting this pressure is manageable in the short term. Employment type is unlikely to pose a barrier, with most of fossil fuel workers employed full-time, aligning with the workforce average.

Demographic barriers can present challenges to workforce mobility. The fossil fuel workforce in Latrobe Valley is likely to experience demographic barriers when transitioning into other roles and industries, particularly in relation to age. A significant portion of these workers fall into older age groups, which may make reskilling or changing careers more difficult for some individuals. However, the share of workers requiring assistance are relatively low, suggesting limited need for targeted support measures during transition. Additionally, the representation of First Nations people in the workforce is minimal, though tailored support measures may still be necessary to meet specific needs of this cohort.

Workforce barrier assessment by barrier type

Barrier type		Barrier assessment
Regional	Job availability	Low
	Diversification of roles	**High**
	Workforce willingness to commute	**High**
	Training availability	Low
Role	Skills*	**High**
	Qualifications*	**Medium**
	New graduates supply**	Low
	Wages	**High**
	Employment type	Low
Demographic	Age	**High**
	First Nations	Low
	Disability	Low

Source: Oxford Economics

**Ranking compares the fossil fuel workforce skills and qualifications to the broader workforce.*
***based on SA4 and OE workforce supply modelling*

Policy response is required across all three levels of government, ensuring consistent support for fossil fuel communities that is flexible to a region's economic priorities.

Policy Levers

Diversification

Create new economic opportunities through investment in new industries and infrastructure to reduce regional dependence on fossil fuels and create alternative employment opportunities

Retraining

Provide workers with the resources to make informed decisions on retraining pathways that are likely to provide long-term, stable employment

Redeployment/ Transition Support

Utilise and repurpose the existing fossil fuel workforce as the industry declines to ensure continued employment opportunities for fossil fuel workers

Early Retirement

Offer older workers with limited redeployment opportunities and limited benefits from retraining, redundancy and retirement bridging packages to ease labour market pressure on key occupations in decline.

Government roles

Federal

Provides national frameworks that guarantee worker entitlements, provide structural adjustment funding, and coordinate transition planning across jurisdictions.

State

Implements regionally tailored transition mechanisms such as statutory authorities, training and reskilling programs, and industry development initiatives for coal-dependent areas.

Local

Engages with communities and industry stakeholders, contributes to transition authorities, and facilitates local initiatives that reflect workforce and economic priorities.

**Early retirement was out of scope for this analysis.*

Hazelwood Power Station's closure in 2017 provided an impetus to introduce transition support policies spanning economic diversification, redeployment and retraining

Current workforce policy support

Workforce transition policies in Latrobe Valley combine national consistency with regional flexibility, guaranteeing workers' core entitlements in transitioning industries while enabling communities to adapt solutions to their circumstances.

The closure of Hazelwood power station in 2017 saw the state government, with the support of its federal counterpart, introduce a suite of policies that covered economic diversification, redeployment and retraining. Diversification efforts focus on attracting investment and new industries to fossil fuel-dependent areas, redeployment directs workers to alternative employment opportunities usually without the need to upskill or reskill, while retraining programs expand pathways for workers into clean energy, with Gippsland targeting offshore wind and health.

Federally, the *Energy Industry Jobs Plan* provides a framework which may oblige employers to provide redeployment support to workers at closing power stations in the region as well as dependent employers who are likely to cease a substantial part of their operations due to the closure of the power station[10]. This is reinforced by *Regional Workforce Transition Plans* that will set out place-specific strategies for coal regions, delivered on the ground by *Regional Workforce Transition Officers* who link workers to training, jobs, and support services[11,12]. Transition support for retrenched workers can be accessed through the Department of Employment and Workplace Relations *Transition Support Network*; however, beyond this, there appear to be limited resources to help workers in declining industries proactively transition[13]. Training access is expanded through the *New Energy Apprenticeships* stream of the *Key Apprenticeship Program* (supporting apprentices in clean energy trades), *Fee-Free TAFE* (eliminating training costs for priority courses), and the *Clean Energy Training Investment Fund* (building new capacity in TAFE and registered training organisations to deliver clean energy skills[14,15,16]. Training products are informed directly by industry feedback, with the relevant Jobs and Skills Council advising on the type of training that is required by the job market and that will drive high-quality outcomes for employers and employees.

State policy has been highly active in regional planning for the Latrobe Valley's transition since Hazelwood's 2017 closure. The government and industry partners have used a mix of economic diversification policies, redeployment and retraining to create additional employment opportunities for the wider region, while also providing more targeted support to affected workers. The Latrobe Valley Authority (LVA) was established in 2016 and anchored in an initial Latrobe Valley Transition Package ($266 million), which created an Economic Growth Zone to attract and grow businesses through targeted incentives, streamlined support and investment in local infrastructure to make the region more attractive for private investment[17]. The LVA* invested $1.6 billion in programs and infrastructure since its establishment, including $345 million to upgrade to Gippsland Rail Line, increasing the speed and frequency of trains from the region to Melbourne, the Latrobe Valley GovHub (a $30 million office for up to 300 public servants) and the Gippsland Innovation Centre/Hi-Tech Precinct ($17 million)[18,19,20,21]. Looking forward, the Latrobe and Gippsland 2035 Transition Plan and Implementation Plan highlight current supports and objects for the region[20]. Investments in new energy industries via the revived State Electricity Commission ($1 billion initial capital for 4.5 GW) and legislated offshore-wind targets by 2035 have been prioritised and are intended to create replacement energy jobs in Gippsland[22].

The region has utilised redeployment and retraining pathways in the past to smooth the effects of the transition. the Latrobe Valley Worker Transfer Scheme ($20 million) created a bridging pathway by enabling early retirements at other generators so Hazelwood employees could move into existing roles[18]. A separate back-to-work wage subsidy scheme offered local employers up to $9,000 for each former Hazelwood worker that was hired and trained, supporting an additional 485 worker[23]. Workers currently employed at Yallorun, in a consultation session with Energy Australia, identified opportunities to be prioritised for mine rehabilitation work as the type of transition support they would be interested in[18]. The Latrobe Valley Regional Rehabilitation Strategy affirmed that mine rehabilitation presented an opportunity for local employment[24]. Commitments to local employment and redeployment of employees at Hazelwood is evidence that these policies have been effective in reducing employment losses at the point the power station closes, with over 70% of employment for the rehabilitation being local, and 100 miners kept on for rehabilitation work[18,25]. Retraining policies designed to directly support workers have been committed to at two of the three remaining power stations, with the Victoria government and AGL signing a Structured Transition Agreement for Loy Yang A that guarantees a 12-year notice to 2035, alongside a Worker Transition Package and Community and Economic Development Fund worth $50 million[26]. Energy Australia separately in 2022 committed $10 million to a "Power Your Future" program, which includes support, including career planning and training support[26]. Furthermore, Energy Australia, Star of the South, the Victorian Government, TAFE Gippsland and Federation University are working together to develop transition pathway frameworks for workers with existing skills in coal power generation roles with those needed in offshore wind to identify transition opportunities and areas for reskilling[27].

**The LVA was abolished in February 2025. Regional Development Victoria will continue to support the region's economic development through the Latrobe Valley and Gippsland Transition, Implementation and Outlook plans.*

International policy efforts have combined a mix of diversification, redeployment, retraining and early retirement to support workforce transitions.

International workforce policy support examples

International workforce transition plans use a mix of policies to support displaced fossil fuel workers. Countries such as Germany, Spain, Canada, and the United States have combined diversification funding, redeployment, retraining, and early retirement schemes to protect livelihoods while building pathways into new industries.

Diversification funding has been used internationally to reduce a region's reliance on fossil fuel industries by investing in infrastructure and programs to attract new industries. The German government's 2020 *Structural Strengthening of Coal Regions Act* committed to spending €40 billion over 20 years on infrastructure upgrades, industry attraction and diversification, and research and development[34] Canada and the United States have both committed more modest resources to increasing economic diversification in fossil fuel communities. Funding in Canada was primarily directed towards infrastructure, with the C$150 million *Infrastructure Fund* providing coal regions funding to upgrade local infrastructure to make the regions more attractive to investment[35]. Furthermore, the C$35 million *Coal Transition Initiative* provided funding for communities to develop sector strategies to attract future industries[35]. In the United States, the *POWER (Partnerships for Opportunity and Workforce and Economic Revitalisation) Initiative*, run by the Appalachian Regional Commission, has channeled more than US$480 million into projects such as broadband networks, business incubators, and land redevelopment to attract new employers[36].

Redeployment policies help workers remain employed by shifting them into roles that use existing skills. In Spain, the *2018 Just Transition Agreements* were negotiated specifically around coal mine closures, with ex-miners prioritised for mine land rehabilitation and public works that matched their heavy equipment, safety, and environmental management skills[37]. In Canada, redeployment was less formalised but present, with the provincial government providing enhanced employment services including a top-up on traditional unemployment benefits, education and relocation support [39,40].

Retraining programs internationally have focused on aligning training opportunities with identified growth industries and boosting training infrastructure to meet the increased needs of regions in transition. Spain focused retraining on miners not covered by early retirement or redeployment, with training programs designed to redirect younger workers into identified industries, including construction, energy, and environmental services[37]. German workers who were not old enough to retire were provided access to their national upskilling fund[34]. Canada's *Just Transition Task Force* recommended the creation of locally based worker transition centres that provide career counselling and subsidised training, with programs aligned to regional opportunities in clean energy, construction, and advanced manufacturing[39]. In the United States, the *POWER Initiative* channels funding to community colleges and workforce boards to reskill displaced workers in IT, healthcare, and advanced manufacturing, emphasising sectoral diversification[36].

Early retirement and pension bridging schemes reduce pressure on the labour market by offering older workers a secure exit when retraining is less realistic. In Germany, the *Anpassungsgeld (APG)* allowance provided income support for workers aged 58 and above in both mines and power plants until they qualified for statutory pensions, ensuring stability and protecting entitlements[35]. Spain's *2018 Just Transition Agreement* offered miners aged 48 and above early retirement packages with state-backed pension top-ups, while younger workers received redundancy payments and retraining opportunities[38]. In Canada, Alberta's *Coal Workforce Transition Program* considered a "bridge to retirement" payment for eligible power sector workers close to pension age, complementing federal transition supports, however, it decided against this and instead relied on more generous unemployment benefits to help workers transition within instead of out of the labour market[39].

POLICY GAP ASSESSMENT

Diversification, retraining and industry-education investments are key levers to supporting workforce transitions, with redeployment previously used to support the Hazelwood closure.

Barriers

Demographics

- The Latrobe Valley's fossil fuel workforce is older, predominantly male with limited numbers of workers with a university education, but higher levels of vocational qualifications[42].
- Evidence from the Hazelwood closure indicates that, even with policy supports, a share of affected workers struggled to re-enter employment, underscoring the need for tailored redeployment and transition measures for older cohorts[42].

Qualifications & wages

- Fossil fuel workers have marginally lower education levels on average, with workforce education primarily centred around VET and on-the-job training. Despite having lower levels of formal education, they currently receive above-average wages.
- Workers transitioning, being redeployed, reskilling or retraining, may not find comparable wages due to the high levels of compensation present in the fossil fuel industry.

Assessment of current levers

Latrobe Valley's transition began with the closure of the Hazelwood Power Station in 2017, which saw the state government, with the support of its federal counterpart, introduce a suite of policies that covered economic diversification, redeployment and retraining[42].

The state government has primarily focused on economic diversification coordinated by the Latrobe Valley Authority (LVA) in the years since the closure and rehabilitation of Hazelwood was completed, having invested $1.6 billion in programs and infrastructure since 2016[18]. Future retraining and redeployment efforts are primarily being run through the owners of the individual power stations and associated mines with support from the state government. AGL (Loy Yang A) has committed $50 million to a Structured Transition Agreement, and Energy Australia (Yallourn) has committed $10 million to provide career planning and transition support26. There is currently no redeployment programs equivalent to the Latrobe Valley Worker Transfer Scheme, which offered early retirements at the region's other power stations to older workers to redeploy younger workers. An Energy Industry Jobs Plans (EIJP) Redeployment Grant program is currently under consultation which considers a similar program, along with targeted redeployment supports delivered through the NZEA.

Retraining efforts have been further supported by the Australian Government with *Fee-Free TAFE*, the *Clean Energy Training Investment Fund*, and the *New Energy Apprenticeships* stream of the *Key Apprenticeship Program*, which target critical skills in identified industries of interest for the region, as well as broader national skill priorities[15,16,14]. Furthermore, if an *Energy Industry Jobs Plan* is recommended, it may obligate employers to offer transition assistance[10]. This will be complemented by *Regional Workforce Transition Plans* for all fossil fuel workers not covered by the *EIJP* and will be delivered by local officers who connect workers to training, jobs, and support services[12].

Additional support to address barriers

Historically, diversification efforts in Latrobe Valley have been well supported with the Victoria Government's establishment of the Latrobe Valley Authority** (LVA)[42]. Looking forward, Regional Development Victoria has assumed the economic development responsibilities held by the LVA. The region is prioritising investments in new energy industries via the revived State Electricity Commission ($1 billion initial capital for 4.5 GW), and legislated offshore-wind targets by 2035 are intended to create replacement energy jobs in Gippsland[22].

There has been a continued commitment to workforce transition support and retraining, which is well supported by current policy, with the Net Zero Economy Authority conducting assessments for an *EIJP* when power stations are scheduled to close, alongside additional funding commitments from two of the three power stations in the region[10]. Redeployment was used historically to help workers of the closing Hazelwood Power Station in 2017, but recently has received less policy attention, leaving fewer policy-supported opportunities for workers to transition into equivalent roles at power stations with later closure dates[42]. The *EIJP* Redeployment Grant program that is currently under consultation considers a similar program which may address these challenges.

The staggered closure of the remaining power stations and associated mines provides an opportunity for redeployment to be utilised as it was when the Hazelwood power station was shut through the Worker Transfer Scheme ($20 million), which redeployed 90 workers. A review of the Worker Transfer Scheme and its potential effectiveness for managing power station closures could inform future retraining and redeployment efforts.

*Industrial employment is made up of employment in agriculture, mining, manufacturing, utilities and construction.
**The LVA was abolished in February 2025. Regional Development Victoria will continue to support the region's economic development through the Latrobe Valley and Gippsland Transition, Implementation and Outlook plans.

The age, wages and specialised skills of the fossil fuel workforce in Latrobe Valley increase the risk of long-term unemployment post facility closures.

Analysis of key barriers to workforce transitions

The age profile of the fossil fuel workforce in Latrobe Valley skews older than the region's workforce, which may present challenges to re-employment of workers in the future. Workers who are older, male and without a university degree have been found to experience longer durations of unemployment[41]. Fossil fuel workers employed in Latrobe Valley are primarily male (85%), older (55+), 29% compared to 22% of non-fossil fuel workers and tend not to hold a university degree; only 10% of fossil fuel workers hold a university degree, however, this aligns with the broader region. The closure of the Hazelwood Power Station has demonstrated that older workers, the average age of a Hazelwood employee was 52 and average tenure was 25 years, may struggle to find employment after the closure of future power stations and the associated mines, even when provided with policy support.[42]

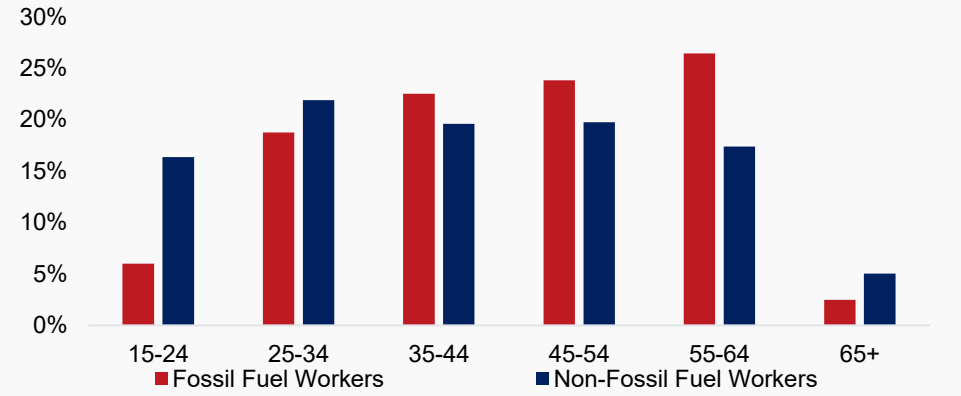
Employment within the region bounced back following the closure of Hazelwood Power Station. Between September 2016 and October 2019, the number of workers in the region increased by 10,600, and unemployment rates fell from 7.1% to 4.0%. The increase in employment and the fall in the unemployment rate are likely in part due to the significant investment directed by the Latrobe Valley Authority. However, despite the increase in employment, only 74% of the former Hazelwood workforce were employed or not looking for work three years after the closure[43].

