



ORDINARY MEETING OF COUNCIL

To be held on

Wednesday, 19 August 2020
4pm

at

Armidale Council Chamber

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Council Circular

29 June 2020

20-25 The date of the next ordinary local government elections is 4 September 2021

Circular Details	20-25 / 29 June 2020 / A706318
Previous Circular	20-10 Postponement of the September 2020 Local Government Elections
Who should read this	Councillors / General Managers / All council staff
Contact	Council Governance Team/ 02 4428 4100/ olg@olg.nsw.gov.au
Action required	Information
PDF Version of Circular	20-25 The date of the next ordinary local government elections is 4 September 2021

What's new or changing

- The Minister for Local Government has published orders in the Gazette under section 318B of the Local Government Act 1993 (the Act) postponing the next ordinary local government elections in response to the COVID-19 pandemic.
- The next local government elections will be held on 4 September 2021.
- The decision to postpone the elections until September 2021 has been made in consultation with and on the advice of the NSW Electoral Commissioner.

What this will mean for your council

- The orders made under section 318B suspend the election requirements of the Act including the requirement to hold by-elections to fill vacancies for the period specified in the orders.
- Current councillors and popularly elected mayors will continue to hold their civic offices until council elections are

<https://info.olg.nsw.gov.au/link/Id/70005a03040ac0ad596Dwww559762e42411e214/page.html?7/07/2020 11:41:50 AM>

10-25

held on 4 September 2021.

- Councils will not be required to hold by-elections to fill vacancies or to apply to the Minister to dispense with the requirement to hold a by-election during the period specified in the orders.
- The making of the orders will not affect the requirement to hold mayoral elections. Mayoral elections must be held for mayors elected in September 2018 when their two year-terms expire in September 2020.
- Mayors elected in September 2019 will continue to hold office until council elections are held on 4 September 2021.
- The composition of joint organisation boards may need to change in September 2020 if mayors of member councils elected by councillors are not re-elected.
- The postponement of the next ordinary local government elections will not affect the timing of future council elections, and the subsequent ordinary local government elections will still proceed in September 2024.

Key points

- The Act was amended in March 2020 to confer on the Minister for Local Government a time-limited power to postpone council elections in response to the COVID-19 pandemic.
- The amendment allows the Minister by an order published in the Gazette, to postpone elections for 12 months from the date of the order. The order may be extended for an additional period to 31 December in the year after the order is made.

Where to go for further information

- For further information please contact the Council Governance Team on 02 4428 4100 or by email at olg@olg.nsw.gov.au.

Tim Hurst
Deputy Secretary
Local Government, Planning and Policy

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Armidale Regional Council

Armidale Business Hub - Brand Concept

núcleo



The Name



Nexus, by definition means “a connection or series of connections linking two or more things.” For Armidale, this means our Nexus will link Council with business, a start-up with expertise, or simply link a problem with a solution.

The way the Nexus branding has been designed reveals a second story about putting the ‘us’ in Nexus. The people of the Armidale region are coming together to take control of our own economic destiny. This building represents a physical demonstration that the people of Armidale share a united endeavour to work collaboratively for the future economic prosperity of our region.

The Graphic



The 'X' in nexus has been utilised to create a striking symbolic reference to the convergence, linkage and connection of things. This can be used as another design element, in marketing collateral and potentially throughout some parts of the building interior.

Logo Concepts

Derivatives



Logo Concepts

Derivatives - Colour



Logo Concepts

Colour Logo on various backgrounds



Armidale Regional Council

Logo Concepts - Armidale Airside

núcleo





Planning,
Industry &
Environment

IRF20/2039

Ms Susan Law
General Manager
Armidale Regional Council
PO Box 75A
Armidale NSW 2350

Dear Ms Law

I write in relation to the preparation of Armidale Regional Council's (Council's) Local Strategic Planning Statement (LSPS).

I note that at Council's Ordinary Meeting held on 28 August 2019, Council resolved to commence the process of preparing their LSPS for the whole Armidale Regional Council Local Government Area in conjunction with a Masterplan.

Since that time, the Department has been liaising regularly with Council to offer support and assistance to help progress the LSPS, however regrettably these offers have not been accepted.

I understand and support Council's aspiration to prepare a Masterplan for the LGA, but the decision to complete the strategies concurrently has compromised delivery of the LSPS. I understand Department staff have raised the potential for the Masterplan to be shaped in to the first version of Council's LSPS or for the LSPS to be prepared with a short-term action requiring preparation of the LGA-wide Masterplan. I encourage you to consider whether either option would meet Council's intent for the Masterplan to be prepared to provide the strategic basis for a new LGA-wide Local Environmental Plan.

The preparation of each council's LSPS is a key step towards having up-front strategic planning to provide a clear framework for future planning decisions. Each council's LSPS will set out a 20-year vision for land use in its local government area and identify how growth and change will be managed into the future. I would therefore like to request that Council prioritise the completion of its LSPS and work closely with the Department's Northern Region team on a plan to achieve this.

Where councils do not demonstrate a clear commitment to delivering their LSPS on time, the Minister of Planning and Public Spaces may, as a first step, formally consult with the Minister for Local Government to determine whether a Performance Improvement Order under s.438A of the *Local Government Act 1993* is warranted.

I would like to acknowledge the recent challenges many regional councils have faced regarding drought and bushfires, and more recently from the COVID-19 pandemic and the impacts of the Public Health Order. You would be aware that council elections have now been postponed as a result of COVID-19 and that this will delay the next Integrated Planning and Reporting cycle. Despite these challenges, I note

that all other regional councils are continuing to progress and finalise their LSPS ahead of the 1 July 2020 statutory timeframe.

Furthermore, in the context of these challenges, the timely delivery of each council's LSPS will be critically important to providing clear direction on the future growth and development of each local area and informing future planning decisions. The finalisation of each council's LSPS will help bring greater clarity to planning decisions and aid government, industry and the community in the process of the economic recovery following these events. I therefore encourage Armidale Regional Council to continue progressing its LSPS as a priority.

All regional councils remain required to make their first LSPS before 1 July 2020, and I encourage Council to consider how its LSPS can be progressed within this timeframe. Additionally, the Department would be happy to continue to offer support to Council to enable finalisation of its LSPS as soon as possible.

Should you have any further questions, you are welcome to contact Mr Jeremy Gray, Director of Northern Region, at the Department of Planning, Industry and Environment on 02 6643 6402.

Yours sincerely



20/05/2020

Marcus Ray
Group Deputy Secretary
Planning and Assessment



Local Strategic Planning Statement

A Plan for 2040 (Draft for Public Exhibition Aug-Sep 2020)

Unleash the opportunities

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Acknowledgment of Country

We acknowledge the traditional custodians of this land and pay our respects to elders past, present and emerging.

The Armidale Regional Community pays tribute to their love of land, love of people and love of culture.

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Glossary

ARC -	Armidale Regional Council
CSP -	ARC Community Strategic Plan (2017-2027)
DP -	ARC Delivery Program (2018-2021)
DPI&E -	Department of Planning, Industry & Environment
EP+A Act -	Environmental Planning and Assessment Act (1979)
ESD -	Ecologically Sustainable Development
LEP -	Local Environmental Plan
LGA -	Local Government Area
LG Act -	Local Government Act (1993)
LSPS -	ARC Local Strategic Planning Statement
NENWRP -	New England North West Regional Plan (2036)
REZ -	Renewable Energy Zone

Document Control

This version of the Armidale Regional Council Local Strategic Planning Statement has been prepared for the purposes of public exhibition following endorsement at the Ordinary Council meeting on 19 August 2020.

Draft: 12 August 2020 – Council Meeting Issue

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Strategic Context

Overview

The Armidale Regional Local Strategic Planning Statement aims to meet our community's future social, economic and environmental needs by addressing important strategic land use planning and development issues.

The LSPS identifies priorities for the Armidale Regional Local Government Area that will support and develop our local identity, values and opportunities.

It will shape our land use over time and the development standards we use.

Immediate, short, medium and long term actions have been developed to help deliver on these priorities and our vision for the future.

Planning Context

The LSPS has been prepared in accordance with Clause 3.9 of the Environmental Planning and Assessment Act 1979 and in response to the associated guidelines issued by the State Government.

In March 2018, amendments to the Environmental Planning and Assessment Act 1979 introduced new requirements for NSW councils to prepare and make local strategic planning statements.

Local strategic planning statements are intended to set out:

- The 20-year vision for land use in the local area;
- The special characteristics which contribute to local identity;
- Shared community values to be maintained and enhanced; and
- How growth and change will be managed into the future.

Councils are to show how their vision gives effect to the regional or district plan, based on local characteristics and opportunities, and the council's own priorities in the community strategic plan it prepares under local government legislation¹.

In this context, the LSPS has been informed by the New England North West Regional Plan 2036 and the Armidale Regional Community Strategic Plan 2017-2027.

Armidale Region Council Local Government Area

Armidale Regional Council is a local government area in the New England region of New South Wales, Australia (refer Figure 1).

The local government area was proclaimed on 12 May 2016 from the merger of Armidale Dumaresq Council and Guyra Shire Council.

It covers an area of 8,621sqkm and has a population exceeding 30,000.

¹ EP&A Act section 3.9(2) states that the LSPS must include or identify the following – (a) the basis for strategic planning in the area, having regard to economic, social and environmental matters.

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Figure 1: Armidale Regional Council Local Government Area NSW Context

Armidale City is located at the junction of the New England Highway and Waterfall Way, mid-way between Sydney and Brisbane (refer Figure 2).

Armidale Airport, the Main North Railway Line and Regional Coach services connect the Armidale Regional LGA to the surrounding regional cities and strategic centres.

Other settlements in the local government area include:

- Guyra;
- Ben Lomond;
- Black Mountain;
- Ebor;
- Hillgrove; and
- Wollomombi.

In July 2019, Tingha and the surrounding localities of Bassendean, Howell, Stanborough, Georges Creek, New Valley and the Basin (collectively known as “Tingha”) comprising an area of 823 square kilometres was transferred to Inverell Shire Council from Armidale Regional Council via a Local Government Area Boundary adjustment.

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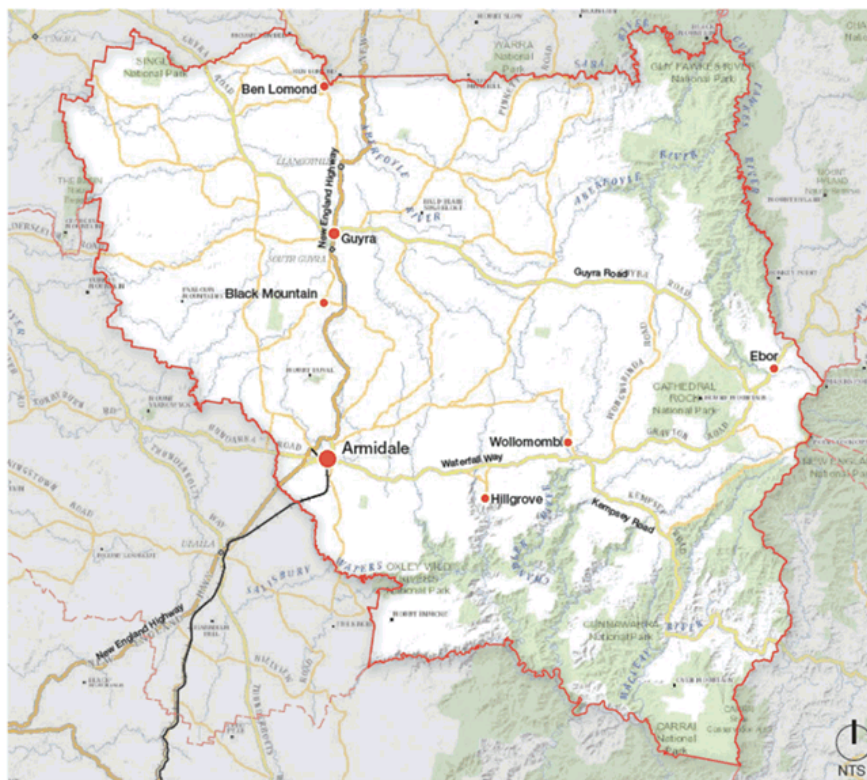


Figure 1: Study Area



Figure 2: Armidale Regional Council Local Government Area

New England North West Regional Plan 2036

The New England North West Regional Plan 2036 is the NSW Government's strategy for guiding land use planning decisions for the New England North West for the next 20 years.

The New England North West consists of twelve local government areas as follows: Armidale Regional; Glen Innes Severn; Gunnedah; Gwydir; Inverell; Liverpool Plains; Moree Plains; Narrabri; Tamworth Regional; Tenterfield; Uralla and Walcha.

The Regional Plan provides an overarching framework to guide subsequent and more detailed land use plans, development proposals and infrastructure funding decisions.

The Plan is the product of extensive consultation with councils, stakeholders and the wider community, conducted around the draft Plan which was released in 2016.

Figure 3 within the Regional Plan (refer extract below) identifies:

- Armidale as a "Regional City", with additional icons depicting "Regional Airport", "Health Services Precinct", and "Education Precinct";
- Guyra as a "Centre";

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- the New England Highway as an “Inter-regional Connection” providing access south to Sydney and Newcastle, and north to Brisbane and Toowoomba;
- Waterfall Way as an “Inter-regional Connection” providing access east to Coffs Harbour.

