Australian Government

Net Zero Economy Authority

Regional Profiles

Hunter

Total Area: 54,214 sq. km **Population:** 1,039,574 **Working Zones:** Bulahdelah-Stroud, Central Coast & surrounds, Gloucester, Muswellbrook, Scone & surrounds, Nelson Bay Peninsula & Anna Bay, Newcastle, Lower Hunter & surrounds *(maps at end of profile)*

Region Selection Rationale

Exposure to decarbonisation	Potential to harness economic opportunities from decarbonisation
• **Carbon intensity:** Large number of facilities (incl. 3 coal-fired power stations and 18 safeguards. As of 2023-24, safeguards in the region account for 39% of NSW safeguard scope 1 emissions; high carbon-intensive employment. • **Urgency:** All coal-fired power stations projected to close by 2033. • **Adaptive capacity:** Varying levels of adaptive capacity across the region, largely reflecting proximity to well-diversified economies in city centres and related education and skill level opportunities. • **Readiness:** Moderate to strong position for energy transition opportunities – hydrogen hubs planned for Singleton & Newcastle, with government support flagged for Newcastle, Lower Hunter prospective projects. Several transition planning initiatives exist, but not joined up, reflecting different dynamics across Upper and Lower Hunter regions. However, the NSW Government has now established a Future Jobs and Investment Authority for Hunter.	• **Natural capital:** Considerable green industry potential – including green aluminium, strong offshore wind energy resources • **Workforce compatibility:** Moderate number of workers in the region are in jobs highly compatible with clean energy industries. Higher compatibility in the Muswellbrook, Scone and surrounds working zone. • **Enabling infrastructure:** Strong position - existing and proposed transport infrastructure, particularly its large regional airport and port (Newcastle Shipping Port), will support labour mobility to meet workforce needs and connect the region's output to global markets.

Carbon-Intensive Industries

Coal Fired Power Stations (CFPS)

Name	Owner	Public closure date (AEMO NEM Gen Apr 2025[a])	Supplying Coal Mine	Scope 1 emissions (tCO2-e) (23/24)	% of NSW Scope 1 Emissions (23/24)[1]	% of Aus Scope 1 Emissions (23/24)
Bayswater Power Station	AGL	2033	Wilpinjong, Mt Arthur, & Mangoola mine	13,678,909	19%	5%
Eraring Power Station	Origin	2027	Mandalong, Myuna, & three others	13,535,335	19%	4%
Vales Point Power Station	Delta	2033	Chain Valley mine (primary)	7,043,816	10%	2%
Total	3		9+	34,258,060	47%	11%

a Access may be restricted on a secure network: https://aemo.com.au/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/forecasting-and-planning-data/generation-information

1 Note, NSW Scope 1 Emissions includes ACT Scope 1 Emissions

Metal Manufacturing / Refineries and Smelters

Name	Owner	Power source	Scope 1 emissions (tCO2-e) (23/24)	% of NSW Scope 1 emissions (23/24)[2]	% of Aus Scope 1 emissions (23/24)
Tomago Aluminium Smelter	Tomago Aluminium Company Ltd	Bayswater CFPS	1,159,663	1.6%	0.4%

Gas Fired Power Stations

Name	Owner	Scope 1 emissions (tCO2-e) (23/24)	% of NSW Scope 1 emissions (23/24)[3]	% of Aus Scope 1 emissions (23/24)
Colongra	Snowy Hydro Limited (Cwth gov)	63,830	0.1%	0.02%

Safeguard Facilities (Emit 100,000+ tonnes CO2 annually - power stations connected to grid are exempt)

Type	No.	Total scope 1 emissions (tCO2-e) (23/24)	% of NSW scope 1 safeguard emissions (23/24)[4]	% of Aus 22-23 scope 1 safeguard emissions (23/24)
Manufacturing	2	1,642,734	7.3%	1.3%
Coal mines	16	7,129,811	31.9%	5.6%
Total safeguards	18	8,772,545	39.2%	6.9%