Furthermore, supporting workers into roles that maximise their qualifications and skillsets will likely minimise the change in workers' financial situation and help to reduce the retraining burden. The skill profile of the fossil fuel workforce is broadly comparable to that of the wider Latrobe Valley, but many of these capabilities have been developed through on-the-job experience and VET, with lower levels of HE. The workforce holds relatively lower levels of formal qualifications despite earning significantly higher average wages, particularly in specialist roles that dominate industry employment.

Wage disparity between fossil fuel workers and the equivalent average worker in Latrobe Valley tends to increase for lower-skilled workers. Whether workers transition through the labour market or are supported by redeployment, workers are likely to encounter smaller pay disparities if they can secure positions that maximise the use of their experience and any formal qualifications they hold.

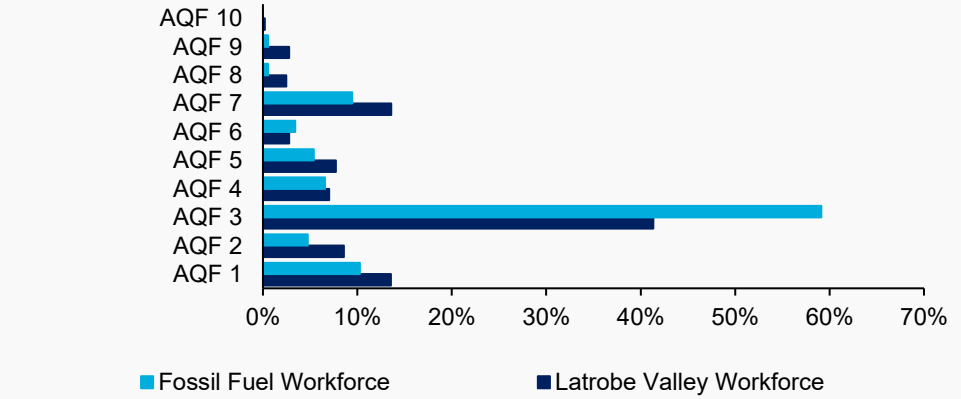
Latrobe Valley has a deep skills base in engineering, trades, and plant operations, reflecting the regions historical focus in industrial sectors. These capabilities remain a key comparative advantage for future industrial activity, potentially supporting targeted investment into key industries as identified in the *Regional Investment Analysis* report.

Workforce age distribution in Latrobe Valley



Source: Oxford Economics, ABS

Share of workforce by AQF level



Source: Oxford Economics, ABS

Learnings from previous redeployment mechanisms could reduce the risk of sub-optimal employment outcomes for fossil fuel workers.

Gap analysis of current policy levers

Current support programs

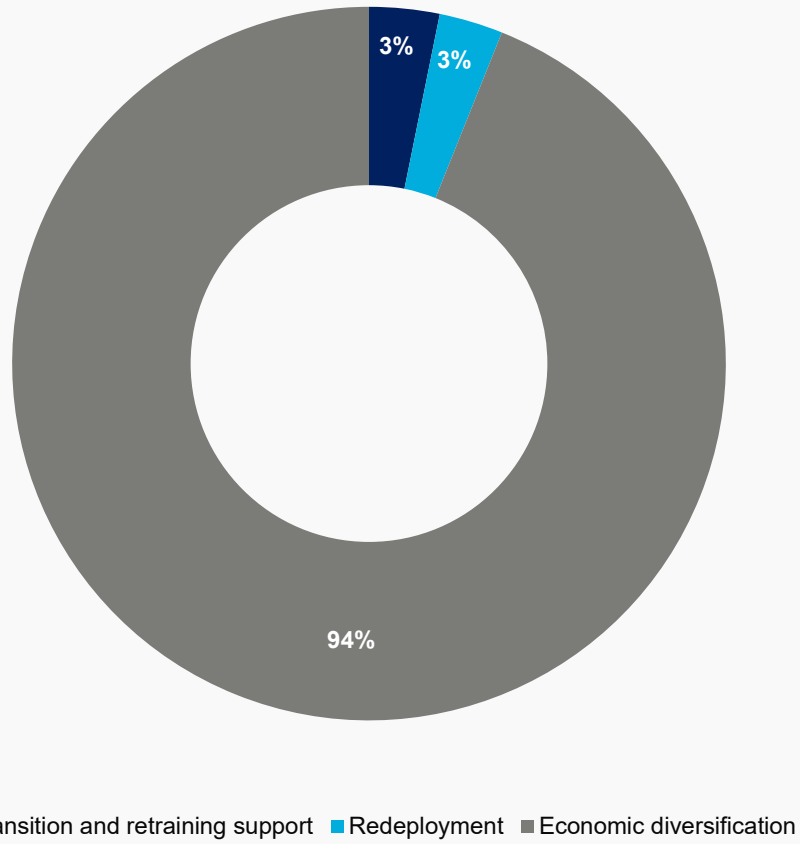
The centrality of electricity generation to the fossil fuel workforce in Latrobe Valley means that if *Energy Industry Jobs Plans (EIJP)* are recommended at the three power stations scheduled to close, most fossil fuel workers in the region would be covered by an *EIJP*[10]. The *EIJP* provides tailored, site-based assistance with potential obligations on employers. Two of the three power stations in the Latrobe Valley have already committed to supporting retraining and redeployment efforts. AGL (Loy Yang A) has committed $50 million to a Structured Transition Agreement, and Energy Australia (Yallourn) has committed $10 million to provide career planning and transition support[26]. Furthermore, Energy Australia, Star of the South, the Victorian Government, TAFE Gippsland and Federation University are working together to develop transition pathway frameworks for workers with existing skills in coal power generation roles with those needed in offshore wind to identify transition opportunities and areas for reskilling[27].

Gap

Historically, the Latrobe Valley has utilised economic diversification, redeployment and transition and retraining services to support affected workers. The initial transition support package, worth $700 million, devoted 90% of funding to economic diversification[42]. The funding allocated to economic diversification did boost employment and lower the unemployment rate in the region. However, employment outcomes for workers directly affected by the closure of Hazelwood Power Station could be considered sub-optimal, with 26% of the former Hazelwood workforce unemployed three years after closure[43]. The high rates of unemployment for affected workers are more stark when considering that Engie estimated it would need a workforce of 250 workers (down from 750 workers when operational) to decommission the power plant and rehabilitate the associated mine, alongside the Worker Transfer Scheme ($20 million) that facilitated the continued employment of 90 Hazelwood workers into jobs created through early retirement at other power generators in the Latrobe Valley[42,44].

With staged closures ahead and only 300 workers estimated to be required to find new roles by 2035, a renewed, managed redeployment mechanism could provide targeted support to a relatively small cohort of affected workers who are at risk of longer-term unemployment and have been shown to historically struggle with finding employment following the closure of a power station and its associated mines in the region. Furthermore, a review of what retraining efforts were effective could be considered, with workers obtaining over 2,000 qualifications in the three years to 2019. A review of qualifications that led to positive employment outcomes could inform future retraining efforts[42].

Initial Victoria Government Support by policy lever



Source: Australian National University

TECHNICAL APPENDIX

FOSSIL FUEL WORKER ESTIMATES

The current size of the fossil fuel workforce has been estimated using a combination of census and labour force data.

Methodology for estimating fossil fuel workers in the region

Using Census data on industrial structures for the region and ABS Detailed Labour Force the following process was used to estimate the fossil fuel workforce.

1. **Workers are divided into smaller regions (SA3s) based on the share of the workforce that was in that location during the 2021 census, over the larger region it is a part of (SA3/SA4). This is done for each industry individually.** SA4 1-digit employment by industry is divided based on the share of 1-digit industry employment held by an SA3 in the 2021 Census.
2. **The share of workers in the smaller region is then multiplied by the current number of workers in the larger region to estimate the number of workers in the smaller region. (SA3/SA4)*(SA4)** Industrial share by SA3 is multiplied by the relevant industry SA4 ABS Detailed Labour Force employment to produce a current estimate of employment for the region of interest.
3. **Smaller industries (4D) are estimated by dividing the smaller industry by its parent industry (4D/1D). Once the smaller industry has been estimated we divide it into occupations based on the share of workers each occupation represented at the census.** 4-digit fossil fuel industries' shares from the Census are applied to estimate the fossil fuel workforce. 1-digit Census occupation shares are applied to the 4-digit industries of interest to estimate the occupational makeup of the fossil fuel industry

Definition of fossil fuel workers, ANZSIC 4-digit industries

Industry name	ANZSIC code	Definition
Coal mining	0600	This class consists of units mainly engaged in open-cut or underground mining of black or brown coal.
Fossil fuel electricity generation	2611	This class consists of units mainly engaged in the generation of electricity using mineral or fossil fuels in internal combustion or combustion-turbine conventional steam processes.
Gas supply	2700	This class consists of units primarily engaged in the distribution of gas such as natural gas or liquefied petroleum gas through mains systems.

Source: ABS ANZSIC (2006)

Additional source information

After producing the fossil fuel workforce estimates, we conducted a feasibility check using a bottom-up research approach. This involved aggregating employment numbers from company reports, government publications, and credible third-party sources across the relevant fossil fuel industries. This method allowed us to account for approximately 90% of the overall estimate, with the majority of identified employment concentrated among the largest companies. The remaining shortfall was anticipated, supporting our conclusion that the estimates were reasonable.

WORKFORCE TRANSITION METHODOLOGY

Identifying appropriate transition pathways draws on three sources of information.

Skillsets demanded by the workforce

Skills analysis will identify transition pathways by highlighting viable alternative occupation pathways for fossil fuel workers. Viable pathways are defined as pathways where an occupation's **specialist, generalist** and **foundational** skills are equivalent to or greater than another occupation's skills.

Specialist skills

- Minimum education requirements are based on the Australian Qualifications Framework (AQF) level.
- The field of education is based on the most common field by industry occupation pair.

Generalist

- Are classified as a set of the required proficiency levels in core skills focused on generalist thinking and work-based learning experiences.

Foundational skills

- Are the basis upon which all other skills are built and are common across all occupations. Generalist skills (e.g. reading and numeracy).

Qualifications held within roles

Analysis of identified viable job pathways will be complemented with an assessment of the level and fields of education (**specialist skills**) held by fossil fuel workers.

Level of education (LOE)

- Data on the level of education that fossil fuel workers possess, e.g. Census data on highest educational attainment, will be analysed to confirm alignment with occupations' minimum education requirements.
- Seek data will be used to confirm the LOE that viable job pathways typically ask for, to determine if there are deviations in minimum educational requirements and actual education requirements demanded by employers.

Field of education (FOE)

- Analysis will be undertaken on the distribution of FOE by industry occupation pairs using the Census to understand the implications for viable job pathways on workers who have equivalent industry occupation pairings but a different FOE.

Historic movement patterns

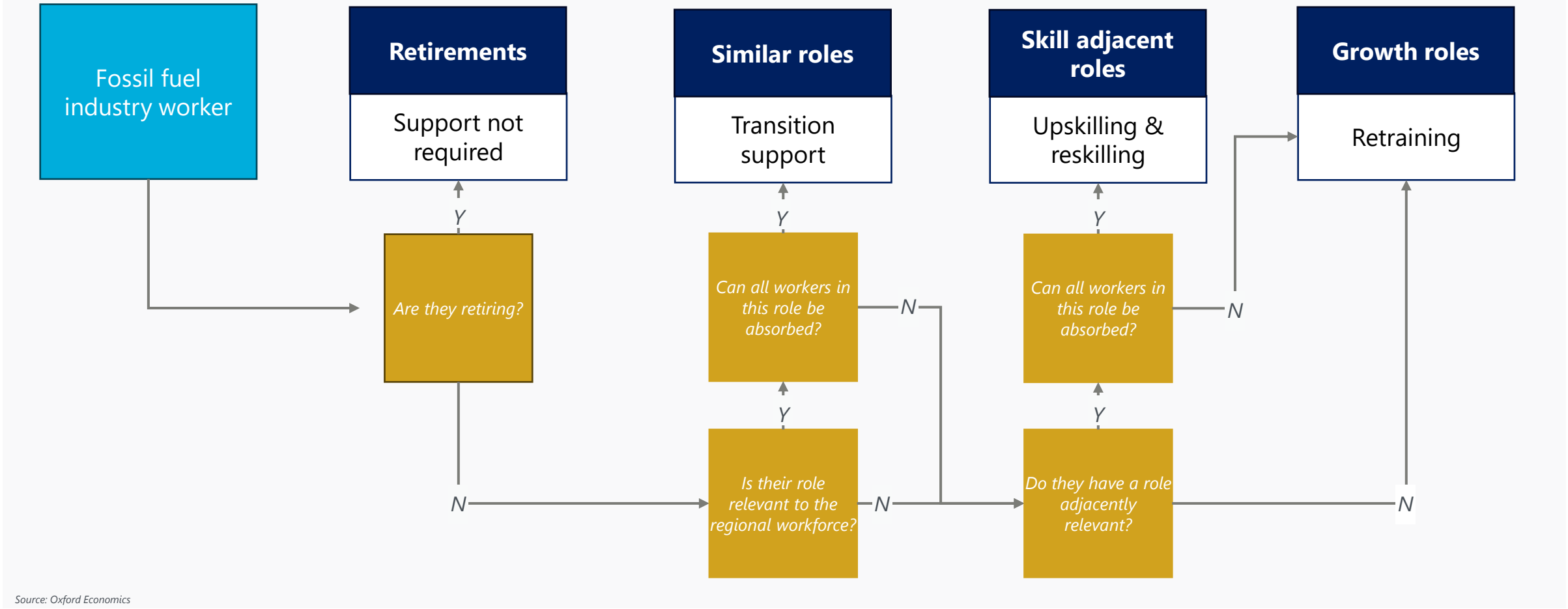
To corroborate that transition pathways are appropriate and viable for fossil fuel workers, Oxford Economics will undertake an analysis of historic movements of fossil fuel workers out of industry.

Historic movements of fossil fuel workers

- Seek data will be used to identify the known pathways by occupation industry pairs that fossil fuel workers have moved into successfully in the past and the propensity for them to do so.
- Historical movements will be tested against occupation industry pair transition pathways identified in the skillsets and qualifications analysis.
- Where viable job pathways have been determined based on our skills framework, and an analysis of actual qualifications held by fossil fuel workers, but there is limited evidence of historic job movements analysis of potential barriers limiting these pathways will be undertaken.

Identifying the workforce transition pathway that fossil fuel workers are most likely to need is based on a decision tree framework.

Fossil fuel worker, workforce transition pathway decision tree



Source: Oxford Economics

WORKFORCE BARRIER ASSESSMENT

Role diversification is a more significant regional barrier to workforce transition than job availability.

