

Cessnock, a great place to live and do business



Hunter Valley wine grapes. Credit: Cessnock City Council

Cessnock



Growing diversified economy

- Situated in the Lower Hunter Region, the Cessnock LGA covers 1,950 square kilometres
- The region has an annual economic output of over \$6.2 billion, with a Gross Regional Product of \$3.2 billion annually
- Coal mining, manufacturing, construction, agriculture, viticulture, and related tourism activities are the primary economic drivers for the region



The Right Connections – Transport, Logistics, Infrastructure

- Only 2 hours from Sydney by road and immediately north of Newcastle
- Excellent access to M1 Motorway, M15 Hunter Expressway and New England Highway
- Less than 1 hour to Port of Newcastle, the largest bulk shipping port on the Australian east coast, and Newcastle Airport, which offers direct flights to a range of cities



Workforce

- A large workforce of 372,000 resides within a 1-hour drive, approximately 13,000 of which are highly skilled mining industry employees

Note: All dollar amounts shown in Australian Dollars (AUD)



Cessnock, a great place to live and do business



Cessnock's town center (Credit: Visit NSW)

Cessnock



Large and growing population

- Access to more than 5.4 million people residing within a 2.5 hours drive of Cessnock LGA
- The 10 year average population growth is 1.8%, 0.5% higher than NSW average
- By 2036, Cessnock's population is estimated to have grown to almost 90,000 people



Well developed electricity infrastructure

- The 330 kV Liddell to Newcastle and 132 kV Rothbury to Newcastle transmission lines provide viable grid connection opportunities for power generation projects or high energy user access
- Strategically located within the Hunter Central Coast Renewable Energy Zone



Enviably Lifestyle

- Offers a rural lifestyle and setting, within close proximity to Newcastle and Sydney
- With over 150 wineries, the region is home to more cellar doors than any other wine region in Australia and attracts over 1 million visitors annually



About the Cessnock Opportunity



Cessnock

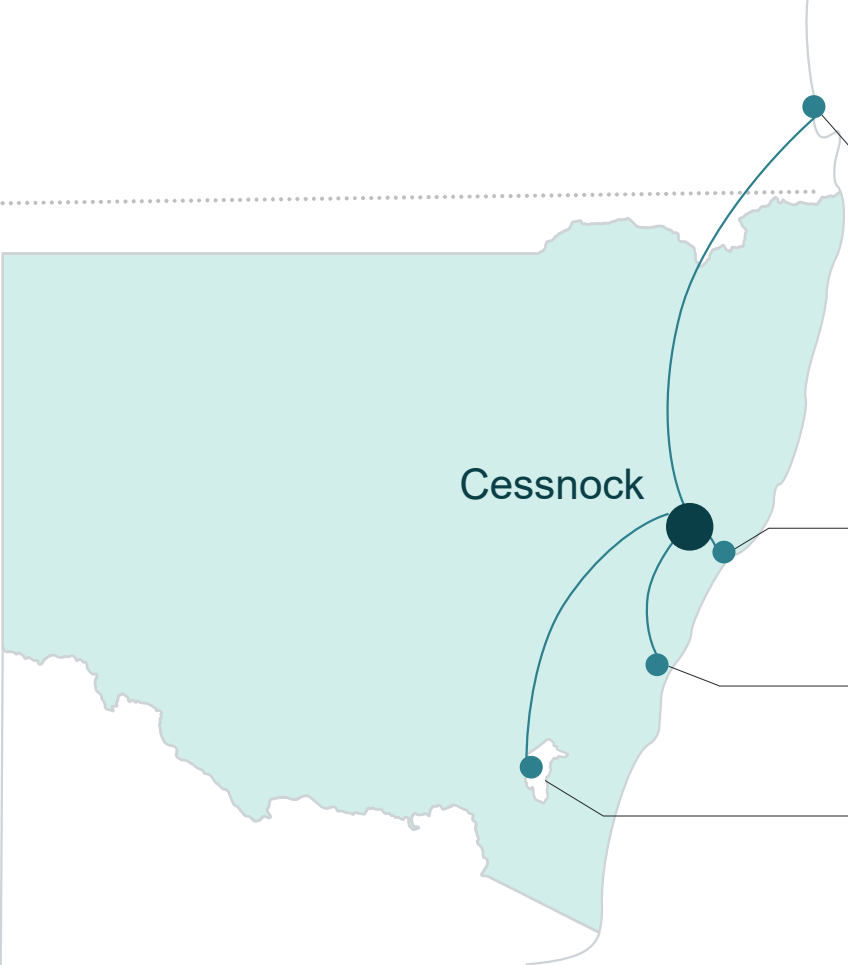
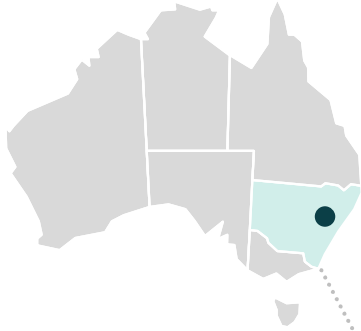


The Hunter Region is one of Australia's largest regional economies. At the heart of the Hunter Region is Cessnock City, land of opportunity.