Figure 3: New England North West 2036



Figure 3: New England North West Regional Plan Extract

2019 NSW Population Projections

The NSW Population Projections estimate the future NSW population based on assumptions for fertility, life expectancy and migration.

They represent possible demographic futures based on the best assessment of how the NSW population may change over time, including population size, age profile and residential location.

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The projections are a tool used by the Government in the planning of services and infrastructure such as schools, hospitals, transport and community services.

Highlights from the 2019 Population Projections² for the Armidale Regional Council local government area include:

- The population is estimated to increase by 7,800 people between 2016 and 2041, from 30,300 to 38,100 i.e. an average annual growth rate of 0.9%.
- The population is estimated to continue to grow as people move in from across the state; migration (arrivals less departures) is projected to account for about 58% of the population change over 25 years.
- The working age population (aged 15-64) is estimated to increase from 19,750 in 2016 to 23,400 in 2041 – a change of 3,650.
- The number of children aged 14 and under is estimated to increase by 1,050, from 5,600 in 2016 to 6,650 in 2041.
- The number of people aged 65 and over is estimated to increase from 4,950 in 2016 to 8,100 by 2041 - a change of 3,150.
- Total households are estimated to increase by 4,050, from 11,750 in 2016 to 15,800 in 2041; family with children (at c.36%) remain as the dominant household type, followed by lone person households (at c.31%) and couple-only households (at c.27%).
- Household size (average persons resident per occupied private dwelling) is estimated to decrease from 2.38 in 2016 to 2.24 in 2041.
- An additional 4,600 dwellings are estimated to be required over the 25 year period to 2041 if the population forms households in the same ways as in 2016.

Providing for future population growth is a key consideration for the LSPS.

Community Strategic Plan Consultation Outcomes

As part of the process of preparing the Community Strategic Plan 2017-2027, Council undertook a wide ranging and comprehensive consultation program.

Key topics, themes and issues emerging from the consultation process³ are summarized as follows:

- Improved support of local industry, businesses, tourism and the economy;
- The importance of the agricultural sector for the region;
- A need for community facilities, such as libraries, to foster education, culture and a sense of community;
- A need for local representation, unified planning and community engagement;
- Improved access to transport;
- Protection of the environment and reduced pollution;
- Ongoing improvements to infrastructure, especially roads; and
- Activities for children and young people including improved recreational facilities.

² www.planning.nsw.gov.au/projections

³ Community Strategic Plan 2017-2027 (pp.8-10)

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Local Advantages and Opportunities

Preliminary investigations into the Armidale Regional advantages and opportunities as an extension of the Regional Plan goals have identified the following:

Education

- The town of Armidale was established in the mid 1800s to provide a market and administration for the region's farms.
- In 1929, the Armidale Teachers Collage set in train the city's association with higher education.
- In 1938, the New England University College was established before becoming the fully independent University of New England in 1954.
- Education services are now the largest generator of employment and value in the region.
- The strong education focus is founded around digital opportunities provided by the NBN, the University, numerous public and private schools and the NSW TAFE Digital Hub.
- Education, health care and agriculture dominate the economy.

Agriculture and Ag-Tech⁴

- In the last century, the Armidale Region has built a name for itself as an area at the leading edge of combining its agricultural expertise with innovative research and technology.
- In 2017, Armidale was named as the centre of a New England Ag-Tech Cluster by the NSW Government.
- The nomination recognizes the strength of the region as a centre of quality agriculture and environment related research and development.
- Historically abundant rainfall (until recently) and rich soil supports a strong agriculture sector.
- The rural area that surrounds Armidale contains some of the best grazing land in NSW; beef cattle, sheep and wool are the most valuable products for the region.
- The area now also produces almost half the state's tomatoes.
- Nearly every third business is related to agriculture.

Environment

- The Armidale Region offers a unique landscape within Australia.
- Located on the Northern Tablelands at elevations of over 1,000 metres, the Armidale Region has a cool temperate climate with warm to hot summers and very cold winters.
- Home to four National Parks within a world heritage listed rainforest area, the Oxley Wild Rivers.
- The region is known for its beautiful rivers, spectacular waterfalls and amazing gorges.

⁴ Ag Tech is a term to describe the technology related services to agriculture including:

- Decision support: Data Inputs and storage, Software and Apps
- Internet of Things: Micro processing, Networking, Sensors.
- Genetics: Tissue inputs such as livestock, plant and environment

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- Due to its high country location, the region experiences four distinct seasons that allow for unique experiences all year round.
- The high levels of solar radiation due to the altitude, plus the cool temperate climate is ideal for glasshouse horticulture.
- Climate change is expected to result in increased temperatures and higher rainfall variability across NSW; this may heighten the Region's relative climate advantages.

Renewable Energy

- The Armidale Region is a prime location for renewable energy with strong potential for wind, solar and bioenergy power.
- Armidale also has pumped-hydro capacity and geothermal potential.
- The NSW Government's Electricity Strategy has nominated the New England region as a state Renewable Energy Zone (REZ); it is slated to become the number 2 renewable energy zone in NSW over the next three decades.
- The New England REZ can deliver many benefits for local communities including electricity reliability, increasing affordability, supporting emissions reduction and engaging local businesses and community members.

2040 Strategic Planning Process

The recent Council 2040 strategic planning process, which was undertaken to inform preparation of the LSPS, considered a range of matters, including existing Council strategies, associated with the future development of the local government area.

Mega-trends

For the purposes of the 2040 strategic planning process, megatrends⁵ were considered under the following headings:

- Climate;
- Population;
- Societal Challenges;
- Public Health;
- Tourism;
- Education;
- Identity; and
- New Markets.

Urban Design Analysis

The Urban Design Analysis undertaken for the purposes of the 2040 strategic planning process considered the key issues to be addressed in planning for the future of the local government area as a whole and for the seven primary settlements.

The key issues included:

⁵ For the purposes of the 2040 strategic planning process a megatrend was defined as a major change in relation to environmental, social and economic conditions that substantially changes how people live.

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- Environmental Assets, Parks, Reserves;
- Water Security;
- Bush Fire Prone Land;
- Significant Agricultural Land;
- Planned Precincts / Areas + Approved Developments;
- Heritage items and conservation areas;
- Sports and Recreational Facilities;
- Civic, Art and Cultural Facilities;
- Transport Infrastructure;
- Educational and Public Health Facilities;
- Community and Religious Organisations;
- Cycle and Active Transport;
- Property Ownership; and
- Flood Prone Land.

Community Engagement

For the purposes of the 2040 strategic planning process, ten strategic categories were identified to organise the key planning issues to be addressed.

The categories are:

- Growth, Economic and Employment
- Education
- Health,
- Tourism,
- Arts, Culture and Social
- Housing
- Sports, Recreation and Open Space
- Transport and Connectivity
- Sustainability, Biodiversity and Smart City
- Agriculture

An additional category of Water Security and Servicing Infrastructure was also considered as part of the related gap analysis.

Along with content from the Regional Plan and the Community Strategic Plan, outcomes from the 2040 planning process have informed preparation of the LSPS and will inform subsequent strategic planning actions, particularly in relation to planning for individual settlements.

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Armidale Regional LSPS – A Plan for 2040

The Armidale Regional LSPS:

- Provides a 20 year land use vision for the Armidale Regional Council Local Government Area;
- Directs where further investigations are to be undertaken to identify how future growth and change will be managed;
- Identifies where further strategic land use planning is required; and
- Explains how the planning priorities and related actions will be implemented.

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20 Year Vision

Vision Context

A 20 year vision has been formulated to capture the future desired state and high-level outcomes for the Armidale Regional Council local government area from a land use planning perspective.

The vision statement reflects the outcomes from relevant community engagement activities and gives effect to the vision within the State Government's New England North West Regional Plan 2036, taking account of the vision in Council's Community Strategic Plan 2017-2027.



Regional Plan Vision

The State Government has advanced the following "vision" for the Region in the New England North West Regional Plan 2036:

Nationally valued landscapes and strong, successful communities from the Great Dividing Range to the rich black soil plains.

The vision statement is based on recognition of the following regional attributes:

- Diverse landscapes, rich natural resources and strong communities make the New England North West a dynamic and prosperous region that capitalises on its past and is building for the future.
- Growth in agriculture, agribusiness, livestock meat production, mineral resource development, renewable energy, health and education is providing jobs and supporting thriving local communities.
- Primary production, intensive agriculture and food processing sectors take advantage of the rich soils and climate. National and international demand for energy is the impetus for the thriving renewable energy sector harnessing the high solar and wind potential.
- Strategically located, with close links between some of Australia's fastest growing areas – South East Queensland, Newcastle and Sydney – is attracting industry investment. Upgrades to airports, the Newell, New England, Oxley, Gwydir and Kamilaroi Highways, and the development of the Melbourne-Brisbane Inland Rail and intermodal freight terminals are making it easier for goods, services and people to move across the region and beyond.
- The National Broadband Network drives innovation, research and new industries that support traditional sectors to deliver an economically sustainable future. The University of

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New England remains at the forefront of technological change and opportunities to grow the region.

- Important agricultural land, such as the Liverpool Plains, is protected and agricultural producers lead sustainable and water-efficient food and fibre production to meet demand from domestic and international markets.
- Communities are well connected, attractive, healthy, safe and prosperous. They are places with a strong sense of community identity, resilience and respect for country. People access
- a range of employment opportunities, housing choices, vibrant events and festivals and high quality education, health, recreational and other community services.
- Nature based and cultural heritage tourism, visitation to the World Heritage-listed New England and Oxley Wild Rivers National Parks and many festivals and events is attracting investment in world-class facilities and vibrant communities.
- Residents and visitors enjoy a beautiful and healthy natural environment that includes the
- Gwydir Wetlands. Sustainable and innovative approaches utilise and maximise important water resources.
- Acknowledging, protecting and celebrating Aboriginal cultural heritage and historic heritage reinforces the character of the region, while consolidating community wellbeing and a strong sense of belonging.

Regional Plan Local Government Narrative

The Regional Plan also includes the following “narrative” for the Armidale Regional Council local government area:

Armidale Regional is in the heart of the New England area and enjoys a prosperous economy, diverse community, outstanding natural assets and access to high level services.

Settlement is centred on the regional city of Armidale which serves the wider New England area with higher-order services including health, retail and professional services. A strong education focus is founded around digital opportunities provided by the NBN, the University of New England, numerous public and private schools and the NSW TAFE Digital Hub. Ben Lomond, Guyra, Ebor, Hillgrove and other smaller settlements service the communities outside of Armidale.

Armidale Regional has significant natural assets including the World Heritage-listed rainforest protected within the Oxley Wild Rivers and New England national parks and spectacular waterfalls-gorges. Cool climate vineyards, fine food and a fascinating cultural heritage attract visitors.

Community Strategic Plan Vision

The Council has advanced the following “community vision” in the Community Strategic Plan 2017 – 2027:

We want a harmonious region which celebrates the diversity and uniqueness of our communities, provides opportunities for all people to reach their potential, encourages engagement with our environment, cultures and lifestyles, while supporting growth opportunity and innovation.

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The above regional and community vision statements have informed the LSPS / 20 year land use vision.

LSPS Vision

The LSPS vision is:

The Armidale Regional Council local government area is an exemplary sustainable region of New England, defined by its rich agricultural lands and its attractive natural environment, complemented by a series of well serviced interconnected communities, with the city of Armidale as the regional hub.

The Armidale area offers a positive, healthy and vibrant country lifestyle. Its identity is founded on its diverse economy, cultural heritage, civic and educational institutions and strong sense of community.

The following chapters identify the “planning priorities”, the associated “planning actions” and the related “administrative actions” which have been formulated to facilitate achievement of the LSPS vision (refer Figure 4).

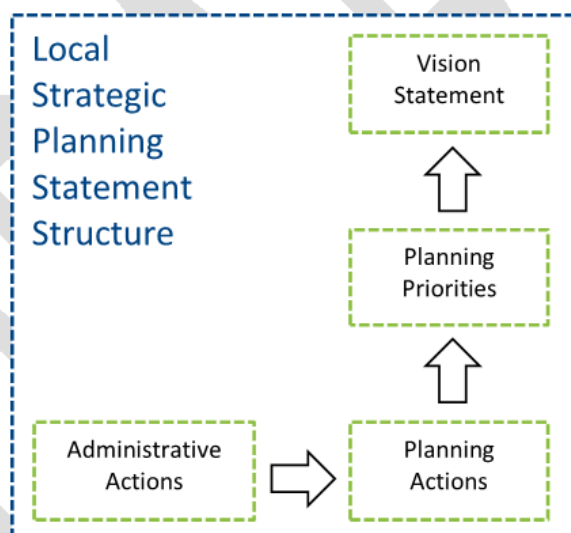


Figure 4: LSPS Structure

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Planning Priorities

LSPS Themes

Planning priorities⁶ have been formulated to facilitate achievement of the LSPS vision in a manner consistent with relevant content in the State Government's New England North West Regional Plan 2036 and in the Council's Community Strategic Plan 2017 – 2027.