Regional barrier assessment by role

Latrobe Valley fossil fuel workforce barrier assessment	Job availability	Diversification of roles	Workforce willingness to commute	Training availability
Metric	*Ratio measures the availability of similar roles against the number of transitioning workers.*	*Growth in employment demand for skill adjacent roles by 2035*	*Average commute distance* ratio of role to region average.*	*Availability of training within the region*
Rating	*Low barrier: ratio > 2* *Medium barrier: ratio between 1 & 2* *High barrier: ratio < 1*	*Low barrier: growth > 15%* *Medium barrier: growth 10-15%* *High barrier: growth < 10%*	*Low barrier: ratio > 2* *Medium barrier: ratio between 1 & 2* *High barrier: ratio < 1*	*Qualitative assessment*
Fossil fuel workforce	***LOW***	***HIGH***	***HIGH***	***LOW***
Drillers, Miners and Shot Firers	LOW - >2 ratio	HIGH - 6% increase	HIGH - 0.8 ratio	1 University campus • University specialises in health and education but has increased investment in civil engineering programs, including the Centre for New Energy Transition Research and the Asia Pacific Renewable Energy Training Centre, Gippsland. 3 TAFE campuses • Supported by a further 6 across the wider Gippsland region. • The Clean Energy Centre and the Morwell Campus in the Latrobe Valley will deliver training for up to 200 students from 2026 in onshore and offshore wind, hybrid and electric vehicle servicing, and smart-grid technologies.
Metal Fitters and Machinists	LOW - >2 ratio	HIGH - 6% increase	MEDIUM - 1.1 ratio	
Structural Steel Construction Workers	LOW - >2 ratio	HIGH - 6% increase	HIGH - 0.9 ratio	
Chemical, Gas, Petroleum and Power Generation Plant Operators	LOW - >2 ratio	HIGH - 9% increase	HIGH - 0.8 ratio	
Structural Steel and Welding Trades Workers	LOW - >2 ratio	HIGH - 8% increase	HIGH - 0.8 ratio	
Electricians	LOW - >2 ratio	MEDIUM - 10% increase	MEDIUM - 1.0 ratio	
Other Building and Engineering Technicians	LOW - >2 ratio	MEDIUM - 11% increase	HIGH - 0.9 ratio	
Other Miscellaneous Labourers	LOW - >2 ratio	MEDIUM - 11% increase	HIGH - 0.7 ratio	
Production Managers	LOW - >2 ratio	MEDIUM - 13% increase	HIGH - 0.9 ratio	
Earthmoving Plant Operators	LOW - >2 ratio	HIGH - 9% increase	MEDIUM - 1.0 ratio	
Highly transferable fossil fuel roles***	LOW - >2 ratio	MEDIUM - 13%**	HIGH – 0.8 ratio	

**Uses 2016 Census due to COVID. **based on growth in employment of the region. ***Back-office functions and transferable on-site roles are industry-agnostic and essential across all sectors, making them highly transferable.*

Wages differences are a significant role barriers to workforce transitions, with differences in skill levels and qualifications also contributing.

Role barrier assessment by role

Latrobe Valley fossil fuel workforce barrier assessment	Skills	Qualifications	New graduates supply*	Wages	Employment type
Metric	*Average skill level (5.63 regional workforce average)*	*Level of education (AQF level 3 most common across regional workforce)*	*Estimated new graduates as a share of total workforce (3% regional workforce average)*	*Average wages ($52,000 - $77,999 regional workforce average)*	*Most common work type (full-time workforce average)*
Rating	*Low barrier: > 6 Medium barrier: 5.5 & 6 High barrier: < 5.5*	*Low barrier: > 3 Medium barrier: 3 High barrier: < 3*	*Low barrier: < 3% Medium barrier: 3% High barrier: > 3%*	*Low barrier: < $52,000 Medium barrier: within range High barrier: > $77,999*	*Low barrier: same type High barrier: different type*
Fossil fuel workforce	***HIGH***	***MEDIUM***	***LOW***	***HIGH***	***LOW***
Drillers, Miners and Shot Firers	HIGH - 5.0	MEDIUM - AQF level 3	LOW - 1%	HIGH - $104,000 – $155,999	LOW - Full-time
Metal Fitters and Machinists	MEDIUM - 5.8	MEDIUM - AQF level 3	LOW - 1%	HIGH - $104,000 – $155,999	LOW - Full-time
Structural Steel Construction Workers	HIGH - 5.0	MEDIUM - AQF level 3	LOW - 2%	HIGH - $104,000 – $155,999	LOW - Full-time
Chemical, Gas, Petroleum and Power Generation Plant Operators	MEDIUM - 5.7	MEDIUM - AQF level 3	LOW - 2%	HIGH - $182,000 or more	LOW - Full-time
Structural Steel and Welding Trades Workers	HIGH - 5.1	MEDIUM - AQF level 3	LOW - 2%	HIGH - $104,000 – $155,999	LOW - Full-time
Electricians	MEDIUM - 5.7	MEDIUM - AQF level 3	LOW - 1%	HIGH - $104,000 – $155,999	LOW - Full-time
Other Building and Engineering Technicians	LOW - 6.4	MEDIUM - AQF level 3	LOW - 1%	HIGH - $104,000 – $155,999	LOW - Full-time
Other Miscellaneous Labourers	HIGH – 3.8	MEDIUM - AQF level 3	HIGH - 4%	HIGH - $91,000 - $103,999	LOW - Full-time
Production Managers	LOW - 6.7	LOW - AQF level 7	LOW - 2%	HIGH - $182,000 or more	LOW - Full-time
Earthmoving Plant Operators	HIGH - 4.6	MEDIUM - AQF level 3	LOW - 2%	HIGH - $104,000 – $155,999	LOW - Full-time
Highly transferable fossil fuel roles	MEDIUM - 5.9	MEDIUM - AQF level 3	MEDIUM - 3%	HIGH - $104,000 – $155,999	LOW - Full-time

**based on SA4 and OE workforce supply modelling*

The older age structure of the workforce may present a challenge to worker transitions.

Demographic barrier assessment by role

Latrobe Valley fossil fuel workforce barrier assessment	Age	First Nations	Disability
Metric	*Average age of fossil fuel workforce (25-34 regional workforce average)*	*First Nations representation (1.5% regional workforce representation)*	*Disability representation (0% regional workforce representation)*
Rating	*Low barrier: 25-34* *Medium barrier: 35-44* *High barrier: >45*	*Low barrier: < 1%* *Medium barrier: 1-2%* *High barrier: > 2%*	*Low barrier: < 1%* *Medium barrier: 1-2%* *High barrier: > 2%*
Fossil fuel workforce	***HIGH***	***LOW***	***LOW***
Drillers, Miners and Shot Firers	MEDIUM – 35-44	LOW - 0%	LOW - 0%
Metal Fitters and Machinists	MEDIUM – 35-44	LOW - 0%	LOW - 0%
Structural Steel Construction Workers	MEDIUM – 35-44	HIGH – 6.7%	LOW - 0%
Chemical, Gas, Petroleum and Power Generation Plant Operators	HIGH – 55-64	LOW - 0%	LOW - 0%
Structural Steel and Welding Trades Workers	HIGH – 55-64	LOW - 0%	LOW - 0%
Electricians	HIGH - 55-64	LOW - 0%	LOW - 0%
Other Building and Engineering Technicians	HIGH – 45-54	LOW - 0%	LOW - 0%
Other Miscellaneous Labourers	HIGH - 55-64	LOW - 0%	LOW - 0%
Production Managers	HIGH - 45-54	LOW - 0%	LOW - 0%
Earthmoving Plant Operators	HIGH - 55-64	LOW - 0%	LOW - 0%
Highly transferable fossil fuel roles	LOW – 25-34	HIGH – 3.6%	LOW – 0%

DRILLERS, MINERS & SHOT FIRERS PROFILE

Drillers, miners and shot firers account for a large portion of the fossil fuel workforce with demand expected to decline substantially by 2035.

Commentary

There are approximately 180 drillers, miners and shot firers in the Latrobe Valley region's fossil fuel workforce as at FY24. Under a Step Change Scenario, employment in this group is expected to decline 42.8% by FY35, down to around 100 workers. Of the 80 roles expected to be lost, an estimated 60 are likely to retire over this period, leaving 20 drillers, miners and shot firers likely to undergo a workforce transition.

Drillers, miners and shot firers make up the largest proportion of the fossil fuel workforce, accounting for 14% of the sector's workforce in Latrobe. This occupation is also heavily concentrated in the fossil fuel sector, with 52% of the occupation across the region employed in the fossil fuel industry. This high concentration suggests drillers, miners and shot firers are particularly vulnerable to changes in the fossil fuel sector.

Specialist skills are usually learned through on-the-job training for this role. Drillers, miners and shot firers tend to have intermediate foundation skills levels and in most generalist skills. The exception is digital engagement, where the cohort only has a basic level of competency, which may limit their ability to move into more tech-heavy roles without additional training.

Fossil fuel occupation employment size and outlook

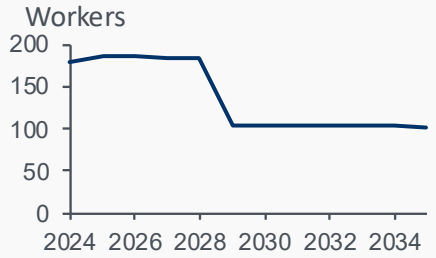
180 drillers, miners & shot firers in Latrobe Valley in FY24

42.8% decline in employment by FY35

This represents

14% of fossil fuel workers

52% of all drillers, miners and shot firers



Source: Oxford Economics based on AEMO Step Change scenario, ABS Census

Role specific skill set

Specialist skills

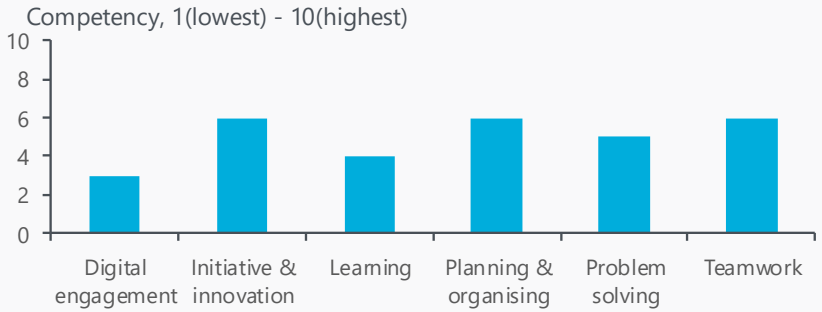
On-the-job training

4

Skill level 4 which corresponds to AQF level 2 (requiring skills equivalent to the competencies gained through a certificate II or III)

Foundational skills

Generalist skills

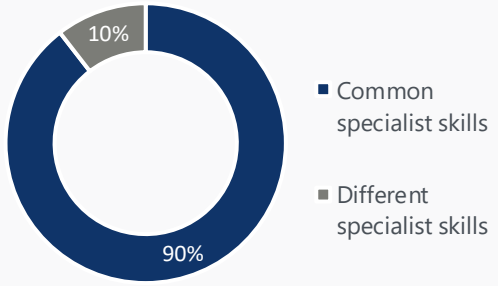


Source: Oxford Economics, ABS ANZSCO, JSA

Drillers, miners and shot firers have transferable skills across machinery operators, technicians and labourer roles outside the fossil fuel industry.

Identification of similar roles

Share of industries with the fossil fuel specialist skill set

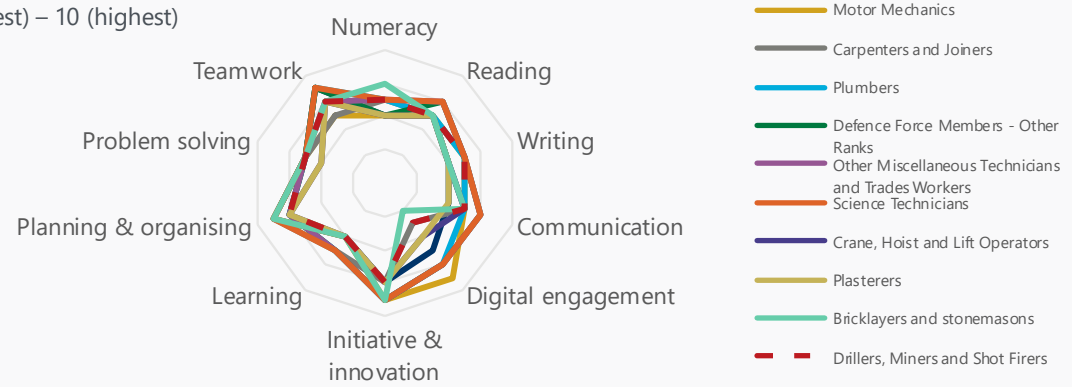


Similar roles	Seek movement	ATO movement
Other construction & mining labourers	Yes	Ranked #1

Source: Oxford Economics, JSA, Seek, ATO

Generalist & foundational skill assessment for skill adjacent roles

Generalist and foundational competency requirements by role, 1 (lowest) – 10 (highest)



Source: Oxford Economics, JSA

Identification of skill adjacent roles

Skill adjacent roles	Field of education	
	FOE	Skill level
Other Machine Operators	On-the-job training	Same
Motor Mechanics	Automotive Engineering and Technology	Same
Carpenters and Joiners	Building	Same
Plumbers	Building	Same
Defence Force Members - Other Ranks	On-the-job training	Same
Other Miscellaneous Technicians and Trades Workers	On-the-job training	Same
Science Technicians	On-the-job training	Higher
Crane, Hoist and Lift Operators	On-the-job training	Same
Plasterers	On-the-job training	Same
Bricklayers and Stonemasons	On-the-job training	Same

Source: Oxford Economics

Drillers, miners and shot firers are likely to find opportunities to transfer within occupation as equivalent workers reach retirement age.

Analysis of similar role pathways

Additional demand for drillers, miners and shot firers outside of the fossil fuel industry is set to more than offset the declines in demand for this occupation in the Latrobe Valley to 2035. There are limited similar role opportunities for fossil fuel workers needing to transition. Accounting for natural attrition and the occupation outlook, around 20 drillers, miners and shot firers in the fossil fuel industry are expected to undergo a workforce transition by 2035, while demand for similar roles is only expected to increase by a handful of roles over this time.

Demand for drillers, miners and shot firers within the Latrobe Valley is declining over the forecast period to 2050. However, growth outside of the fossil fuel industry, particularly in utilities not associated with the fossil fuel industry, and attrition of current workers will support occupation transitions.

The demand for other similar roles is concentrated in labouring roles; however, the high levels of attrition within drillers, miners and shot firers mean it is less likely this pathway will need to be utilised in Latrobe Valley.

Analysis of skill adjacent role pathways

Drillers, miners and shot firers are likely to have additional opportunities to transition to skill-adjacent roles, where the demand is expected to increase by 300 roles by 2035.

The biggest demand in skill adjacent roles is for carpenters and joiners, increasing by around 80 by 2035. However, transitioning into this role may require reskilling, as it involves a different set of specialist skills albeit at a similar skill level.

Demand for roles in trades related to the building sector beyond carpenters and joiners is also strong, with a projected increase of over 150 by 2035. These roles including motor mechanics and plumbers, are also likely to require reskilling due to different specialist skill sets specific to the building sector.

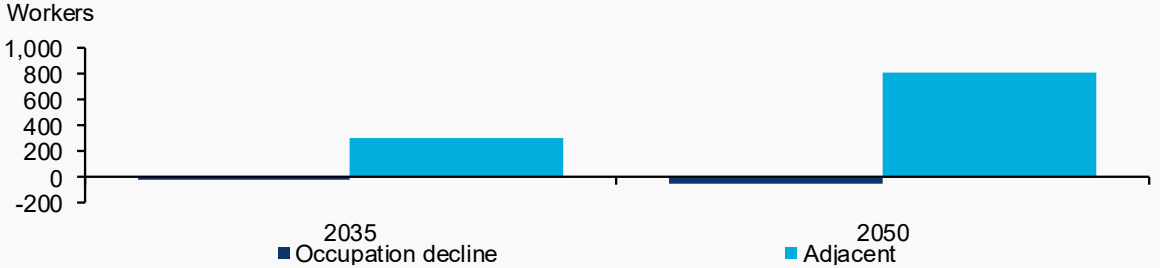
There is some demand from other machinery operator roles, with a projected increase of approximately 30 roles by 2035. These roles generally present lower skill barriers, requiring mostly on-the-job training.

Drillers, miners and shot firers are likely to need upskilling across areas such as digital engagement, learning, planning & organising and initiative & innovation. On average, these skills are over half a point lower for drillers, miners and shot firers compared to skill adjacent roles, with digital engagement being close to 2 points lower.

Demand for similar roles

Source: Oxford Economics based on AEMO Step Change scenario

Demand for skill adjacent roles



Source: Oxford Economics based on AEMO Step Change scenario

METAL FITTERS & MACHINISTS PROFILE

Metal fitters and machinists account for a sizeable portion of the fossil fuel workforce with demand expected to decline substantially by 2035.

Comments

The Latrobe region has approximately 170 metal fitters and machinists as at FY24. Under a Step Change Scenario employment in this group is expected to decline significantly, by 52.6% by FY35, falling to around 80 workers. Of the 90 roles expected to be lost, an estimated 40 are likely to retire over this period, leaving 50 metal fitters and machinists likely to undergo a workforce transition.

Metal fitters and machinists account for 13% of the fossil fuel's workforce in Latrobe Valley. Within this occupation, 24% across the region are employed in fossil fuel industry. This is relatively a sizeable share of workers that may be impacted by fossil fuel industry changes.