Fast facts

- highly accessible – within two hours from Sydney and within 1 hour of Newcastle
- close proximity to expanding markets
- ready access to a major export port
- heart of Hunter Valley Wine Country
- attractive setting: quality scenic, rural and natural environments
- excellent range of services
- affordable lands, low cost business environment
- high quality of life, affordable living, fast and easy commutes, growing population

Connectivity



Brisbane

↔ 790km 8.5 hours 1.25 hour*

** From Newcastle Airport*

Newcastle

↔ 50km 1 hour

Sydney

↔ 160km 2 hours

Canberra

↔ 430km 4.5 hours

Cessnock



Cessnock workforce – 1 hour drive



Cessnock



372,000

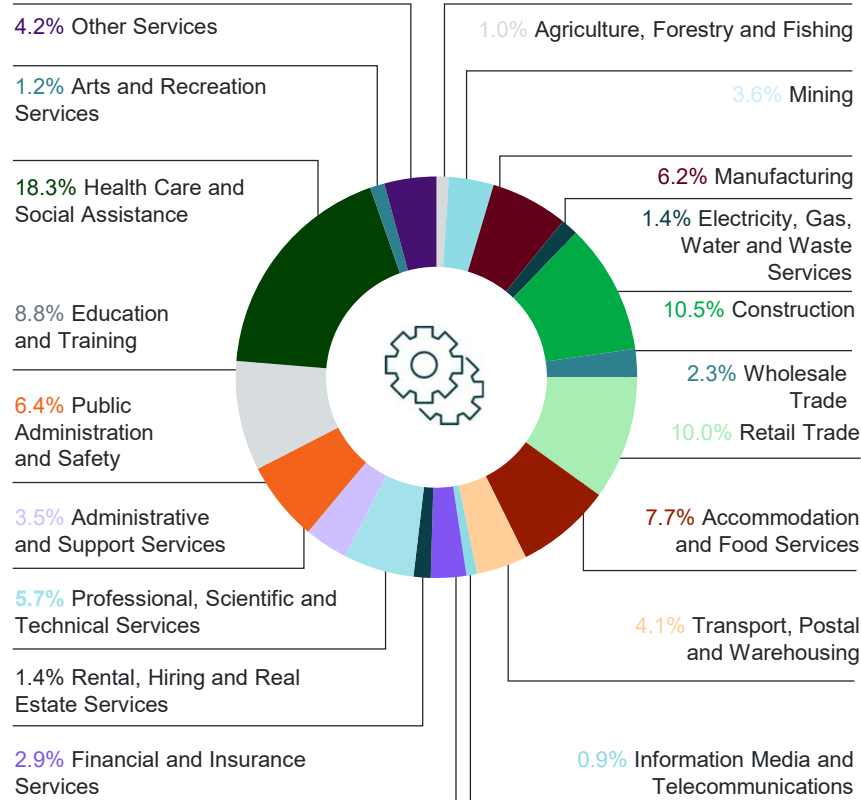
Total available workforce within a 1 hour drive



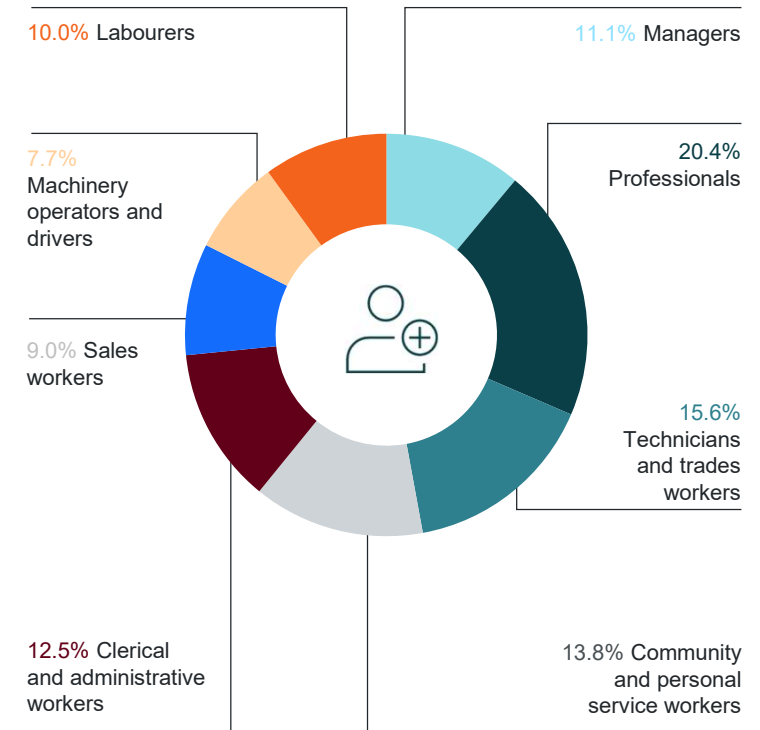
13,000~

Local workers employed by mining within a 1 hour drive

Workforce by industry



Workforce by occupation



Education is at the centre of workforce development in the Hunter



STEMship



STEM

NSW's largest regional STEM qualified workforce with embedded school based programs engaging in advanced manufacturing, mining and digital technologies.