Coal mines

Type	No.
Safeguards	16[5]
Non-safeguards	5
Total	21

2 Note, NSW Scope 1 Emissions includes ACT Scope 1 Emissions
3 See above
4 See above
5 Mannering Colliery operates as part of an integrated mining operation with Chain Valley

Major Industries

Gross Regional Product (GRP): $108.1 billion (14% of NSW's Gross State Product)[6]

Ranked Industries with most value	Value (m)	% of GRP
Mining	$31,509	29.2%
Rental, Hiring & Real Estate Services	$12,363	11.4%
Health Care & Social Assistance	$10,471	9.7%
Construction	$8,401	7.8%
Public Administration & Safety	$5,937	5.5%

Ranked Employing Industries (by usual residence[7])	No. of employees (% of workforce)	Ranked Employing Industries (by place of work[8])	No. of employees (% of workforce)
Total labour force living in region	472,044[9]	Total labour force working in region	416,508[10]
Health Care and Social Assistance	82,180 (18%)	Health Care and Social Assistance	76,367 (19%)
Retail & Wholesale Trade	55,160 (12%)	Retail & Wholesale Trade	51,199 (13%)
Construction	47,632 (10%)	Educating and Training	36,509 (9%)
Education and Training	39,946 (9%)	Construction	35,587 (9%)
Accommodation and Food Services	34,369 (8%)	Accommodation and Food Services	33,492 (8%)

6 Data sourced using REMPLAN (incorporating ABS 2021 Census Place of Work Employment (Scaled); 2022 / 2023 National Input Output Tables; June 2024 Gross State Product figures)

7 Data by usual residence means only employees living in Hunter region would be captured (regardless of whether or not they actually work in Hunter).

8 Data by place of work means only employees working in Hunter region would be captured (regardless of whether or not they actually reside in Hunter).

9 Note, for purposes of calculating shares of workforce, total of 454,135 was used (total workforce minus those workers in 'Industry of Employment' categories listed as 'inadequately described' and 'not stated').

10 Note, for purposes of calculating shares of workforce, total of 400,964 was used (total workforce minus those workers in 'Industry of Employment' categories listed as 'inadequately described' and 'not stated').

Major Investments

Clean energy and heavy industry projects (excluding cancelled and completed) (top projects by value)

Project	Description	Category	Status	Value
AGL Energy – Liddell Large Scale Battery with advanced inverters	Project involves the construction and operation of a 500 MW / 1000 MWh battery with advanced inverters at the retired Liddell Power Station in Muswellbrook, New South Wales.	Battery storage	Under construction	$695 m
Bowmans Creek Wind Farm	Stage 1 involves 54 wind turbines, and scoping of stage 2 proposes an additional 21 wind turbines	Renewable energy	Announced	$569 m
Waratah Super Battery	Will allow network operators to move greater amounts of electricity over existing transmission lines and to 'shock absorb' during power surges	Infrastructure	Reached mechanical completion and is expected to be fully operating later in 2025	$500 m
Hunter Valley Hydrogen Hub	Project proponent is progressing large-scale renewables-based hydrogen project located in the Newcastle industrial and port precinct.	Hydrogen	Under development	$250 m
Liddell Solar Manufacturing Hub	Establishment of solar panel manufacturing plant in Upper Hunter at site of former Liddell Power Station	Renewable energy	Feasibility	Unknown