Employment in this field usually requires a certificate-level qualification in mechanical and industrial engineering and technology. Metal fitters and machinists tend to have intermediate levels of foundational skills. They also display intermediate generalist capabilities, with particular strengths in digital engagement, initiative & innovation and planning & organisation.

Fossil fuel occupation employment size and outlook

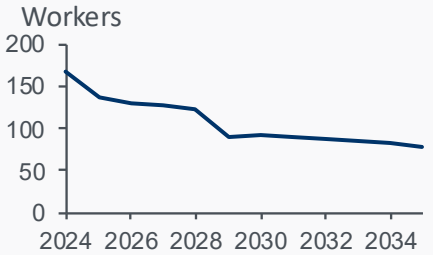
170 metal fitters and machinists in Latrobe Valley in FY24

52.6% decline in employment by FY35

This represents

13% of fossil fuel workers

24% of all metal fitters and machinists



Source: Oxford Economics based on AEMO Step Change scenario, ABS Census

Role specific skill set

Specialist skills

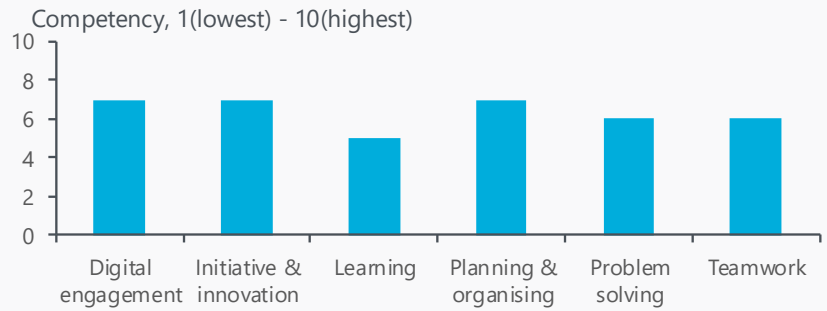
Mechanical and Industrial Engineering and Technology

4

Skill level 4 which corresponds to AQF level 3 (requiring skills equivalent to the competencies gained through a certificate III)

Foundational skills

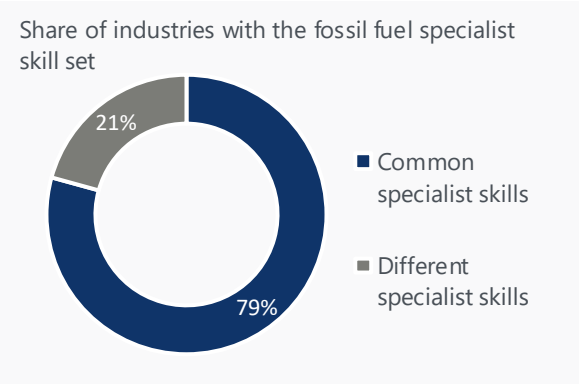
Generalist skills



Source: Oxford Economics, ABS ANZSCO, JSA

Metal fitters and machinists have relatively high digital engagement skills compared to skill adjacent trades worker and technician roles.

Identification of similar roles



Similar role	Seek movement	ATO movement
NA – No identified roles		

Source: Oxford Economics, JSA, Seek, ATO

Generalist & foundational skill assessment for skill adjacent roles

Source: Oxford Economics, JSA

Identification of skill adjacent roles

Skill adjacent roles	Field of education	
	FOE	Skill level
Motor Mechanics	Automotive Engineering and Technology	Same
Other Machine Operators	On-the-job training	Same
Motor Vehicle Parts and Accessories Fitters	On-the-job training	Same
Mechanical Engineering Draftspersons and Technicians	Mechanical and Industrial Engineering and Technology	Higher
Defence Force Members - Other Ranks	On-the-job training	Same
Carpenters and Joiners	Building	Same
Other Miscellaneous Technicians and Trades Workers	On-the-job training	Same
Plumbers	Building	Same
Engineering Managers	Mechanical and Industrial Engineering and Technology	Higher
Aircraft Maintenance Engineers	Aerospace Engineering and Technology	Same

Source: Oxford Economics

Metal fitters and machinists are likely to be able to find roles in other industries, with reskilling required to move into skill adjacent roles.

Analysis of similar role pathways

Demand for metal fitters and machinists is expected to decline marginally across the Latrobe Valley, with demand in manufacturing, construction and utilities not associated with the fossil fuel industry set to support demand for the occupation going forward and will provide an avenue for fossil fuel workers to transfer their skill set.

Outside the metal fitter and machinist occupation, there are no identified similar role opportunities.

Analysis of skill adjacent role pathways

Metal fitters and machinists can also tap into opportunities to transition to skill-adjacent roles, where the demand is expected to increase by 280 roles by 2035, well above the expected loss of roles in fossil fuel.

The biggest demand in skill adjacent roles is for carpenters and joiners, increasing by 80 by 2035. However, transitioning into this role may require reskilling, as it involves a different set of specialist skills, albeit at a similar skill level.

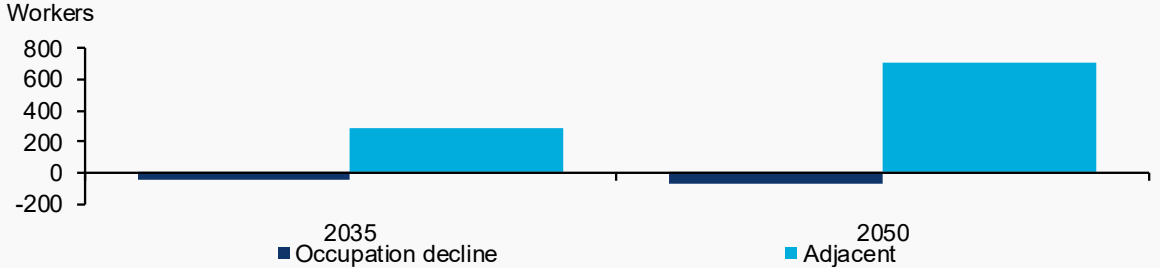
Demand for roles in trades related to the building sector beyond carpenters and joiners is also strong, with a projected increase of over 120 by 2035. These roles, include motor mechanics and plumbers, and are likely to require reskilling due to different specialist skill sets specific to the building sector.

Overall, metal fitters and machinists are on quite comparable level with the average skill adjacent roles level. The area they are likely to need upskilling is numeracy, which is over half a point lower for metal fitters and machinists in comparison.

Demand for similar roles

Source: Oxford Economics based on AEMO Step Change scenario

Demand for skill adjacent roles



Source: Oxford Economics based on AEMO Step Change scenario

STRUCTURAL STEEL CONTRUCTION WORKERS PROFILE

Structural steel construction workers account for a moderate portion of the fossil fuel workforce with considerable employment reliance on this sector.

Comments

As at FY24, the Latrobe region employs approximately 120 structural steel construction workers in fossil fuel sector. However, employment in this group is expected to decline by 51.7% by FY35, falling to around 60 workers. Of the 60 roles expected to be lost, an estimated 20 are likely to retire over this period, leaving 40 structural steel construction workers likely to undergo a workforce transition.

Structural steel construction workers make up 9% of the Latrobe's fossil fuel's workforce. More broadly across the occupation, 27% of structural steel construction workers work within the regional fossil fuel industry. This indicates a relatively high level of exposure to demand transition.

Training for structural steel construction workers are usually acquired on the job. They are generally assessed at the intermediate level for foundational skills, notably on the lower end for writing and communication. For generalist skills, they possess strong intermediate capability in initiative & innovation, planning & organising and teamwork. However, their digital engagement skill remains at a basic level.

Fossil fuel occupation employment size and outlook

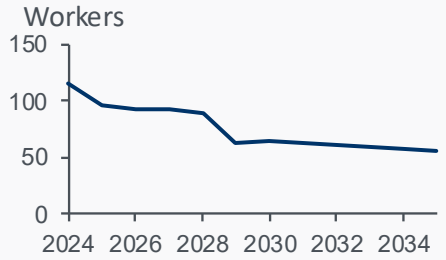
120 structural steel construction workers in Latrobe Valley in FY24

51.7% decline in employment by FY35

This represents

9% of fossil fuel workers

27% of all truck drivers



Source: Oxford Economics based on AEMO Step Change scenario, ABS Census

Role specific skill set

Specialist skills

On the job training

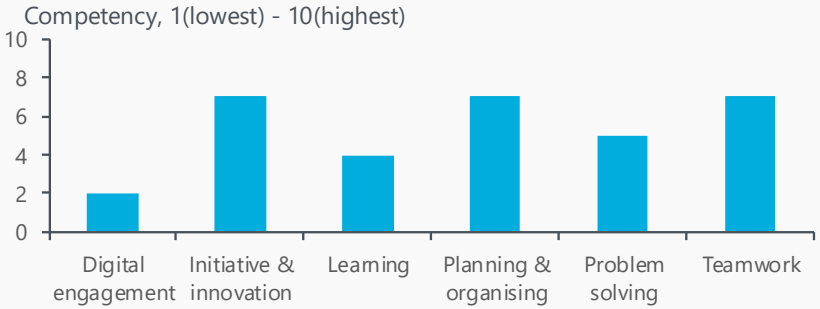
4

Skill level 4 which corresponds to AQF level 2 (requiring skills equivalent to the competencies gained through a certificate II)

Source: Oxford Economics, ABS ANZSCO, JSA

Foundational skills

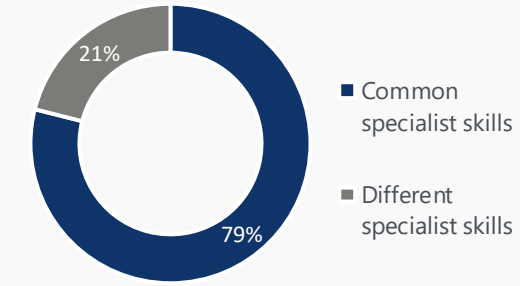
Generalist skills



Structural steel construction workers have strong transferability into building-related roles, despite their relatively low skill profile.

Identification of similar roles

Share of industries with the fossil fuel specialist skill set

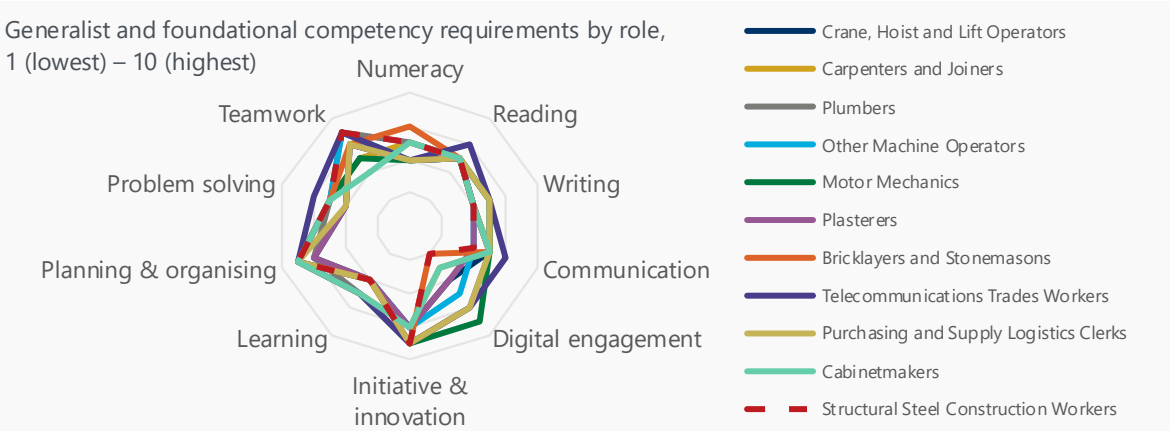


Similar roles	Seek movement	ATO movement
Building and Plumbing Labourers	No	Ranked #1

Source: Oxford Economics, JSA, Seek, ATO

Generalist & foundational skill assessment for skill adjacent roles

Generalist and foundational competency requirements by role, 1 (lowest) – 10 (highest)



Source: Oxford Economics, JSA

Identification of skill adjacent roles

Skill adjacent roles	Field of education	
	FOE	Skill level
Crane, Hoist and Lift Operators	On-the-job training	Same
Carpenters and Joiners	Building	Same
Plumbers	Building	Same
Other Machine Operators	On-the-job training	Same
Motor Mechanics	Automotive Engineering and Technology	Same
Plasterers	On-the-job training	Same
Bricklayers and Stonemasons	On-the-job training	Same
Telecommunications Trades Workers	Electrical and Electronic Engineering and Technology	Same
Purchasing and Supply Logistics Clerks	On-the-job training	Same
Cabinetmakers	Manufacturing Engineering and Technology	Same

Source: Oxford Economics

Structural steel construction workers are likely well-positioned to transition into both similar and skill adjacent roles due to strong demand for their skill sets.

Analysis of similar role pathways

Demand for structural steel construction workers outside of the fossil fuel industry is strong across the Latrobe Valley region, particularly in construction, with both residential and heavy engineering construction set to increase demand for these workers. The additional demand coming through the non-fossil fuel industries, alongside attrition from the current workforce, should provide capacity to absorb the workforce.

The demand for other similar roles is concentrated in labouring roles; however, the high levels of attrition within structural steel construction workers mean it is less likely this pathway will need to be utilised in the Latrobe Valley.

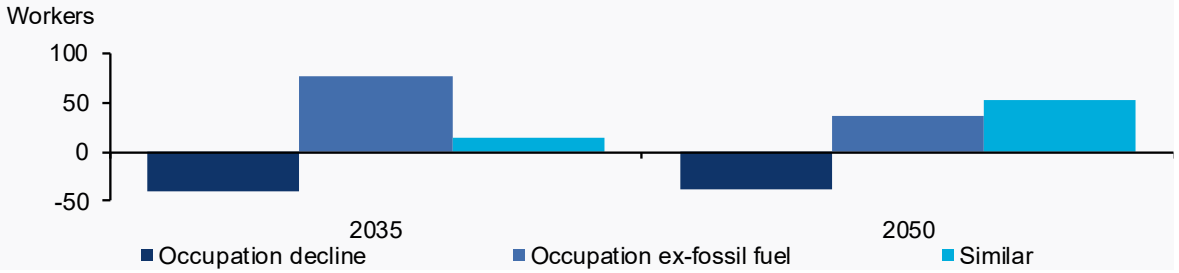
Analysis of skill adjacent role pathways

Structural steel construction workers are likely to have stronger opportunities to transition to skill-adjacent roles, where the demand is expected to increase by 300 roles by 2035.

The biggest demand in skill adjacent roles is for carpenters and joiners, increasing by 80 by 2035. However, transitioning into this role may require reskilling, as it involves a different set of specialist skills, albeit at a similar skill level.

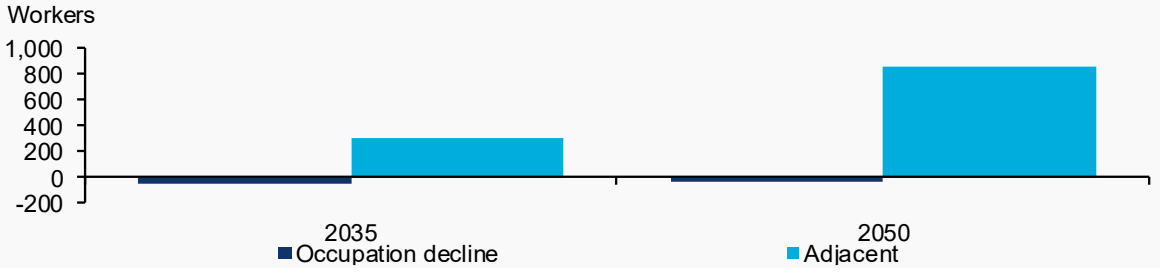
Demand for roles in trades related to the building sector beyond carpenters and joiners is also strong, with a projected increase of over 120 by 2035. These roles include motor mechanics and plumbers, and are likely to require reskilling due to different specialist skill sets specific to the building sector.

Demand for similar roles



Source: Oxford Economics based on AEMO Step Change scenario

Demand for skill adjacent roles



Source: Oxford Economics based on AEMO Step Change scenario

CHEMICAL, GAS, PETROLEUM AND POWER GENERATION PLANT OPERATORS PROFILE

Chemical, gas, petroleum and power generation plant operators is project to experience significant decline in demand by 2035.

Comments

There are approximately 100 chemical, gas, petroleum and power generation plant operators in Latrobe's fossil fuel sector as at FY24. Under a Step Change Scenario employment in this group is expected to drop sharply by 57.1% by FY35, falling to around 50 workers. Of the 50 roles expected to be lost, an estimated 30 are likely to retire over this period, leaving 20 operators likely to undergo a workforce transition.

