

Moira: Economic Opportunities Study 2023

This project has been conducted by REMPLAN on behalf of Moira Shire Council.

June 2023

Acknowledgement of Country

Moira Shire Council acknowledges the Yorta Yorta people as the traditional custodians of the land in which we live and work and we pay our respects to Elders past, present and future for they hold the memories, culture, tradition and hopes of Aboriginal and Torres Strait Islander people that contribute to our community.

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Role and Scope of the Moira: Economic Opportunities Study

Council's Role

Federal and State Governments play significant roles in progressing economic development initiatives at broader regional and national scales. Local government plays an equally important role at the local level, undertaking a range of activities and initiatives in collaboration with local partners to promote the interests of the region and underpin business growth, employment, and training opportunities.

Businesses are ultimately the ones that drive and deliver economic development through investment, business growth and local employment. As a leading regional organisation, Moira Shire Council can contribute to local economic development directly through its annual operations that support jobs, local procurement and capital works. However, local government's key role in economic development is delivered through its core economic development functions.

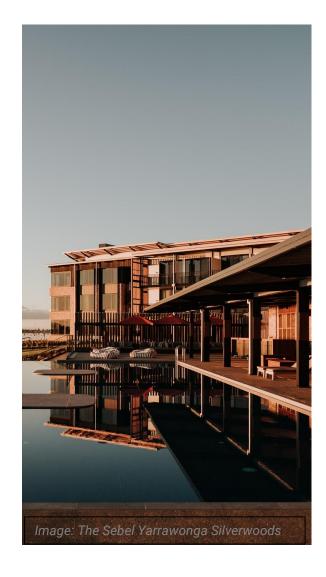
Work within the control of Council includes investment attraction and business development, infrastructure projects, land development, strategic planning, localised data provision, marketing and advocacy.

Local Government investment helps create suitable conditions for positive economic development outcomes, through investment in community infrastructure, identifying and pursuing local competitive advantages, providing long term planning, collecting, analysing and distributing local data and information, partnering with business and key stakeholders for growth, and advocating to remove barriers.

Economic Opportunity Study

This document identifies a range of issues and opportunities relevant to the future of the Moira Shire local government area and seeks to provide a strong platform on which Council can identify a range of actions that will increase the economic capacity of Moira Shire and in turn, improve the sustainability and resilience of local industry.

The regional opportunities outlined in this document have been informed through preliminary discussions with Moira Shire Council, and an evidence base built from an understanding of the contribution of local industry in terms of employment, skills, supply chain expenditure, imports, business trends.





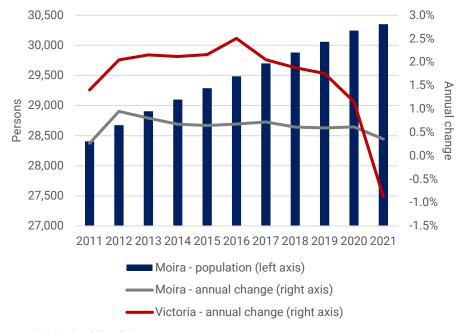
Social Context

Population

The population of Moira Shire has consistently grown over the past decade from around 28,400 in 2011 to 30,350 people in 2021. The annual rate of growth has remained steady, consistently sitting between 0.5% and 1.0%. While Moira's annual growth rate has been lower than that of Victoria, it remained positive during the strict lockdown period of 2020 and 2021. In 2021 Victoria's population growth dipped into the negative for the first time in generations.

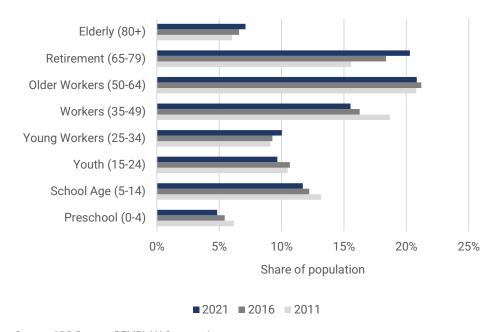
While the population of Moira is increasing, like much of Australia it is also ageing. Between 2011 and 2021, the share of residents aged below 50 years has been declining. This decline is contrasted by the growth in the proportion of residents aged 65 years and older, with notable growth in the retirement age population (65-79 years old). The one age cohort that has gone against this trend in recent years are young workers (25-35 years old), which experienced a slight increase in total share.

Figure 1 Estimated resident population, Moira Shire, 2011 to 2021



Source: ABS Regional Population.

Figure 2 Age breakdown, Moira Shire, 2011, 2016 and 2021



Source: ABS Census, REMPLAN Community.



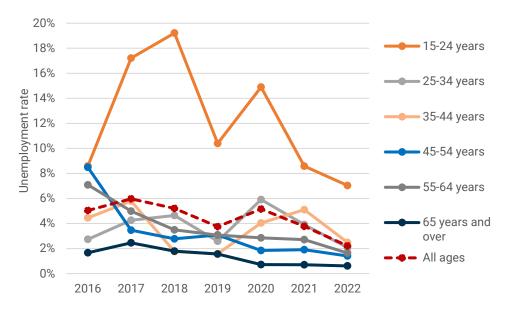
Unemployment rate

The unemployment rate in Moira Shire has improved since 2017 when it reached 6.0%, falling to 2.5% in 2022 (over the same period the Victorian unemployment rate fell from 5.9% to 3.7%).

The rate of unemployment across the working ages generally follows the LGA average however there is a high rate of volatility for workers aged 15-24 years. In 2018 unemployment for 15-24 years reached 19% (four times higher than the LGA average).

The more established working age groups of 45 and over have a more stable rate of unemployment, well below the average for the LGA. Of note is the degree of volatility in unemployment for 35-44 years cohort, with the unemployment rate falling to 2% in 20198 and 2019 while the LGA average remained twice that rate.

Figure 3 Unemployment rate by age group, Moira Shire



Source: Jobs and Skills Australia, Small Area Labour Markets.

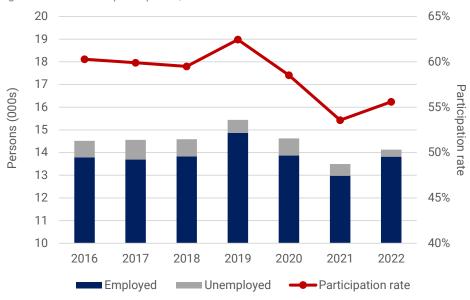
Labour force

A labour force includes employed and unemployed residents, these residents are considered to be labour force participants. The size of the labour force has remained stable over the past decade sitting between 12,000 and 14,000.

Current 2022 estimates for Moira Shire total labour force is 13,800. Prior to the onset of COVID-19, more residents were participating in the labour force with the labour force reaching 14,900, and the participation rate reaching 62% in 2019, this has since fallen to 56% in 2022.

This drop in labour force participation reflects the increase in population over 65 years of age. The estimated number of unemployed persons was highest in 2017 at 900, this has not fallen to just 300 in 2022.

Figure 4 Labour force participation, Moira Shire



Source: Jobs and Skills Australia, Small Area Labour Markets.



Forecast Population

Methodology

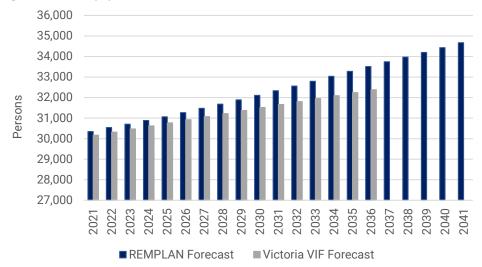
REMPLAN Population and Housing Forecasts were prepared for Moira Shire Council in 2023 and have taken into consideration trends for births, deaths and migration. Further information on the methodology can be found in Appendix C.

Population

The current population in Moira Shire is estimated to be 30,350. This is forecast to increase to more than 34,600 by 2041, an increase of 14%.

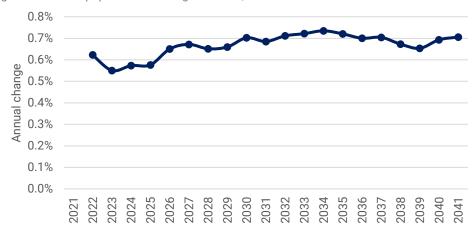
Population growth is currently forecast to be primarily driven by net migration (i.e., more residents moving into the region than moving out). On average net migration is forecast to sit between 250 and 320 persons per annum, far higher than historical levels (Figure 7).

Figure 5 Forecast population, Moira Shire



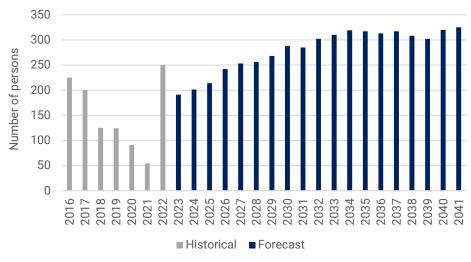
Source: REMPLAN Population and Housing Forecasts, and Victoria in the Future Forecasts.

Figure 6 Forecast population annual growth rate, Moira Shire



Source: REMPLAN Population and Housing Forecasts.

Figure 7 Population net migration, historical and forecast, Moira Shire



Source: REMPLAN Population and Housing Forecasts.

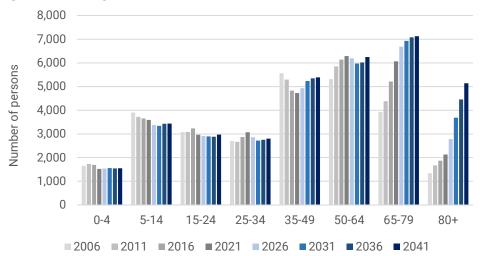


Forecasts indicate working aged populations will move to Moira and largely remain in the region. This is particularly evident in the 35-49 age cohort, which is forecast to undergo strong growth in contrast to historic trends (Figure 8). This age cohort is expected to largely remain in the region and age in place over time, as reflected in the growth in the 65+ age cohorts.

As persons aged 35-49 migrate to the region, they are likely to move with a family inclusive of dependants. This can be seen in Figure 9 which presents net migration by age group and shows that forecast net migration in Moira is likely to be driven by families (with young children) and working age (between 35 and 65). Net out-migration is apparent for young adults generally leaving for education and/or work opportunities.

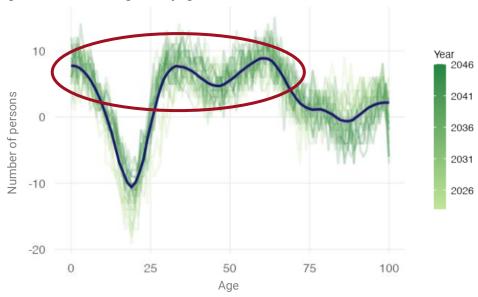
The forecast rate of population growth is unique to each locality as detailed in Figure 10, in turn reflective of the potential in each locality for new residential building construction. Two thirds of forecast population growth for Moira Shire is expected to occur in Yarrawonga and Greater Yarrawonga forecast to be home to almost 3,000 new residents by 2041.