University of Newcastle

University of Newcastle is a leader in education, ranked in the top 200 globally and top 8 in Australia for research and No.1 for industry collaboration.



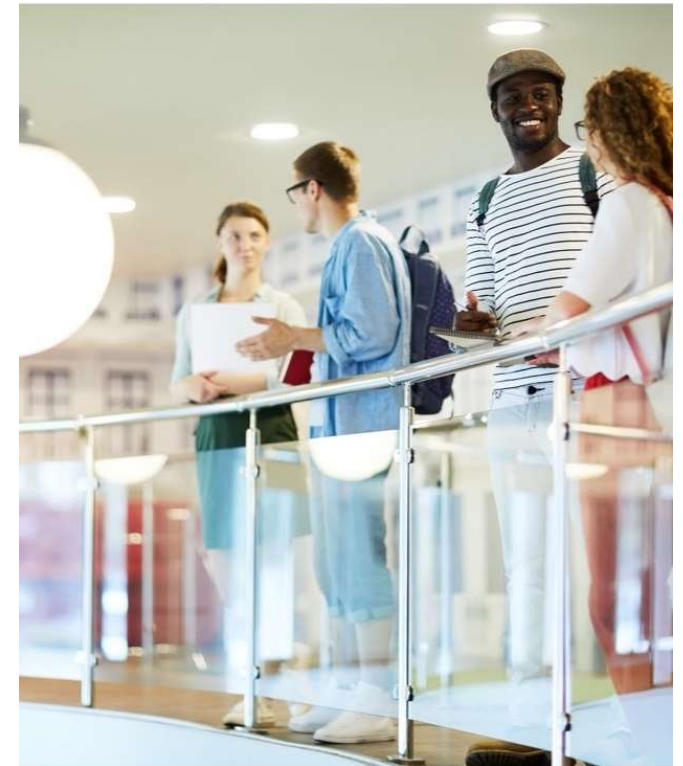
Japan's Nihon University

First campus in Australia opened in Newcastle.



TAFE

The Hunter hosts 13 TAFE NSW campuses and multiple Registered Training Organisations.



University of Newcastle (UON)



University of Newcastle Campus (Credit: UON)

Cessnock

Cessnock is home to 28 schools and two TAFE Campuses, while the University of Newcastle's main campus is 45km East of Cessnock City in Newcastle City. A university of and for the regions, the University of Newcastle has delivered superior education and world-class research since 1965.

University of Newcastle in the
top 200 global universities

Source: 2022 Quacquarelli Symonds (QS) World University Rankings

#1 in Australia

University in Australia for industry
collaboration

Source: Innovation Connections data 2015 - 2022

Specialities

- Medical science
- Energy and resources
- Mining
- Engineering
- Defence and aerospace
- Food and agriculture

36,000+

students currently studying at the University of Newcastle

10,200+

students studying engineering, science and environment studies

Source: The University of Newcastle annual report, 2022



University of Newcastle



Students at the University of Newcastle (Credit: UON)

Education specialisation

Energy and resources
at University of Newcastle's
NIER facility and CSIRO's
Energy Centre

Health education and research
at University of Newcastle and
John Hunter Hospital

Creative industries
at Hunter Street TAFE in
Newcastle

Agribusiness
supported by Tocal Agricultural
College and UON Upper Hunter

Advanced manufacturing
at Newcastle SkillsPoint TAFE

Defence
at University of Newcastle

Equine research
at Scone's Hunter Valley
Equine Research Centre

Fisheries research
at the NSW Government
Fisheries Research Centre at
Port Stephens

Hospitality and viticulture
at Cessnock TAFE

Industry collaboration

University of Newcastle (UON)
is ranked the number 1
university in Australia for
industry collaboration.

The university is a collaborator
and connector with over 450
research and development
partners, demonstrating the
region's commitment to
integrated research
opportunities.

A health and innovation precinct
is being developed in Newcastle
with John Hunter Hospital at its
centre. Teaching and research
will be supported by the
University of Newcastle and
Hunter Medical Research
Institute.