Chemical, gas, petroleum and power generation plant operators make up around 8% of the Latrobe's fossil fuel workforce. However, 29% of all chemical, gas, petroleum and power generation plant operators in Latrobe region are employed within the fossil fuel industry. This reflects a relatively high level of dependence on this sector, making them vulnerable to demand changes.

Employment in this field usually required certificate-level qualification in electrical and electronic engineering and technology. Chemical, gas, petroleum and power generation plant operators generally score at intermediate levels for foundational skills. Similarly, their generalist skills are mostly intermediate, with relative strength in initiative & innovation and planning & organising, creating an even skill profile.

Fossil fuel occupation employment size and outlook

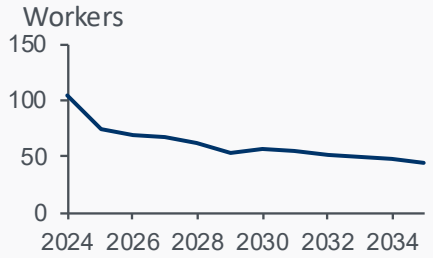
100 chemical, gas, petroleum and power generation plant operators in Latrobe Valley in FY24

57.1% decline in employment by FY35

This represents

8% of fossil fuel workers

29% of all chemical, gas, petroleum and power generation plant operators



Source: Oxford Economics based on AEMO Step Change scenario, ABS Census

Role specific skill set

Specialist skills

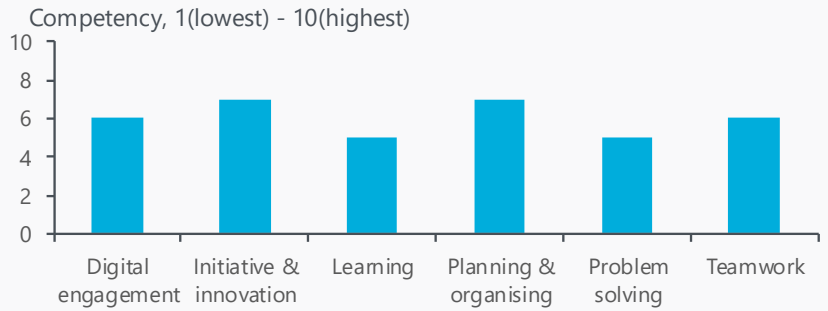
Electrical and Electronic Engineering and Technology

4

Skill level 4 which corresponds to AQF level 3 (requiring skills equivalent to the competencies gained through a certificate II)

Foundational skills

Generalist skills

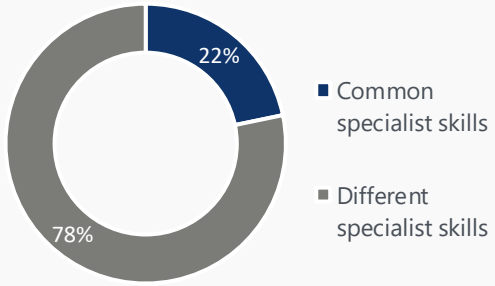


Source: Oxford Economics, ABS ANZSCO, JSA

Chemical, gas, petroleum and power generation plant operators have low transferability, however, their skill profile is adequate to transition into skill adjacent roles.

Identification of similar roles

Share of industries with the fossil fuel specialist skill set

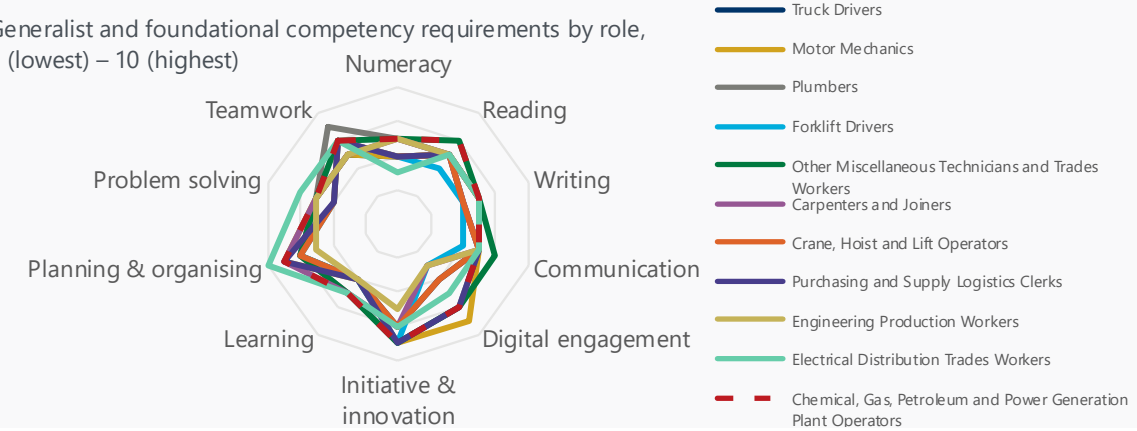


Similar roles	Seek movement	ATO movement
Other Factory Process Workers	Yes	1
Other Machine Operators	Yes	5

Source: Oxford Economics, JSA, Seek, ATO

Generalist & foundational skill assessment for skill adjacent roles

Generalist and foundational competency requirements by role, 1 (lowest) – 10 (highest)



Source: Oxford Economics, JSA

Identification of skill adjacent roles

Skill adjacent roles	Field of education	
	FOE	Skill level
Truck drivers	On-the-job training	Same
Motor Mechanics	Automotive Engineering and Technology	Same
Plumbers	Building	Same
Forklift Drivers	On-the-job training	Same
Other Miscellaneous Technicians and Trades Workers	On-the-job training	Same
Carpenters and Joiners	Building	Same
Crane, Hoist and Lift Operators	On-the-job training	Same
Purchasing and Supply Logistics Clerks	On-the-job training	Same
Engineering Production Workers	On-the-job training	Same
Electrical Distribution Trades Workers	Electrical and Electronic Engineering and Technology	Same

Source: Oxford Economics

Chemical, gas, petroleum and power generation plant operators are unlikely to face challenges transitioning into similar and skill adjacent roles, given strong demand.

Analysis of similar role pathways

Demand for chemical, gas, petroleum and power generation plant operators is muted across all industries, excluding the fossil fuel and is stable out to 2035 at 250 roles. The typical field of education primarily held by chemical, gas, petroleum and power generation plant operators in fossil fuel workers is electrical & electronic engineering & technology, however only a quarter of workers hold this qualification, making a transition within occupation more difficult and potentially requiring retraining.

Outside of the occupation, demand for similar roles is strong and able to fully absorb workers needing transition, providing alternative pathways for these workers. Similar roles include factory workers and machine operators.

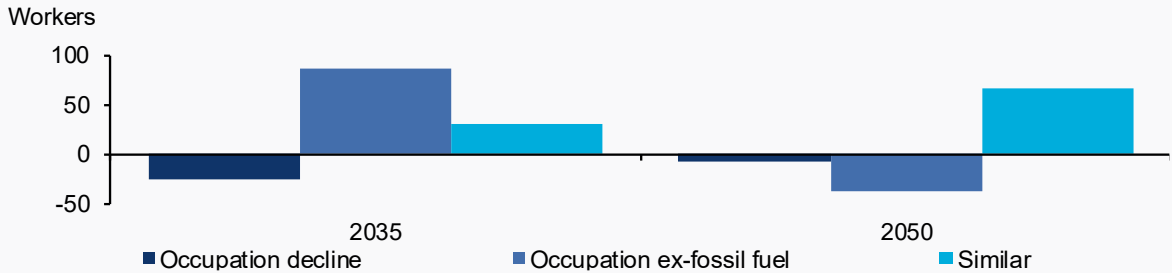
Analysis of skill adjacent role pathways

Chemical, gas, petroleum, and power generation plant operators are likely to have more opportunities to transition to skill-adjacent roles, where the demand is expected to increase by 680 by 2035.

Demand for roles concentrated in construction, building and transportation shows the highest demand amongst skill adjacent roles, with a projected increase of over 550 by 2035. Roles including motor mechanics, plumbers and carpenters and joiners are also to require reskilling due to different specialist skill sets specific to the building sector.

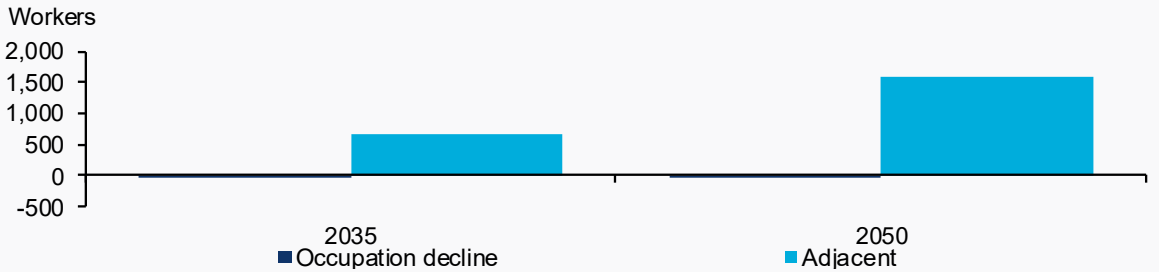
Chemical, gas, petroleum and power generation plant operators are unlikely to need training for both foundational and generalist skills. Their current skill levels are sufficient to facilitate a smooth transition into most identified skill adjacent professions, particularly stronger in reading and digital engagement, compared to the average for skill adjacent roles.

Demand for similar roles



Source: Oxford Economics based on AEMO Step Change scenario

Demand for skill adjacent roles



Source: Oxford Economics based on AEMO Step Change scenario

STRUCTURAL STEEL & WELDING TRADES WORKERS PROFILE

Structural steel & welding trades workers account for a moderate portion of the fossil fuel workforce with relatively low reliance on this sector.

Comments

There are approximately 90 structural steel and welding trades workers in FY24 employed in Latrobe's fossil fuel sector. Under a Step Change Scenario, employment in this group is expected to decrease by 54.2% by FY35, falling to around 40 workers. Of the 50 roles expected to be lost, an estimated 20 are likely to retire over this period, leaving 30 structural steel and welding trades workers likely to undergo a workforce transition.

Structural steel and welding trades workers make up 7% to the Latrobe's fossil fuel's workforce. More broadly, 17% of all workers in this occupation work within fossil fuel industry in the region. This reflects a relatively high level of exposure to demand transition.

The occupation usually requires certificate-level qualification in mechanical and industrial engineering and technology. In terms of skills, structural steel and welding trades workers demonstrate intermediate levels of foundational skills. Their generalist skills are also mostly at intermediate level, with particular strength in initiative & innovation capabilities.

Fossil fuel occupation employment size and outlook

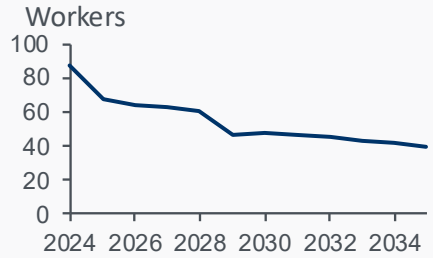
90 structural steel and welding trades workers in Latrobe Valley in FY24

54.2% decline in employment by FY35

This represents

7% of fossil fuel workers

17% of all structural steel and welding trades workers



Source: Oxford Economics based on AEMO Step Change scenario, ABS Census

Role specific skill set

Specialist skills

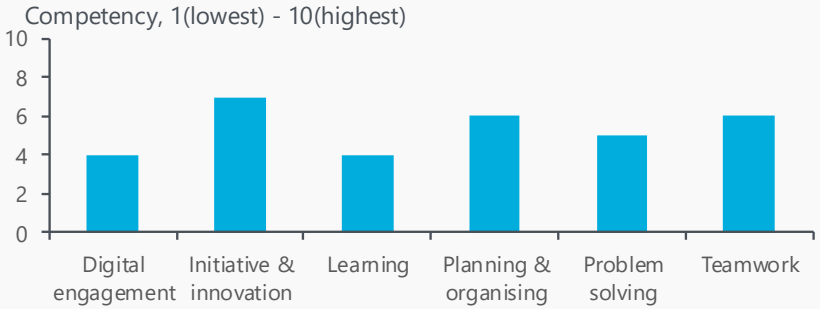
Mechanical and Industrial Engineering and Technology

4

Skill level 4 which corresponds to AQF level 3 (requiring skills equivalent to the competencies gained through a certificate II or III)

Foundational skills

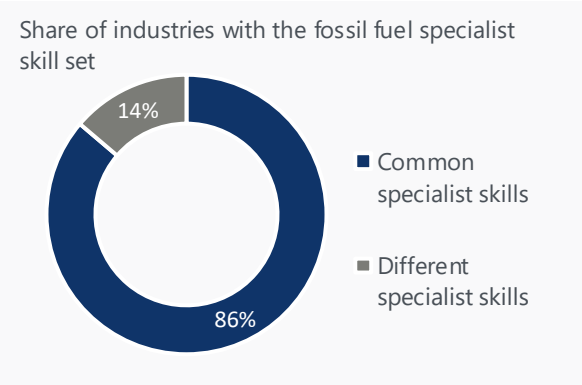
Generalist skills



Source: Oxford Economics, ABS ANZSCO, JSA

Structural steel and welding trades workers have high transferability, but their specialist skill is not in high demand across skill adjacent roles.

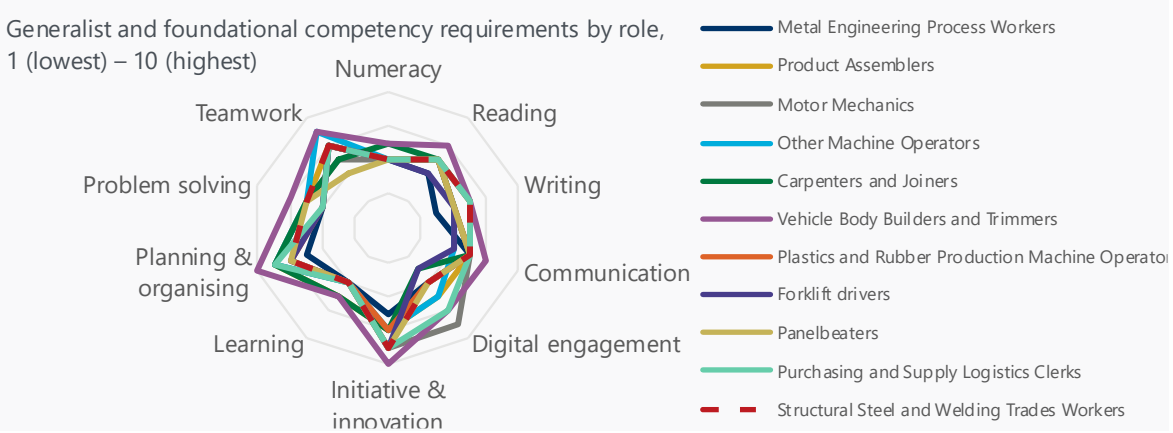
Identification of similar roles



Similar roles	Seek movement	ATO movement
Sheetmetal Trades Workers	Yes	Ranked #4

Source: Oxford Economics, JSA, Seek, ATO

Generalist & foundational skill assessment for skill adjacent roles



Source: Oxford Economics, JSA

Identification of skill adjacent roles

Skill adjacent roles	Field of education	
	FOE	Skill level
Metal Engineering Process Workers	On-the-job training	Lower
Product Assemblers	On-the-job training	Lower
Motor Mechanics	Automotive Engineering and Technology	Same
Other Machine Operators	On-the-job training	Same
Carpenters and Joiners	Building	Same
Vehicle Body Builders and Trimmers	Automotive Engineering and Technology	Same
Plastics and Rubber Production Machine Operators	On-the-job training	Same
Forklift Drivers	On-the-job training	Same
Panelbeaters	Automotive Engineering and Technology	Same
Purchasing and Supply Logistics Clerks	On-the-job training	Same

Source: Oxford Economics

Structural steel and welding trades workers are likely to find transition pathways within their occupation with employment demand set to grow.

Analysis of similar role pathways

Demand for structural steel and welding trades workers outside of the fossil fuel industry is set to grow marginally across the Latrobe Valley to 2035, with demand set to continue to be supported by industrial employment in the region to 2050. This provides pathways to transition within the occupation for fossil fuel workers.