Figure 8 Forecast age breakdown



Source: REMPLAN Population and Housing Forecasts.

Figure 9 Forecast net migration by age



Source: REMPLAN Population and Housing Forecasts.

Figure 10 Forecast population change by locality

	2021	2041	Change	2021 - 41
			Persons	% change
Moira Shire	30,351	34,674	4,323	14.2%
Cobram	5,681	5,943	262	4.6%
Greater Cobram	3,247	3,420	173	5.3%
Nathalia	1,610	1,634	24	1.5%
Greater Nathalia	1,267	1,327	60	4.7%
Numurkah	3,889	4,197	308	7.9%
Greater Numurkah	3,243	3,271	28	0.9%
Yarrawonga	8,477	11,381	2,904	34.3%
Greater Yarrawonga	2,937	3,501	564	19.2%

Source: REMPLAN Population and Housing Forecasts.



Dwelling Forecasts

Dwelling numbers are forecast to increase from 14,928 in 2021 to 18,227 in 2041 (an increase of 3,299 dwellings).

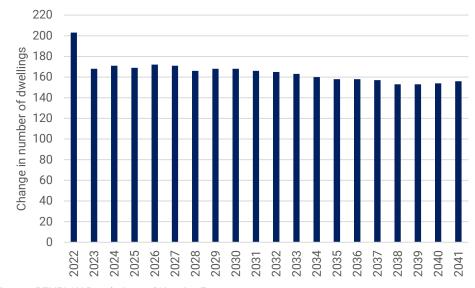
The annual change in the count of dwellings is presented in Figure 11, which shows a slight decline over time, from around 170 dwellings per year at the start of the forecast period to below 160 per year by 2035.

Dwelling numbers are forecast to increase at a higher rate than population out to 2041 (i.e. 14.2% population growth, 22.1% growth in dwellings).

A major contributor to the dwelling growth rate is the slight fall in forecast for household size (i.e. persons per dwelling). This is expected to contract from 2.33 people per dwelling in 2021 to 2.19 people per dwelling in 2046. While the drop itself is quite small, when factored across the entire population, it contributes to the increased dwelling growth rate (compared to the population growth rate).

Even in those areas where population growth is forecast to remain fairly steady will require additional private dwellings to meet the demand for housing, e.g. Greater Numurkah with a population change of just 28 persons by 2041 will require 114 additional dwellings.

Figure 11 Forecast annual change in number of private dwellings, Moira Shire



Source: REMPLAN Population and Housing Forecasts.

Figure 12 Forecast dwellings change by locality

	2021	2041	Change	2021 - 41
			Dwellings	% change
Moira Shire	14,928	18,227	3,299	22.1%
Cobram	2,833	3,181	348	12.3%
Greater Cobram	1,462	1,640	178	12.2%
Nathalia	791	827	36	4.6%
Greater Nathalia	684	766	82	12.0%
Numurkah	1,892	2,126	234	12.4%
Greater Numurkah	1,386	1,498	112	8.1%
Yarrawonga	4,332	6,227	1,895	43.7%
Greater Yarrawonga	1,548	1,962	414	26.7%

Source: REMPLAN Population and Housing Forecasts.



Economic Context

Economic overview

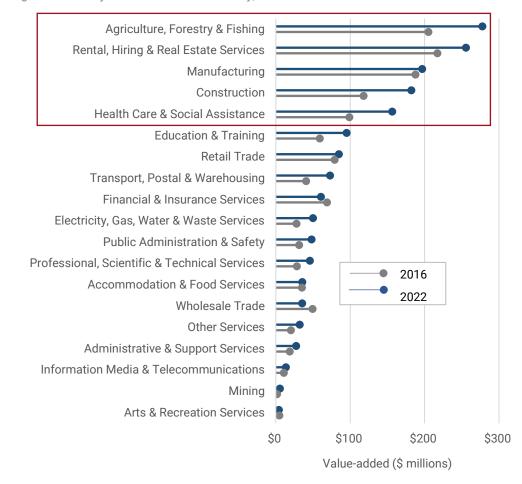
Victoria's Gross State Product in 2022 is an estimated total of \$515.241 billion. Moira Shire generates an estimated \$2.6 billion in gross regional product (GRP), supporting a workforce of 12,000. On average each worker contributes \$150,000 annually, in comparison the average worker in the Goulburn Region generates \$160,000 annually the same as the average Victorian worker.

In Moira Shire, economic activity in terms of output is largely driven by five industries which include: agriculture, real estate services, manufacturing, construction and health care (Figure 13). These five industries have been the largest producers of gross revenue within the region since 2016, accounting for two thirds (64%) of economic growth which occurred between 2016 and 2022, with GRP increasing from \$1.4 billion to \$1.8 billion.

Value-added is the marginal economic value generated by industries. When combined these five key industries contribute \$1.1 billion in value-added (total value-added in Moira Shire is \$1.7 billion).

The five largest contributor to regional value-add also accounted for 64% of economic growth which occurred between 2016 and 2022, with GRP increasing from \$1.4 billion to \$1.8 billion.

Figure 13 Industry drivers of economic activity, Moira Shire. 2016 and 2022

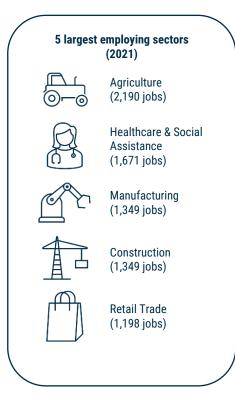


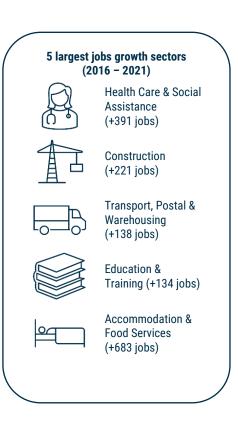


Jobs by industry

The five largest employing sectors account for around two in every three local jobs (i.e. 64% of total jobs in the region).

Jobs growth between 2016 and 2021 has been distributed across various sectors, from health care, construction, transport, education, and accommodation & food services.





Worker occupation

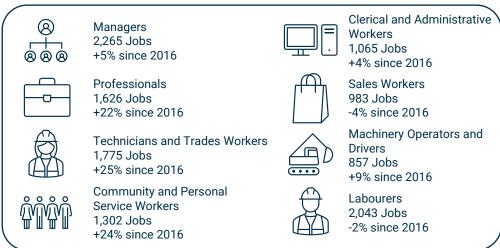
Managers and Labourers are the most common occupation in Moira Shire are more concentrated compared to the Goulburn Region or State average.

Figure 14 Occupation rate of workers, 2021



Source: REMPLAN Economy.

Between 2016 and 2021 there has been large gains in number of community service workers, professionals, and technicians and trades workers.



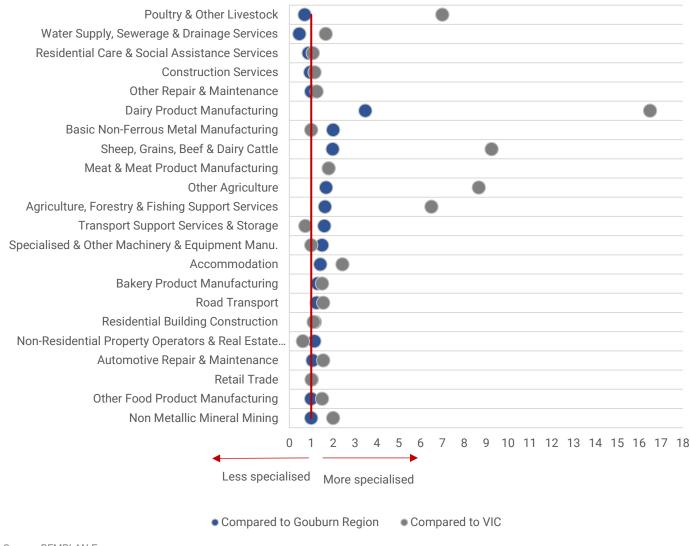
Regional specialisation

Location quotients are a measure of local industry specialisation compared to larger regions.

Figure 15 presents location quotients workforce specialisation (i.e. industry specialisation) for Moira Shire compared to the Goulburn Region, and Victoria.

The nature of the specialisation is reflective of Moira's traditional industry strengths in agriculture, agricultural support and food product manufacturing. This is particularly evident with the ratio of specialisation for 'Other Agriculture' and 'Agriculture, Forestry & Fishing Support Services'. Noting that 'Other Agriculture' captures fruit, vegetable and crop growing activity. While 'Agriculture, Forestry & Fishing Support Services' includes shearing and general agricultural support services.

Figure 15 Workforce specialisation (location quotient), Moira Shire





Local Expenditure

Local expenditure represents the value of intermediate goods and services purchased by local industry sectors within Moira Shire. The total local expenditure estimate for Moira Shire is \$1.3 billion.

Industry sectors with the highest value of local expenditure include:

- Dairy product manufacturing (\$369 million),
- Sheep, grains, beef & dairy cattle (\$161 million), and
- Construction services (\$124 million).

A high level of local expenditure on intermediate goods and services proportionate to total output is indicative of well developed local supply chains. In addition, any expansion in revenue by sectors with high local expenditure would typically deliver broad based benefits for the region's economy.

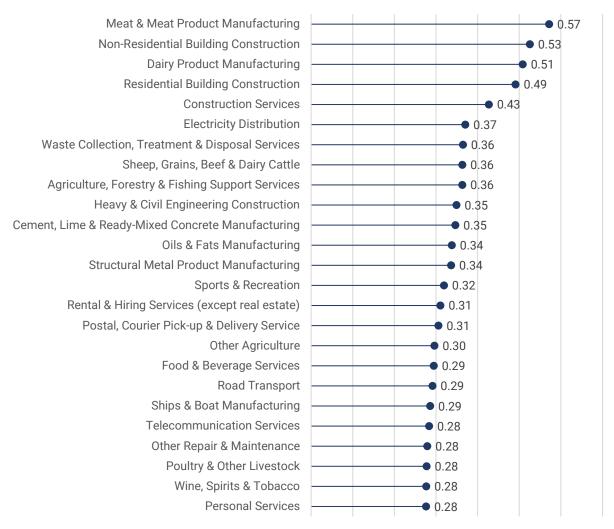
Figure 16 illustrates industries with the highest ratio of local expenditure (i.e. local supply chain expenditure) per \$1 of total gross revenue generated. For example, for every \$1 generated by meat product manufacturing \$0.57 is captured elsewhere within Moira Shire.