Research and development

NSW research capability



Cessnock

Wide ranging research and development underway



Autonomous drone technology



Greenhouse innovations



Flavourtech



Precision fermentation

Department of Primary Industries (DPI)

- Globally ranked as a top 1% plant, animal and environmental sciences research organisation
- Over 600 researchers and 13,000 hectares of trial farms
- Access to research infrastructure, weather and soil data, and NSW's diverse agricultural products
- Gives AgTech developers a unique opportunity to test and develop livestock, horticulture, fisheries and forestry products across its 25 research stations

The Hunter Valley, world-class agriculture



\$663 million

Agricultural produce grown in the Hunter region, 2021



Cessnock

The Hunter region is Australia's oldest wine region, renowned for its high-quality wine and premium livestock:



1,900 ha
of vineyards



331,000
Head of meat cattle



\$127 m
Value of milk produced

Cessnock is a focal point for the Hunter region and a key contributor to its agricultural output:

570 ha

Of vineyards in the LGA

13,300

head of livestock in the LGA

\$5.62 m

Million dollars' worth of eggs produced in the LGA

Source: ABS 2021 Value of Agricultural Commodities



Controlled Environment Horticulture



Industry snapshot



Cessnock



Controlled growing environments

such as greenhouses to generate greater yields, more consistent supply and faster growth than outdoor alternatives.



Modern greenhouse structures and hydroponic farming

allow for mixed crops and can integrate hydroponic techniques, which involves producing soilless plants grown in nutrient rich water.



Australian farmers shifting to undercover vegetable growing

with the domestic industry forecast to continue to expand at an accelerated rate of 4.9% between 2022-2027.



Key success factors for controlled horticulture

such as access to major markets, reliable electrical infrastructure and an adequate supply of water.

Opportunity in Cessnock for Controlled Environmental Horticulture



75% of NSW population within 2-hours' drive

Sydney and Newcastle, both within 2 hours of Cessnock, are the two largest cities in NSW, hosting over 6.5 million people.



Strong infrastructure

The wine region north (Pokolbin) of Cessnock has strong electricity and water supply.



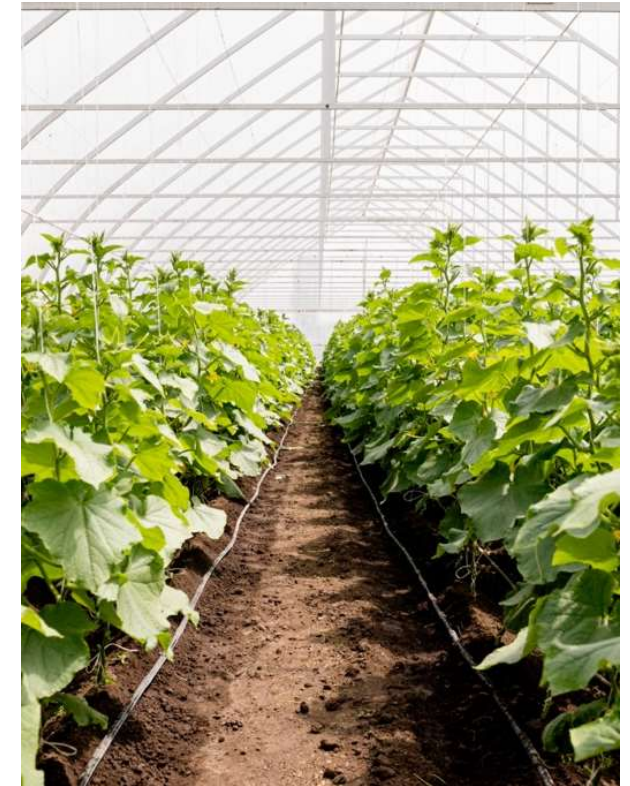
Highly fertile alluvial lowlands

Over **18,000 hectares** of land in Cessnock has been classified as Important Agricultural Land, ideal for horticulture projects.



Ideal climatic conditions

The climate is temperate with mild winters and warm summers. Mean annual temperatures range from a minimum of **11°C** to a **maximum of 25°C**.



Supporting ecosystem



Vineyards in the Brokenback Mountain range (Credit: Cessnock City Council)

Cessnock



Relevant workforce

Cessnock has over 3,500 agriculture, forestry and fishing workers, living within a 1-hour drive of the region, while graduates from the nearby University of Newcastle and TAFE campuses provide a steady casual workforce.



Transport and logistics

Cessnock is only 2-hours from Sydney, and 1-hour from the Port of Newcastle, the largest port on the East Coast of Australia. It is connected by road, rail and flights from nearby Newcastle airport. It also hosts a small local airport, currently mainly used for medical support and hobby purposes.



Centre of Excellence

Kurri Kurri TAFE, within Cessnock City is recognised as a centre of excellence for horticulture training and courses. The nearby University of Newcastle also boasts a new, \$17 million dollar centre for research into food sciences.