Transmission Infrastructure Projects

AEMO Final 2024 Integrated System Plan transmission infrastructure projects

Name	Description	Status (Draft 2024 ISP Status)	Timing (Draft 2024 ISP Timing)	Costs
Hunter-Central Coast REZ Network Infrastructure Project	Substation upgrades to supply generation from the Hunter and Central Coast to Sydney, Newcastle and Wollongong load centres.	Actionable (previously listed as Future)	Dec 2027 (previously 2027-28)	$59 m (±50%)
Sydney Ring South	Switching station and modular power flow controllers to reinforce supply to Sydney, Newcastle and Wollongong load centres.	Actionable (previously listed as Future)	Sep 2028 (previously Dec 2027)	$221 m (±50%)
Sydney Ring North (Hunter Transmission Project)	High capacity 500 kV transmission network to reinforce supply to Sydney, Newcastle and Wollongong load centres.	Actionable (unchanged from Draft 2024 ISP)	Dec 2028 (previously Dec 2027)	$1,100 m (±50%)
New England REZ Network Infrastructure project	Three separate projects to increase the transfer capability between central and northern NSW, enable more transfer capacity out of QLD-NSW Interconnector, and expand the New England REZ.	Actionable (unchanged from Draft 2024 ISP)	Part 1 Jun 2031 Part 2 Jun 2033 (previously Sep 2028)	$3,700 m (±50%) (estimate includes the three separate projects

Employment

Indicator (2021 Census unless otherwise stated)	Hunter	NSW
Average working age	39	38
Median income (annual gross, exc. super)	$33.8K - $41.6K	$41.6K - $52.0K
Participation in workforce	58%	59%
Female participation in workforce	55%	56%
Unemployment rate (Dec 2024)	3.4%	3.8%
Regional Labour Market Index (Dec 2024)	Below average[11]	N/A

Demographics

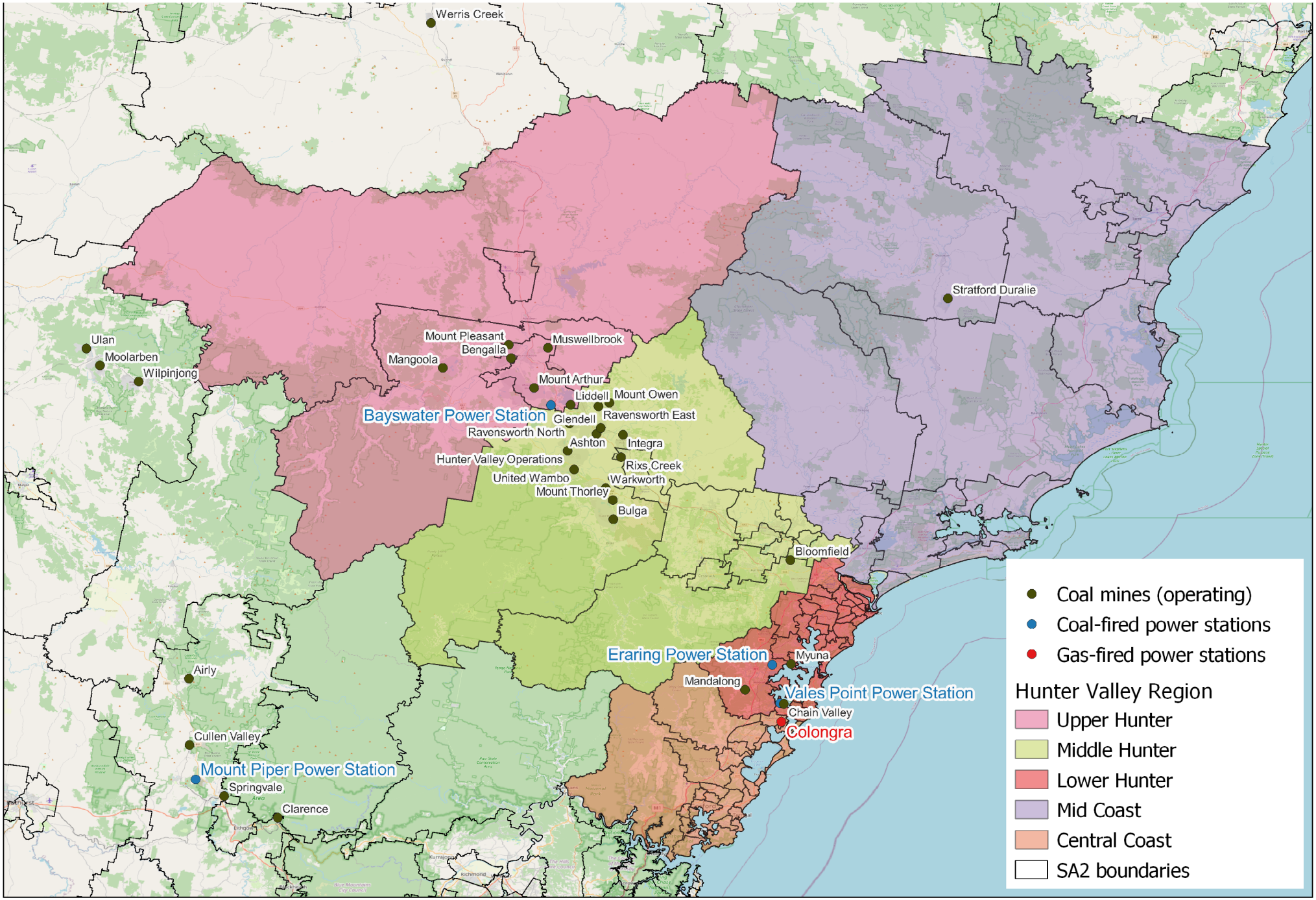
Indicator (2021 Census)	Hunter	NSW
Median age	40	38
First Nations (% of population)	6%	3%
Population growth (2016-21)	17%	8%
Educational attainment (% of population aged 15 & above):[12]		
• Below Y12	52%	39%
• Y12 or equivalent	48%	61%
• Cert III & IV	22%	16%
• Bachelor and above	18%	30%