Industry sectors with the highest ratio of local expenditure to output (and therefore more broad based benefits) include:

- Meat & Meat Product Manufacturing (\$0.57:\$1.00)
- Non-Residential Building Construction (\$0.53: \$1.00)
- Dairy Product Manufacturing (\$0.51:\$1.00)

It should be noted these estimates are based on economic modelling for 2022, therefore the benefits are likely to be even higher with JBS reopening its Cobram facility early 2023.

Figure 16 Ratio of local expenditure to industry output, Top 25 sectors, Moira Shire



Local expenditure captured for every \$1 in output



Business Entries

Methodology

The following data is sourced from the REMPLAN Business Analysis Module, which utilises the Australian Business Registry (ABR) information for the Moira Shire Council area. Filters have been applied to the business list which has excluded government entities, superannuation funds, body corporates and non-trading trusts.

The rate of business entry provides an indication of business strengths in particular industries.

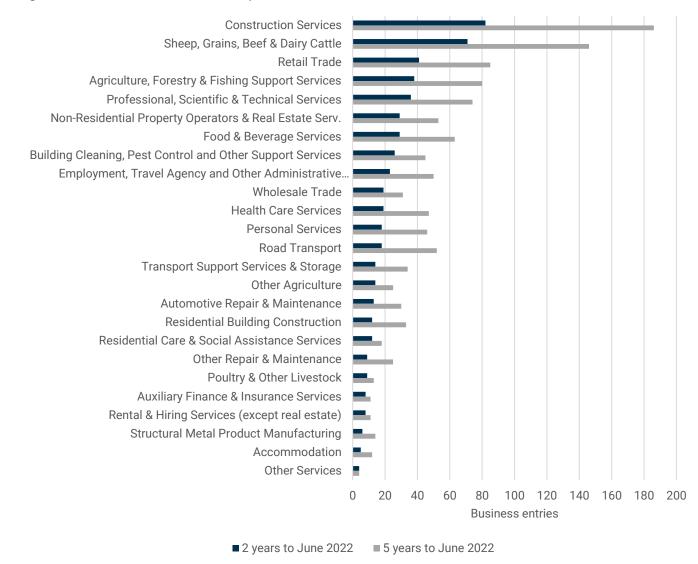
Business Growth

Figure 17 presents the 25 sectors with the highest number of business entries (i.e. new business registrations) in the two years period to June 2022 and the 5 year period to June 2022.

As at June 2022 an estimated 3,300 registered businesses were trading in Moira Shire. In the two years to June 2022 614 new businesses registered, with the highest number of registrations occurring in construction services, agriculture related sectors, retail and professional services. As illustrated in Figure 17 those same industry sectors underwent a high rate of growth in business registrations in the five year period to June 2022.

Of note is growth in the sector "Non-Residential Property Operators & Real Estate Serv.", this sector essentially provides real estate services (both residential and non-residential).

Figure 17 Business Entries to June 2022, Top 25 sectors, Moira Shire



Source: Australian Business Register, REMPLAN Economy.



Gap Analysis

Methodology

Gap analysis identifies domestic import substitution opportunities. Substituting imports for local supply deepens local supply chains. However, not all imports can be substituted with local supply.

These 'Gaps' represent demand that is unmet by local supply that may indicate opportunities for local supply chain development, import replacement, job creation and increased value-adding. The supply of these goods and services is currently feasible in the Australian context and may provide a guide to realistic, high value strategic opportunities to further develop the local economy.

It is important to note that not all these gaps represent feasible import replacement opportunities for industry within Moira Shire. Rather, replacing imports is a first step in developing local supply chains and diversifying the economy. As the economic base broadens, the more attractive Moira becomes as a destination for investment. As competitive advantages develop over time, what started as small initiatives to replace imports becomes a foundation upon which to grow the region's exports.

Local (Moira Shire) Supply Chain Gaps

Imports

Imports reflect an outflow of money and economic activity from Moira Shire. Industry imports a total of \$1.2 billion in goods and services, \$900 million of which is sourced domestically and a further \$278 million is sourced from overseas industry.

As detailed in Figure 18, the largest local importers are dairy product manufacturing, livestock, construction and construction services, and non-ferrous metal manufacturing (e.g. aluminium and copper).



Figure 18 Imports by sub-sectors, Moira Shire, 2022

	Domestic	Overseas
	\$ mill	ion
Dairy Product Manufacturing	\$139.2	\$93.1
Sheep, Grains, Beef & Dairy Cattle	\$117.2	\$3.3
Construction Services	\$71.2	\$0.0
Residential Building Construction	\$52.7	\$0.0
Basic Non-Ferrous Metal Manufacturing	\$44.1	\$2.9
Other Agriculture	\$38.7	\$10.4
Retail Trade	\$28.0	\$0.0
Road Transport	\$27.5	\$1.5
Ownership of Dwellings	\$24.7	\$0.7
Health Care Services	\$23.1	\$0.5
Heavy & Civil Engineering Construction	\$20.8	\$0.0
Professional, Scientific & Technical Services	\$20.4	\$4.6
Education & Training	\$16.9	\$0.2
Wholesale Trade	\$15.2	\$0.1
Meat & Meat Product Manufacturing	\$13.4	\$3.4
Public Administration & Regulatory Services	\$13.0	\$0.2
Agriculture, Forestry & Fishing Support Services	\$11.1	\$0.0
Automotive Repair & Maintenance	\$11.1	\$0.0
Residential Care & Social Assistance Services	\$11.0	\$0.0
Non-Residential Building Construction	\$10.9	\$0.0
Transport Support Services & Storage	\$10.5	\$0.4
Water Supply, Sewerage & Drainage Services	\$10.3	\$0.0
Non-Residential Property Operators & Real Estate Serv.	\$9.4	\$0.0
Administration & Support Services	\$9.1	\$1.1
Finance	\$8.7	\$0.7
Remaining sectors	\$142.4	\$154.9
TOTAL	\$900.6	\$277.9



External Supply Sectors

External supply sectors are sectors located elsewhere in Australia supplying goods and services to meet the demand of industry based within Moira Shire.

Local industry in within Moira Shire is importing \$900 million in goods and services from industry elsewhere in Australia from a wide range of industries. Figure 19 identifies the external supply sectors which are importing the highest value in goods and services, i.e. this figure shows the largest supply chain gaps in Moira Shire.

For example, Professional, Scientific & Technical Services outside of Moira Shire are supplying \$75 million to industries within Moira Shire. Alternatively, it can be said that there is a supply chain gap within Moira's Professional, Scientific & Technical Services sector which is not being met internally, therefore local industry is purchasing \$74 million in goods and services from elsewhere.

A third of all imports are being supplied from the following sub-sectors (valued at \$286 million):

- Professional, Scientific & Technical Services.
- Wholesale Trade.
- Finance.
 - o i.e. banking and financial asset investing.
- Sheep, Grains, Beef & Dairy Cattle.
 - Primarily dairy cattle and beef cattle, and grain (other than rice) growing.
- Non Ferrous Metal Ore Mining.
 - o E.g. aluminium, copper, brass.

Figure 19 External sectors supplying to Moira Shire from rest of Australia (top 25), 2022





Wider Region Supply Chain Gaps

Goulburn Region

Supply chain gaps in the broader region highlight potential opportunities for local business and industry in Moira Shire to supply these goods and services. While the total replacement of imports with local production is unlikely, it may be possible to capture a proportion of this expenditure within Moira Shire.

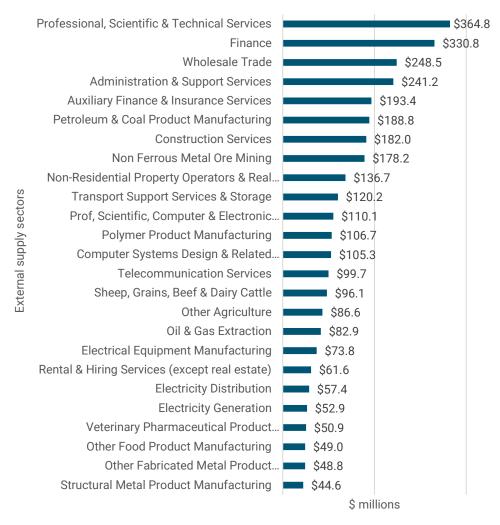
The Goulburn Region imports a total of \$4.2 billion of goods and services from the rest of Australia. Existing gaps in the Goulburn Region reflect those of Moira Shire (Figure 20) with the same external supply sectors supplying local industry, reinforcing opportunities to address local supply chain gaps will also serve the wider Goulburn Region.

A third of all imports are being supplied from:

- Professional, Scientific & Technical Services
- Finance
- Wholesale Trade
- Administration & Support Services
- Auxiliary Finance & Insurance Services (i.e. asset broking and investment services).

Manufactured products being imported in the Goulburn Region are primarily technical equipment, petroleum, metal products, basic chemicals and wood and paper products.

Figure 20 External sectors supplying to Goulburn Region from rest of Australia (top 25), 2022





Neighbouring Regions

Looking to the neighbouring regions of Greater Shepparton (C), Campaspe (S), Benalla (RC), Strathbogie (S) and Wangaratta (RC) the supply chain analysis can look beyond the Goulburn region and highlight potential opportunities from neighbouring LGAs.

With regard to Moira's neighbouring regions, Greater Shepparton (C) and Campaspe (S) are the importing the highest value of goods and services from the rest of Australia. Greater Shepparton (C) is importing approximately \$1.9 billion of goods and services from business and industry outside of its geographic boundary, presenting potential opportunities for business and industry within Moira Shire to support these gaps in the supply chains. Within Campaspe (S), business and industry are importing \$1.2 billion in goods and services from the rest of Australia.

Figure 21 presents the sub-sectors most in demand for each of the surrounding LGAs.

Figure 22 highlights the current supply chain gaps for all industry sectors for neighbouring local government areas, which may present as potential strategic opportunities.

For example, over \$800 million in manufacturing goods and services are being imported into Greater Shepparton (C) and Campaspe (S) from elsewhere in Australia. Given the strength of manufacturing in Moira Shire this opportunity warrants further investigation into the supply chain gaps in the sub sector industries to determine if there are viable opportunities.