Food and beverage manufacturing



Industry snapshot



Cessnock

Trends in Australia's food market between 1988-89 and 2016-17,



Indicative food production

\$117 billion

up from \$65 billion
2.1% average increase per year



Household food consumption expenditure

\$92 billion

up from \$49 billion
2.3% average increase per year



Net food exports

\$25 billion

up from \$16 billion to
1.5% average increase per year
(in 2015-16 prices)



70%

of Australia's agricultural production is exported



10%

of Australia's food is imported



\$85 billion

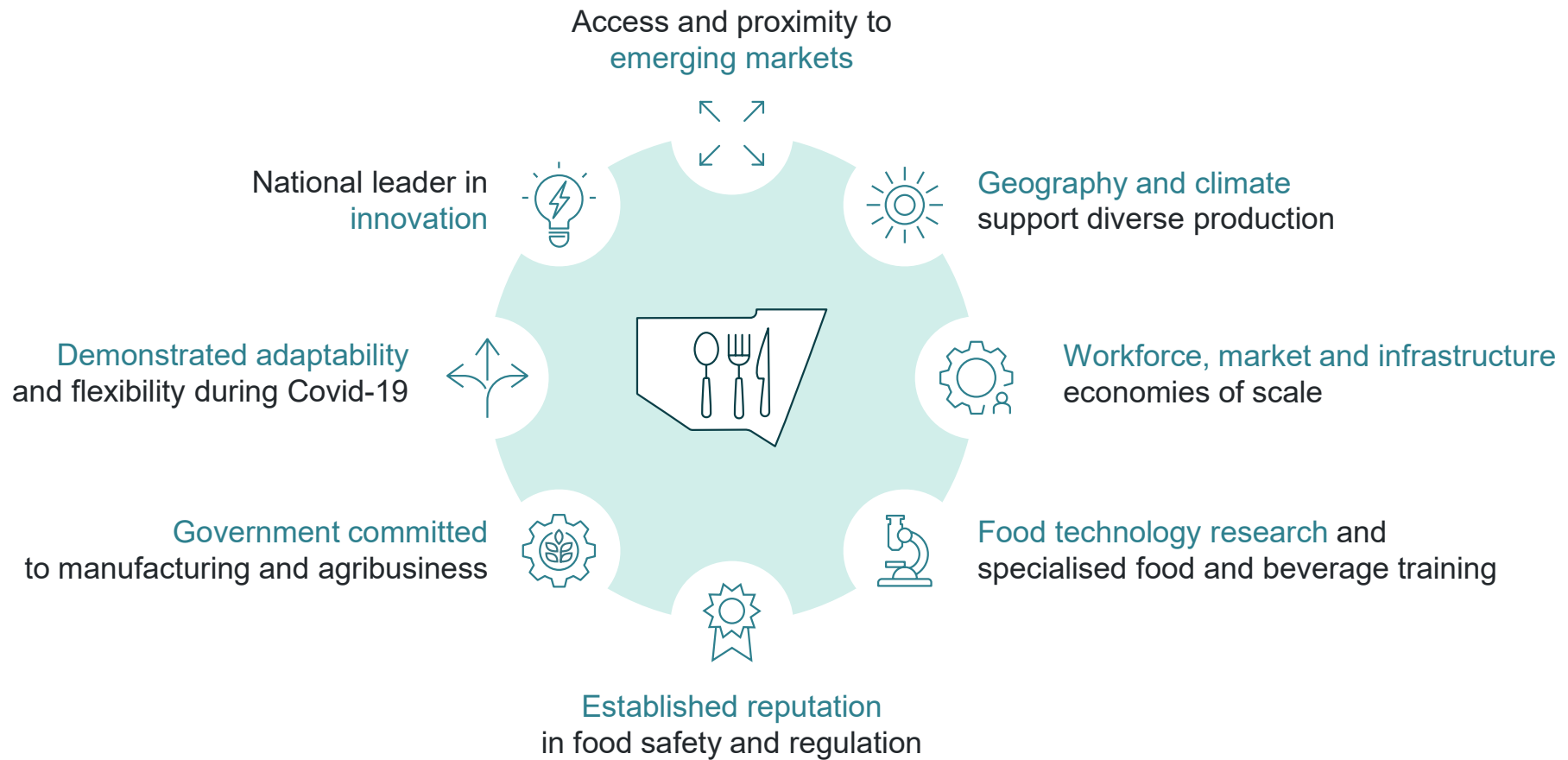
gross value of Australian agricultural production forecast for 2022-23



\$72 billion

value of exports forecast in 2022-23

NSW food and beverage strengths



Opportunity in Cessnock for Food and Beverage Manufacturing



Audrey Wilkinson Vineyard (Credit: Cessnock City Council)

Cessnock

Cessnock has a booming agricultural and complimentary manufacturing industry



Existing industry

Existing high-profile food and beverage manufacturing businesses in the region including:



BROKENWOOD
HUNTER VALLEY



Locally sourced feedstock

Diverse local produce including dairy, beef, olives, alpacas, chickens, eggs and vegetables along with other diverse, and seasonal farm gate products such as watermelons.