Regional Plan Goals

In order to achieve the “vision” presented in the New England North West Regional Plan 2036, the State Government has set four “regionally focused goals”; the goals (with keywords underlined) are:

- *A strong and dynamic regional economy;*
- *A healthy environment with pristine waterways;*
- *Strong infrastructure and transport networks for a connected future; and*
- *Attractive and thriving communities.*

The current regional goals and the associated “directions” are reproduced in Appendix A for reference purposes, with regional plan actions and priorities integrated into the LSPS Action Plan.

Community Strategic Plan Strategic Directions

The Council has identified four “strategic directions” which will contribute to achieving the “community vision” presented in the Community Strategic Plan 2017 – 2027; the strategic directions (with keywords underlined) are:

- *Environment and Infrastructure;*
- *Growth, Prosperity and Economic Development;*
- *Leadership for the Region; and*
- *Our People and Community.*

⁶ EP&A Act Section 3.9(2) states that the LSPS must include or identify the following – (b) the planning priorities for the area that are consistent with any strategic plan applying to the area and (subject to any such strategic plan) any applicable community strategic plan under section 402 of the Local Government Act 1993.

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The current Council strategic directions and associated “community outcomes” are reproduced in Appendix B for reference purposes.

LSPS Themes

The above goals and strategic directions have informed the “themes” used to group the LSPS planning priorities, taking account of the requirement for effective integration of social, economic and environmental considerations in decision making processes⁷; the resultant LSPS themes (refer Figure 5) are:

1. Community;
2. Economy;
3. Infrastructure; and
4. Environment.

For the purposes of the LSPS, the themes are intended to incorporate the following matters:

- “Community” primarily incorporates matters relating to the settlement pattern;
- “Economy” incorporates matters relating to drivers of the local economy;
- “Infrastructure” incorporates matters relating to both hard (e.g. transport infrastructure) and soft (e.g. community services) infrastructure; and
- “Environment” incorporates matters relating to both the natural and built environment.



Figure 5: LSPS Themes

LSPS Planning Priorities

The LSPS planning priorities are identified in the following table (refer Table 1), grouped under the four themes as described above.

⁷ The “objects” of the Environmental Planning and Assessment Act 1979 include: to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment (s. 1.3(b)). Section 6(2) of the Protection of the Environment Administration Act 1991 states that: “ecologically sustainable development can be achieved through the implementation of the following principles and programs: (a) the precautionary principle ... (b) inter-generational equity ... (c) conservation of biological diversity and ecological integrity ... (d) improved valuation, pricing and incentive mechanisms”.

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The planning priorities are consistent with the relevant directions presented in the New England North West Regional Plan 2036, the relevant community outcomes presented in the Community Strategic Plan 2017-2027, and the outcomes from relevant community engagement activities.

Regional Plan Priorities

The New England North West Regional Plan 2036 also identifies specific “priorities” for the Armidale Regional Council local government area, in the context of the “narrative” presented earlier.

The priorities build on the directions and actions in the Regional Plan and guide further investigations and implementation to achieve outcomes on the ground; the priorities are:

- Deliver a variety of housing options in Armidale and promote development that contributes to the unique character of Ben Lomond, Guyra and Ebor.
- Foster the growth of knowledge-based, education and health-services industries and cluster related activity around the Armidale Rural Referral Hospital and the University of New England.
- Maximise the opportunities of Armidale Regional Airport to meet demand and provide greater access to tourism opportunities.
- Support the development of employment lands such as Acacia Park.
- Support opportunities to grow businesses enabled by the establishment of NBN fibre to the premises.
- Encourage diversification in agriculture, horticulture and agribusiness to grow these sectors and harness domestic and international opportunities.
- Support the New England Regional Arts Museum and other arts organisations to position the LGA as a recognised arts and cultural centre in regional Australia.
- Identify and promote wind, solar and other renewable energy production opportunities.

Relevant aspects of the above regional “priorities” have been incorporated in the identified LSPS planning priorities and related actions.

Delivery Program Principal Activities

The Council’s Delivery Program 2018-2021 under the current Community Strategic Plan, also includes the following “principal activities” of note in this context:

- Plan for the needs of the region (G1.1 – Strategic Planning) ; and
- Support sustainable population growth and develop infrastructure to meet the needs of this regional growth (G1.3 – Population).

These principal activities relate to the “Planning” Community Outcome within the Community Strategic Plan which states “the community experiences the benefits of an increasing population”.

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Table 1: LSPS Planning Priorities

Theme	Sub-Theme	Planning Priority
1. Community	a) Population Growth	Utilise State Government population projections when planning for growth and associated development ⁸ .
	b) Settlement Network	Undertake integrated strategic planning to facilitate preferred development of each settlement.
	c) Land for Housing	Facilitate the development of land required and suitable for residential and related purposes.
	d) Housing options	Facilitate the provision of housing options.
2. Economy	a) Armidale CBD	Facilitate the revitalisation of the Armidale central business district.
	b) Agricultural land	Protect important agricultural land.
	c) Agribusiness Facilities	Investigate and facilitate potential opportunities for development of agribusiness and related facilities.
	d) Employment Land	Facilitate the development of land required and suitable for commercial or industrial and related purposes.
	e) Tourism Facilities	Investigate and facilitate potential opportunities for development of tourism and related facilities.
3. Infrastructure	a) Infrastructure delivery	Plan for and facilitate the delivery of infrastructure.
	b) Transport Corridors	Protect the operation of major transport corridors and related infrastructure.
	c) Regional Airport	Facilitate and protect the operation of Armidale Regional Airport.
	d) Armidale Hospital	Investigate potential opportunities for clustering development related to the Armidale Rural Referral Hospital near the Hospital site.
	e) Education Facilities	Investigate and facilitate potential opportunities for the development of education and related facilities.
	f) Facilities for Arts and Culture	Investigate and facilitate potential opportunities for the development of facilities that promote arts and culture.
	g) Open space and recreation	Investigate and facilitate potential opportunities for development of open space and recreation facilities.
	h) Renewable Energy	Investigate potential opportunities for development of renewable energy production facilities.
4. Environment	a) Natural Environment	Protect areas, including corridors, of high natural environmental or biodiversity value.
	b) Cultural Heritage	Protect sites of indigenous or European / non-indigenous cultural heritage.
	c) Natural Hazards	Restrict development in areas impacted by natural hazards.
	d) Contaminated Land	Manage development on sites impacted by contamination.

⁸ For the purposes of the Environmental Planning and Assessment Act 1979 (s.1.5(1)), development is any of the following – (a) the use of land, (b) the subdivision of land, (c) the erection of a building, (d) the carrying out of work, (e) the demolition of a building or work, (f) any other act, matter or thing that may be controlled by an environmental planning instrument. However, does not include any act, matter or thing excluded by the regulations (s.1.5(2)).

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Action Plan

LSPS Planning Actions

Planning actions⁹ have been formulated to facilitate achievement of the LSPS planning priorities, having regard to relevant content in the State Government's New England North West Regional Plan 2036 and in the Council's Community Strategic Plan 2017-2027.



The LSPS planning actions are identified in the following tables (refer Tables 2-5) opposite the relevant planning priority.

The proposed timing for undertaking the planning actions is also nominated in the tables, along with:

- related actions from the New England North West Regional Plan 2036, including relevant local government priorities; and
- related State Government and Council documents.

The land use planning implications of related actions and the content within related documents¹⁰ should be considered in undertaking the relevant LSPS planning action.

The planning actions should not be undertaken in isolation from each other but should rather be considered as an integrated suite of activities designed to advance land use planning for the local government area.

⁹ EP&A Act section 3.9(2) states that the LSPS must include or identify the following – (c) the actions required for achieving those planning priorities.

¹⁰ The list of “related documents” is not exhaustive and is not intended to limit broader research regarding the relevant issue.

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Where strategies are to be prepared or studies are to be undertaken the scope of such projects should be prepared taking account of related actions and documents.

It is noted that aspects of some related actions are more appropriately addressed through Council's Community Strategic Plan and related documents as they require consideration of issues extending beyond land use planning.

Indicative timings for actions are as follows:

- Immediate - 0-2 years;
- Short-term - 3-5 years;
- Medium-term - 5-10 years; and
- Long-term - 10+ years.

Table 2: LSPS Planning Actions - Community Theme

Theme	Planning Priority	Planning Actions	Timing
Theme 1. Community			
1a) Population Growth	Utilise State Government population projections when planning for growth and associated development.	i) Endorse the NSW Population Projections as the basis for all Council strategic planning activities.	Immediate: 2020
		ii) Use the current version of the NSW Population Projections as the basis for all Council strategic planning activities.	Ongoing
Related Actions / Priorities:	Nil		
Related Documents:	NSW Population Projections (current version 2019)		
1b) Settlement Network	Undertake integrated strategic planning to facilitate preferred development of each settlement.	i) Prepare a place-based strategy to guide future growth and development of each of the following villages and immediate surrounds consistent with the desired future character of the relevant village: a) Ben Lomond; b) Black Mountain; c) Ebor; d) Hillgrove; and e) Wollomombi. Note: each strategy to highlight land use planning implications.	Immediate: 2020/21
		ii) Prepare a place-based strategy to guide future growth and development of Guyra and immediate surrounds consistent with the desired future character of the centre. Note: strategy to highlight land use planning implications.	Immediate: 2021/22
		iii) Prepare a place-based strategy to guide future growth and development of Armidale and immediate surrounds consistent with "regional city" status. Note: strategy to highlight land use planning implications.	Immediate: 2022/23
		iv) Review and amend the merged LEP in response to the above-mentioned strategy findings.	Subject to related

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Theme	Planning Priority	Planning Actions	Timing
			strategy timing.
Related Actions / Priorities:	RPA 7.1 Develop local growth management strategies and use local plans to reinforce regional cities and centres as the primary locations for commerce, housing, tourism, social activity and regional services.		
	RPA 9.1 Deliver precinct plans to provide a holistic vision and planning framework for the regional cities.		
	RPA 9.2 Prepare activation plans for the regional cities.		
	RPA 17.2 Prepare precinct plans to guide development and establish appropriate land use zoning, development standards and developer contributions.		
	RPA 18.1 Identify future areas of urban expansion or intensification in local growth management strategies that are consistent with the Interim Settlement Planning Principles, (Appendix A) or comprehensive settlement planning guidelines once released.		
Related Documents:	Armidale City Activation Plan Final Report (September 2018) RP – Appendix A Interim Settlement Planning Principles		
1c) Land for Housing	Facilitate the development of land required and suitable for residential and related purposes.	i) Undertake such studies as are required to: a) identify land required and suitable for residential and related purposes within and/or as a logical extension to existing settlements; and b) address the related land use planning implications. Note: determination of land suitability includes consideration of infrastructure and related servicing requirements i.e. in addition to consideration of development opportunities and constraints.	Short-term
		ii) Review and amend the merged LEP, in response to the above-mentioned study outcomes, to: a) allow development of land identified as being required and suitable for residential and related purposes.	Subject to related study timing.
Related Actions / Priorities:	RPA 18.2 Secure an appropriate supply of residential land to meet projected housing needs within local growth management strategies endorsed by the Department of Planning and Environment.		
	RPA 21.1 Enable new rural residential development where identified in a local growth management strategy prepared by council and endorsed by the Department of Planning and Environment.		
	RPA 21.2 Deliver rural residential development consistent with Principles 1-5 of the Interim Settlement Planning Principles (Appendix A) or comprehensive framework once released.		
Related Documents:	New England North West Housing and Land Monitor 2018 Armidale Dumaresq Rural Residential Study 2004 New England Development Strategy – Worley Parsons 2010 City of Armidale – Environmental Protection Zone Review – Hill Top Planners 1995 Strategic Analysis for the Draft Local Environmental Plan 2005		
1d) Housing options	Facilitate the provision of housing options.	i) Undertake such studies as are required to: a) identify housing options designed to respond to existing and projected future community needs; and b) address the related land use planning implications.	Short-term
		ii) Review and amend the merged LEP, in response to the above-mentioned study outcomes, to: a) allow the development of housing options identified as being required to meet existing and projected future	Subject to related study timing.

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Theme	Planning Priority	Planning Actions	Timing
		community needs.	
Related Actions / Priorities:	RPA 20.1 Develop local growth management strategies to respond to changing housing needs, including household and demographic changes.		
	RPA 20.3 Promote ageing-in-place by adopting elements of Livable Housing Australia's Livable Housing Design Guidelines in development controls for housing, where possible.		
	RPA 20.4 Deliver more opportunities for affordable housing by incorporating policies and tools into local growth management strategies and local plans that will incentivise private investment in affordable housing.		
	RPP(1) Deliver a variety of housing options in Armidale and promote development that contributes to the unique character of Ben Lomond, Guyra and Ebor.		
Related Documents	Local Housing Strategy Guideline: A step-by-step process for producing a local housing strategy 2018 Livable Housing Design Guidelines Fourth Edition (2017) NSW Housing Strategy Proposed Housing Diversity SEPP		

Note: RP = Regional Plan; RPA = Regional Plan Action; RPP = Regional Plan Armidale Regional Priority.