Figure 21 Five largest external sectors supplying to neighbouring LGAs (from rest of Australia), 2022

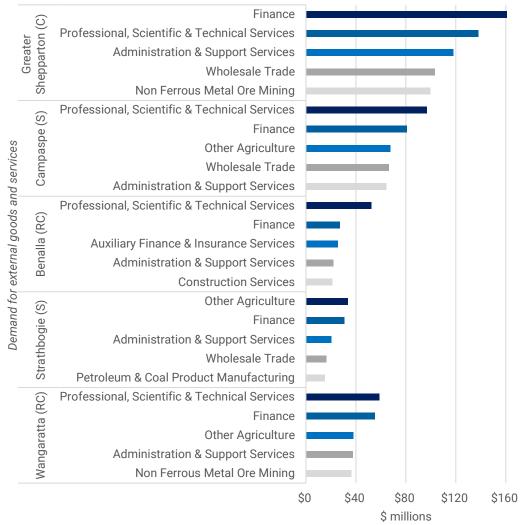




Figure 22 External sectors supplying to neighbouring regions (from rest of Australia), 2022

	Greater Shepparton (C) Campaspe (S)		pe (S)	Benalla (RC)		Strathbogie (S)		Wangaratta (RC)		
	\$M	%	\$M	%	\$M	%	\$M	%	\$M	%
Finance	\$160.7	8.3%	\$80.7	6.9%	\$27.0	5.4%	\$30.6	9.0%	\$55.1	7.3%
Professional, Scientific & Technical Services	\$137.8	7.1%	\$96.7	8.2%	\$52.1	10.4%	\$14.8	4.4%	\$58.6	7.7%
Administration & Support Services	\$117.8	6.1%	\$64.4	5.5%	\$21.9	4.4%	\$20.3	6.0%	\$37.7	5.0%
Wholesale Trade	\$103.0	5.3%	\$66.5	5.7%	\$20.8	4.1%	\$16.3	4.8%	\$34.6	4.6%
Non Ferrous Metal Ore Mining	\$99.5	5.1%	\$24.9	2.1%	\$12.0	2.4%	\$1.4	0.4%	\$36.2	4.8%
Auxiliary Finance & Insurance Services	\$91.5	4.7%	\$50.0	4.3%	\$25.6	5.1%	\$10.9	3.2%	\$24.6	3.2%
Petroleum & Coal Product Manufacturing	\$84.1	4.3%	\$42.9	3.7%	\$16.7	3.3%	\$15.0	4.4%	\$29.0	3.8%
Construction Services	\$76.3	3.9%	\$36.6	3.1%	\$21.0	4.2%	\$8.5	2.5%	\$27.2	3.6%
Non-Residential Property Operators & Real Estate Serv.	\$73.2	3.8%	\$27.4	2.3%	\$12.3	2.4%	\$9.6	2.8%	\$27.0	3.6%
Transport Support Services & Storage	\$54.9	2.8%	\$34.1	2.9%	\$13.4	2.7%	\$10.3	3.0%	\$15.1	2.0%
Oil & Gas Extraction	\$51.1	2.6%	\$16.6	1.4%	\$6.2	1.2%	\$3.2	1.0%	\$10.7	1.4%
Computer Systems Design & Related Services	\$49.6	2.6%	\$22.1	1.9%	\$8.1	1.6%	\$4.9	1.5%	\$20.6	2.7%
Prof, Scientific, Computer & Electronic Equip. Manu.	\$49.2	2.5%	\$21.2	1.8%	\$10.3	2.1%	\$4.8	1.4%	\$26.6	3.5%
Telecommunication Services	\$46.6	2.4%	\$33.4	2.8%	\$12.1	2.4%	\$4.3	1.3%	\$14.2	1.9%
Other Agriculture	\$37.8	2.0%	\$67.7	5.8%	\$16.0	3.2%	\$33.4	9.9%	\$38.0	5.0%
Polymer Product Manufacturing	\$35.6	1.8%	\$25.0	2.1%	\$8.7	1.7%	\$5.2	1.5%	\$17.1	2.3%
Sheep, Grains, Beef & Dairy Cattle	\$35.5	1.8%	\$40.4	3.4%	\$3.9	0.8%	\$5.5	1.6%	\$9.3	1.2%
Electrical Equipment Manufacturing	\$30.6	1.6%	\$15.1	1.3%	\$0.0	0.0%	\$3.4	1.0%	\$12.2	1.6%
Electricity Generation	\$28.8	1.5%	\$14.5	1.2%	\$2.2	0.4%	\$3.3	1.0%	\$10.7	1.4%
Electricity Distribution	\$28.7	1.5%	\$13.1	1.1%	\$0.0	0.0%	\$4.9	1.4%	\$14.6	1.9%
Other Fabricated Metal Product Manufacturing	\$23.7	1.2%	\$12.2	1.0%	\$3.8	0.8%	\$2.8	0.8%	\$5.8	0.8%
Rental & Hiring Services (except real estate)	\$22.3	1.2%	\$11.9	1.0%	\$13.5	2.7%	\$6.3	1.9%	\$15.5	2.0%
Structural Metal Product Manufacturing	\$20.4	1.1%	\$21.7	1.8%	\$15.7	3.1%	\$5.2	1.5%	\$16.0	2.1%
Insurance & Superannuation Funds	\$18.1	0.9%	\$7.7	0.7%	\$4.3	0.8%	\$2.9	0.9%	\$8.1	1.1%
Veterinary Pharmaceutical Product Manufacturing	\$16.2	0.8%	\$20.2	1.7%	\$6.1	1.2%	\$8.5	2.5%	\$8.9	1.2%
Remaining industries	\$441.8	22.7%	\$307.2	26.1%	\$168.4	33.7%	\$102.6	30.1%	\$185.2	24.4%
TOTAL	\$1,934.6	100.0%	\$1,174.0	100.0%	\$502.2	100.0%	\$339.3	100.0%	\$758.7	100.0%



Opportunity and Capability Matrix

Figure 23 combines the preceding analysis and identifies existing supply chain opportunities (left three columns) and existing industry strengths (right three columns).

Based on the latest economic modelling for the region, traditionally strong sectors such as 'Sheep, Grains, Beef & Dairy Cattle' and 'Construction Services' continue to provide extensive opportunity within Moira Shire and within the surrounding regions.

Other industry sub-sectors for consideration due to both supply chain opportunities and capability include:

- Other agriculture (i.e. crop growing and horticulture).
- Real estate services (residential and non-residential).
- Transport support services and storage (which includes water transport, road freight terminal operations and storage of grain).

Figure 23 Opportunity and capability matrix

Opportunity (supply chain gap)				Local capability			
Moira (S)	Goulburn Region	Surrounding LGAs	Industry sub-sector opportunities	Business entries	Key propulsive sector	Regional specialisation	
✓	✓	✓	Sheep, Grains, Beef & Dairy Cattle	✓	✓	✓	
✓	✓	✓	Construction Services	✓	✓	✓	
✓	✓	✓	Other Agriculture	✓	-	✓	
✓	✓	✓	Non-Residential Property Operators & Real Estate Serv.	✓	-	✓	
✓	✓	✓	Transport Support Services & Storage	✓	-	✓	
✓	✓	✓	Professional, Scientific & Technical Services	✓	-	-	
✓	✓	✓	Wholesale Trade	✓	-	-	
✓	✓	✓	Auxiliary Finance & Insurance Services	✓	-	-	
✓	✓	✓	Rental & Hiring Services (except real estate)	✓	-	-	
✓	✓	✓	Structural Metal Product Manufacturing	✓	-	-	
✓	✓	-	Other Food Product Manufacturing	-	-	✓	
✓	-	-	Road Transport	✓	-	✓	
✓	✓	✓	Finance	-	-	-	
✓	✓	✓	Non Ferrous Metal Ore Mining	-	-	-	
✓	✓	✓	Petroleum & Coal Product Manufacturing	-	-	-	
✓	✓	✓	Administration & Support Services	-	-	-	
✓	✓	✓	Polymer Product Manufacturing	-	-	-	
✓	✓	✓	Prof, Scientific, Computer & Electronic Equip. Manu.	-	-	-	
✓	✓	✓	Telecommunication Services	-	-	-	
✓	✓	✓	Computer Systems Design & Related Services	-	-	-	
✓	✓	✓	Veterinary Pharmaceutical Product Manufacturing	-	-	-	
✓	✓	✓	Oil & Gas Extraction	-	-	-	
✓	✓	✓	Electrical Equipment Manufacturing			-	
✓	✓	✓	Electricity Distribution	-	-	-	
✓	-	-	Paper Product Manufacturing	-	-	-	





Agriculture & Rural Land Use

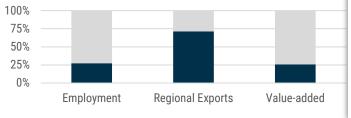
Policy Alignment

Moira Planning Scheme | Goulburn Regional Economic Development Strategy | Moira Shire Economic Development Strategy 2019-2023 | Regional Rural Land Use Strategy | Hume Regional Growth Plan | Goulburn Broken Regional Catchment Strategy

Local Strengths

- Shepparton and Murray Valley surface irrigation districts.
- Katunga Deep Lead water resource.
- Diverse agricultural sector, including horticulture (protected and field), irrigated/dryland cropping, meat, and dairy (Figure 25).
- Strong connections locally and regionally with value adding food processing facilities.
- Large scale of farms enabling viability and supporting productivity (Figure 26).
- Availability of agricultural land to allow farm consolidation.
- Agriculture and food manufacturing is the economic driver of the region (Figure 24).
- Strong protections (policy and regulation) for agricultural land.

Figure 24 Agriculture & Food Processing Economic Contribution



■ Agriculture and food manufacturing ■ All other industries

Agriculture and food processing underpin local economic activity, in contrast to the 'services' sector that dominates through much of Australia.

Figure 25 Catchment Scale Land Use Map

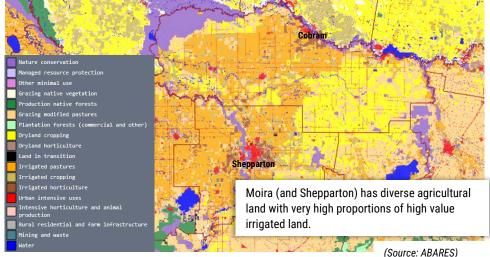


Figure 26 goFARM Katunga





Risks and opportunities

Risks

- Environmental and climate change is a threat to all agricultural regions.
- Increased water demand across the catchment accompanied by higher water variability requires appropriate responses (Figure 28).
- Demand for affordable housing in productive agricultural landscapes.

Opportunities

- Positioning Moira as the key Northern Victorian agricultural region and driver of the Victorian Foodbowl.
- Circular economy opportunities (Figure 29).
- Biochar for renewable energy, as humus, or fertiliser, and feed supplement in agriculture.
- Demand for industrial land use through agricultural support activities.
- Growth in local supply-chain industries that support agricultural sector (Figure 27).