\$1.1 b

Worth of manufactured exports from the LGA in 2021

\$407 m

Estimated revenue generated from wine manufacturing in the LGA in 2021

more than
46%

Of Cessnock's exports were attributed to agriculture and manufacturing combined (2021)

Source: REMPLAN



Supporting ecosystem



Vineyards in the Brokenback Mountain range (Credit: Cessnock City Council)

Cessnock



Relevant workforce

Cessnock has over 20,000 manufacturing workers living within a 1-hour drive of the region, while graduates from the nearby University of Newcastle and TAFE campuses provide a steady casual workforce.



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Nutraceutical – Grape Marc / Pomace



Industry snapshot



Cessnock



Diverse applications

There is a vast array of applications for grape pomace bioactives including: functional foods (dietary fibre + polyphenols), food processing (biosurfactants), cosmetics (grapeseed oil and antioxidants), pharmaceutical/ biomedical (pullulan) and supplements (grape pomace powder).



Growing international market

The global fruit pomace market is estimated to be worth **USD \$3.5 Billion** in 2023 and is expected to grow at a CAGR of 3.5% to reach **USD \$5 Billion** by 2030.



Opportunity from massive underutilised waste stream

In 2019, the Australian wine industry crushed **1,730 kilotonnes** of wine grapes to produce wine. From this, **350 kilotonnes of waste**, in the form of grape skins and seeds (also known as grape marc), was produced. According to CSIRO, **grape marc is the most abundant food loss stream in horticulture in Australia.**

Opportunity in Cessnock for Nutraceutical – Grape Marc / Pomace Manufacturing



Highest quality of inputs

Sustainable practices in the Hunter Valley, such as careful grape variety selection suited to local conditions, minimize the need for excessive irrigation and chemical intervention, resulting in high-quality fruit.



Research excellence

Nutrition is an identified area of interest in Hunter Medical Research Institute and the University of Newcastle has a specialist Nutraceutical Research Group. Both have world-ranking research credentials

The Hunter Valley is Australia's oldest wine region. The region is home to more cellar doors than any other wine region in Australia.

1,900 Ha

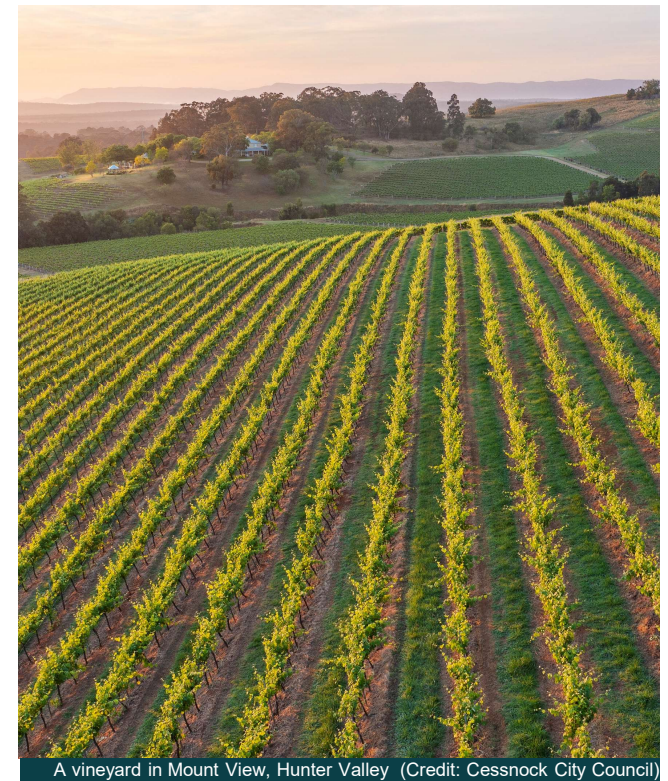
Approximate area of vineyards in the Hunter Valley region

\$407 m

Estimated revenue generated from wine manufacturing in the Cessnock LGA in 2021

150+

Wineries located in the region



A vineyard in Mount View, Hunter Valley (Credit: Cessnock City Council)

Supporting ecosystem



Cessnock



Skilled workforce

Cessnock has over 20,000 manufacturing workers living within a 1-hour drive of the region, while graduates from the nearby University of Newcastle and TAFE campuses provide a steady casual workforce.



Strong local manufacturing ecosystem

Cessnock is home to an established manufacturing ecosystem, with manufacturing in the LGA responsible for over \$1 billion in exports, the LGA's single largest export by industry category in 2023. Established companies in the area in basic chemicals manufacturing include Orica. There are also existing companies in the area practicing circular economy initiatives by using discarded/waste feedstocks such as Australian Native Landscapes.



