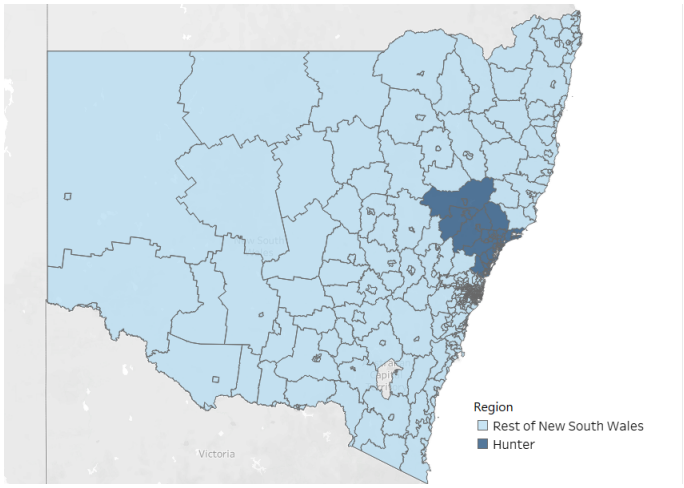
Regional transition analysis
Hunter

Research Summary

The Hunter region is one of Australia's leading economic centres, underpinned by the service and industrial sectors and reinforced by deep-water ports, freight terminals and a skilled workforce, with population growth reinforcing demand. With established heavy industry, ammonia production and renewable energy opportunities, the region is positioned to lead in green hydrogen, green ammonia, and energy-intensive industrial decarbonisation.



Key Findings from analysis

1. Key investment and job creation opportunities include engineering, construction and operation for the expanding renewable energy industry; defence manufacturing and sustainment, leveraging the regions existing defence presence; and biofuels and energy from waste projects, taking advantage of existing agricultural, forestry and chemical processing sectors.
2. The Hunter's workforce is expected to grow over the next 25 years under each of the three transition scenarios considered, growing between 17% to 38% over the next 25 years.
3. The Hunter's strong industrial workforce, transferable skills and research partnerships (e.g. CSIRO, universities) provide a base to adapt, reskill, and support future industry investment and demand.

Investment potential

There are several promising areas for industrial expansion in the Hunter, building on the comparative advantage of the region. Growth in these sectors would help diversify the economy and support job creation, in addition to the expected natural growth of the region.

Defence manufacturing and sustainment

The Hunter has the potential to grow into a leading hub for defence manufacturing, sustainment and training, building on its existing industrial base and workforce. With a strong existing defence presence, the region is well placed to expand into defence-related manufacturing, maintenance, and logistics. By leveraging these strengths, the Hunter can attract investment from the defence industry, create long-term skilled jobs, and position itself as a critical contributor to Australia's sovereign defence capability.

Hydrogen and ammonia

The Hunter is well-placed to produce low-carbon hydrogen for domestic use and export, leveraging its natural resources, industrial base, and strategic port infrastructure. With early-stage projects and feasibility work already underway, the region has future opportunities to scale hydrogen production, exports and develop downstream industries, including green ammonia production.

Biofuels and energy from waste

Biofuels and energy from waste (EfW) are emerging pillars of the Hunter's clean energy and circular economy capability. The region has a strong agricultural, forestry, and industrial base which can provide the skills and materials required to develop these industries, and strong road, rail and port infrastructure can support distribution and export. With early-stage projects underway, the region is well placed to scale biofuels and energy from waste industries to support job creation and reduce emissions across the economy.

Key investment opportunities

The region has a range of other potential investment opportunities which can build off its skilled industrial workforce and established training institutions. The following table provides a high level analysis of some of these opportunities.