Table 3: LSPS Planning Actions - Economy Theme

Theme	Planning Priority	Planning Actions	Timing
Theme 2. Economy			
2a) Armidale CBD	Facilitate the revitalisation of the Armidale central business district.	i) Undertake such studies as are required to: a) identify opportunities to facilitate revitalisation of the Armidale central business district consistent with "regional city" status; and b) address the related land use planning implications. ii) Review and amend the merged LEP, subject to the above-mentioned study outcomes to: a) allow development designed to revitalise the Armidale central business district.	Short-term Subject to related study timing.
Related Actions / Priorities:	RPA 7.2 Focus retail and commercial activities in central business precincts and develop place-making focused planning strategies for centres. RPA 17.1 Develop local plans and economic strategies that: <ul style="list-style-type: none"> raise the profile of the area and awareness of opportunities for employment, business development and quality of life; target opportunities for younger demographics; and foster collaboration with business sectors to develop employment opportunities that can attract and retain younger people and professional and skilled workers. 		
Related Documents:	Draft Armidale Region Economic Development Strategy 2017-2025 Armidale CBD Revitalisation Project – Parking and Mobility Study Component 2018 Armidale City Mall Vibrancy Plan 2017-2021 Armidale Activation Plan		

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Theme	Planning Priority	Planning Actions	Timing
2b) Agricultural Land	Protect important agricultural land.	i) Undertake such studies as are required to: a) identify areas of important or potentially important agricultural land; and b) address the related land use planning implications. Note: Study to focus on areas adjacent to settlements and/or areas of potential change due to development pressure.	Short-term
		ii) Review and amend the merged LEP, as soon as practicable and/or in response to the above-mentioned study outcomes, to: a) protect areas identified as being important or potentially important agricultural land; and b) require development proponents to address important agricultural land values in areas containing or potentially containing such values.	2021+
Related Actions / Priorities:	RPA 3.2 Limit urban and rural residential development on important agricultural land, including mapped Biophysical Strategic Agricultural Land, unless it is in a strategy that is: <ul style="list-style-type: none"> • agreed between council and the Department of Planning and Environment; and • consistent with the guidelines for councils on important agricultural land. 		
	RPA 3.3 Manage the interface between important agricultural lands and other land uses by incorporating controls in local plans that manage compatibility between land uses, and undertaking land use conflict risk assessments where potential conflicts are identified through rezoning processes.		
	RPA 3.4 Secure the ongoing agricultural viability of rural land holdings by: <ul style="list-style-type: none"> • incorporating appropriate minimum subdivision standards and local planning provisions for rural dwellings in local plans to manage potential conflicts with agricultural activities; and • monitoring annual changes in landholding sizes for each local government area. 		
	RPA 3.5 Minimise biosecurity risks by undertaking risk assessments, considering biosecurity plans and applying appropriate buffer areas.		
	RPA 3.6 Facilitate long-term requirements for plantation forest land and processing facilities by restricting the encroachment of incompatible land uses.		
Related Documents:	Biophysical Strategic Agricultural Land – NSW Map NSW Right to Farm Policy Primary Production and Rural Development SEPP EP+A Act s.9.1 – Directions: Direction 1.5 Rural Lands		
2c) Agribusiness Facilities	Investigate and facilitate potential opportunities for development of agribusiness and related facilities.	i) Undertake such studies as are required to: a) identify opportunities to develop agribusiness and related facilities, and the appropriate circumstances for such development; and b) address the related land use planning implications.	Short-term
		ii) Review and amend the merged LEP, in response to the above-mentioned study outcomes, to: a) allow the development of agribusiness and related activities under the defined circumstances.	Subject to related study timing.
Related Actions / Priorities:	RPA 1.2 Promote the expansion of agribusiness and associated value-adding activities through local plans.		
	RPA 1.3 Protect intensive agriculture clusters in local plans to avoid land use conflicts, particularly with residential and rural residential expansion.		
	RPA 1.4 Encourage commercial, tourist and recreation activities that complement and promote a stronger agricultural		

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Theme	Planning Priority	Planning Actions	Timing
	sector, and build the sector's adaptability.		
	RPA 2.2 Facilitate research and development institutions through local plans and identify opportunities to grow and promote innovation in the agricultural sector.		
	RP 2.3 Promote investment in the agricultural supply chain through local plans by protecting these assets from land use conflict and the encroachment of incompatible land uses.		
	RPP(6) Encourage diversification in agriculture, horticulture and agribusiness to grow these sectors and harness domestic and international opportunities.		
Related documents:	-		
2d) Employment Land	Facilitate the development of land required and suitable for commercial or industrial and related purposes.	i) Undertake such studies as are required to: <ul style="list-style-type: none"> a) identify land required and suitable for commercial or industrial and related purposes to support diversification of the local economy; and b) address the related land use planning implications. Note: determination of land suitability includes consideration of infrastructure and related servicing requirements i.e. in addition to consideration of development opportunities and constraints.	Short-term
		ii) Review and amend the merged LEP, in response to the above-mentioned study outcomes, to: <ul style="list-style-type: none"> a) allow development of land identified as being required and suitable for commercial or industrial and related purposes. 	Subject to related study timing.
Related Actions / Priorities:	RPA 4.2 Protect areas of mineral and energy resource potential through local strategies and local environmental plans		
	RPA 6.1 Encourage green industries by reviewing local plans to ensure land use zonings reflect industry requirements.		
	RPA 7.3 Develop proposals for new commercial centres only where they: <ul style="list-style-type: none"> • demonstrate positive social and economic benefits for the wider community; • maintain the strength of the regional economy; • are consistent with the Interim Settlement Planning Principles at Appendix A; • respond to retail supply and demand and innovations in the retail sector; • maximise existing infrastructure (including public transport and community facilities) commensurate with the scale of the proposal; and • enhance the value of the public realm. 		
	RPA 7.5 Promote an appropriate mix of land uses and prevent the encroachment of sensitive uses on employment land through local planning controls.		
	RPA 7.6 Deliver an adequate supply of employment land through local growth management strategies and local environmental plans.		
	RPA 13.1 Implement local planning controls to protect freight and logistics facilities from encroachment of sensitive land uses.		
	RPA 13.4 Locate freight and logistics facilities to maximise existing infrastructure, support future industrial development and capitalise on inter-regional connections and external markets.		
	RPP(4) Support the development of employment lands such as Acacia Park.		
	RPP(5) Support opportunities to grow businesses enabled by the establishment of NBN fibre to the premises.		
Related Documents:	New England North West Housing and Land Monitor 2018 ARC – Armidale Industrial Land Study 2013 Southern New England High Country – Regional Economic Development Strategy 2018-2022		

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Theme	Planning Priority	Planning Actions	Timing
2e) Tourism Facilities	Investigate and facilitate potential opportunities for development of tourism and related facilities.	i) Undertake such studies as are required to: a) identify opportunities to develop tourism and related facilities, and the appropriate circumstances for such development; and b) address the related land use planning implications.	Medium-term
		ii) Review and amend the merged LEP, subject to the above-mentioned study outcomes, to: a) allow the development of tourism and related facilities under the defined circumstances.	Subject to related study timing.
Related Actions / Priorities:	RPA 8.1 Facilitate tourism and visitor accommodation and supporting land uses where appropriate through local growth management strategies and local plans.		
	RPA 8.2 Prepare destination management plans or other tourism-focused strategies that: • identify culturally appropriate Aboriginal tourism opportunities; • encourage tourism development in natural areas that support conservation outcomes; • strategically plan for a growing international tourism market; and • align with the Destination Management Plan prepared by Destination NSW.		
	RPA 8.3 Promote opportunities to expand visitation to regionally significant nature-based tourism places, such as the Oxley Wild Rivers National Park, Mount Kaputar, Gwydir Wetlands State Conservation Area, hot artesian mineral waters at Moree and koala colonies at Gunnedah.		
	RPA 8.4 Advocate for large-scale and high-quality tourism development in regional cities and other areas identified within the Destination Management Plan prepared by Destination NSW.		
Related documents:	Armidale Region Tourism Strategy 2018-2020		

Note: RPA = Regional Plan Action; RPP = Regional Plan Armidale Regional Priority.

Table 4: LSPS Planning Actions - Infrastructure Theme

Theme	Planning Priority	Planning Actions	Timing
Theme 3. Infrastructure			
3a) Infrastructure Delivery	Plan for and facilitate the delivery of infrastructure.	i) Undertake such studies as are required to: a) identify existing and likely future infrastructure requirements to achieve desired standards of service and to service projected growth and related development; and b) address the related land use planning implications.	Short-term
		ii) Review and amend the merged LEP, as soon as practicable and/or in response to the above-mentioned study outcomes, to: a) facilitate the delivery of infrastructure to achieve desired standards of service and to service projected growth and related development; and b) require development proponents to address infrastructure requirements.	Subject to related study timing.
Related Actions /	RPA 4.3 Protect infrastructure that facilitates mining from development that could affect current or future extraction.		

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Theme	Planning Priority	Planning Actions	Timing
Priorities:	<p>RPA 10.4 Adopt an integrated approach to water cycle management to consider regional climate change, water security, sustainable demand and growth, and the natural environment.</p> <p>RPA 10.5 Incorporate measures to improve water efficiency in urban and rural settings, including water sensitive urban design for new developments, into local planning policies.</p> <p>RPA 10.6 Encourage the use of alternate water sources on local government assets, including playing fields.</p> <p>RPA 10.7 Minimise the impact of development on key native fish habitat, address the cold water pollution impacts of Copeton Dam and mitigate barriers to fish movement.</p> <p>RPA 10.8 Ensure local plans manage water catchment areas and groundwater sources to avoid potential development impacts.</p> <p>RPA 15.3 Provide public transport to major services and employment areas where the size of the urban area has the potential to generate sufficient demand.</p> <p>RPA 16.1 Undertake detailed infrastructure service planning to establish that land can be feasibly and economically serviced prior to rezoning.</p> <p>RPA 16.2 Maximise the cost-effective and efficient use of infrastructure by focusing development on existing infrastructure or promoting co-location of new infrastructure.</p> <p>RPA 19.2 Facilitate more recreational walking and cycling paths, linkages with centres and public transport, and expand inter-regional and intra-regional walking and cycling links.</p> <p>RPA 19.3 Establish social infrastructure benchmarks, minimum standards and social impact assessment frameworks within local planning.</p> <p>RPA 19.4 Deliver crime prevention through environmental design outcomes through urban design processes.</p>		
Related Documents:	<p>Armidale Water and Sewerage Servicing Strategy and Hydraulic Modelling 2018</p> <p>Armidale Bicycle Strategy 2012</p>		
3b) Transport Corridors	Protect the operation of major transport corridors and related infrastructure.	<p>i) Undertake such studies as are required to:</p> <p>a) identify the existing and likely future operational requirements of major transport corridors and related infrastructure; and</p> <p>b) address the related land use planning implications.</p>	Medium-term
		<p>ii) Review and amended the merged LEP, as soon as practicable and/or in response to the above-mentioned study outcomes, to:</p> <p>a) protect the operation of major transport corridors, including related infrastructure; and</p> <p>b) require development proponents to address major transport corridor operational requirements in areas impacting or potentially impacting such requirements.</p>	2021+
Related Actions / Priorities:	<p>RPA 14.1 Protect freight and utility infrastructure and corridors through local plans and strategies to protect network opportunities and distribution from incompatible land uses or land fragmentation.</p> <p>RPA 14.2 Minimise the impact of development on the regional and State road network and rail corridors by identifying buffer and mitigation measures.</p> <p>RPA 14.3 Support councils to investigate opportunities to provide greater access for high productivity vehicles.</p> <p>RPA 14.4 Prioritise projects that address impediments to the regional freight network and work with stakeholders to upgrade transport network capacity as demand changes.</p>		
Related Documents:	-		
3c) Regional	Facilitate and protect the	<p>i) Undertake such studies as are required to:</p> <p>a) identify the existing and likely future operational</p>	Short-term

TRIM:

Theme	Planning Priority	Planning Actions	Timing
Airport	operation of Armidale Regional Airport.	requirements of Armidale Regional Airport; and b) address the related land use planning implications. Note: study to consider the preferred minimum lot size for properties, particularly residential properties, surrounding the airport site.	
		ii) Review and amend the merged LEP, as soon as practicable and/or in response to the above-mentioned study outcomes, to: a) facilitate and protect the operation of Armidale Regional Airport; and b) require development proponents to address Armidale Regional Airport operational requirements in areas impacting or potentially impacting such requirements.	2021+
Related Actions / Priorities:	RPA 15.1 Promote aviation-related employment opportunities and precincts.		
	RPA 15.2 Protect airports from the encroachment of incompatible development.		
	RPP(3) Maximise the opportunities of Armidale Regional Airport to meet demand and provide greater access to tourism opportunities.		
Related Documents:	Armidale Regional Airport Master Plan 2016		
3d) Armidale Hospital	Investigate potential opportunities for clustering development related to the Armidale Rural Referral Hospital near the Hospital site.	i) Undertake such studies as are required to: a) identify whether opportunities exist to cluster development related to the Armidale Rural Referral Hospital near the Hospital site, and if so, under what circumstances; and b) address the related land use planning implications. Note: study to consider the relationship of proposed related development to existing (lawful) development surrounding the Hospital site and the minimum car parking requirements for new development.	Medium-term
		ii) Review and amend the merged LEP, subject to the above-mentioned study outcomes, to: a) allow the clustering of related development near the Armidale Rural Referral Hospital site under the defined circumstances.	Subject to related study timing.
Related Actions / Priorities:	RPA 7.4 Facilitate economic activity around industry anchors, such as health and education facilities, through planning controls that encourage clusters of complementary uses and address infrastructure needs.		
	RPP(2) Foster the growth of knowledge-based, education and health-services industries and cluster related activity around the <u>Armidale Rural Referral Hospital</u> and the University of New England.		
Related Documents:	-		
3e) Education Facilities	Investigate and facilitate potential opportunities for the development of	i) Undertake such studies as are required to: a) identify opportunities to develop education and related facilities, and the appropriate circumstances for such development; and b) address the related land use planning implications.	Medium-term