Similar roles are set to support at the margins, with sheet metal trade worker employment holding steady across the region. However, the stable employment within the structural steel and welding trades reduces the likelihood that this pathway will need to be utilised by fossil fuel workers as the industry declines.

Analysis of skill adjacent role pathways

Structural steel and welding trades workers are likely to have more opportunities to transition to skill-adjacent roles, where the demand is expected to increase by 300 by 2035.

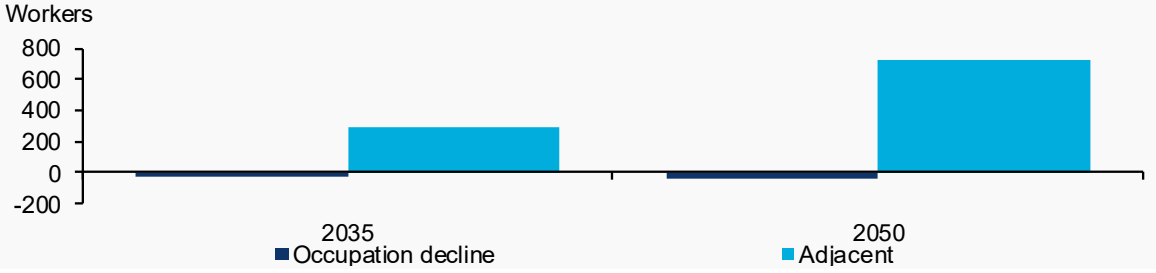
Demand for trade-based roles is set to increase with motor mechanics, carpenters and joiners increasing by 150 roles to 2035. Transitioning into this role may require additional training due to differing specialist skills despite being at a similar skill level.

To transition into most of the identified skill adjacent roles, structural steel and welding trades workers are likely to need training in digital engagement and planning & organising, where these workers score over half a point lower than the average skill adjacent level.

Demand for similar roles

Source: Oxford Economics based on AEMO Step Change scenario

Demand for similar roles



Source: Oxford Economics based on AEMO Step Change scenario

ELECTRICIANS PROFILE

Electricians account for a moderate portion of the fossil fuel workforce with a significant footprint outside of the fossil fuel industry.

Comments

Approximately 90 electricians are employed in Latrobe region's fossil fuel workforce as at FY24. Under a Step Change Scenario, employment in this group is expected to decline by 50.7% by FY35, dropping to around 40 workers. Of the 50 roles expected to be lost, an estimated 20 are likely to retire over this period, leaving 30 electricians likely to undergo a workforce transition.

In Latrobe Valley'ss fossil fuel industry, electricians make up 7% of the workforce. Generally, 13% of all electricians are employed within the fossil fuel industry. This suggests a moderate level of exposure to transition risks with a substantial footprint in non-fossil fuel industries.

Specialist skills are usually required at certificate-level qualification in electrical and electronic engineering & technology. In general, electricians have intermediate foundational skills. Their generalist skills are also within the intermediate range, with strengths in initiative & innovation and planning & organisation, though digital engagement is at the lower end.

Fossil fuel occupation employment size and outlook

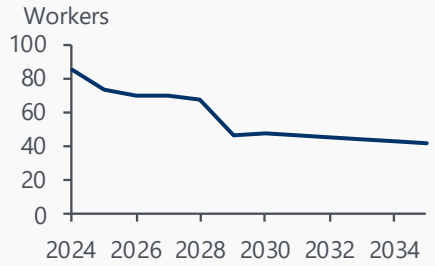
90 electricians in Latrobe Valley in FY24

50.7% decline in employment by FY35

This represents

7% of fossil fuel workers

13% of all electricians



Source: Oxford Economics based on AEMO Step Change scenario, ABS Census

Role specific skill set

Specialist skills

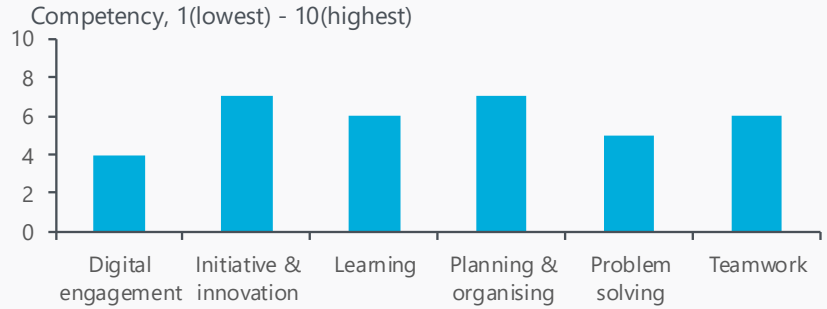
Electrical and Electronic Engineering and Technology

4

Skill level 4 which corresponds to AQF level 3 (requiring skills equivalent to the competencies gained through a certificate III)

Foundational skills

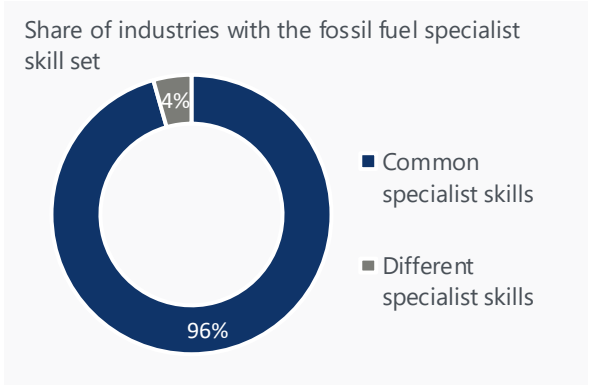
Generalist skills



Source: Oxford Economics, ABS ANZSCO, JSA

Electricians have strong transferability into a range of skill adjacent roles within the electrical and technical fields.

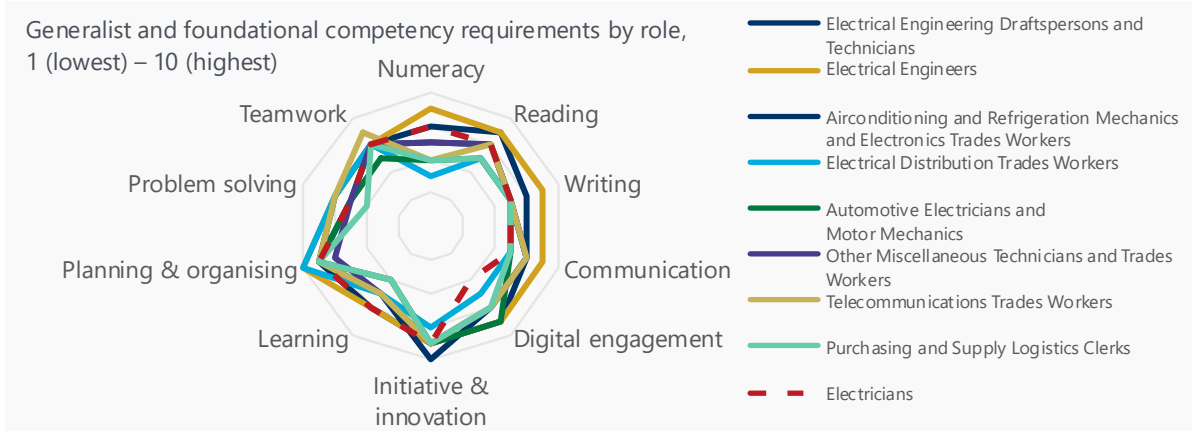
Identification of similar roles



Similar roles	Seek movement	ATO movement
NA – No identified roles		

Source: Oxford Economics, JSA, Seek, ATO

Generalist & foundational skill assessment for skill adjacent roles



Source: Oxford Economics, JSA

Identification of skill adjacent roles

Skill adjacent roles	Field of education	
	FOE	Skill level
Electrical Engineering Draftspersons and Technicians	Electrical and Electronic Engineering and Technology	Higher
Electrical Engineers	Electrical and Electronic Engineering and Technology	Higher
Airconditioning and Refrigeration Mechanics	Electrical and Electronic Engineering and Technology	Same
Electrical Distribution Trades Workers	Electrical and Electronic Engineering and Technology	Same
Automotive Electricians	Automotive Engineering and Technology	Same
Motor Mechanics	Automotive Engineering and Technology	Same
Electronics Trades Workers	Electrical and Electronic Engineering and Technology	Same
Other Miscellaneous Technicians and Trades Workers	On-the-job training	Same
Telecommunications Trades Workers	Electrical and Electronic Engineering and Technology	Same
Purchasing and Supply Logistics Clerks	On-the-job training	Same

Source: Oxford Economics

Demand for electricians and their related skill sets is strong outside the fossil fuel industry, presenting within occupation, similar and skill adjacent role opportunities.

Analysis of similar role pathways

Demand for electricians is expected to decline across the region marginally, but demand outside the fossil fuel industry will support continued employment for electricians in the Latrobe Valley, and will likely be sufficient to absorb workers who transition within occupation when coupled with the natural attrition the workforce will experience. Demand for electricians is strongest in the electrical services industry within construction, and in utilities not associated with the fossil fuel industry.

Outside the electricians occupation, there are no identified similar role opportunities.

Analysis of skill adjacent role pathways

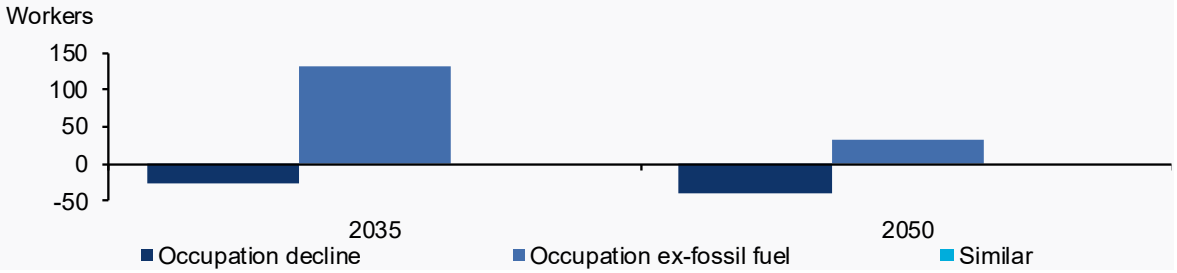
Electricians are likely to have strong opportunities to transition to skill-adjacent roles, where the demand is expected to increase by 220 roles by 2035, providing capacity to accommodate the transition of fossil fuel electricians.

The biggest demand in skill adjacent roles is for motor mechanics, electrical technicians and draftspersons. increasing by 100 roles by 2035. Transitioning into a motor mechanic role may require reskilling, as it involves different specialist skills despite being at a similar skill level.

There are moderate opportunities to transition into roles with the same specialist skills, with over 50 roles projected to 2035. Some upskilling in foundational and generalist skills may be necessary to support the transition for roles such as electrical engineers.

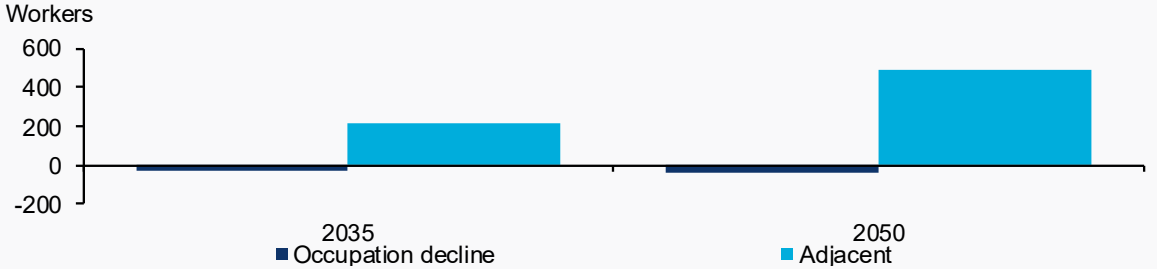
Electricians are likely to need training across areas such as communication and digital engagement, with digital engagement being over 2 points lower for these workers compared to the average skill adjacent roles.

Demand for similar roles



Source: Oxford Economics based on AEMO Step Change scenario

Demand for skill adjacent roles



Source: Oxford Economics based on AEMO Step Change scenario

OTHER BUILDING & ENGINEERING TECHNICIANS PROFILE

While representing a modest share, other building & engineering technicians are highly dependent on fossil fuel employment, facing sharp demand decline by 2035.

Comments

Fossil fuel sector in Latrobe Valley employs approximately 50 other building & engineering technicians* as at FY24. However, employment in this group is expected to decline sharply, by 46.2% by FY35, dropping to around 30 workers. Of the 20 roles expected to be lost, a similar number is projected to retire over this period, meaning few, if any, workers will require a workforce transition.

An estimated 20 are likely to retire over this period leaving 30 likely to undergo a workforce transition.

Other building and engineering technicians make up just 4% of the Latrobe's fossil fuel workforce. Despite this, 23% of all workers in this occupation are employed within the regional fossil fuel industry. This indicates a high reliance on fossil fuels for employment, exposing them to risks associated with changes in the fossil fuel industry.

Working in this field usually requires a diploma-level qualification in process and resources engineering. Other building and engineering technicians sit at the higher-end of intermediate level across foundational skills. Similarly, their generalist skills are also within intermediate range, creating a relatively even skill profile overall.

Fossil fuel occupation employment size and outlook

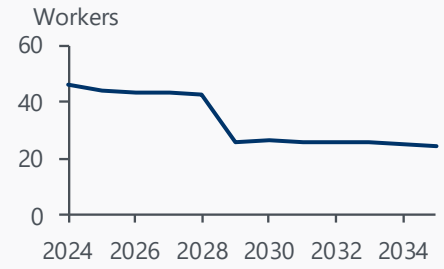
50 other building and engineering technicians in Latrobe Valley in FY24

46.2% decline in employment by FY35

This represents

4% of fossil fuel workers

23% of all other building and engineering technicians



Source: Oxford Economics based on AEMO Step Change scenario, ABS Census

Role specific skill set

Specialist skills

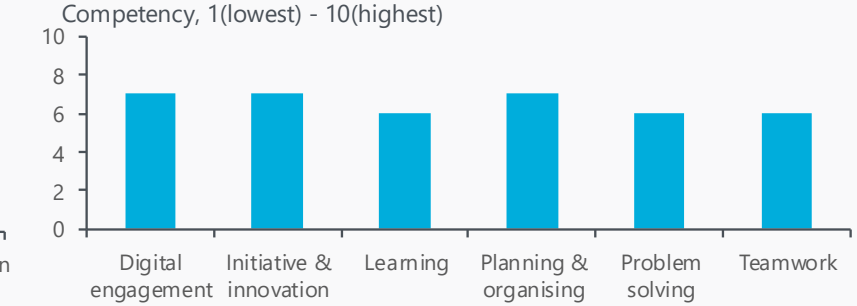
Process and Resources Engineering

2

Skill level 2 which corresponds to AQF level 5 (requiring skills equivalent to the competencies gained through a diploma)

Foundational skills

Generalist skills



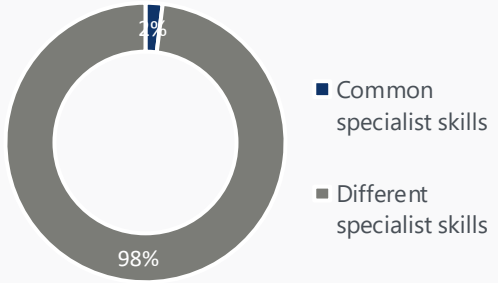
Source: Oxford Economics, ABS ANZSCO, JSA

**The ABS defines Other building and engineering technicians as building and engineering technicians not classified elsewhere, such as maintenance planners, metallurgical or materials technicians, and mine deputies.*

Other building & engineering technicians have a sufficient skill level to transition into skill adjacent roles, despite limited specialist skills transferability.