Figure 27 Broad based benefits of agrilculture

For every \$1 of revenue generated by the agricultural sector, \$0.34 is spent on locally sourced inputs. Growth in agriculture supports the whole economy, but industries with the strongest supply-chain linkages would see greater benefits, including:







Transport



Professional services

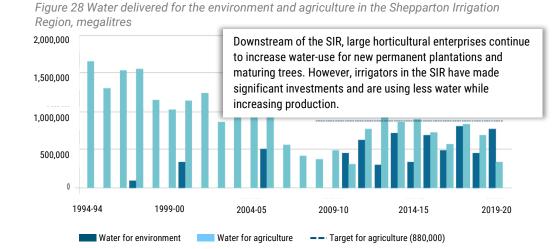


Figure 29 Biochar to improvements to soil

(Source: Goulburn Broken CMA)





Renewable Energy

Policy Alignment

Moira Environmental Sustainability Strategy | Hume Region Renewable Energy Roadmap (Goulburn and Ovens Murray Regional Partnerships) | Victorian Renewable Energy Zone

Figure 30 Sheep grazing amongst solar panels at the Numurkah Solar Farm owned and operated by Neoen Australia

The Numurkah Solar Farm agrisolar project combines sheep farming with daily operations of a solar farm generating 55,000 megawatt hours of energy into the grid every year, the equivalent of powering 51,000 homes. Construction supported 300 short-term jobs and operations support 6 FTEs.

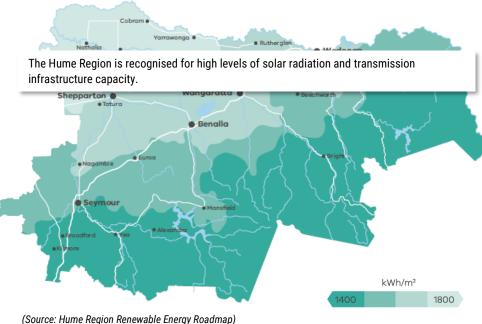


(Source: Clean Energy Regulator)

Local Strengths

- Good levels of solar radiation (Figure 31).
- Recognised Renewable Energy Zone.
- Established co generation industry in the region.
- Established agrisolar industry in the region (Figure 30).
- Community support.
- Yarrawonga (minor) Hydroelectric (total capacity 9.5MW).
- Council is leading by example, e.g. partnering in Victorian Energy Collaboration so that 100% of Council energy use is powered by renewable energy.

Figure 31 Solar radiation North West Hume





Risks and opportunities

<u>Risks</u>

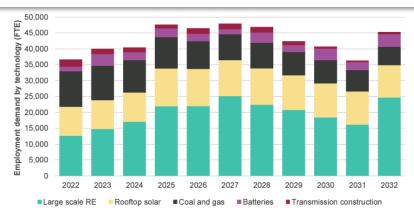
- Existing transmission network constraining large scale renewable generation.
- Strategic agricultural land.
- Negative community sentiment if consultation not effective.
- Disruption to local farming practices.
- Skilled worker shortages (Figure 32).
- Lack of transmission network within Moira to support supply to state grid.

Opportunities

- Skilled workers attracted to region to support growth in renewables.
- Solar generation.
- Local/community-based battery storage systems and smart grids to coordinate and better integrate the already high levels of roof-top solar across Moira.
- Leading Agri Solar development in Victoria, integrating the retention of agricultural output and local renewable energy generation.
- Distributed energy resources (DER) (i.e. local generation).
- Promotion, development and support of the renewables industry through identification of clusters of industrial businesses that would benefit from establishing a renewable energy industrial precinct.
- Local high voltage transmission lines can support local renewables growth (however this opportunity is unlikely in the short to medium term a long term (Figure 33).
- Advocate for transmission across the region.
- Victorian Government development of a Transmission Investment Framework.

Figure 32 Forecast labour demand by energy infrastructure sub-sectors

Demand for skilled labour in large-scale renewable energy across Australia is forecast to double from 12,500 (2022) to 25,000 in 2027. This growth will outpace the decline in the traditional generation workforce, which is forecast to drop by 6,000 or over 50% over the next decade.



(Source: AEMO 2022 Integrated System Plan)

Moira is currently not identified as a HumeLin potential location for an integrated system. South East SA REZ Expansion (Stage 1) ansmission Network COMMITTED & South East SA REZ Expansion ANTICIPATED (Stage 2) ACTIONABLE Melbourne VNI **FUTURE ISP PROJECTS** System Integrit Protection refine these long-term projects Scheme

Marinus Link

Marinus Linl

Figure 33 Network Projects optimal development path

(Source: AEMO 2022 Integrated System Plan)



Local Industry Development

Policy Alignment

Moira Planning Scheme | Goulburn Regional Economic Development Strategy | Moira Shire Economic Development Strategy 2019-2023 | VPA Funding and Streamlining for Growth

Local Strengths

- Established strength in food product manufacturing (Figure 34).
- Demonstrated capability in agriculture, freight and transport services.
- Goulburn Valley Designated Area Migration Agreement (skilled and semi-skilled overseas workers).
- Recent upgrades to three bridges along Stewart's Bridge Road to enhance road access to markets for Moira, these main freight routes now allow B Double truck access.
- High rate of workforce specialisation in dairy product manufacturing, agriculture such as livestock, horticulture and agricultural support services.
- Strong established range of supply chain industries servicing meat product manufacturing, non-residential building construction and dairy product manufacturing (Figure 35).

Figure 34 JBS Cobram economic impact on employment and value-added

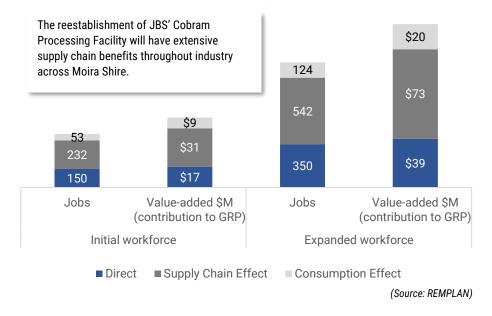
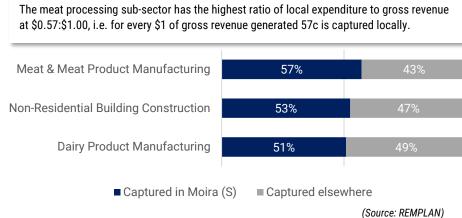


Figure 35 Local expenditure to gross revenue ratio







Risks and opportunities

Risks

- High concentration of water dependent industries.
- Constrained industrial land development opportunities.
- Falling domestic dairy production.
- Zoned industrial land unable to be realised.

Opportunities

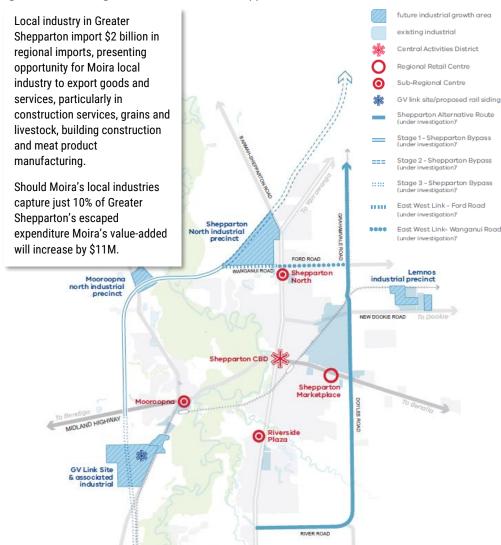
- Numurkah-Strathmerton Growth Corridor Project (building on recently awarded funding (\$131k awarded via VPA Streamlining for Growth).
- Focus on industry attraction for high value-add activities that build on strong foundation of existing industrial strengths.
- Industrial precinct development.
- Leveraging industrial growth corridor in Northern Shepparton (Figure 37).
- Leverage industrial development, particularly in Shepparton North Industrial precinct (structure plan still under preparation).
- Industrial land supply and demand analysis for Numurkah.
- Exploring waste streams, notably from NSW to support Biochar opportunities with Goulburn Valley Water (Figure 36).

Figure 36 Loganholme Wastewater Treatment Plant

With the backing of Federal Government's Australian Renewable Energy Agency (ARENA), Logan City Council (Qld) has opened a \$28 million Biosolids Gasification Facility. Not only will the facility reduce carbon emissions by 6000 tonnes and save the council \$1 million annually, but a potential revenue stream is additionally created, biochar, the end product of the process. Biochar is rich in nutrients and can be used in the agricultural industry.



Figure 37 Industrial growth areas of Greater Shepparton



(Source: VPA, Shepparton & Mooroopna 2050 March 2021 Regional City Growth Plan)



Liveability

Policy Alignment

Moira Community Vision #moira2035 | Moira Shire Economic Development Strategy 2019-2023 | Moira Major Towns' Strategy | Moira Small Towns' Strategy | Cobram Strategic Plan | Nathalia Strategic Plan | Numurkah Strategic Plan | Yarrawonga Strategic Plan | Rural Land Use Strategy Plans

Local Strengths

- Demonstrated strengths in Moira's construction service and real estate service industries.
- Strong Community Vision.
- Enhancements of urban area open spaces.
- Low-cost land and housing.
- Historical and projected annual population growth rates are on par with Regional Victoria (Figure 38).
- Strong Community Vision for connected, healthy and prosperous towns based around natural assets and the Murray River.
- Residential development potential (land area and demand).
- Unique characteristics, lifestyle options of regional townships of Nathalia, Numurkah, Cobram and Yarrawonga.
- Strong and diverse high street trade particularly in Yarrawonga and Cobram which services the wider regional Victorian and New South Wales catchment.

Figure 38 Population growth by LGA, 2012 to 2022

Historical population growth rate of 0.6% (2012 and 2022), Moira Shire is ranked 48 out of 80 LGAs, i.e. 32 LGAs in Victoria recorded lower population growth rates.

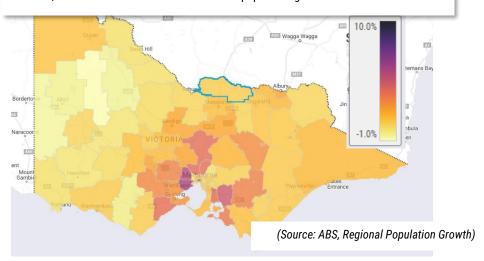
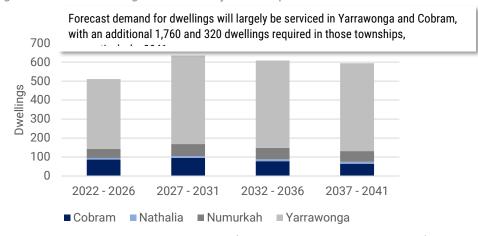


Figure 39 Forecast dwelling demand for major townships



(Source: REMPLAN Population Forecasts)

Risks and opportunities

Risks

- Lack of digital connectivity effecting business operations and liveability (Figure 40).
- Rapidly ageing population.
- Poor public transport connections can hinder access to health and education services (Figure 41).
- Population growth is highly dependent on net migration.
- Loss of character and industry if a considered approach is not taken to rural living development.
- A change in housing product needs to be driven by industry, however, larger residential developers tend to be less agile due to a reluctance to change their housing product.
- Workforce self-containment is low compared to neighbouring LGAs.