Project type	Lead Times*	Job Contribution	Policy	Comparative Advantage	Average Rating**	Description
Defence maintenance/sustainment	Short	5.00	4.00	5.00	4.67	Williamtown Defence cluster and MRO capability. Strong policy support, job contribution potential.
Hydrogen	Medium	5.00	4.00	5.00	4.67	Strong local interest and infrastructure through Hydrogen Hub.
Energy from waste facilities	Long	4.00	5.00	4.00	4.33	Leverages industrial waste streams and energy infrastructure.
LCLFs, biofuels and biochemicals from waste streams	Medium	3.00	5.00	5.00	4.33	Good match with industrial ecology and bioresource availability.
Defence manufacturing	Short	3.00	4.00	5.00	4.00	RAAF Williamtown and Aerolab precinct provides a strong foundation.
Urea and ammonia production	Short	4.00	3.00	5.00	4.00	High potential due to existing ammonia plant and hydrogen development.
Onshore wind farms	Long	1.00	5.00	5.00	3.67	Strong resource potential but limited local manufacturing/jobs.
Green metals	Medium	3.00	4.00	4.00	3.67	Potential to leverage existing metal processing and manufacturing capabilities.
Renewables component manufacturing	Short	5.00	5.00	1.00	3.67	Implied policy alignment through state and major projects but limited comparative advantage.
Transport and logistics	Medium	4.00	4.00	3.00	3.67	Moderate potential, reliant on targeted infrastructure investment.
Circular economy manufacturing	Short	1.00	5.00	4.00	3.33	Strong fit due to local industrial base, workforce, and strategic state support.
Offshore wind farms	Long	4.00	4.00	2.00	3.33	Strong resource and policy alignment; limited job scale short-term. Several projects have stalled.
Battery energy storage systems (BESS)	Medium	1.00	4.00	5.00	3.33	High infrastructure pipeline; limited ongoing employment.
Carbon capture and storage (CCS)	Long	5.00	2.00	3.00	3.33	Policy interest and early-stage potential but limited current project activity.
Pumped hydro energy storage	Long	2.00	4.00	4.00	3.33	Lacks optimal topography and water availability.
Solar farms	Medium	1.00	5.00	3.00	3.00	Moderate growth potential, contingent on grid upgrades.
Food and fibre product manufacturing	Short	2.00	4.00	2.00	2.67	Some potential - building on local agriculture base.
Data centres	Short	1.00	4.00	1.00	2.00	Limited tech clusters and latency/resource constraints.
Minerals processing	Short	2.00	3.00	1.00	2.00	Limited resources and minimal industrial use cases in the Hunter.
Geothermal heating and power	Long	2.00	1.00	1.00	1.33	Limited policy alignment and comparative advantage

*Note that lead times are not considered when deriving a project type's rating or the subsequent prioritisation. Details and categorisation are retained here for illustrative purposes.
**Additional detail on methodology to derive scores is present in report appendices.

Key opportunities

Weakest 1 2 3 4 5 Strongest

Economic change

Industrial and construction employment have been easing as a share of the workforce for sometime, though opportunities exist in renewable energy under scenarios where there is strong renewable deployment in the region.

The Hunter's workforce is expected to continue shifting towards public services. Professional services, which includes research, engineering, computer systems, law and accounting among other sub-industries, are also expected to increase its share of employment, reflecting the Hunter's growing technical and skills base.

Unlocking the industrial investment outlined in the Regional Investment Analysis would support additional industrial job growth.

Worker transition

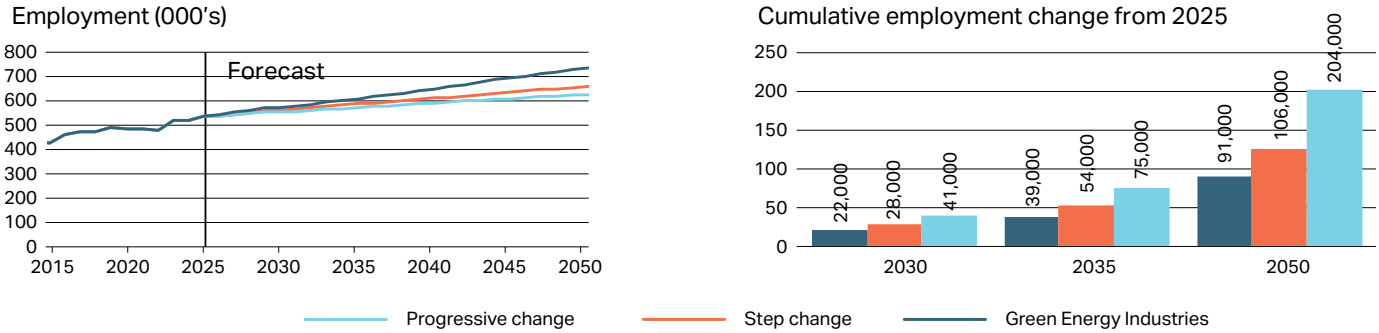
There are an estimated 15,600 fossil fuel workers in the Hunter, predominately employed in coal mining, making up approximately 3% of the region's workforce. The fossil fuel workforce is heavily concentrated around machinery operators & drivers (43%) and technicians & trade workers (32%). Workers tend to be in their prime working-age and are primarily male (86%).