TRIM:

Theme	Planning Priority	Planning Actions	Timing
	education and related facilities.	ii) Review and amend the merged LEP, subject to the above-mentioned study outcomes, to: a) allow the development of education and related facilities under the defined circumstances.	Subject to related study timing.
Related Actions / Priorities:	RPA 7.4 Facilitate economic activity around industry anchors, such as health and education facilities, through planning controls that encourage clusters of complementary uses and address infrastructure needs. RPP(2) Foster the growth of knowledge-based, education and health-services industries and cluster related activity around the Armidale Rural Referral Hospital and the <u>University of New England</u> .		
Related Documents:	SEPP (Educational Establishments and Child Care Facilities) 2017		
3f) Facilities for Arts and Culture	Investigate and facilitate potential opportunities for the development of facilities that promote arts and culture.	i) Undertake such studies as are required to: a) identify opportunities to develop facilities that promote arts and culture, and the appropriate circumstances for such development; and b) address the related land use planning implications.	Medium-term
		ii) Review and amend the merged LEP, subject to the above-mentioned study outcomes, to: a) allow the development of facilities that promote arts and culture under the defined circumstances.	Subject to related study timing.
Related Actions / Priorities:	RPP(7) Support the New England Regional Arts Museum and other arts organisations to position the LGA as a recognised arts and cultural centre in regional Australia.		
Related Documents:	ARC – Armidale Arts and Cultural Strategic Plan 2017-2022 ARC – Kentucky Street Cultural Precinct Plan		
3g) Open Space and Recreation	Investigate and facilitate potential opportunities for development of open space and recreation facilities.	i) Undertake such studies as are required to: a) identify opportunities to develop open space and recreation facilities, and the appropriate circumstances for such development; and b) address the related land use planning implications.	Medium-term
		ii) Review and amend the merged LEP, subject to the above-mentioned study outcomes, to: a) allow the development of open space and recreation facilities under the defined circumstances; and b) facilitate the development of the open space network.	Subject to related study timing.
Related Actions / Priorities:	-		
Related Documents:	ARC – Dumaresq Creek Masterplan		
3g) Renewable Energy	Investigate and facilitate potential opportunities for development of renewable energy	i) Undertake such studies as are required to: a) identify whether opportunities exist to develop renewable energy production facilities, and if so, under what circumstances; and b) address the related land use planning implications. Note: identified opportunities should not impact high natural	Medium-term

TRIM:

Theme	Planning Priority	Planning Actions	Timing
	production facilities.	environmental / biodiversity or important rural values.	
		ii) Review and amend the merged LEP, subject to the above-mentioned study outcomes, to: a) allow the development of renewable energy production facilities under the defined circumstances.	Subject to related study timing.
Related Actions / Priorities:	RPA 5.2 Facilitate appropriate smaller-scale renewable energy projects using biowaste, solar, wind, hydro, geothermal or other innovative storage technologies.		
	RPP(8) Identify and promote wind, solar and other renewable energy production opportunities.		
Related Documents:	Renewable Energy Resource's of NSW Map Large-scale solar energy guidelines Wind Energy Framework		

Note: RPA = Regional Plan Action; RPP = Regional Plan Armidale Regional Priority.

Table 5: LSPS Planning Actions - Environment Theme

Theme	Planning Priority	Planning Actions	Timing
Theme 4. Environment			
4a) Natural Environment	Protect areas, including corridors, of high natural environmental or biodiversity value.	i) Undertake such studies as are required to: a) identify areas of high or potential high natural environmental value; and b) address the related land use planning implications. Note: each study to focus on areas within or adjacent to settlements and/or areas of potential change due to development pressure.	Short-term
		ii) Review and amend the merged LEP, as soon as practicable and/or in response to the above-mentioned study outcomes, to: a) protect areas identified as being of high or potentially high natural environmental value; and b) require development proponents to address natural environmental values in areas containing or potentially containing such values.	2021+
Related Actions / Priorities:	RPA 11.1 Focus development to areas of least biodiversity sensitivity and implement the 'avoid, minimise, offset' hierarchy to biodiversity and areas of high environmental value.		
	RPA 11.2 Ensure local plans consider areas of high environmental value to avoid potential development impacts.		
	RPA 11.3 Encourage the identification of vegetated areas adjacent to aquatic habitats and riparian corridors in local plans.		
Related Documents:	Koala SEPP		
4b) Cultural	Protect sites of indigenous or	i) Undertake such studies as are required to: a) identify sites or potential sites of cultural heritage value;	Short-term

TRIM:

Theme	Planning Priority	Planning Actions	Timing
Heritage	european / non-indigenous cultural heritage.	and b) address the related land use planning implications. Note: each study to focus on areas within or adjacent to settlements and/or areas of potential change due to development pressure; prioritise Guyra and Hillgrove.	
		ii) Review and amend the merged LEP, as soon as practicable and/or in response to the above-mentioned study outcomes, to: a) protect sites identified as being of cultural heritage or potential cultural heritage value; and b) require development proponents to address cultural heritage values on sites containing or potentially containing such values.	2021+
Related Actions / Priorities:	RPA 23.4 Undertake Aboriginal cultural heritage assessments to inform the design of planning and development proposals so that impacts to Aboriginal cultural heritage are avoided and appropriate heritage management mechanisms are identified.		
	RPA 23.5 Develop local heritage studies in consultation with the local Aboriginal community and adopt appropriate measures in planning strategies and local plans to avoid and protect Aboriginal heritage.		
	RPA 24.1 Prepare, review and update heritage studies in consultation with the wider community to identify and protect heritage items, and include appropriate local planning controls.		
	RPA 24.2 Ensure best-practice guidelines are considered such as the Australia International Council on Monuments and Sites, Charter for Places of Cultural Significance and the NSW Heritage Manual when assessing heritage significance.		
	RPA 24.3 Develop conservation management policies for heritage items and areas to provide for sympathetic and adaptive use of heritage items and assets.		
Related Documents:	-		
4c) Natural Hazards	Restrict development in areas impacted by natural hazards.	i) Undertake such studies as are required to: a) identify areas impacted or potentially impacted by natural hazards, including flooding and bushfire; and b) address the related land use planning implications. Note: each study to focus on areas within or adjacent to settlements and/or areas of potential change due to development pressure.	Short-term
		ii) Review and amend the merged LEP, as soon as practicable and/or in response to the above-mentioned study outcomes, to: a) restrict development in areas identified as being impacted or potentially impacted by natural hazards; and b) require development proponents to address natural hazards on sites / in areas impacted or potentially impacted by such hazards.	2021+
Related Actions / Priorities:	RPA 12.1 Minimise the risk from natural hazards and the projected effects of climate change by identifying hazards, managing risks and avoiding vulnerable areas, particularly when considering new urban release areas.		
	RPA 12.2 Incorporate new knowledge on regional climate projections, including flooding and bushfire risk, related cumulative impacts, and findings of the New England North West Enabling Regional Adaptation Project in local plans for new development.		

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Theme	Planning Priority	Planning Actions	Timing
	RPA 12.3 Review and update floodplain and bushfire mapping to manage risk, particularly where urban growth is being investigated.		
	RPA 12.4 Encourage councils where naturally occurring asbestos occurs to map the extent of asbestos and develop an asbestos policy to manage associated risks.		
Related Documents:	ARC - Armidale Flood Plan EP+A Act Section 9.1: Direction 4. Hazard and Risk NSW Flood Prone Land Policy Floodplain Development Manual 2005 Planning for Bushfire Protection 2019		
4d) Contaminated Land	Manage development on sites impacted by contamination.	i) Undertake such studies as are required to: a) identify sites impacted or potentially impacted by contamination; and b) address the related land use planning implications. Note: each study to focus on areas within or adjacent to settlements and /or areas of potential change; in particular, undertake a review of property land use records for Guyra.	Short-term
		ii) Review and amend the merged LEP, as soon as practicable and/or in response to the above-mentioned study outcomes, to: a) manage development on sites identified as being impacted or potentially impacted by contamination; and b) require development proponents to address contamination on sites impacted or potentially impacted by contamination.	2021+
Related Actions / Priorities:	Nil		
Related Documents:	EP+A Act s.9.1 Directions: Direction 2.6 Remediation of Contaminated Land Contaminated Land Planning Guidelines SEPP 55 – Remediation of Land		

Note: RPA = Regional Plan Action; RPP = Regional Plan Armidale Regional Priority.

The following table (refer Table 6) summarises the proposed study / strategy timing.

Table 6: LSPS Study Timing Summary

Theme	Strategy / Study	Timing
Theme 1. Community		
1a) Population Growth	Nil	
1b) Settlement Network	Prepare a place-based strategy to guide future growth and development of each of the following villages and immediate surrounds consistent with the desired future character of the relevant village: a) Ben Lomond;	2020/21

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Theme	Strategy / Study	Timing
	b) Black Mountain; c) Ebor; d) Hillgrove; and e) Wollomombi.	
	Prepare a place-based strategy to guide future growth and development of Guyra and immediate surrounds consistent with the desired future character of the centre.	2021/22
	Prepare a place-based strategy to guide future growth and development of Armidale and immediate surrounds consistent with "regional city" status.	2022/23
1c) Land for Housing	Identify land required and suitable for residential and related purposes within and/or as a logical extension to existing settlements.	Short-term
1d) Housing options	Identify housing options designed to respond to existing and projected future community needs.	Short-term
Theme 2. Economy		
2a) Armidale CBD	Identify opportunities to facilitate revitalisation of the Armidale central business district consistent with "regional city" status.	Short-term
2b) Agricultural Land	Identify areas of important or potentially important agricultural land.	Short-term
2c) Agribusiness Facilities	Identify opportunities to develop agribusiness and related facilities, and the appropriate circumstances for such development.	Short-term
2d) Employment Land	Identify land required and suitable for commercial or industrial and related purposes to support diversification of the local economy.	Short-term
2e) Tourism Facilities	Identify opportunities to develop tourism and related facilities, and the appropriate circumstances for such development.	Medium-term
Theme 3. Infrastructure		
3a) Infrastructure Delivery	Identify existing and likely future infrastructure requirements to achieve desired standards of service and to service projected growth and related development.	Short-term
3b) Transport Corridors	Identify the existing and likely future operational requirements of major transport corridors and related infrastructure.	Medium-term
3c) Regional Airport	Identify the existing and likely future operational requirements of Armidale Regional Airport.	Short-term
3d) Armidale Hospital	Identify whether opportunities exist to cluster development related to the Armidale Rural Referral Hospital near the Hospital site, and if so, under what circumstances.	Medium-term
3e) Education Facilities	Identify opportunities to develop education and related facilities, and the appropriate circumstances for such development.	Medium-term
3f) Facilities for Arts and Culture	Identify opportunities to develop facilities that promote arts and culture, and the appropriate circumstances for such development.	Medium-term
3g) Open Space and Recreation	Identify opportunities to develop open space and recreation facilities, and the appropriate circumstances for such development.	Medium-term
3g) Renewable Energy	Identify whether opportunities exist to develop renewable energy production facilities, and if so, under what circumstances.	Medium-term

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Theme	Strategy / Study	Timing
Theme 4. Environment		
4a) Natural Environment	Identify areas of high or potential high natural environmental value.	Short-term
4b) Cultural Heritage	Identify sites or potential sites of cultural heritage value.	Short-term
4c) Natural Hazards	Identify areas impacted or potentially impacted by natural hazards, including flooding and bushfire.	Short-term
4d) Contaminated Land	Identify sites impacted or potentially impacted by contamination.	Short-term

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Implementation

Overview

The LSPS provides a clear line-of-sight between the key strategic priorities identified at regional or district spatial scales and the finer-grained planning at local, centre and neighbourhood scales.

The LSPS also provides a bridging point to ensure that regional and district priorities are placed within a clear local context and tailored to the unique economic, social and environmental characteristics of the local government area (refer Figure 6).



Figure 6: NSW Planning System Strategic-Led Planning Framework
(Source: Local Strategic Planning Statements - Guideline for Councils)

An implementation plan¹¹ has been formulated to identify how Council will monitor and report on the status of planning and other actions contained in the LSPS, in a manner consistent with the provisions of relevant legislation.

The implementation plan also addresses the inter-relationships between the LSPS and other relevant State and Council documents, consistent with the Integrated Planning and Reporting Framework under the Local Government Act.

Current / relevant documents include:

- New England North West Regional Plan 2036, including the Implementation Plan 2017-2019;
- Community Strategic Plan 2017-2027;
- Armidale Dumaresq Local Environmental Plan 2012; and
- Guyra Local Environmental Plan 2012.

¹¹ EP&A Act section 3.9(2) states that the LSPS must include or identify the following – (d) the basis on which the council is to monitor and report on the implementation of those actions.