Identification of similar roles

Share of industries with the fossil fuel specialist skill set

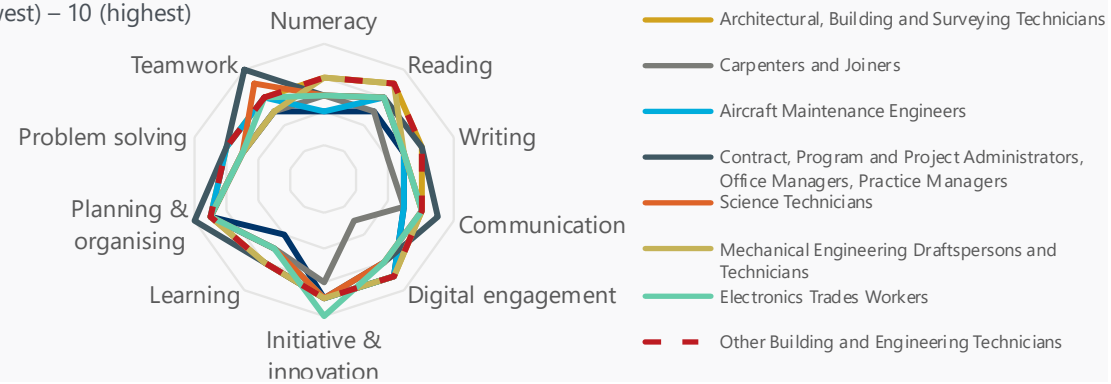


Similar roles	Seek movement	ATO movement
NA – No identified roles		

Source: Oxford Economics, JSA, Seek, ATO

Generalist & foundational skill assessment for skill adjacent roles

Generalist and foundational competency requirements by role, 1 (lowest) – 10 (highest)



Source: Oxford Economics, JSA

Identification of skill adjacent roles

Skill adjacent roles	Field of education	
	FOE	Skill level
Motor Mechanics	Automotive Engineering and Technology	Lower
Architectural, Building and Surveying Technicians	Building	Same
Carpenters and Joiners	Building	Lower
Aircraft Maintenance Engineers	Aerospace Engineering and Technology	Lower
Contract, Program and Project Administrators	Business and Management	Same
Office Managers	On-the-job training	Same
Science Technicians	On-the-job training	Same
Practice Managers	Business and Management	Same
Mechanical Engineering Draftspersons and Technicians	Mechanical and Industrial Engineering and Technology	Same
Electronics Trades Workers	Electrical and Electronic Engineering and Technology	Lower

Other building & engineering technicians have a specialised skillset which may require retraining to transition within occupation or into skill adjacent roles.

Analysis of similar role pathways

Demand for other building and engineering technicians is set to decline marginally across the Latrobe Valley. The typical field of education primarily held by other building & engineering technicians in fossil fuel workers is process and resource engineering. However, the majority of workers in this occupation hold a different field of education, making a transition within the occupation more difficult and potentially requiring retraining. Furthermore, it should be noted that this is a small group of workers with demand for this occupation only set to decline by around 20 roles to 2035.

Outside the other building and engineering technicians occupation, there are no identified similar role opportunities.

Analysis of skill adjacent role pathways

Other building and engineering technicians are likely to have more opportunities to transition to skill-adjacent roles, where the demand is expected to increase by 550 roles by 2035.

The biggest demand in skill adjacent roles is in administration, increasing by 250 by 2035. Primary roles in administration are centred around contract, program and project administrators and office managers.

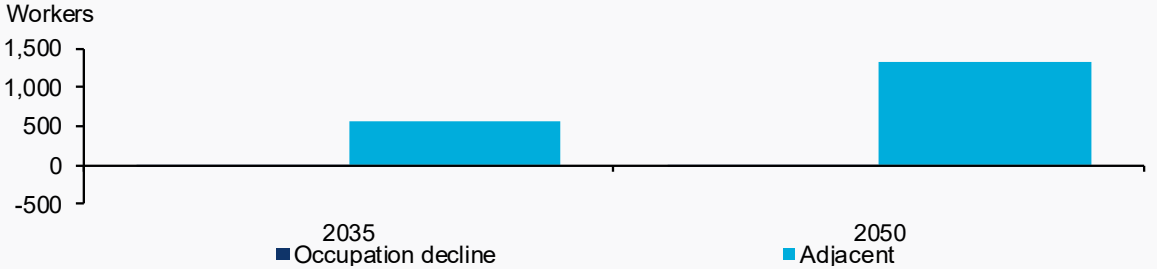
Outside of administration, there are opportunities to transition into roles associated with trades set to increase by 200 roles by 2035. These roles include carpenters and joiners, motor mechanics and architectural, building and surveying technicians.

Other building and engineering technicians possess the generalist skill set sufficient to support transition into skill-adjacent roles, but may require specialist skills where applicable.

Demand for similar roles

Source: Oxford Economics based on AEMO Step Change scenario

Demand for skill adjacent roles



Source: Oxford Economics based on AEMO Step Change scenario

OTHER MISCELLANOS LABOURERES PROFILE

Other miscellaneous labourers account for a small portion but are somewhat dependent on of the fossil fuel sector, where demand is declining substantially by 2035.

Comments

Approximately 30 other miscellaneous labourers work in Latrobe region in FY24. Under a Step Change Scenario, employment in this group is expected to decrease by 50.8% by FY35, falling to around 20 workers. Of the 10 roles expected to be lost, a similar number is projected to retire over this period, meaning few, if any, workers will require a workforce transition.

Other miscellaneous labourers make up only 3% to the fossil fuel workforce in Latrobe Valley. But importantly, 16% of all other miscellaneous labourers in the region are employed within the fossil fuel industry. This reflects a high dependence on one industry, making them highly vulnerable as fossil fuels activities continue to decline.

Skills required to work in this occupation are usually acquired on the job. Other miscellaneous labourers tend to score at the low end of intermediate range for most foundational skills, with numeracy assessed at only basic level. Similarly, their generalist skills also fall on the lower end of intermediate scale across most areas, and digital engagement remains at basic level. Overall, these workers are likely to need support in upskilling to facilitate smooth transition into new roles.

Fossil fuel occupation employment size and outlook

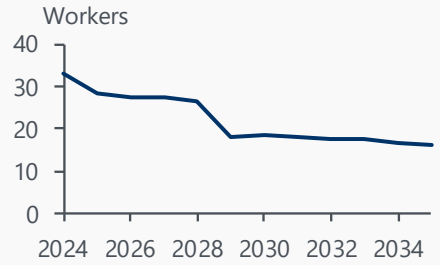
30 other miscellaneous labourers in Latrobe Valley in FY24

50.8% decline in employment by FY35

This represents

3% of fossil fuel workers

16% of all mining engineers



Source: Oxford Economics based on AEMO Step Change scenario, ABS Census

Role specific skill set

Specialist skills

On the job training

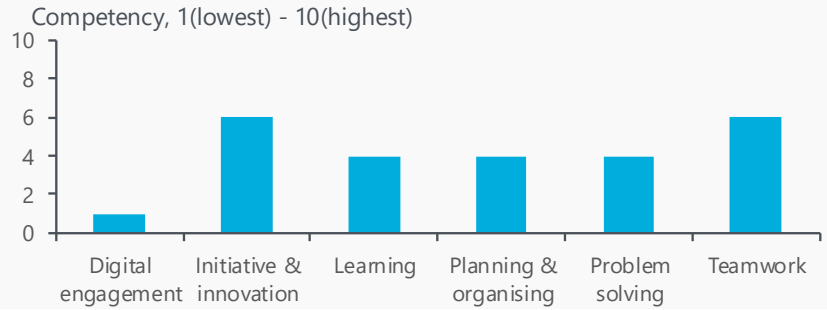
5

Skill level 5 which corresponds to AQF level 1 (requiring skills equivalent to the competencies gained through a certificate I)

Source: Oxford Economics, ABS ANZSCO, JSA

Foundational skills

Generalist skills

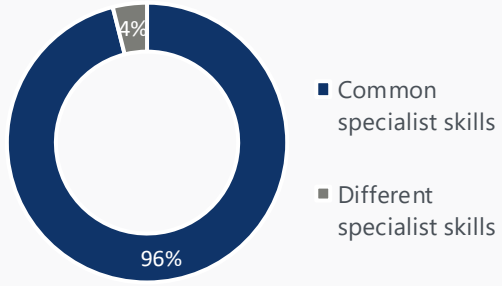


**The ABS defines Other miscellaneous labourers as labourers not classified elsewhere, such as electrical and telecommunications trades assistants, crossing supervisors, railway assistants , and car park attendants.*

Other miscellaneous labourers are likely to need significant upskilling to transition into skill adjacent roles, particularly for numeracy and digital engagement.

Identification of similar roles

Share of industries with the fossil fuel specialist skill set

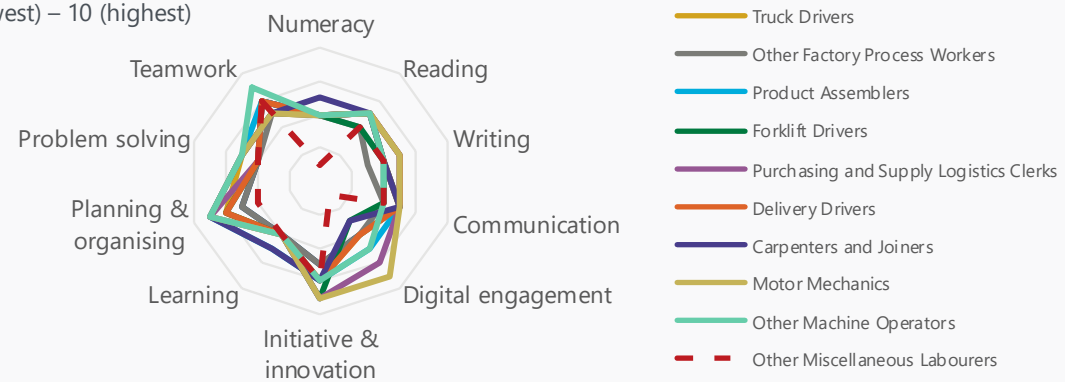


Similar roles	Seek movement	ATO movement
Building and Plumbing Labourers	No	Ranked #1
Commercial Cleaners	No	Ranked #10

Source: Oxford Economics, JSA, Seek, ATO

Generalist & foundational skill assessment for skill adjacent roles

Generalist and foundational competency requirements by role, 1 (lowest) – 10 (highest)



Source: Oxford Economics, JSA

Identification of skill adjacent roles

Skill adjacent roles	Field of education	
	FOE	Skill level
Storepersons	On-the-job training	Higher
Truck Drivers	On-the-job training	Higher
Other Factory Process Workers	On-the-job training	Same
Product Assemblers	On-the-job training	Same
Forklift Drivers	On-the-job training	Higher
Purchasing and Supply Logistics Clerks	On-the-job training	Higher
Delivery Drivers	On-the-job training	Higher
Carpenters and Joiners	Building	Higher
Motor Mechanics	Automotive Engineering and Technology	Higher
Other Machine Operators	On-the-job training	Higher

Source: Oxford Economics

Other miscellaneous labourers are likely to be able to transition within occupation due to growing demand for their services outside the fossil fuel industry.

Analysis of similar role pathways

Demand for other miscellaneous labourers is set to remain stable across the Latrobe Valley despite falling demand from the fossil fuel industry. Demand growth outside of the fossil fuel sector is sufficient to fully absorb workers needing transition as workers retire from the workforce.

The demand for other similar roles is concentrated in labouring and commercial cleaning roles; however, the high levels of attrition and stable employment demand in the region for other miscellaneous labourers mean it is less likely this pathway will need to be utilised in the Latrobe Valley.

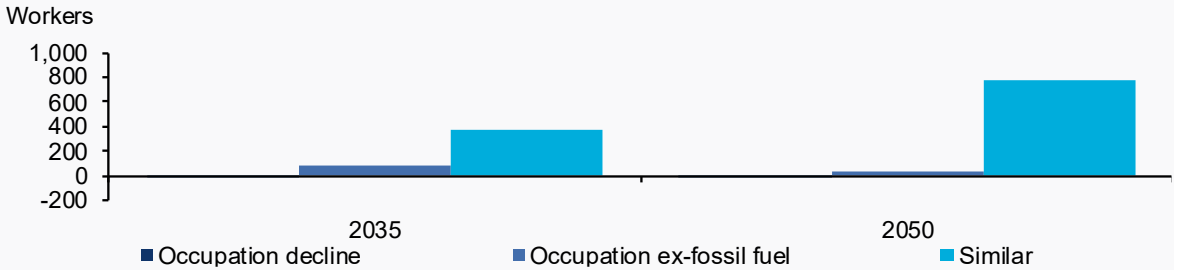
Analysis of skill adjacent role pathways

Other miscellaneous labourers are likely to have more opportunities to transition to skill-adjacent roles, where the demand is expected to increase by 810 roles by 2035.

Demand for roles is concentrated in transportation and logistics, with a projected increase of over 500 by 2035. Roles include truck drivers, delivery drivers, forklift drivers and purchasing and supply clerks, which would require limited reskilling to transfer into.

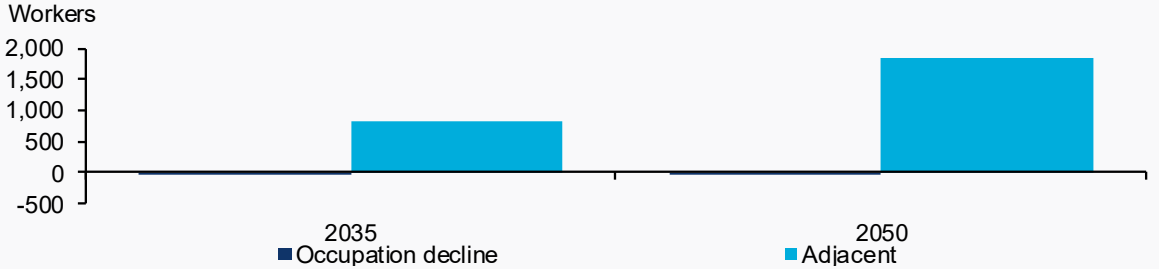
Other miscellaneous labourers are likely to need upskilling in digital engagement and numeracy, where they on average score 4 and 3 points below the average of their skill adjacent roles, respectively.

Demand for similar roles



Source: Oxford Economics based on AEMO Step Change scenario

Demand for skill adjacent roles



Source: Oxford Economics based on AEMO Step Change scenario

PRODUCTION MANAGERS PROFILE

Production managers account for a minor fraction of the fossil fuel workforce, yet their employment is somewhat concentrated in this sector.

Comments

There are approximately 30 production managers in FY24 employed in Latrobe Valley's fossil fuel industry. Under a Step Change Scenario, employment in this group is expected to decrease by 46.6% by FY35, falling to around 20 workers. Of the 10 roles expected to be lost, a similar number is projected to retire over this period, meaning few, if any, workers will require a workforce transition.

Production managers contribute 3% to the regional fossil fuel's workforce. However, this occupation is relatively reliant on fossil fuel sector, with 20% of all production managers in the Latrobe work within the industry. This indicates a high level of vulnerability to shifts in fossil fuel demand.

Employment in this occupation usually requires bachelor qualifications in process and resources engineering. In terms of skills, production managers demonstrate intermediate levels of foundational skills, with reading and communication at the higher end of the intermediate range. Their generalist skills also sit mostly at intermediate level, though initiative & innovation and planning & organising are rated at high level, making them well-suited for leadership roles in other industries pathways.

Fossil fuel occupation employment size and outlook

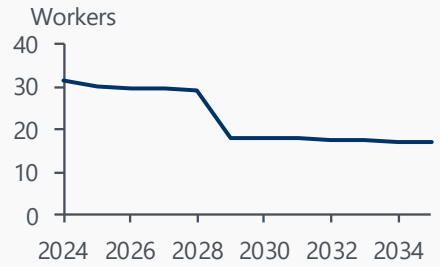
30 production managers in Latrobe Valley in FY24

46.6% decline in employment by FY35

This represents

3% of fossil fuel workers

20% of all production managers



Source: Oxford Economics based on AEMO Step Change scenario, ABS Census

Role specific skill set

Specialist skills

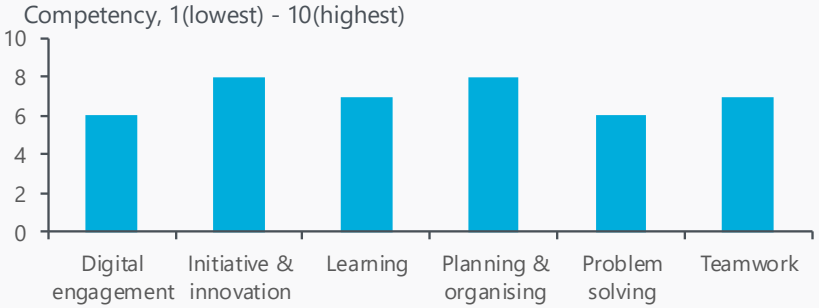
Process and Resources Engineering

1

Skill level 1 which corresponds to AQF level 7 (requiring skills equivalent to the competencies gained through vocational or bachelor degree)

Foundational skills

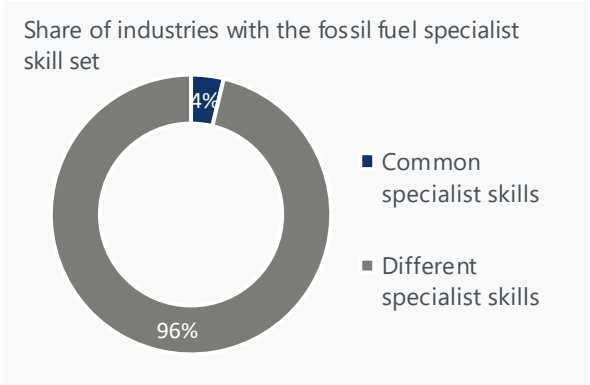
Generalist skills



Source: Oxford Economics, ABS ANZSCO, JSA

Despite having low transferability, production managers are well-equipped to transition to other managerial roles with their high skill profile.