Housing

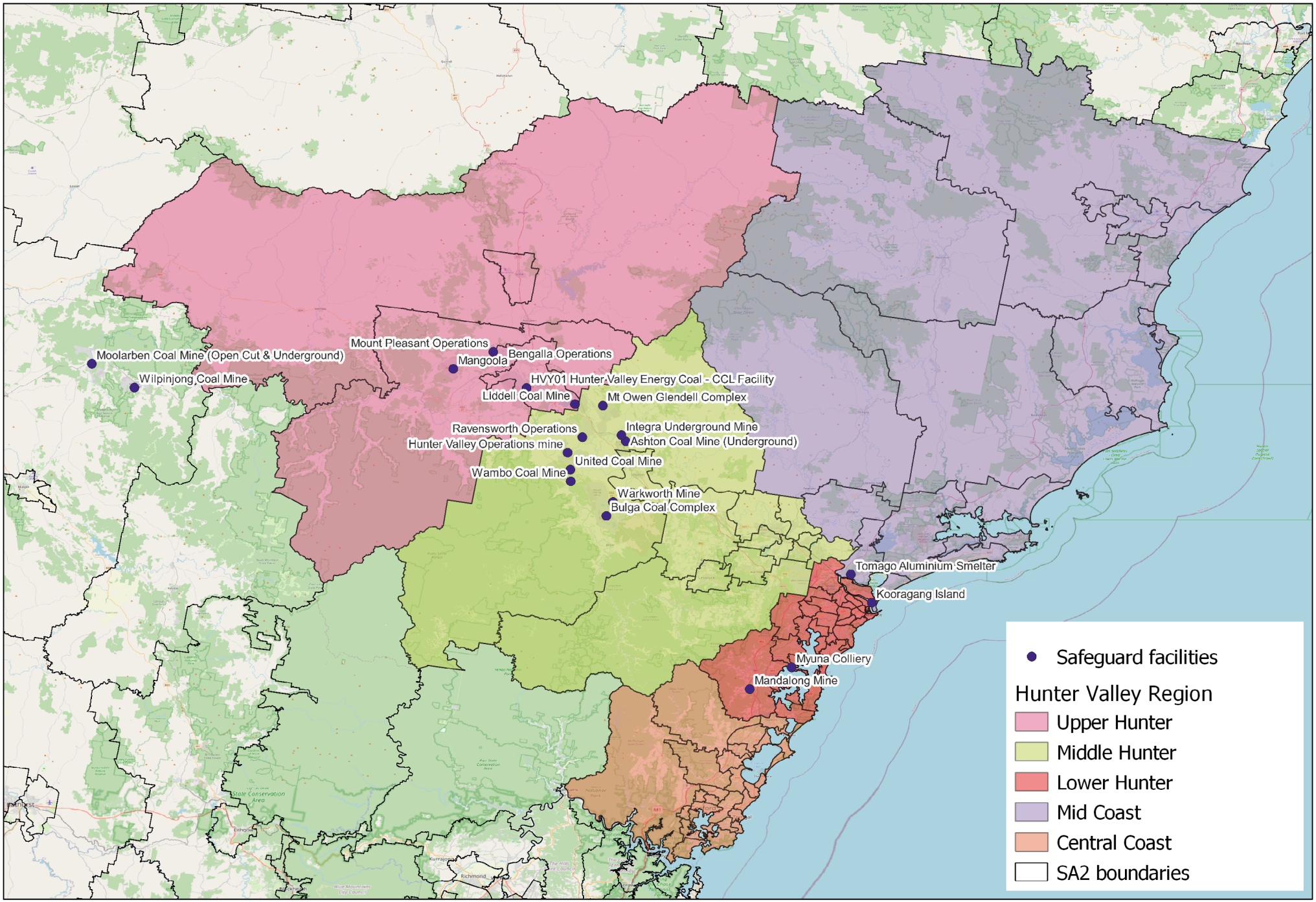
Indicator (2021 Census unless otherwise stated)	Hunter	NSW
Homelessness[13]	0.3%	0.4%
Commonwealth Rent Assistance (Dec 2024)[14]	7%	6%
Mortgage stress[15]	13%	17%
Rental stress[16]	38%	36%