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Merging of the current Armidale Dumaresq Local Environmental Plan 2012 and the current Guyra Local Environmental Plan 2012 to produce a single LEP for the Armidale Regional Council local government area is an important first step to facilitate subsequent activities (refer Figure 7).

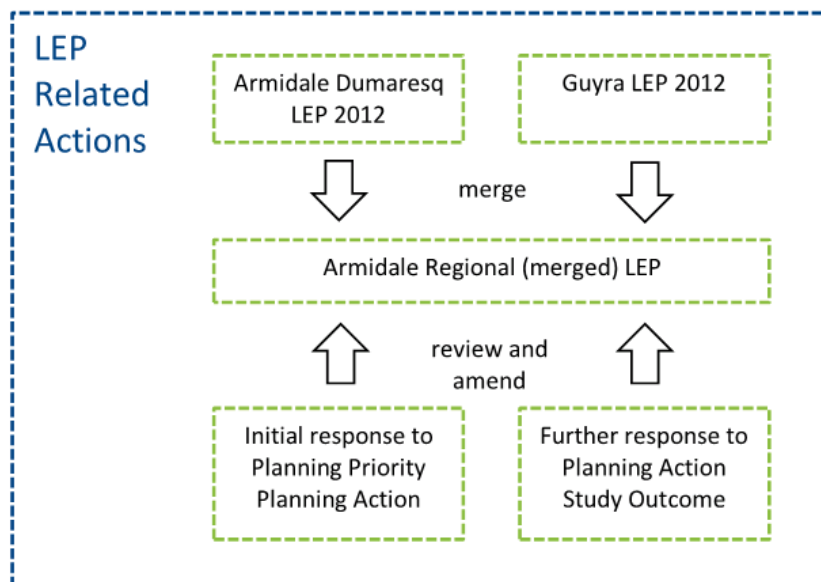


Figure 7: Local Environmental Plan Related Administrative and Planning Actions

Delivery Program Principal Activities

The Council's Delivery Program 2018-2021 under the current Community Strategic Plan, includes the following "principal activities" of note in this context:

- Council's strategic planning documents are integrated in a way which delivers community outcomes while effectively managing budgets, asset management and workforce planning (L4.2 – Integrated Planning and Reporting);
- Promote a Local Environmental Plan that supports the needs of the region to grow and develop (G1.2 – Local Environmental Plan); and
- Continue to update and review legislated planning documents to ensure a variety of appropriate dwellings and housing affordability across the region (G1.4 – Housing).

The first of these principal activities relates to the "Strategic Capacity" Community Outcome within the Community Strategic Plan which states "Council has the strategic capacity to understand the key issues for the region both now and in the future".

The latter two principal activities relate to the "Planning" Community Outcome which states "the community experiences the benefits of an increasing population".

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Implementation Plan

The proposed timing for undertaking the identified LSPS administrative actions¹² is nominated in the following table (refer Table 7).

Table 7: LSPS Administrative Actions

Administrative Actions		Timing
Local Strategic Planning Statement (LSPS) Related Actions -		
1. Report on LSPS Actions	Provide a status report on implementation of each planning action contained in the current LSPS Action Plan and any relevant administrative actions. The status report should identify any rectification tasks required and / or proposed to address any planning or administrative actions at risk of non-completion within the nominated timeframe.	On six monthly basis (generally June and December), and/or in conjunction with reporting on Council's Delivery Program; first such report by June 2021.
2. Prepare LSPS – 7 years	Prepare and make a new LSPS consistent with relevant State legislation and guidelines.	Within seven years of Council endorsement of current LSPS; first such new LSPS by 2027.
3. Review LSPS – CSP	Review and amend (if required) the current LSPS to ensure ongoing alignment with the relevant Community Strategic Plan.	As required, following / within six (6) months of Council endorsement of any revised or new CSP.
4. Review LSPS – RP	Review and amend (if required) the current LSPS to ensure ongoing alignment with the relevant Regional Plan.	As required, following / within six (6) months of State release of any revised or new Regional Plan.
5. Review LSPS – EP&A Act + LG Act	Review and amend (if required) the current LSPS to ensure ongoing alignment with relevant State legislation.	As required, following / within six (6) months of proclamation of any revised or new State legislation.
Community Strategic Plan (CSP) Related Actions -		
6. Amend CSP - LSPS	Amend the current CSP to identify that the LSPS is the primary tool for implementing those aspects of the CSP community outcomes related to land use planning.	Following Council endorsement of the LSPS and in conjunction with preparation of the CSP following the 2021 local government elections.
7. Review CSP - RP	Review and amend (if required) the current CSP to ensure ongoing alignment with the relevant Regional Plan.	During preparation of the CSP following the 2021 (and subsequent) local government election.
Local Environmental Plan (LEP) Related Actions -		
8. Merge Existing LEPs	Merge the current Armidale Dumaresq Local Environmental Plan 2012 and the current Guyra Local Environmental Plan 2012 to produce a single LEP for the Armidale Regional Council local government area.	2020/21
9. Amend	Review and amend (as required) the merged LEP to	As required, subject to LSPS

¹² The term “administrative actions” has been used to differentiate the LSPS Implementation Plan actions from the LSPS planning actions in the LSPS Action Plan.

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Merged LEP	address the outcomes arising from the implementation of each LSPS planning action.	planning action timing.
Development Control Plan (DCP) Related Actions -		
10. Merge Existing DCPs	Merge the current Armidale Dumaresq Development Control Plan 2012 and the current Guyra Development Control Plan 2015 to produce a single DCP for the Armidale Regional Council local government area.	2021/22
11. Undertake DCP Amendments	Undertake amendments (as required) to the merged DCP to address outcomes arising from the implementation of each LSPS planning action.	As required, subject to LSPS planning action timing and where required in conjunction with LEP amendments.

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Appendix

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Appendix A:

New England North West Regional Plan 2036 (NENWRP) Goals and Directions

LSPS Theme	NENWRP Goal	NENWRP Direction
1. Community	Attractive and thriving communities	Strengthen community resilience (D.17)
		Provide great places to live (D.18)
		Support healthy, safe, socially engaged and well connected communities (D.19)
		Deliver greater housing diversity to suit changing needs (D.20)
		Deliver well planned rural residential housing (D.21)
		Increase the economic self-determination of Aboriginal communities (D.22)
		Collaborate with Aboriginal communities to respect and protect Aboriginal culture and heritage (D.23)
		Protect the region's historic heritage assets (D.24)
2. Economy	A strong and dynamic regional economy	Expand agribusiness and food processing sectors (D.1)
		Build agricultural productivity (D.2)
		Protect and enhance productive agricultural lands (D.3)
		Sustainably manage mineral resources (D.4)
		Grow New England North West as the renewable energy hub of NSW (D.5)
		Deliver new industries of the future (D.6)
		Build strong economic centres (D.7)
		Expand tourism and visitor opportunities (D.8)
		Coordinate growth in the cities of Armidale and Tamworth (D.9)
3. Infrastructure	Strong infrastructure and transport networks for a connected future	Expand emerging industries through freight and logistics connectivity (D.13)
		Enhance transport and infrastructure networks (D.14)
		Facilitate air and public transport infrastructure (D.15)
		Coordinate infrastructure delivery (D.16)
4. Environment	A healthy environment with pristine waterways	Sustainably manage and conserve water resources (D.10)
		Protect areas of potential high environmental value (D.11)
		Adapt to natural hazards and climate change (D.12)

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Appendix B:

Community Strategic Plan 2017-2027 (CSP) Strategic Directions and Community Outcomes

LSPS Theme	CSP Strategic Direction	CSP Community Outcome
1. Community	Our People and Community	Community services and facilities meet the needs of the community (CO.1)
		Events and cultural activities provide the community with an opportunity to celebrate the unique culture and lifestyle of the region (CO.2)
		Services are provided to ensure inclusiveness and support the vulnerable members of our community (CO.3)
		Services and activities are provided for all ages and segments of our community to promote life-long learning, healthy living and community well-being (CO.4)
2. Economy	Growth, Prosperity and Economic Development	The community experiences the benefits of an increasing population (CO.1)
		The agricultural sector is supported as one of the pillars of growth and to sustain local and national food security (CO.2)
		The visitor economy generates additional revenue and employment to boost the local economy and creates opportunities for more vibrant cultural activities (CO.3)
		Economic development is supported through new initiatives, innovation and additional resources to assist growth of business and industry (CO.4)
3. Infrastructure	Environment and Infrastructure	The community is provided with the essential and resilient infrastructure it requires for daily life, and has access to a prioritised schedule of infrastructure works (CO.3)
		The community has access to transport which enables connectivity both locally and outside of the region (CO.4)
4. Environment	Environment and Infrastructure	The unique climate, landscape and environment of the region is protected, preserved and made accessible (CO.1)
		The community can participate in initiatives which contribute to a sustainable lifestyle (CO.2)
-	Leadership for the Region	The community is engaged and has access to local representation (CO.1)
		Council exceeds community expectations when managing its budget and operations (CO.2)
		Council demonstrates sound organisational health and has a culture which promotes action, accountability and transparency (CO.3)
		Council has the strategic capacity to understand the key issues for the region both now and in the future (CO.4)

GHD
Advisory



Armidale - Kempsey Road Reclassification Analysis

Armidale Regional Council and Kempsey Shire Council

05 November 2018



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Where estimates of potential costs are provided with an indicated level of confidence, notwithstanding the conservatism of the level of confidence selected as the planning level, there remains a chance that the cost will be greater than the planning estimate, and any funding would not be adequate. The confidence level considered to be most appropriate for planning purposes will vary depending on the conservatism of the user and the nature of the project. The user should therefore select appropriate confidence levels to suit their particular risk profile.



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1. Introduction

The Armidale to Kempsey Road (formerly Main Road 75) has a total length of 140 km and connects the Pacific Highway at Kempsey with Waterfall Way at Wollomombi, approximately 40 km east of Armidale. Prior to 2009, Armidale - Kempsey Road was classified as a Regional Road and was financially supported under Roads and Maritime Services (RMS) Block grants and Repair Programme grants for maintenance and rehabilitation. In June 2009, two sections were declassified to Local Road status. These sections incorporate the Armidale end of MR-75 and the Kempsey Shire Council (KSC) length, west of Bellbrook. Both are now under the care of their respective councils. Armidale – Dumaresq Council managed the Armidale section of the road before council mergers in May 2016 saw Armidale Regional Council (ARC) assume management.

ARC and KSC became responsible for the maintenance of the declassified sections of Armidale – Kempsey Road following the 2009 decision. Condition assessments indicate that the safety of the roads is inadequate. Several issues including intermittent flooding, landslips, excessive narrowing, blind spots and unstable ground have been identified.

Condition assessments are supported by recent accident data, which includes a fatality and a serious incident. In the case of the fatality, emergency services were unable to reach the accident scene in time to free the trapped occupant from an overturned car. The driver subsequently succumbed to their injuries. The other incident could also have resulted in a fatality if not for local residents who assisted to free and transport the critically injured driver to a clearing for aero-medical evacuation. Although no fatalities were recorded in the five year period to 2017, as indicated by the above recent serious instances, the current condition of the road is now resulting in unsatisfactory safety and emergency retrieval outcomes.

Both ARC and KSC have been diligent in their attempts to maintain the road to the best possible standard, however both parties acknowledge the Councils cannot afford required road upgrades without financial assistance. Reclassification of the Armidale - Kempsey Road to a Regional Road would ensure the road is managed in accordance with RMS guidelines and standards with combined financial contributions from various levels of Government.

Prompted by the support of local residents including the Wollomombi and Lower Creek Local Area Committees, the two Councils have requested meetings with the Roads and Maritime Services (RMS), Federal members for New England and Cowper, and State members for the Northern Tablelands and Oxley. With their support, the Councils will submit a formal request to the Minister for Roads, Freight and Maritime for re-classification of the Armidale - Kempsey Road to Regional Road status.

The aim of this document is to assess the financial benefits that would arise from a road reclassification, as well as evaluate the economic benefits associated with road upgrades at critical sections. These proposed projects comprise:

- Upgrades within the Armidale LGA section at Big Hill, Black Bird Flat and Flying Fox.
- A bitumen seal to a 10-kilometre section of road in the Kempsey LGA.

1.1 Reclassification drivers

The NSW Road Reclassification review (RMS, 2007) cited several reasons in support of declassification, including low traffic numbers and limited commercial and tourism usage. Since this time, some variables have changed and past assumptions about the significance of the road may no longer hold true. The current drivers for reclassification include:

- Vehicle usage:
 - Vehicle counts in 2001 indicated 51 to 55 vehicles per day used the route. Recent traffic counts estimate the current usage at 127 to 130 vehicles per day. The volume has nearly tripled.
- Commercial access:
 - The number and size of grazing properties relying on the route for access has grown in the past ten years, with several letters from agricultural providers indicating an expansion into foreign markets and increasing cattle volumes.
 - One submission indicates a single load of cattle costs \$520 more on average because of the need to return to the Shire centres. New South Wales agriculture is already under strain.
 - Freight costs are increasing because of the reliance on rigid-trucks. Although the road is rated to accommodate B-doubles, the current state of the road does not allow navigation of any heavy combination vehicle up to a B-double.
- Significance:
 - Local school principals have indicated concerns that the state of the road has led to dwindling student numbers.
 - Kempsey and Armidale are not rated as severely disadvantaged under the Socio-Economic Indexes for Areas (SEIFA) index, but the road has been implicated in making student travel to local schools difficult due to safety concerns that come with travelling along this road.
 - Whilst undoubtedly of a higher standard, Waterfall Way remains prone to flooding and associated congestion. Reclassification and upgrades to the road may allow it function as a bypass.