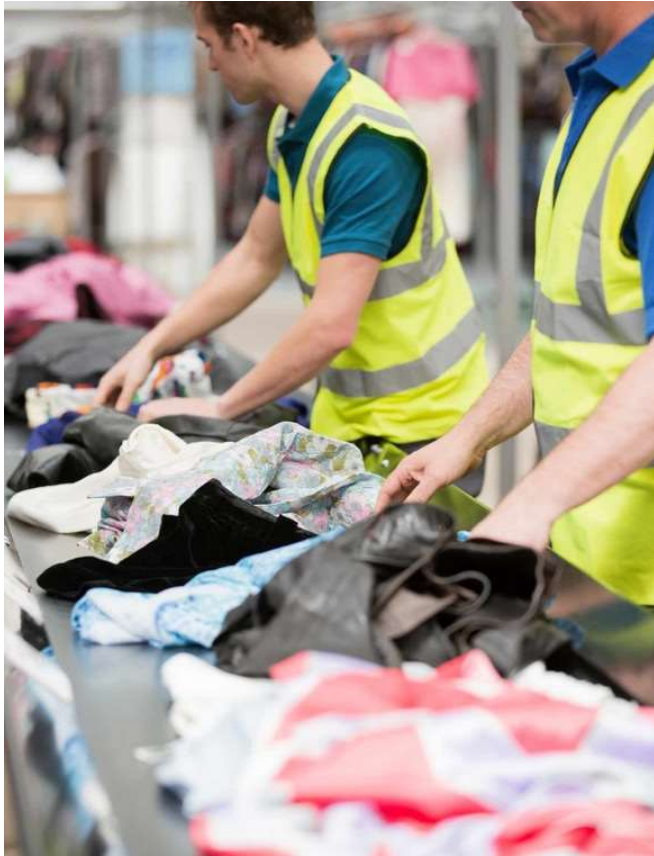
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Bioenergy



Industry snapshot



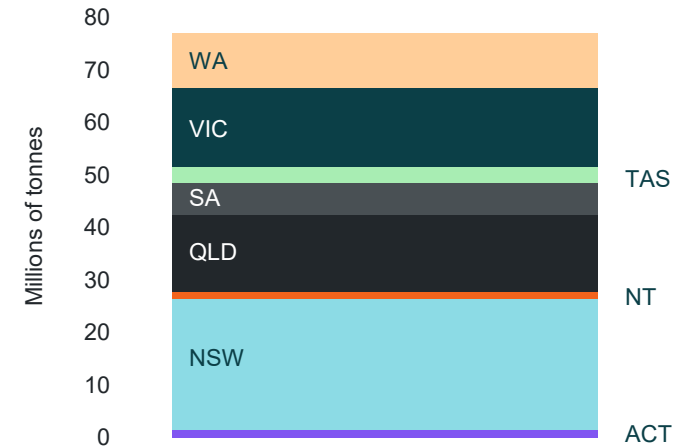
Cessnock

As part of stage one 2021-2027, the NSW Government's Waste and Sustainable Materials Strategy has set the following targets:

- 80% average recovery rate from all waste streams by 2030
- 50% the amount of organic waste sent to landfill by 2030
- 60% reduction of litter by 2030
- 30% reduction of plastics litter by 2025
- x3 tripled plastics recycling rate by 2030

Over the next 20 years, NSW waste volumes are forecast to grow from 21 million tonnes in FY 2021 to nearly 37 million tonnes in FY 2041

Waste generation (core waste and ash) by material and stream, Australia 2018-19



Industry snapshot



Cessnock

The Net Zero Plan is driving investment in projects that shift away from fossil fuels. The Australian Government recognises bioenergy will have an important role to play in this transition.



\$37 billion

in renewable energy investment in NSW expected by 2030



12GW

of renewable energy generation by 2030 in NSW



Australian Biomass For Bioenergy Assessment

The Australian Biomass for Bioenergy Assessment (ABBA) project (available at the above hyperlink) assists investors in the renewable energy sector through the provision of detailed information about biomass resources across Australia. The information has been and continues to be used to assist in project development and decision making for new bioenergy projects, and provides links between biomass resources, through the supply chain to the end user. A consortium of state government departments and two university partners, led and coordinated by AgriFutures Australia, undertook the \$6.5 million project.

Opportunity in Cessnock for Bioenergy



Cessnock



Landfill volumes to increase

The Hunter will need to plan for additional landfill capacity to accept >300,000 tpa of residual waste by 2040. The Hunter Joint Organisation's [Circular Materials Strategy](#) identifies Energy to Waste as one solution.



Unmatched logistics

Strategically located 1 hour to the Port of Newcastle, the largest bulk shipping port on Australia's east coast, and just a 2.5 hour drive from Port Botany in Sydney. The region also has excellent road and rail connections to major markets.



High voltage network

In the path of the Hunter Transmission Network Project, a proposed new above-ground **500 kilovolt transmission line** of around 115 kilometres between Bayswater in the Upper Hunter and Eraring in the Lower Hunter.