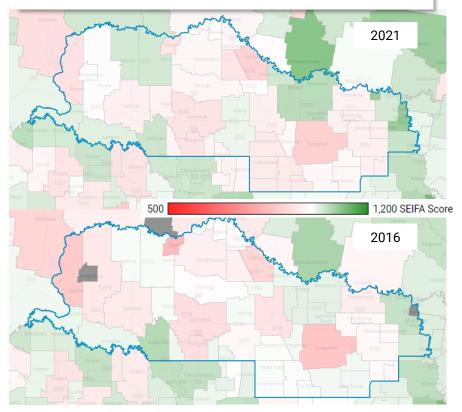
Figure 40 Community Reported Black Spots registered with the Mobile Black Spot Data Base



(Source: Bridging the GAP Summary and Options Report, Moira Shire Council)

Figure 41 Index of Social and Economic Disadvantage

The SEIFA scores reflect level of social and economic disadvantage, ranging from 143 (highest level of disadvantage) to 1,207 (least disadvantaged). The SEIFA index of disadvantage score for Moira (S) is 958 (i.e. 187 LGAs are more disadvantaged. Across Moira's suburbs between 2016 and 2021 there has been a distinct improvement in SEIFA scores, particularly around Cobram East, Boosey, Burramine and Invergordon.



(Source: REMPLAN Community)

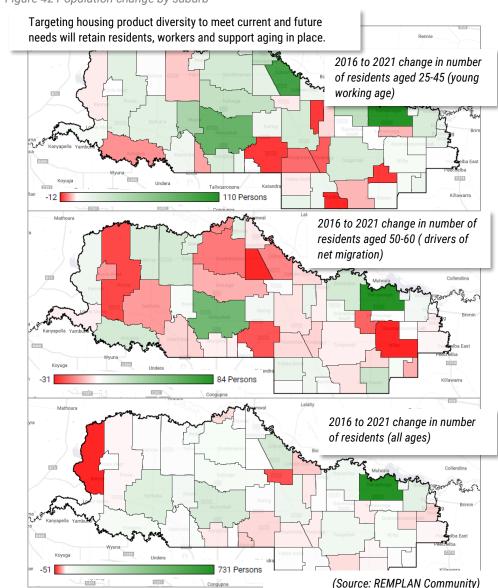


Risks and opportunities

Opportunities

- NBN co-investment.
- Black Spot Program.
- Surging net-overseas migration.
- Goulburn Valley Designated Area Migration Agreement (overseas workforce attraction).
- Resident attraction and retention drive residential development in turn support key industry driver and large employers i.e. construction services.
- Regional returners (i.e. older residents returning) bringing families, higher incomes, investment in housing and business, life experience, and workplace skills.
- A strong brand can strengthen sense of place when there is alignment between residents, business, and government.
- Grow net migration, take advantage of the post-COVID move to regional Australia.
- New forms of housing product to attract and retain residents, noting historical and projected age groups driving net migration (Figure 42).
- Local government can influence residential development through planning and regulation, and leadership (e.g. review infrastructure charges, communicating the local need and demand for diverse housing stock, establishing targets).
- Commercial development in Yarrawonga and Cobram to service growing demand from population servicing industries.

Figure 42 Population change by suburb





Tourism

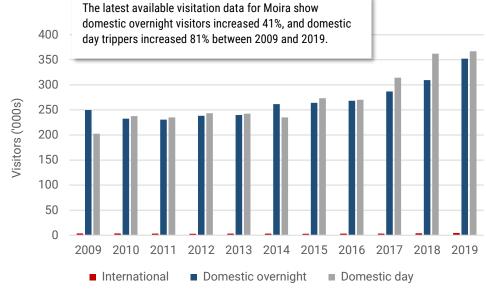
Policy Alignment

Moira Community Vision #moira2035 | Moira Shire Economic Development Strategy 2019-2023 | Moira Major Towns' Strategy | Moira Small Towns' Strategy | Cobram Strategic Plan | Nathalia Strategic Plan | Numurkah Strategic Plan | Yarrawonga Strategic Plan | Arts and Culture Strategy 2020 – 26 | Moira Tourism Plan 2022 - 26

Local Strengths

- Strong and diverse high street trade.
- Growing visitor market.
- More than half (54%) of visitors stay overnight (Figure 43).
- Strong visiting family and friends market.
- Year round visitation (Figure 44).
- Mobile visitor information vans.
- Moira CoPublic artwork.
- Moira Creative Arts Hubs.
- Well established arts and cultural organisations.
- Yarrawonga Foreshore Masterplan.
- Lake Numurkah Upgrade.
- Murray River.
- Barmah National Park.
- Lake Mulwala.
- Inland beaches.
- Silo Art.

Figure 43 Annual visitation to Moira



(Source: Tourism Research Australia)

Figure 44 Murray Tourism Region Visitation trends



While visitation peaks in summer, the rate of visitation over the year is consistent particularly for overnight stays, regardless of season.

(Source: Murray Region Destination Management Plan)



Risks and opportunities

<u>Risks</u>

- Growth in self-contained accommodation has outpaced demand for traditional accommodation (i.e. hotels, motels).
- Lack of digital connectivity effecting business operations.

Opportunities

- Silo Art product.
- RV product.
- Natural environment is a strong marketing tool, 'clean, natural, healthy, and ecologically responsible' concepts can be applied in a range of sectors beyond tourism (such as food product manufacturing, construction, health, energy production, and agriculture).
- A single Visitor Information Centre.
- Development and promotion of tourism food trails / farm gate trails to extend visitor stay (Figure 45).
- Advocate for the development of Murray River Adventure Trail
- Activate waterways though river and lake infrastructure.
- First Nations led tourism product.
- Invest in cultural and creative assets, events and facilities.
- Digital platform for industry for advertising and booking.
- Inbound/outbound tour operator opportunity.
- Collaborate, educate and assist operators on opportunities that exist in the market.

Figure 45 Economic impact of overnight visitors staying one additional night

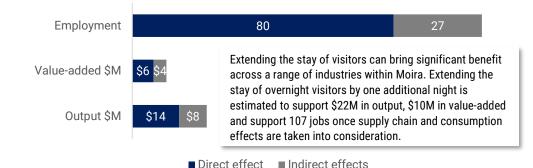


Figure 46 Margaret River natural environment rebranding







Methodology

The following investment opportunities have been identified to guide Moira Shire Council discussion with industry and business leaders with the intent to unlock new economic opportunities and to further strengthen existing drivers of economy growth. It is envisaged discussions with industry and business leaders will build on this document by applying a lens from an industry and business operational and commercial perspective.

This document has been preliminary discussions with Moira Shire Council and extensive desk based research and analysis. Analysis did not include the undertaking market demand assessments nor commercial feasibility studies. REMPLAN advises any party to conduct detailed feasibility studies and seek professional advice before proceeding with any actions identified in this document.

Opportunities

Protection of Agricultural Land

Why?	The region is arguably the rei	maining strong ho	ld of the	Goulburn Valley Foodbowl	l.					
	Protection of agricultural land has been identified as a key policy position for over 15 years.									
	Ongoing retention of agricult	ural land supports	the key l	ocal economic drivers of t	the region	٦.				
	Unfettered agricultural land s	should be consider	ed a poir	nt of difference supporting	food sec	curity and future a	agricultural investment.			
How?	Marketing.									
	Policy.									
	Partnerships with Agriculture	e and Goulburn Mu	rray Wat	er.						
	Investment in Irrigation.									
Outcome	Position Moira as the key No	Position Moira as the key Northern Victorian agricultural region and driver of the Victorian Foodbowl.								
Alignment to Economic Development Priorities	Enhancing infrastructure and land use	Providing inform learning ar networking	nd innovation and		ring the visitor economy	Making great places for people				
Priority	HIGH		MEDIUM				LOW			



Local industrial land supply

Why?		 Steady population growth and government investment to support a population shift toward working age population requires diversification of economic activity locally. 								
	 Industrial land supply is inadequate and local property economics are not driving market led development of industrial land. 									
	Growth in economic output within agricultural and rural sectors relies on intensification to drive efficiency and productivity, increasingly driven by both technology and local supporting industries.									
	• Industrial sectors rely on strong local supply chains and can leverage identified opportunities in the Circular Economy and key regions economic sectors.									
How?	 Development of an Industrial Land Use Strategy that is supported by employment projections, land supply analysis and infrastructure capability assessment is required to support increased industrial land supply. Industrial property development leadership from Council may be required to underpin early industrial land release. 									
Outcome	Future proofed land supply to s	support ongoing diversific	cation of the local economy.							
	Supports business creation and job creation.									
Alignment to Economic Development Priorities	Enhancing infrastructure and land use	Providing information, learning and networking	Encouraging growth, innovation and diversification	Fostering the visitor economy	Making great places for people					
Priority	HIGH		MEDIUM		LOW					



Urban consolidation and new housing product

Priority	HIGH		MEDIUM		LOW				
Alignment to Economic Development Priorities	Enhancing infrastructure and land use	Providing information, learning and networking	Encouraging growth, innovation and diversification	Fostering the visitor economy	Making great places for people				
	Improved environmental outco	mes due to reduced carbo	on emissions, conservation	of agriculture and water o	eatchment areas.				
	Reduced infrastructure costs.								
	• Improved access for residents to services, transport, affordable housing, employment opportunities and connection to community.								
	Construction industry innovation	on.							
	Support for ageing in place.								
	Resident attraction and retention								
Outcome	Improved housing affordability	·							
	can improve quality of life for local residents.								
	 Council to target planning policy to encourage the more efficient use of existing and future urban land. A considered approach will be required to engage with local communities to ensure local residents understand the desired outcomes and how urban consolidation 								
	to services and employment.								
	improved urban consolidation, encouraging increased density of housing in areas within an existing urban footprint with good access								
low?	Council can influence the supp				_				
	significant agricultural land.								
	Township viability and local ho	using needs require housi	ng that is affordable, meets	s forecast demographic cl	nange and protects				
	residents looking to downsize to better enable ageing in place.								
	working age groups. Diversifying the housing product will go some way to improving housing affordability and will provide options for								
	• The age profile of Moira's residents (existing and projected) point to an aging population, with growth in net migration driven by olde								



Circular economy

Why?	Partnering with existing industries, such as agriculture, food product manufacturing, waste water services to investigate the potential to reuse and repurpose waste streams.								
How?	Undertake investigations with Goulburn Valley Water into potential repurpose of waste stream to establish a biosolids gasification facility in Moira Shire, with the potential to repurpose waste to local agriculture.								
Outcome	 Establish an emerging industry Reduction in waste stream. Improved environmental outcomes Establishing an emerging industry 	 Biochar improves soil fertility, structure and reduces the need for chemical fertilisers. Establish an emerging industry. Reduction in waste stream. Improved environmental outcomes. 							
Alignment to Economic Development Priorities	Enhancing infrastructure and land use	Providing informa learning and networking		Fostering the visitor economy	Making great places fo people				
Priority	HIGH	,	MEDIUM		LOW				



Horticultural Precinct

Priority	HIGH			MEDIUM			LOW			
Alignment to Economic Development Priorities	Enhancing infrastructure and land use	Providing inform learning ar networkin	nd	Encouraging growth, innovation and diversification		ring the visitor economy	Making great places for people			
	Improved economic resilience	e.								
	Build business networks and	knowledge sharir	ng.							
	Brand recognition in domestic	c and overseas m	arkets.							
	Economies of scale.									
	Investment attraction.									
	Build industry confidence.	Build industry confidence.								
	Position Moira as the key Nor	thern Victorian a	gricultura	region and driver of the \	/ictorian	Foodbowl.				
	strengthen industry within Mo	oira.								
	Potential to partner with tertial	ary education prov	vider, as a	means to develop local s	skills, res	earch and develop	oment capability to			
Outcome	Innovation cluster.									
	Partner with State Government	nt, education prov	iders and	industry.						
How?	Planning policy									
	Leverage intrinsic economic s	Leverage intrinsic economic strength of the region.								
	Workforce attraction and retention.									
	Protection of agricultural land	d has been identif	ied as a k	ey policy position for over	r 15 years	3.				
	Horticulture is one of the larger	est industries in N	Moira Shir	e.						
Why?	The region is arguably the remaining strong hold of the Goulburn Valley Foodbowl.									