1.2 Required upgrades

The following upgrades are required to improve safety and accessibility at critical sections of the route. The respective Councils provided proposed works and estimated costs to GHD.

1.2.1 Armidale LGA - Georges Junction to the top of the Big Hill

The most dangerous section of the road is from Little Georges Creek (near Georges Junction) to the Cunawarra sign near the top of the range, known locally as the "Big Hill". This section of road is approximately 11 km long consisting of steep, winding narrow road. The road requires a guardrail on one side and a formed drain on the other side. However, the formation would also require widening to accommodate the additional safety features and maintain sufficient space to allow vehicles to pass safely.

ARCs proposal for this 11 km section is to:

- a) Widen where necessary to allow sufficient width for guardrails on one side and a formed gutter on the other side.
- b) Widen the tightest corners to allow sufficient turning paths for articulated vehicles.
- c) Provide a guardrail where the Austroads warrant is satisfied.
- d) Provide a drain cut into rock, not concrete, plus culverts where required.
- e) Provide curve and hazard warning signs.



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- f) Gravel re-sheeting using crushed rock from the widening work.

The estimated cost of this work is \$6.75 million.

1.2.2 Armidale LGA - Flying Fox

This section comprises a 2.1 km length of road east of Lower Creek, subject to frequent rock falls. It consists of a narrow road with poor drainage, steep sides and loose edges.

The proposed upgrade comprises road widening, stormwater culverts; guardrails where warranted, warning signs and gravel re-sheeting.

The estimated cost of this work is \$2.7 million.

1.2.3 Armidale LGA - Black Bird Flat

This section is 1.1 km long from Black Bird Flat Bridge heading towards Georges Junction. It consists of narrow winding road with poor drainage, steep sides and is subject to frequent rock falls which present a constant and real danger to human life.

Council's proposal is to provide road widening, secure loose rocks, stormwater culverts; guardrail where warranted, warning signs and gravel re-sheeting.

The estimated cost of this work is \$1.9 million.

1.2.4 Kempsey LGA – West Bellbrook Seal

The final upgrade included in this assessment is located in the Kempsey portion. The proposal involves sealing the 10-kilometre stretch of road west of Bellbrook to Five Day Creek Road. These works would allow for travel speeds up to 70 kilometres per hour (km/h) whereas a reduced scope gravel and widening works listed above would only see driving speeds increase to around 50 km/h from the current safe speed of 40 km/h. The estimated cost of this work is \$5 million.



Figure 1-1 Several sections of road are too narrow to safely accommodate bi-directional traffic

1.3 Community importance

Community surveys have proved useful in gauging wider interest in potential developments along the Armidale – Kempsey route. Surveys were undertaken by both Councils in 2017 to obtain greater community input and verify some of the broader data that is not normally included in a cost benefit analysis. Anecdotal experiences are often difficult to validate, but may be ascribed more weight when they are confirmed by multiple sources. During this survey, various key themes were apparent:

- Greater tourism investment could be realised along the road if it were a more reliable route.
- A properly maintained road would encourage greater social cohesion between adjacent townships.

Further benefits discussed include:

- An increase in the size of heavy vehicles able to use the route, would increase the efficiency of freight movement, reduce environmental impacts and provide an economic benefit to local businesses.
- Decreased travel times.
- Increased public safety with the potential decrease in landslips.

Additionally, numerous community figures have endorsed reclassification of the road. These primarily take note of the status of the road and its adverse effects on the community. Some of the benefits mentioned above are difficult to quantify in an empirical fashion. Literature is largely limited on the causative relationships between road resealing and impacts to healthcare and tourism. This report does not directly quantify such indirect benefits, but indicates their associations with the sealing of the road.

Detailed traffic studies would be required to produce reliable estimates of future traffic *if the road was more suitable for intended use*. Reliable estimates are crucial because they also feed into the design and sizing of the road however were not available for this report.

2. Methodology

GHD undertook a rapid Cost Benefit Analysis (CBA) analysis. CBA is a method used to aid decisions about the allocation of resources, expressing both costs and benefits in monetary terms where possible to provide a basis for direct comparison. GHD's approach was developed in accordance with best practice national and state guidelines, including the Australian Transport Assessment and Planning (ATAP), Austroads, RMS and Transport for NSW (TfNSW) Economic Valuation Guidelines.

The rapid approach aims to capture the most significant measurable benefits and costs in a systematic manner through:

- Defining objectives, base and project case options – Defining the objectives in addition to the base case and project case for comparison.
- Identification of benefits and costs – All benefits and costs are identified and quantified where possible. These are the costs and benefits that may be expected due to the move from the base case to the project case.
- Discount future costs and benefits – Appropriate measures of net economic worth are generated, including Net Present Value (NPV) and the Benefit-Cost Ratio (BCR) on a whole of life costing basis.
- Calculate decision criteria – The selected measure/s of net economic worth are calculated and interpreted. The analysis indicates the net present value (NPV), internal rate of return (IRR), Net Present Value per Investment (NPVI) and benefit cost ratio (BCR) measures.
- Sensitivity analysis – Where appropriate, decision criteria are calculated with a range of input values to present the sensitivity of the output values to inputs; capital cost, delivery, timing, discount rates and traffic forecasts.
- Summarise and report economic findings – The preferred option is determined from the relevant decision criteria and a report prepared to summarise findings.



Figure 2-1 CBA process

3. Economic assumptions

The Economic Analysis includes the following assumptions:

- Project periods:
 - Construction period for upgrades in Armidale LGA from 2019 to 2022
 - Construction period for upgrades in Kempsey LGA from 2019 to 2020
 - Operational commencement – 2021 (KSC) and 2023 (ARC)
- Evaluation period from 2018 to 2038.
- Discount rate of 7% for the core case and 4% and 10% discount rates to conduct sensitivity analysis.
- All values represented in real 2018/2019 dollar terms (all values expressed in other dollar terms were updated utilising the ABS CPI June 2018 data set).
- All future traffic volumes were determined based on 2009-2017 AADT counts. These are provided in the appendices.
- Future Vehicle Kilometres Travelled (VKT) and Vehicle Hours Travelled (VHT) forecasts were derived from the vehicle counts.¹
- The annualised traffic growth assumption was applied as the geometric mean of KSC and ARC population growth rates applied through the evaluation:
 - 1.72% p.a growth in Kempsey.
 - 1.56% p.a growth in Armidale.
 - An average growth of 1.64% per annum in traffic counts on the road.
- The following strategic estimates of travel characteristics were applied consistently to all vehicles under each of the following project cases:
 - 40 km/h - Base Case speeds for degraded gravel or dirt tracks.
 - 70 km/h- Project Case speed for sealed road, 50 km/h for gravel re-sheeting.
- Project capital costs obtained from strategic cost estimates provided by KSC and ARC.
- Estimates for the project completion and construction timing provided by ARC and KSC. These estimates may vary depending on project scheduling and funding availability.
- The three projects in the Armidale LGA are estimated to take four years to complete. A capital split of 40/20/20/20 is projected from years one to four.
- The work on the seal west of Bellbrook in Kempsey LGA is estimated to take two years. A capital split of 50/50 has been assumed across the two years.

¹ RMS Counts – Appendix B

4. Traffic counts and delay

Traffic counts were obtained from RMS data. RMS sub-groups were cross-matched against the classifications of trucks as portrayed in the Austroads standards to derive estimated proportions of each vehicle type in New South Wales. Across the counts, an average of 130 vehicles per day (VPD) were noted. This represents a significant increase from the 2001 average of 51 VPD.

Full traffic counts, dates, and locations are listed in the Appendices. The RMS class of vehicle (1 to 12) is marked in the first column. The results of each count are displayed in subsequent columns.

4.1 Delay reduction

Travel time costs are the cost of time spent in travelling. They vary with the amount of time spent in transit as well as with the disutility (the discomfort and lack of amenity) of the travel mode.

The value of travel time in leisure is subjective, and many studies have produced varying estimates.

The value of travel time estimates for urban and rural travel and different travel modes are set out in Appendix 4 of the TfNSW economic modelling guidelines. They provide unit values for vehicle composition during major periods of the day, assumed vehicle occupancy, time values per person and average hourly value for travel time.

4.2 Declining travel-time costs

The status quo of the unsealed section of the road is associated with narrow causeways and consequently motorists must be extremely cautious when driving along the section.

4.2.1 Proposed projects

Widening the road for dedicated two-way travel may allow drivers to increase vehicle speeds from 40 km/h to 50 km/h on a gravel track or up to 70 km/h on a bitumen seal. As an example, over a 10-kilometre distance, this may equate to an approximate five minute saving. This represents a relatively small saving per trip, but given the volumes per day and the overall per-vehicle-hour values of time lost, these savings cumulate significantly. Calculations feature in Table 1 below.

Table 1 Project VHT calculations

Variable	Value – Gravel (ARC LGA)	Value – Bitumen (KSC LGA)
Project speed (km/h)	50	70
Base Speed (km/h)	40	40
VHT Ratio (Base Speed: Project Speed)	0.80	0.57
Conversion factor (days to year)	365	365
Route length of remediated works (km)	14	10

Variable	Value – Gravel (ARC LGA)	Value – Bitumen (KSC LGA)
VHT Per One-way trip (Project)	0.280	0.186
VHT Per One-way (Base)	0.350	0.325
VHT Differential	0.070	0.139
Weighted average VHT value (Across all classes)	\$39.89	\$39.89
NPV - VHT Savings over evaluation period	\$1,094,631	\$2,013,962

5. Vehicle maintenance reduction

5.1 Declining vehicle maintenance costs

Vehicle operating costs (VOC) accrue from the cost to the owner of operating a motor vehicle. In determining VOC savings, the costs for each class of vehicle are a function of the price of running cost inputs, length of the road section, traffic volume, and composition on the section and can vary by road roughness condition, gradient and vehicle speed.

As a rule, vehicle operating costs generally find an optimum between speeds of 60 km/h and 100 km/h. Stop-start conditions generally result in constant braking and excessive fuel use. Speeds above the upper value generally increase component wear through thermal loss and mechanical or aerodynamic inefficiency.

Methods for calculating VOCs vary depending on the type of traffic model and its outputs. Macroscopic models usually report the traffic volume and average speed on each road link. VOC can be calculated using the speed-based VOC models presented in Tables 26 to 42 from Appendix 4 of the TfNSW (2018) guidelines.

5.1.1 Project case – ARC and KSC works

Under the road sealing case, the increase in design speed of the route would see the VOC drop by an average of 38% across all vehicle classes. This assumes no net change to the curvature of the road, but this assumption may change if any realignments are proposed and the length of the road decreases.

The decline in vehicle maintenance is described below. Because of the higher roughness associated with gravel roads and the decline in road quality between annual re-sheeting, VOC savings associated with the road would not be as pronounced as those found in a sealed road.

In absolute terms, the gravel roads are projected to realise higher VOC savings given that much longer lengths of road in ARC are expected to be remediated, as opposed to the 10-kilometre seal extension near Bellbrook (see Table 2).

Table 2 Declining vehicle maintenance relative to 'do nothing' case

Real rate	VOC Reduction – ARC LGA projects	VOC Reduction – KSC LGA project
7%	\$851,733	\$731,297

Limitations

A road condition report has not been provided for the base case of the road. As such, VOC calculations in the model vary by speed and roughness only. As road realignments have not been proposed, it is assumed the third factor, road curvature remains the same in the project case and the base case.

Introduction of new trips and road demand by virtue of declining operating costs by using the better road has an extremely low demand elasticity (-0.014) under the RMS tables. This produces inductions for most vehicles under 0.30%. In a practical context, on a 160 vehicle-trip per day road, this would translate to approximately 0.48 trips per day, which is negligible in a practical context. Demand induction for time savings are much higher than the elasticity of -0.014 and are included for valuation of social and tourism benefits.

In contrast, delay-related reductions are discussed in Section 4.1.

A decrease in vehicle maintenance cost has not been calculated for a reclassification scenario and corresponding road sealing. This is because more detailed studies would be needed to determine the use of the road and to reliably establish activity on competing routes.



Figure 5-1 Narrow road with unsecured landslip pose risks for road users

5.2 Road use externalities

In economics, an externality is the cost or benefit that affects a party who did not choose to incur that cost or benefit. For example, increased pollution from a new road users affects all of society, regardless of whether or not they use the road. The impacts on the environment and other external factors (externalities) were estimated based on the additional Vehicle Kilometres Travelled (VKT) because of the project and the externality unit costs.

Benefits from externalities usually comprise the following elements:

- Air pollution
- Greenhouse Gas Emissions
- Noise
- Water Pollution
- Nature and Landscape
- Urban Separation
- Upstream and Downstream Costs

Externality reduction becomes relevant where new transport links lower traffic volumes in the overall system. For the proposed road upgrades, externality benefits are not applicable as the works would redistribute, or increase traffic, but not eliminate it.

6. Road maintenance reduction

The following section defines the differences in road maintenance likely to accrue under the base case and project case.