Research and development opportunities

In addition to a highly skilled workforce, the Hunter hosts a Top-200 global university (the University of Newcastle), which is ranked #1 in Australia for industry collaboration.



Supporting ecosystem



Vineyards in the Brokenback Mountain range (Credit: Cessnock City Council)



NSW supports bioenergy in the Hunter Valley

Ethanol Technologies Limited (Ethtec) received co-funding from the Australian Renewable Energy Agency and the NSW Government to demonstrate and develop its ground-breaking advanced biofuel technology. The pilot demonstration plant, in the nearby Upper Hunter region, will produce ethanol from a range of non-food and waste plant matter left over from crop harvesting and forestry.



Existing industry to support circular economy

Established companies in the area in basic chemicals manufacturing include Orica. There is also existing companies in the area practicing circular economy initiatives by using discarded/waste feedstocks including Australian Native Landscapes. It is also home to Sweetman Renewable, a biomass acquisition processing and related logistics service entity, which owns the largest structural sawmill in the Hunter.

Supporting ecosystem



Cessnock is home to an established manufacturing ecosystem, supported by strong agricultural and mining output, with longstanding and iconic national firms in the area.

\$1.1 billion

Manufacturing in the LGA was the single largest export by industry category in 2021, accounting for \$1.1 billion dollars in exports.

20,000+ workers

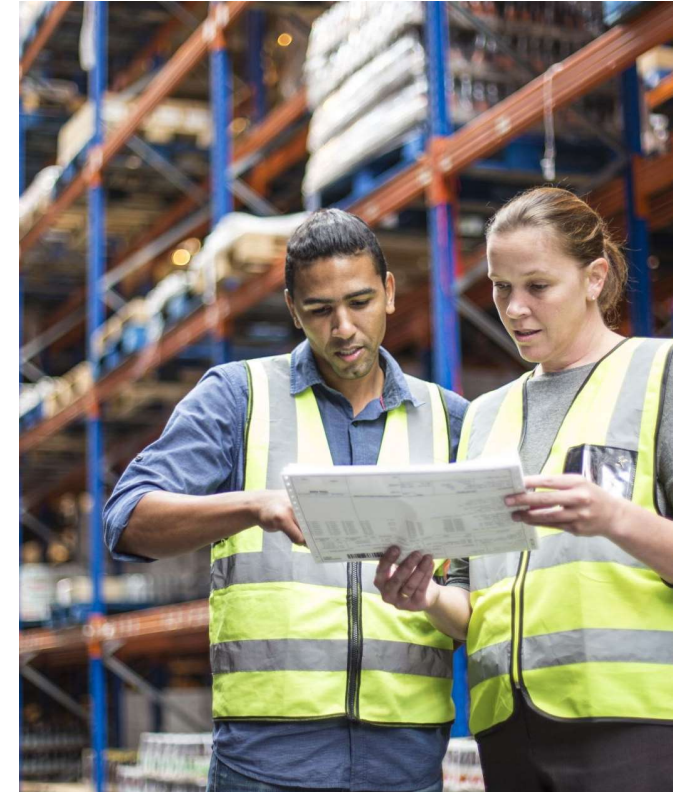
manufacturing workers living within a 1-hour drive of the region

\$2.6 billion

Cessnock's Gross Regional Product in 2021-22

1-2GW

Estimated capacity of the Hunter-Central Coast Renewable Energy Zone, one of five in NSW



Source: REMPLAN and ABS 2021 Census of employment, income and education

Aviation Related Industries



Industry snapshot



Cessnock



\$3.7 billion

annual revenue of the domestic Aircraft Manufacturing and Repair Services. Expected to grow at 4.1% from 2023 to 2028.



Access Asia Pacific

Australia is a key market and major distribution point for the region.



Over 16,000

aircraft on Australia's civil aviation register which includes 11,600 powered aircraft, 2,300 helicopters, 1,000 gliders, and 450 lighter than air aircraft.



Over 700

design, maintenance, maintenance training, parts manufacturing and parts distribution organisations in Australia.

Opportunity in Cessnock for Aviation Related Industries



Cessnock Airport (Credit: Cessnock City Council)

Cessnock



Existing ecosystem

The Cessnock Airport is home to several flight schools, aircraft maintenance facilities, airborne medical support, tourism base adventure flight operators, helicopter companies and the Hunter Recreational Flying Club which caters for home-build and ultra-light planes (50+ planes).



Recent \$8.8 m upgrade

Recent upgrades include widening and resealing of taxiways; provision of aprons and aircraft parking areas, improved fuel area access, runway rehabilitation, water and sewer connections, installation of non-precision GPS approaches for RWY 17/35 and an upgrade to the eastern terminal.

Cessnock Airport Precinct Plan

Site Identification



Cessnock

Fully serviced

Sealed runways and taxiways with water, sewerage and power available

10 ha

available for aviation operations, maintenance and manufacturing activities

Quiet airspace

unencumbered by Defence and within an uncongested airspace.