Workers have high rates of vocational education with the potential to underpin industrial investment in the region with a deep skills base in engineering, trades, and plant operations. Approximately 80% are in highly specialized roles with skillsets closely linked to the electricity generation or coal mining sector, with 20% in back office or transferable on-site functions.

Regional employment demand for roles similar to fossil fuel roles is expected to grow over the forecast period. Demand from industrial sectors is expected to decrease as a share of employment, however demand for public and professional services is expected to grow – and new renewable projects will provide opportunities for fossil fuel workers. Priority areas identified in the Regional Investment Analysis present additional growth opportunities which leverage off the skills set of fossil fuel workers.

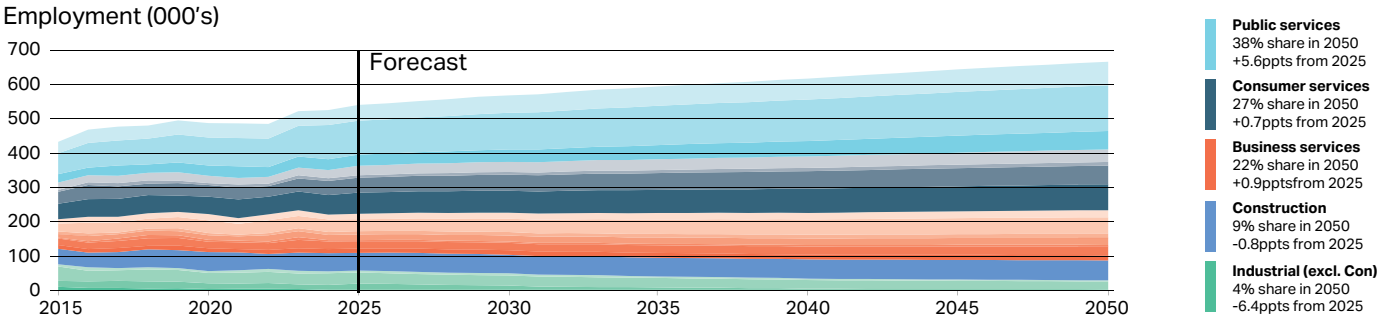
Where reskilling is required, a strong presence of VET facilities in the region, alongside recent investments to expand capacity, will support workers to be effectively retrained. This includes TAFE NSW's Hunter Net Zero Manufacturing Centre of Excellence to deliver the skilled workforce required to support the renewable energy sector. The University of Newcastle is also a key regional provider of higher education, a national leader in advanced manufacturing and net zero innovation, and has made several recent investments to expand their clean energy and circular economy capabilities.

Hunter region workforce outlook by scenario



Source: Oxford Economics based on AEMO scenarios

Hunter Region employment make-up under Step Change



Source: Oxford Economics based on AEMO scenarios

Public services includes Health, Education & Public Administration & Safety.
Business Services includes Wholesale Trade, Transport & Warehousing, Information & Media, Financial Services, Property Services, Professional Services and Administration Services.
Consumer services includes Retail Trade, Accommodation & Food Services, Arts & Recreation and Other Services.
***Industrials excluding Construction includes Agriculture, Mining, Manufacturing & Electricity, Gas, Water & Waste Services.*
***Note:** Employment figures are rounded to the nearest hundred*

About the research

The Authority engaged Oxford Economics Australia (OEA) to understand potential opportunities and transition pathways over the next 25 years in three of the Authority's priority regions in Central Queensland, the Hunter and the Latrobe Valley.

The project methodology used three scenarios from the Australian Energy Market Operator's (AEMO) 2025 *Draft Inputs, Assumptions and Scenarios Report* focused on achieving net zero emissions by 2050. These scenarios (Progressive, Step Change and Green Energy Industries) were scaled to a regional level taking into account the contribution of industries to regional economic activity and employment, regional employment rates and population demographics (eg age, education profile, migration flows), drawing on national publicly available data sets; ABS census, ABS labour force data, and state government population projections.

The research also explored potential opportunities to leverage the industrial capabilities of the regions to drive further economic growth and job creation, and potential career transition options for fossil-fuel workers. The findings provide a point in time analysis.

Findings from the research will be validated by NZEA with regional stakeholders. This analysis is one of many inputs to building the Authority's understanding of likely transition dynamics in priority regions, alongside ongoing engagement with regional stakeholders, other commissioned and internal analyses and consultation across Commonwealth and State governments.

Further information

If you are interested in finding out more about the Hunter region, visit our current priority regions page.
netzero.gov.au/hunter