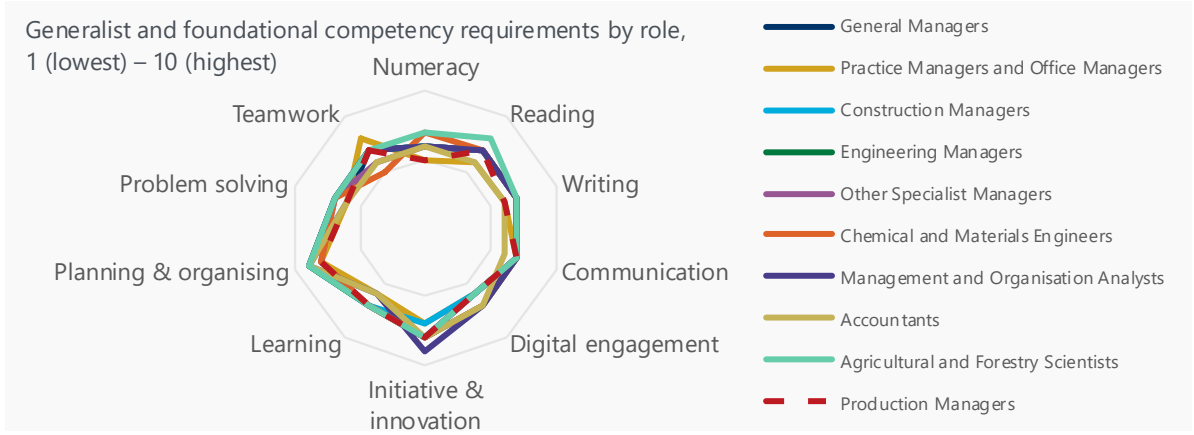
Identification of similar roles



Similar roles	Seek movement	ATO movement
Manufacturers	No	Ranked #3

Source: Oxford Economics, JSA, Seek, ATO

Generalist & foundational skill assessment for skill adjacent roles



Source: Oxford Economics, JSA

Identification of skill adjacent roles

Skill adjacent roles	Field of education	
	FOE	Skill level
General Managers	Business and Management	Same
Practice Managers	Business and Management	Lower
Office Managers	On-the-job training	Lower
Construction Managers	Building	Same
Engineering Managers	Mechanical and Industrial Engineering and Technology	Same
Other Specialist Managers	Business and Management	Same
Chemical and Materials Engineers	Process and Resources Engineering	Same
Management and Organisation Analysts	Business and Management	Same
Accountants	Accounting	Same
Agricultural and Forestry Scientists	Agriculture	Same

Source: Oxford Economics

Production managers are likely to face some capacity limits transitioning into similar roles, whereas skill adjacent roles shows strong demand.

Analysis of similar role pathways

Demand for production managers outside of the fossil fuel industry is set to decline through to 2035. Fossil fuel production managers have limited transferability. This pathway doesn't present a strong opportunity for transition. The typical field of education primarily held by production managers is in fossil fuel workers is process and resource engineering, however, the majority of workers in this occupation hold a different field of education, making a transition within the occupation more difficult and potentially requiring retraining. Furthermore, it should be noted that this is a small group of workers with demand for this occupation only set to decline by 25 roles by 2035.

Outside the production managers role, there are no identified similar role opportunities.

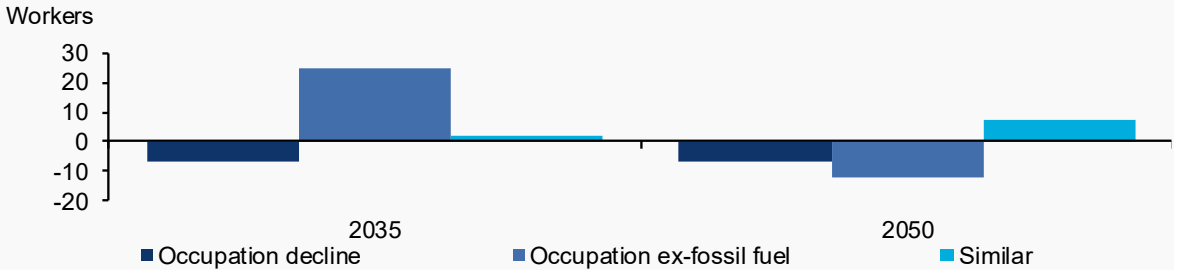
Analysis of skill adjacent role pathways

Production managers are likely to have more opportunities to transition to skill-adjacent roles, where the demand is expected to increase by 410 roles by 2035.

The biggest demand in skill adjacent roles is managerial positions, with office managers increasing by 120 by 2035. Other managerial roles also observed strong demand, with over 200 increase projected over the same period. Despite being on same skill level, transitioning into these roles may require reskilling, as specific specialist skills such as business management or building may be required for different industries.

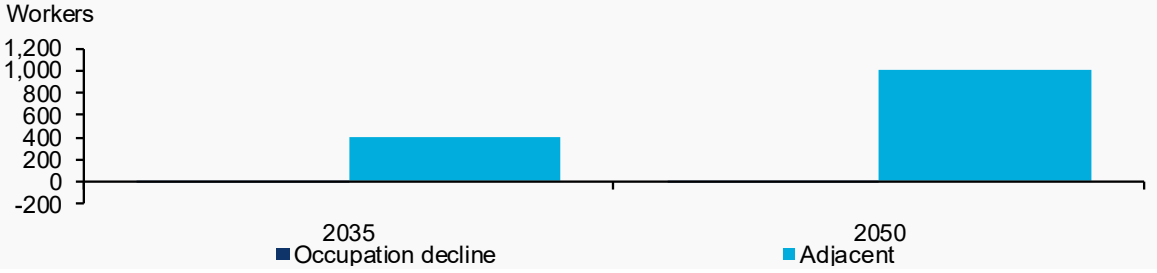
Production managers are likely to need training across areas such as problem solving and planning & organising where they tend to lag other adjacent roles by one point.

Demand for similar roles



Source: Oxford Economics based on AEMO Step Change scenario

Demand for skill adjacent roles



Source: Oxford Economics based on AEMO Step Change scenario

EARTHMOVING PLANT OPERATORS PROFILE

Earthmoving plant operators account for a minor share of the fossil fuel workforce with a diverse footprint across the regional economy.

Comments

Fossil fuel sector in Latrobe Valley employs approximately 30 earthmoving plant operators as at FY24. Under a Step Change Scenario employment demand in this group is expected to drop by 43.6% by FY35, falling to around 20 workers. Of the 10 roles expected to be lost, a similar number is projected to retire over this period, meaning few, if any, workers will require a workforce transition.

Earthmoving plant operators make up only 2% of Latrobe's fossil fuel workforce. However, 12% of all earthmoving plant operators in their region are employed within the fossil fuel industry. This reflects a relatively high level of exposure to fossil fuel demand transition.

Skills in this field is usually learned on the job. earthmoving plant operators generally score at intermediate levels for foundational skills, though at the lower end of that range. Similarly, their generalist skills are mostly intermediate, with relative strength in initiative & innovation. Except for digital engagement, which is only rated at the basic level, posing some challenges in adapting to more technical roles.

Fossil fuel occupation employment size and outlook

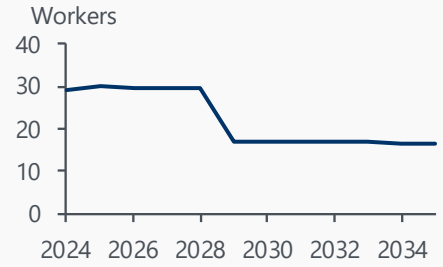
30 earthmoving plant operators in Latrobe Valley in FY24

43.6% decline in employment by FY35

This represents

2% of fossil fuel workers

12% of all earthmoving plant operators



Source: Oxford Economics based on AEMO Step Change scenario, ABS Census

Role specific skill set

Specialist skills

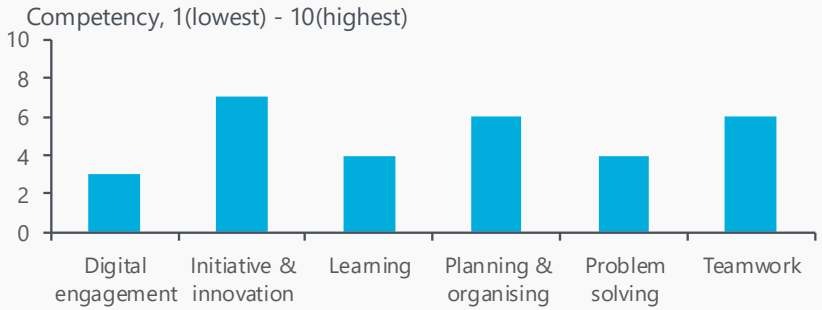
On-the-job training

4

Skill level 4 which corresponds to AQF level 2 (requiring skills equivalent to the competencies gained through a certificate II)

Foundational skills

Generalist skills

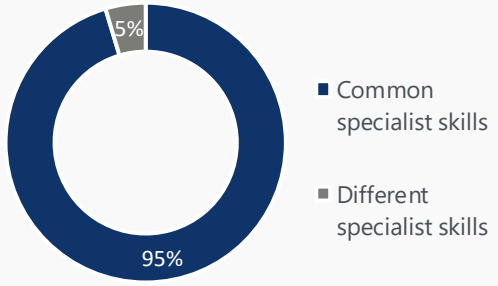


Source: Oxford Economics, ABS ANZSCO, JSA

Earthmoving plant operators have relatively comparable skill set than skill adjacent roles, however, upskilling is likely needed in digital engagement.

Identification of similar roles

Share of industries with the fossil fuel specialist skill set

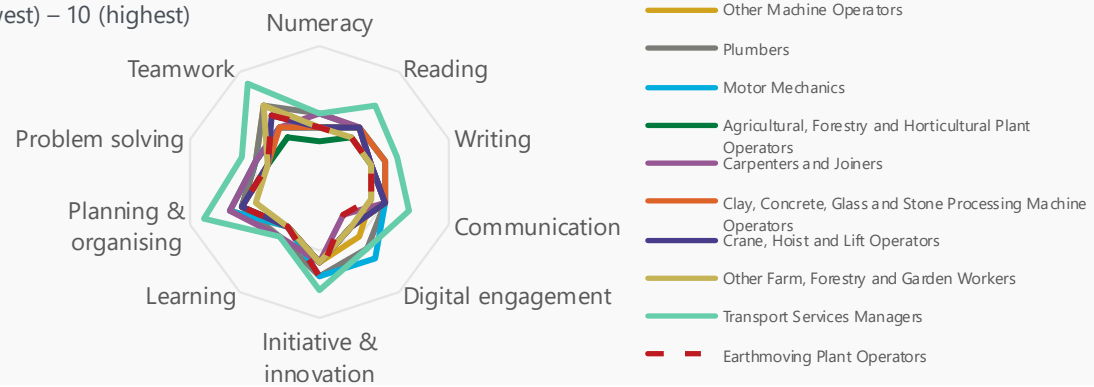


Similar roles	Seek movement	ATO movement
Building and Plumbing Labourers	No	2
Other Stationary Plant Operators	Yes	7

Source: Oxford Economics, JSA, Seek, ATO

Generalist & foundational skill assessment for skill adjacent roles

Generalist and foundational competency requirements by role, 1 (lowest) – 10 (highest)



Source: Oxford Economics, JSA

Identification of skill adjacent roles

Skill adjacent roles	Field of education	
	FOE	Skill level
Truck Drivers	On-the-job training	Same
Other Machine Operators	On-the-job training	Same
Plumbers	Building	Same
Motor Mechanics	Automotive Engineering and Technology	Same
Agricultural, Forestry and Horticultural Plant Operators	On-the-job training	Same
Carpenters and Joiners	Building	Same
Clay, Concrete, Glass and Stone Processing Machine Operators	On-the-job training	Same
Crane, Hoist and Lift Operators	On-the-job training	Same
Other Farm, Forestry and Garden Workers	On-the-job training	Same
Transport Services Managers	On-the-job training	Higher

Source: Oxford Economics

Earthmoving plant operators are likely to transition smoothly with occupation and into similar roles, given the strong demand projected.

Analysis of similar role pathways

Demand for earthmoving plant operators outside of fossil fuel will offset declining demand from the fossil fuel industry to 2035, providing capacity to fully absorb workers needing to transition.

Furthermore, the demand outlook for similar roles outside of this occupation is also robust, providing earthmoving plant operators pathways to utilise their skill set when transitioning into new roles.

Analysis of skill adjacent role pathways

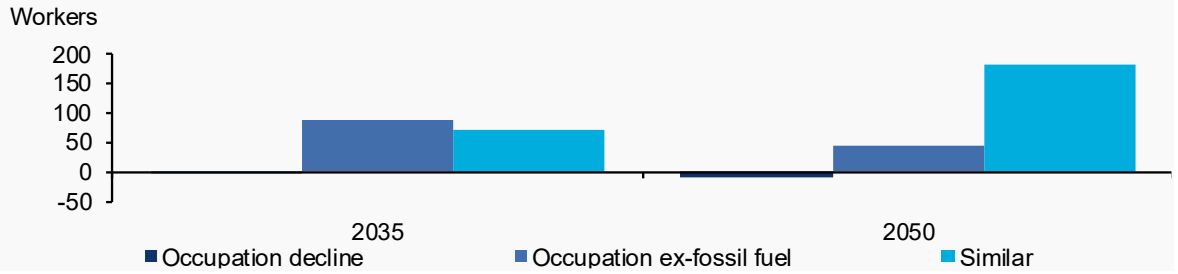
Earthmoving plant operators are likely to have even stronger opportunities to transition to skill-adjacent roles, where the demand is expected to increase by 650 roles by 2035.

Adjacent roles are primarily concentrated in transportation and trade roles which account for the majority of roles to 2035.

Truck drivers and transport services managers account for the majority of demand (400) with trade roles including carpenters and joiners, motor mechanics, and plumbers account for another 200 roles. Trade roles may require additional training due to differing specialist skills despite being at a similar skill level.

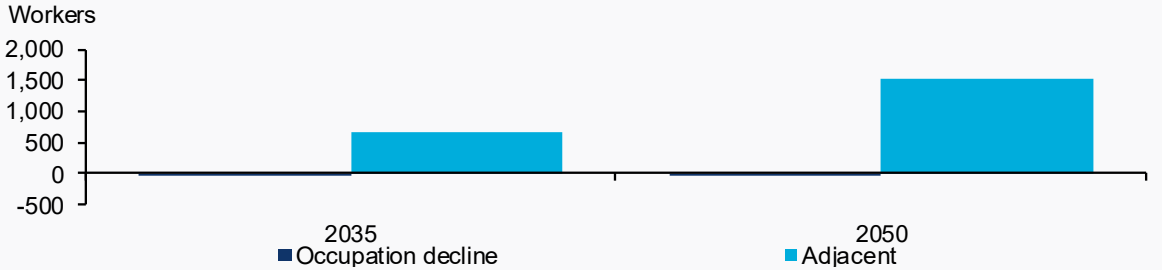
Earthmoving plant operators are likely to need training across most areas of both foundational and generalist skills, as their current levels are around one point below the average for skill adjacent roles, particularly in digital engagement, which is almost 2 point lower.

Demand for similar roles



Source: Oxford Economics based on AEMO Step Change scenario

Demand for skill adjacent roles



Source: Oxford Economics based on AEMO Step Change scenario

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