Tourism Precinct

Priority	HIGH	networking	MEDIUM		LOW				
Alignment to Economic Development Priorities	Enhancing infrastructure and land use	Providing information, learning and networking	Encouraging growth, innovation and diversification	Fostering the visitor economy	Making great place for people				
	Improve accessibility to lakes	side recreational facilities							
	Enhance lakeside recreational opportunities for local residents.								
	Investment attraction.								
	Build industry confidence.								
	Opportunities to leverage liveability and tourism branding.								
	events.								
Outcome	A central, and well known, location for a primary visitor information centre and showcase for other regional attractions and cultural								
	Work with Tourism Advisory Panel.								
How?	Engage with tourism industry	and community groups.							
	Yarrawonga foreshore is kno	Yarrawonga foreshore is known as one of Victoria's best waterfront destinations.							
	Capitalise on the growth in delignment	omestic tourism in region	al Victoria.						
	Focus on a key destination to	o mitigate the dispersed a	tractions across the region	1.					
	Continue to build on community aspirations and capital expenditure at Yarrawonga foreshore.								
Why?	Lack of brand recognition for local visitor economy.								





Appendix A – Key Propulsive Sectors

Key Propulsive Sector reporting identified industry sectors which are key economic drivers for the regional economy. Taking into consideration potential import replacement opportunities as well as current contributions to the regional economy in terms of employment, value-added and local expenditure on goods and services (backward linkages), REMPLAN conducted analysis at a 111 industry sub-sector level to identify key propulsive industries sub-sectors for the Moira Shire economy.

The key propulsive sectors are identified below, in order of most significant:

- Dairy Product Manufacturing
- Construction Services
- Sheep, Grains, Beef & Dairy Cattle
- Residential Building Construction
- Education & Training
- Meat & Meat Product Manufacturing
- Non-Residential Building Construction
- Health Care Services
- Retail Trade
- Basic Non-Ferrous Metal Manufacturing

Figure A.1 presents the estimated annual value each of these key propulsive sectors generates within Moira Shire.

Figure A.1 Key propulsive sectors and their economic contribution in Moira Shire, 2022

	Backward linkages (Local Expenditure)		Employm	Employment		Value-Added		Regional Exports	
	\$M	% of total	Jobs	% of total	\$M	% of total	\$M	% of total	
Dairy Product Manufacturing	\$726.2	17%	786	7%	\$124.8	7%	\$232.3	20%	
Construction Services	\$290.8	7%	823	7%	\$95.5	6%	\$71.2	6%	
Sheep, Grains, Beef & Dairy Cattle	\$442.3	11%	1,327	11%	\$161.2	10%	\$120.5	10%	
Residential Building Construction	\$182.8	4%	247	2%	\$40.3	2%	\$52.7	5%	
Education & Training	\$127.6	3%	1,008	8%	\$95.2	6%	\$17.0	1%	
Meat & Meat Product Manufacturing	\$68.7	2%	112	1%	\$12.6	1%	\$16.8	1%	
Non-Residential Building Construction	\$42.7	1%	48	0%	\$9.4	1%	\$10.9	1%	
Health Care Services	\$124.8	3%	944	8%	\$80.5	5%	\$23.6	2%	
Retail Trade	\$144.7	4%	1,198	10%	\$84.8	5%	\$28.0	2%	
Basic Non-Ferrous Metal Manufacturing	\$52.5	1%	26	0%	\$3.4	0%	\$47.0	4%	
Sub-total	\$2,203.2	53%	6,519	55%	\$707.6	42%	\$620.0	53%	

Source: REMPLAN Economy.



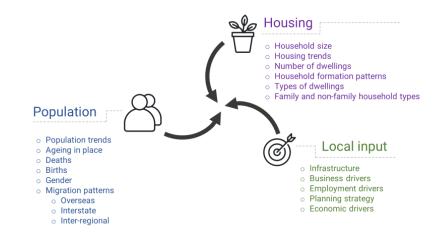
Appendix B – Population and Housing Forecast Methodology

REMPLAN Forecast identifies the local drivers of demographic and housing change to model future scenarios over a 20-year period. Detailed forecasts enable evidence-based decision making for strategic planning, land supply, service provision and infrastructure. REMPLAN Forecast guides government, businesses, organisations and individuals regarding where and when to allocate resources and invest.

REMPLAN Forecast include projections for local government areas (LGA) and smaller planning areas / localities from 2021 to 2046 for population (by single year of age; 5 year and life stage cohorts - by gender), as well as projections for household formation types and dwellings. REMPLAN population, household and dwelling forecasts show how the population is expected to change over the next 20+ years. The forecasts illustrate the potential impact of these changes on households and the associated demand for housing.

REMPLAN Forecasts take into consideration trends for births, deaths and migration. Forecasts are conditioned against factors such as: planning strategies; economic influences (such as proximity to growing such as proximity to growing employment nodes); development applications (high density seniors living or master planned community) and supply constraints.

By understanding the drivers of demographic and housing change, REMPLAN Forecast models independent population and housing forecasts which take into consideration:



REMPLAN employs a combination of modelling methodologies, which are subject to different influences and all combine to generate informed Population, household and dwelling forecast for the region. The modelling process includes:

1. Cohort component model

The workhorse of population forecasting is the cohort component model. There are other options for respectable methods for forecasting population, but the cohort component model gives the best balance on approachability, intuition, forecasting accuracy and detail.

Put simply, the age cohort model is yesterday's population plus births less death plus net migration equals today's population.



When modelling each small area, REMPLAN undertakes forecasts of births by gender, deaths by age and gender, emigration by age and gender, immigration by age and gender, regional migration in and out by age and gender.

The modelling of the underlying drivers of population are undertaken in a dynamical modelling framework that produces detailed age and gender for each planning area.

The cohort component model is combined with housing and household data (households/families and dwellings) to determine the potential growth that can be facilitated by residential development identified at the local level.

2. Household propensity model

The Household Propensity model considers the relationship between people and housing in terms of household composition and formations, e.g. lone person households, family households.

Population change is combined with understanding the household formations that are specific to that geography i.e., lone persons households, couples only, families etc and this is then overlaid with identified future land supply in the region (infill development, rural residential, urban residential) and the timing of this supply of when it can be bought to the market to accommodate any future population.

3. Housing unit model.

The housing unit model determines the number of occupied and non-occupied dwellings and private and non-private households.

Population change including net migration trends by age (informed by the cohort component model) is a key driver of housing demand. For example, younger cohorts (19-25) will have different demands to families; the ageing population may be downsizing or requiring some form of formal aged care accommodation.



Appendix C – Industry Division Classifications

The following provides definitions of all ANZSIC industry divisions. More information about industry classifications can be accessed from the ABS Catalogue 1292.0 Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006 (Revision 2.0)¹.

Accommodation & Food Services

The Accommodation and Food Services Division includes units mainly engaged in providing short-term accommodation for visitors. Also included are units mainly engaged in providing food and beverage services, such as the preparation and serving of meals and the serving of alcoholic beverages for consumption by customers, both on and off-site.

Administrative & Support Services

The Administrative and Support Services Division includes units mainly engaged in performing routine support activities for the day-to-day operations of other businesses or organisations.

Units providing administrative support services are mainly engaged in activities such as office administration; hiring and placing personnel for others; preparing documents; taking orders for clients by telephone; providing credit reporting or collecting services; and arranging travel and travel tours.

Units providing other types of support services are mainly engaged in activities such as building and other cleaning services; pest control services; gardening services; and packaging products for others.

The activities undertaken by units in this division are often integral parts of the activities of units found in all sectors of the economy. Recent trends have moved more towards the outsourcing of such non-core activities. The units classified in

this division specialise in one or more of these activities and can, therefore, provide services to a variety of clients.

Agriculture, Forestry & Fishing

The Agriculture, Forestry and Fishing Division includes units mainly engaged in growing crops, raising animals, growing and harvesting timber, and harvesting fish and other animals from farms or their natural habitats. The division makes a distinction between two basic activities: production and support services to production. Included as production activities are horticulture, livestock production, aquaculture, forestry and logging, and fishing, hunting and trapping.

- The term 'agriculture' is used broadly to refer to both the growing and cultivation of horticultural and other crops (excluding forestry), and the controlled breeding, raising or farming of animals (excluding aquaculture).
- Aquaculture activities include the controlled breeding, raising or farming of fish, molluscs and crustaceans.
- Forestry and logging activities include growing, maintaining and harvesting forests, as well as gathering forest products.
- Fishing, hunting and trapping includes gathering or catching marine life such as fish or shellfish, or other animals, from their uncontrolled natural environments in water or on land.
- Also included in the division are units engaged in providing support services to the units engaged in production activities.

Arts & Recreation Services

The Arts and Recreation Services Division includes units mainly engaged in the preservation and exhibition of objects and sites of historical, cultural or educational interest; the production of original artistic works and/or participation



¹ Link to ABS Industry classifications: https://bit.ly/2HsneMD

in live performances, events, or exhibits intended for public viewing; and the operation of facilities or the provision of services that enable patrons to participate in sporting or recreational activities, or to pursue amusement interests.

This division excludes units that are involved in the production, or production and distribution of motion pictures, videos, television programs or television and video commercials. These units are included in the Information Media and Telecommunications Division.

Construction

The Construction Division includes units mainly engaged in the construction of buildings and other structures, additions, alterations, reconstruction, installation, and maintenance and repairs of buildings and other structures.

Units engaged in demolition or wrecking of buildings and other structures and clearing of building sites are included in Division E Construction. It also includes units engaged in blasting, test drilling, landfill, levelling, earthmoving, excavating, land drainage and other land preparation.