11 Note, this does not include Newcastle. The neighbouring SA4 of Newcastle and Lake Macquarie has an 'Above average' score
12 Excludes 'not stated' and categories are not cumulative
13 Share of population
14 Share of population
15 Share of households where repayments are >30% of household income
16 Share of households where rent payments are >30% of household income

Map of Region – Power Stations and Mines



Map of Region – Safeguards

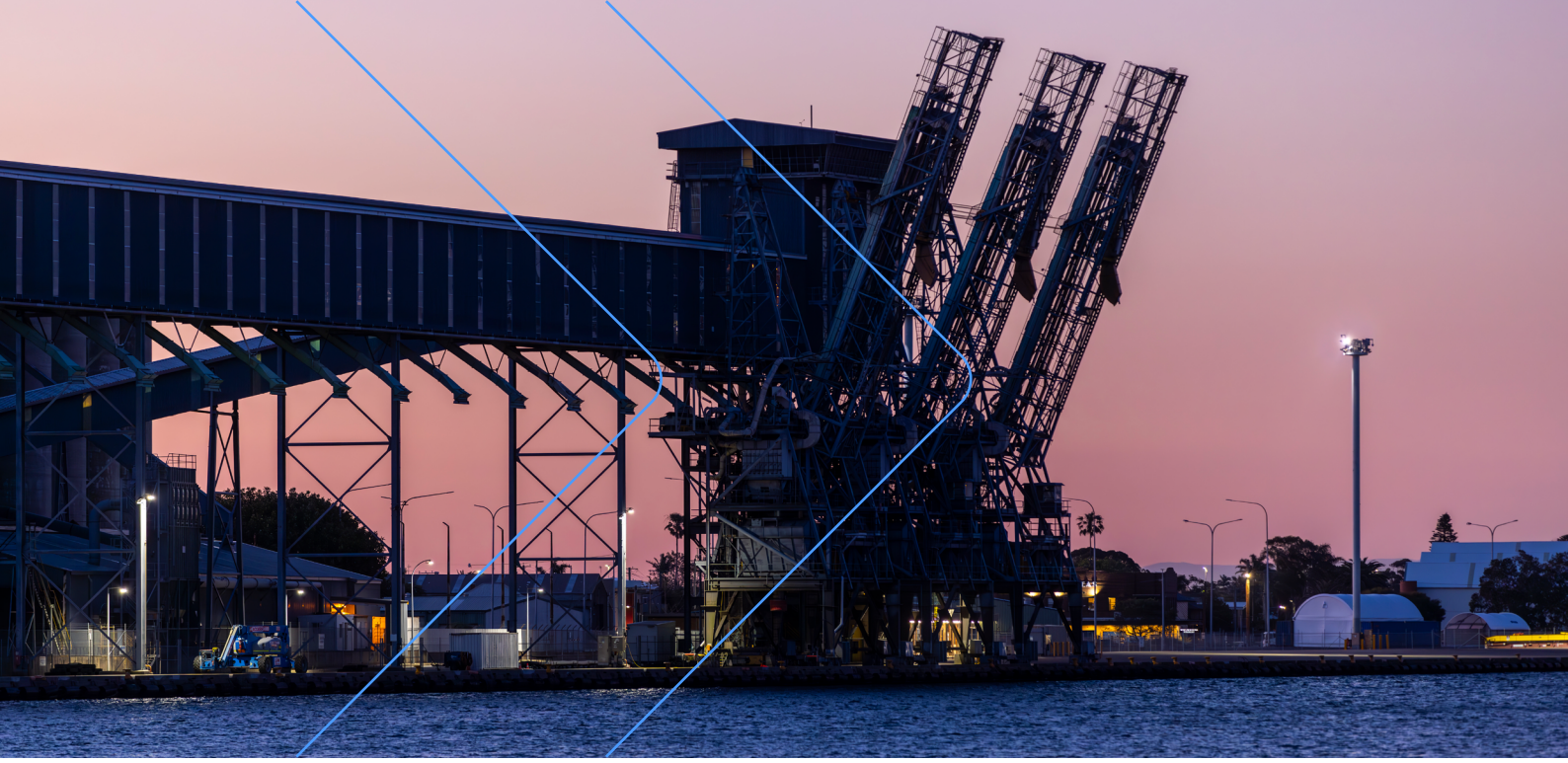


Data Sources

Section	Source	Date
Overview		
Total Population	Census, ABS	2021
Area	Mesh Blocks - SA2 Allocation Files, ABS	2021
Priority Region Selection Rationale		
All	Regional identification framework	February 2025
Emissions	Safeguard facilities data, CER	2023-24
Carbon Intensive Industries		
Coal Fired & Gas Fired Power Stations	Greenhouse and energy information by designated generation facility, CER (Hunter) Greenhouse and energy information - published data highlights (NSW)	2023-24
Coal mines	Safeguard facilities data, CER	2023-24
Safeguard facilities	Safeguard facilities data, CER	2023-24
Major Industries		
Ranked Industries by most value	Economic data[a], REMPLAN	2025
Ranked Employing Industries	Census, ABS	2021
Major Investments		
All	Funded projects, ARENA HyResource[b], CSIRO Resources and Energy Major Projects, DISR	2025 2025 2024

a Access may be restricted on a secure network: https://www.remplan.com.au

b Access may be restricted on a secure network: https://research.csiro.au/hyresource/projects/projects-spreadsheet/



Section	Source	Date
Transmission Infrastructure Projects		
All	Integrated System Plan[c], AEMO	June 2024
Employment		
Average working age, median income, labour force participation	Census, ABS	2021
Regional Labour Market Index	Regional Labour Market Indicator, Jobs Skills Australia	December 2024
Unemployment rate:		
• Hunter	Small Area Labour Markets, Jobs & Skills Australia	December 2024
• NSW	Labour Force, Australia, ABS	December 2024
Demographics		
All	Census, ABS	2021
Housing		
Homelessness, mortgage stress, rental stress	Census, ABS	2021
Commonwealth Rental Assistance	Benefit and Payment Recipient Demographics - quarterly data, DSS	December 2024
Maps		
All	Produced using data from Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), DAFF	December 2023

Note: All datasets maintained by third party providers listed above and date reflects most recent data available.

c Access may be restricted on a secure network: https://aemo.com.au/en/energy-systems/major-publications/integrated-system-plan-isp/2024-integrated-system-plan-isp