Education & Training

The Education and Training Division includes units mainly engaged in the provision and support of education and training, except those engaged in the training of animals e.g. dog obedience training, horse training.

Education and training is delivered by teachers or instructors who explain, tell or demonstrate a wide variety of subjects. The commonality of processes involved, such as the labour inputs of teachers and instructors, and their subject matter knowledge and teaching expertise, uniquely distinguishes this industry from other industries.

Education support services include a range of support services which assist in the provision of education, such as curriculum setting and examination marking.

Electricity, Gas, Water & Waste Services

The Electricity, Gas, Water and Waste Services Division comprises units engaged in the provision of electricity; gas through mains systems; water; drainage; and sewage services. This division also includes units mainly engaged in the collection, treatment and disposal of waste materials; remediation of contaminated materials (including land); and materials recovery activities.

- Electricity supply activities include the generation, transmission and distribution of electricity and the on-selling of electricity via power distribution systems operated by others.
- Gas supply includes the distribution of gas, such as natural gas or liquefied petroleum gas, through mains systems.
- Water supply includes the storage, treatment and distribution of water; drainage services include the operation of drainage systems; and sewage services include the collection, treatment and disposal of waste through sewer systems and sewage treatment facilities.

Financial & Insurance Services

The Financial and Insurance Services Division includes units mainly engaged in financial transactions involving the creation, liquidation, or change in ownership of financial assets, and/or in facilitating financial transactions.

The range of activities include raising funds by taking deposits and/or issuing securities and, in the process, incurring liabilities; units investing their own funds in a range of financial assets; pooling risk by underwriting insurance and annuities; separately constituted funds engaged in the provision of retirement incomes; and specialised services facilitating or supporting financial intermediation, insurance and employee benefit programs.

Also included in this division are central banking, monetary control and the regulation of financial activities.

Health Care & Social Assistance



The Health Care and Social Assistance Division includes units mainly engaged in providing human health care and social assistance. Units engaged in providing these services apply common processes, where the labour inputs of practitioners with the requisite expertise and qualifications are integral to production or service delivery.

Information Media & Telecommunications

The Information Media and Telecommunications Division includes units mainly engaged in:

- creating, enhancing and storing information products in media that allows for their dissemination;
- transmitting information products using analogue and digital signals (via electronic, wireless, optical and other means); and
- providing transmission services and/or operating the infrastructure to enable the transmission and storage of information and information products.

Information products are defined as those which are not necessarily tangible, and, unlike traditional goods, are not associated with a particular form. The value of the information products is embedded in their content rather than in the format in which they are distributed. For example, a movie can be screened at a cinema, telecast on television or copied to video for sale or rental. The division includes some activities that primarily create, enhance and disseminate information products, subject to copyright.

Manufacturing

The Manufacturing Division includes units mainly engaged in the physical or chemical transformation of materials, substances or components into new products (except agriculture and construction). The materials, substances or components transformed by units in this division are raw materials that are products of agriculture, forestry, fishing and mining, or products of other manufacturing units.

Units in the Manufacturing Division are often described as plants, factories or mills and characteristically use power-driven machines and other materials-handling equipment. However, units that transform materials, substances or components into new products by hand, or in the unit's home, are also included. Activities undertaken by units incidental to their manufacturing activity, such as selling directly to the consumer products manufactured on the same premises from which they are sold, such as bakeries and custom tailors, are also included in the division. If, in addition to self-produced products, other products that are not manufactured by the same unit are also sold, the rules for the treatment of mixed activities have to be applied and units classified according to their predominant activity.

Assembly of the component parts of manufactured products, either self-produced or purchased from other units, is considered manufacturing. For example, assembly of self-manufactured prefabricated components at a construction site is considered manufacturing, as the assembly is incidental to the manufacturing activity. Conversely, when undertaken as a primary activity, the on-site assembly of components manufactured by others is considered to be construction.

Mining

The Mining Division includes units that mainly extract naturally occurring mineral solids, such as coal and ores; liquid minerals, such as crude petroleum; and gases, such as natural gas. The term mining is used in the broad sense to include underground or open cut mining; dredging; quarrying; well operations or evaporation pans; recovery from ore dumps or tailings as well as beneficiation activities (i.e. preparing, including crushing, screening, washing and flotation) and other preparation work customarily performed at the mine site, or as a part of mining activity.

The Mining Division distinguishes two basic activities: mine operation and mining support activities.

Mine operation includes units operating mines, quarries, or oil and gas wells on their own account, or for others on a contract or fee basis, as well as mining sites under development.

Mining support activities include units that perform mining services on a contract or fee basis, and exploration (except geophysical surveying).

Units in the Mining Division are grouped and classified according to the natural resource mined or to be mined. Industries include units that extract natural resources, and/or those that beneficiate the mineral mined. Beneficiation is the process whereby the extracted material is reduced to particles that can be separated into mineral and waste, the former suitable for further processing or direct use.

The operations that take place in beneficiation are primarily mechanical, such as grinding, washing, magnetic separation, and centrifugal separation. In contrast, manufacturing operations primarily use chemical and electro-chemical processes, such as electrolysis and distillation.

Professional, Scientific & Technical Services

The Professional, Scientific and Technical Services Division includes units mainly engaged in providing professional, scientific and technical services. Units engaged in providing these services apply common processes where labour inputs are integral to the production or service delivery. Units in this division specialise and sell their expertise. In most cases, equipment and materials are not major inputs. The activities undertaken generally require a high level of expertise and training and formal (usually tertiary level) qualifications.

These services include scientific research, architecture, engineering, computer systems design, law, accountancy, advertising, market research, management and other consultancy, veterinary science and professional photography. Excluded are units mainly engaged in providing health care and social assistance services, which are included in Division Q Health Care and Social Assistance.

Public Administration & Safety

The Public Administration and Safety Division includes units mainly engaged in Central, State or Local Government legislative, executive and judicial activities; in providing physical, social, economic and general public safety and security services; and in enforcing regulations. Also included are units of military defence, government representation and international government organisations.

Central, State or Local Government legislative, executive and judicial activities include the setting of policy; the oversight of government programs; collecting revenue to fund government programs; creating statute laws and by-laws; creating case law through the judicial processes of civil, criminal and other courts; and distributing public funds.

The provision of physical, social, economic and general public safety and security services, and enforcing regulations, includes units that provide police services; investigation and security services; fire protection and other emergency services; correctional and detention services; regulatory services; border control; and other public order and safety services.

Also included are units of military defence, government representation and international government organisations.

Government ownership is not a criterion for classification to this industry division. Government units producing 'private sector like' goods and services are classified to the same industry as private sector units engaged in similar activities.

Private sector units engaged in public administration or military defence are classified to the Public Administration and Safety Division. Units that engage in a combination of public administration and service delivery activities are to be classified to this division.

Rental, Hiring & Real Estate Services

The Rental, Hiring and Real Estate Services Division includes units mainly engaged in renting, hiring, or otherwise allowing the use of tangible or intangible assets (except copyrights), and units providing related services.



The assets may be tangible, as in the case of real estate and equipment, or intangible, as in the case with patents and trademarks.

The division also includes units engaged in providing real estate services such as selling, renting and/or buying real estate for others, managing real estate for others and appraising real estate.

Retail Trade

The Retail Trade Division includes units mainly engaged in the purchase and on selling, the commission-based buying, and the commission-based selling of goods, without significant transformation, to the general public. The Retail Trade Division also includes units that purchase and on sell goods to the general public using non-traditional means, including the internet. Units are classified to the Retail Trade Division in the first instance if they buy goods and then on sell them (including on a commission basis) to the general public.

Retail units generally operate from premises located and designed to attract a high volume of walk-in customers, have an extensive display of goods, and/or use mass media advertising designed to attract customers. The display and advertising of goods may be physical or electronic.

Physical display and advertising includes shops, printed catalogues, billboards and print advertisements. Electronic display and advertising includes catalogues, internet websites, television and radio advertisements and infomercials. While non-store retailers, by definition, do not possess the physical characteristics of traditional retail units with a physical shop-front location, these units share the requisite function of the purchasing and on selling of goods to the general public, and are therefore included in this division.

A unit which sells to both businesses and the general public will be classified to the Retail Trade Division if it operates from shop-front premises, arranges and displays stock to attract a high proportion of walk-in customers and utilises mass media advertising to attract customers.

Transport, Postal & Warehousing

The Transport, Postal and Warehousing Division includes units mainly engaged in providing transportation of passengers and freight by road, rail, water or air. Other transportation activities such as postal services, pipeline transport and scenic and sightseeing transport are included in this division. Units mainly engaged in providing goods warehousing and storage activities are also included. The division also includes units mainly engaged in providing support services for the transportation of passengers and freight. These activities include stevedoring services, harbour services, navigation services, airport operations and customs agency services.

Wholesale Trade

The Wholesale Trade Division includes units mainly engaged in the purchase and on selling, the commission-based buying, and the commission-based selling of goods, without significant transformation, to businesses. Units are classified to the Wholesale Trade Division in the first instance if they buy goods and then on sell them (including on a commission basis) to businesses.

Wholesalers' premises are usually a warehouse or office with little or no display of their goods, large storage facilities, and are not generally located or designed to attract a high proportion of walk-in customers. Wholesaling is often characterised by high value and/or bulk volume transactions, and customers are generally reached through trade-specific contacts.

The Wholesale Trade Division distinguishes two types of wholesalers:

'merchant wholesalers who take title to the goods they sell, including import/export merchants; and units whose main activity is the commission-based buying and/or the commission-based selling of goods, acting as wholesale agents or brokers, or business to business electronic markets, both of whom arrange the sale of goods on behalf of others for a commission or fee without taking title to the goods.'



A unit which sells to both businesses and the general public will be classified to the Wholesale Trade Division if it operates from premises such as warehouses or offices with little or no display of goods, has large storage facilities, and is not generally located or designed to attract a high proportion of walk-in customers.

Other Services

The Other Services Division includes a broad range of personal services; religious, civic, professional and other interest group services; selected repair and maintenance activities; and private households employing staff. Units in this division are mainly engaged in providing a range of personal care services, such as hair, beauty, diet and weight management services; providing death care services; promoting or administering religious events or activities; or promoting and defending the interests of their members.

Also included are units mainly engaged in repairing and/or maintaining equipment and machinery (except ships, boats, aircraft, or railway rolling stock) or other items (except buildings); as well as units of private households that engage in employing workers on or about the premises in activities primarily concerned with the operation of households.

The Other Services Division excludes units mainly engaged in providing buildings or dwellings repair and maintenance services (included in the Construction or Administrative and Support Services Divisions as appropriate), and units mainly engaged in providing repair and maintenance services of books, ships, boats, aircraft or railway rolling stock (included in the Manufacturing Division).