6.1.1 Project case maintenance assumptions

- The project case is expected to be resistant to an ARI 20-yr event.
- Project Capital (CAPEX) is expected to place the road outside rock-fall danger.
- Ordinary project operational expenditure (OPEX) is expected to account for annual re-surfacing and maintenance.
- The project estimate assumes a 1.5% per annum of CAPEX amount each year for the upgrades of unsealed road (Armidale LGA) and 3% per annum for the road seal extension (Kempsey LGA).
- A reseal costing 30% of the nominal CAPEX (\$1.5 million) was allocated 15 years after opening, to reflect the need to repair normal wear and tear.

6.1.2 Base case planned maintenance

Table 3 outlines the current annual costs of routine maintenance (ordinary re-sheeting and pavement maintenance) in addition to incidents that required dedicated remediation or clean-up. The average annual costs have been calculated by determining the cost of remediation and dividing it by the frequency, in years, over which it has occurred. As an example, a landslip costing \$3 million to repair, occurring every 5 years would realise an average cost of \$600,000 per year.

Table 3 Base case maintenance (KSC & ARC)

Maintenance components	Annual average	Cost	Frequency
Flood (ARI 10-yr.)	\$215,262	\$2,152,620	10
Rock-fall removal or prevention	\$20,000	\$100,000	5
Bellbrook repairs –Western Section	\$80,000	\$400,000	5
Grading – Ordinary Annual	\$80,000	\$80,000	1
Re-sheeting – Ordinary (per 6 to 8 years)	\$71,500	\$500,000	7
Pavement & seal maintenance - Ordinary	\$100,000	\$100,000	1

6.1.3 Unplanned maintenance description

Landslips are irregular occurrence. Several events are described below:

- \$1.8 million (\$2.15 million in 2018 dollars) at Jobs Cutting after a flood event in 2009.
- Approximately \$400,000 at two other sites west of Bellbrook. These were major works with rock bolting and sprayed concrete.
- Flood (2013) eroded the formation at Midnight Creek and cost around about \$100,000, but this was east of Bellbrook on the section that is already a Regional Road and has not been included.
- A recent incident occurred due to prolonged rain on a section that is consistently unstable. Moving the rock and moving the road over to allow the rock to fall without tumbling onto the road cost \$100,000.

7. Casualty estimations

ARC provided accident statistics and vehicle counts for the 2013 to 2018 period.

The dataset contains detailed descriptions of estimated causes of accidents. Most incidents in this time were on the unsealed section of road. On the sealed section, the sole accident was attributed in the report to driver fatigue. The single fatality in the dataset occurred in early 2018, in the Armidale section and involved combustion of an overturned car containing a trapped occupant.

The severity of accidents is bi-modal at the extremes. The majority of recorded accidents are noted as property only, or serious and life threatening. Accident statistics are listed in the Appendices.

Table 4 Crash costs along the nominated ARC sections (Austroads 2015 values, indexed to 2018)

Crashes	Values	Crashes p.a	Incidents p.a	Annualised Cost
Fatal	\$7,968,950	0.2	0.22	\$1,753,169
Serious	\$578,107	1.2	1.1	\$635,918
Hospitalisation	\$86,016	0.4	0.624	\$53,674
Minor	\$86,016	0.2	0.39	\$33,546
Property	\$10,139	1	6	\$60,834
Total	~	3	8.334	\$2,537,141
Reduction (\$p.a)	25%	1.95	6.251	\$634,285

Near misses are not counted under the TfNSW economic modelling guidelines, but recent incidents have illustrated that emergency retrieval is exceedingly, and unacceptably, difficult because of the conditions associated with the route.

Additionally, economic and safety effect of specific accident treatments, such as guardrails cannot be fully analysed until concept designs are undertaken. These require detailed ROSMA calculations (MRWA) or the NSW equivalent, which are engineering analyses of how likely particular measures are to reduce the severity and likelihood of a crash.

Table 5 Crash costs along the KSC section (2013 to 2018 records)

Crashes	Crashes p.a	Incidents p.a	Annualised Cost
Fatal	0	0	\$-
Serious	1	1.1	\$480,307
Hospitalisation	0.4	0.624	\$41,836
Minor	0.2	0.39	\$26,148
Property	1	5.2	\$52,723
Total	2.6	7.314	\$601,014
Reduction (\$p.a) – 35%	1.69	4.7541	\$210,355

When annualised, a crash reduction factor (NTC guidelines) is used to emulate rate of crash reductions between sealed and unsealed roads. Under NTC rules, a reduction of approximately 35% in crash frequency is modelled.

This percentage could vary if sealing involved a divided road, but this cannot be confirmed unless project options are detailed. This figure is therefore duly conservative with respect to option uncertainty.



Figure 7-1 Landslip clearing works; Source ARC

From the above table, an accident and casualty cost saving of \$5.24 million over the valuation period (2018-2038) for the ARC gravel road remediation and \$1.99 million for the proposed Bellbrook seal.²

NTC guidelines prescribe a lower crash reduction factor per vehicle-kilometre-travelled for the duration of the gravel roads (25%) than what is prescribed for sealed roads (35%). These figures are conservative as they do not account for the installation of guardrails or widening as indicated in the scope which, as noted above, can only be completed a review of conceptual or detailed design.

7.1.1 Additional safety concerns not quantified

Lower Creek is an isolated community along the road and has been subject to stranding in the past:

- It is often cut off in poor weather by the state of the road because of treacherous conditions on the Big Hill and landslides on the Flying Fox sections of the road.
- Both the Big Hill and Flying Fox sections are listed as requiring remediation.
- Maintenance engineers from Armidale Regional Council indicated these cut-offs occur frequently including one during the week of 19 October 2018.

The TfNSW guidelines do not provide guidance around the economic costs associated with stranded townships. Should any incidents occur in the town, it may be difficult for emergency services to render assistance to the township. Such an outcome may result in serious consequences for residents of the town.

² Annuity at 7% (IA rate) measured by $C \times (1 - (1+r)^{-N}) / r$; r = discount rate, N = years, C = annual saving.

8. Benefit Cost Summary

The results of the rapid CBA (the NPV and BCR decision criteria) are presented for the project options. The results in Table 6 below are the net present value costs and benefits in 2018 dollars discounted at a rate of 7 per cent.

Table 6 Summary factors – Incremental costs and benefits

Variable	Discount Rate - 7%
Proposed Kempsey LGA Project (seal west of Bellbrook)	
Net Present Cost (NPC)	\$416,959
Net Present Benefits (NPB)	\$5,072,868
Net Present Value (NPV)	\$4,037,349.17
Benefit Cost Ratio (BCR)	12.166
Proposed ARC LGA Projects (3 Upgrades)	
Net Present Cost (NPC)	\$4,433,253
Net Present Benefits (NPB)	\$7,896,924
Net Present Value (NPV)	\$3,463,670
Benefit Cost Ratio (BCR)	1.781
Total Works	
Net Present Cost (NPC)	\$4,850,212
Net Present Benefits (NPB)	\$12,969,791
Net Present Value (NPV)	\$8,119,579
Benefit Cost Ratio (BCR)	2.674

From Table 6 above, all listed projects possess a Benefit Cost Ratio above one and positive Net Present Values. Severe incidents attributable to the inability of emergency services to promptly render assistance, could be prevented if a high quality road was available.

Table 7 Results (2018-dollar terms, 7% discount rate)

Value	Base Case	KSC Project	ARC Projects (x 3)	Total Works
Costs				
Capital costs	Nil	\$4,224,342	\$9,810,465	\$14,034,806
Operating costs	\$6,423,775	\$1,725,072	\$1,046,563	\$2,771,635
Refurbishments	Nil	\$474,862	0	\$474,862
Benefits				
Travel time savings	Nil	\$2,013,962	\$1,094,631	\$3,108,593
VOC savings	Nil	\$731,297	\$851,733	\$1,583,031
Externality impacts	Nil	0	0	\$0
Accident reduction	Nil	\$1,991,663	\$5,239,752	\$7,231,415
Residual value	Nil	\$335,945	\$710,807	\$1,046,751
Summary				
Benefits (Inc.)		\$5,072,868	\$7,896,924	\$12,969,791
Costs (Inc.)		\$416,959	\$4,433,253	\$4,850,212
Net Present Value		\$4,655,908	\$3,463,670	\$8,119,579
Benefit Cost Ratio		12.166	1.781	2.674

As shown above the development of all proposed upgrade projects results in a BCR result above one and passes the economic hurdle under default assumptions. On a practical level, maintaining the base case is an untenable solution, as Council does not have the resources to manage the road to an appropriate standard. The history of unplanned maintenance, landslips, and falls may lead to a situation where the road falls into an expedited state of disrepair.

A sensitivity analysis was conducted to assess the robustness of the results to a change in input assumptions. This sensitivity analysis is provided in Table 8 below and considers a change in discount rate, capital costs, total costs, and benefits.

8.1 Sensitivity analysis

Sensitivity analysis has been conducted with regards to changes to key variables as per the TfNSW guidelines. Changes in capital expenditure and average speed has minimal impact on the BCR due to the size of the capital expenditure and the high level of benefits created as a result of the proposed upgrades.

Because benefits are accrued over the life of the up-front investment, the BCR of the project will be higher at lower discount rates.

Table 8 Discount rate variation

Benefit Cost Ratio	4%	Default (7%)	10%
Kempsey LGA Project	25.54	12.17	4.32
Armidale LGA Projects (x 3)	3.10	1.78	1.17
Total Works	5.41	2.67	1.66

Table 9 IRR, BCR and NPV metrics

Project	NPV	BCR	IRR
Kempsey LGA Project	\$4,351,316	12.166	21.18%
Armidale LGA Projects (x 3)	\$3,237,075	1.781	11.37%
Total Works	\$7,588,391	2.674	14.32%

Table 10 Payback periods

Project Payback Periods	Undiscounted	Discounted
Kempsey LGA Project	7	8
Armidale LGA Projects (x 3)	11	14
Total Works	9	11

9. Reclassification benefits

Overall, there would be several advantages to the region from reclassifying and then remediating at a minimum, the entire road between Armidale and Kempsey. Remediation refers to assuring the safety of the road through works similar to those proposed for Flying Fox, Big Hill and Blackbird Flat. Full sealing of the road would be an expensive option and require a more thorough analysis and proof of concept.

Reasons for reclassification include:

- Enhanced level of maintenance and service to road users.
- Opportunities for extension of bitumen seal along the length of the road.
- Road safety improvements along the length of the road.
- Enhanced opportunity for funds to improve batter stability.
- Increased exposure for tourism growth and social inclusion for communities between Armidale and Kempsey.
- A contingency route, as it is the only east-west route in the region that is not a regional or state road.



Figure 9-1 Unsealed and narrow part of the road

Indirect benefits such as tourism or social connectivity could not be realised if any part of Armidale-Kempsey Road is regarded as unsafe for use. This includes benefits such as access for freight and first responders. This cannot occur without reclassification.

The primary freight related benefit would be for agricultural land uses. The route is also used by logging trucks, often occurring out of the Five Day Creek Road area. At present, heavy vehicle movements originating from beyond Bellbrook are being performed by rigid heavy vehicles rather than larger semi-trailers, resulting in inefficiencies in the transport of agricultural goods.

Local businesses would benefit as improved road conditions would see additional vehicles using the route. There would also be a minor benefit for the destinations, as they would see traffic that would otherwise use alternative routes originating from other towns.

Waterfall Way, whilst at a higher standard than Armidale-Kempsey road, can be susceptible to frequent flooding. Upgrading and reclassification of the Armidale to Kempsey road would enable it to act as an alternative route when flooding prevents passage via Waterfall Way. Note that flooding statistics have not been provided and this has not been quantified.



Figure 9-2 Limited sight distance on corners creates risk of control loss and side collisions

9.1 Social inclusion

Social inclusion refers to people's ability to participate adequately in society, including education, employment, public service, social and recreational activities. Social exclusion describes the existence of barriers that make it difficult or impossible for people to participate fully in society.

Social inclusion recognizes that many are excluded from the opportunities they need to create the life they want, and can become trapped in spirals of disadvantage. This can be caused by family circumstances, low expectations, community poverty, and a lack of suitable and affordable housing, illness, or discrimination. The costs of this social disadvantage are high to individuals, communities and the nation.

Reclassification of the road would further the aim of social inclusion by increasing the ability of the community to traverse freely. The benefit relies on induced demand, given a 10 kilometre seal west of Bellbrook would still leave another 50 kilometres unsealed between the edge of the seal and Armidale.

9.1.1 Valuation of additional trips

People make trips for different purposes including social, recreational, shopping, commuting, business or educational. More trips mean less risk of social exclusion. *Stanley et al (2010)* undertook an empirical study to measure people's willingness to pay for increased mobility.³

The model in Stanley et al estimated that an individual is willing to pay **\$19.30** for an additional trip to engage in more activities to overcome social exclusion. The total generalised travel cost would be \$10.18 for the trip. As the person is willing to pay \$19.30 for the trip, the consumer surplus is **\$9.12** in 2009 terms.

In 2018 dollars, price inflation would have increased this figure 19.59% to \$10.91. The willingness to pay and the consumer surplus are particularly relevant to the assessment of new transport services.

The route connects two major shires in the region and several respondents remarked that reducing the time and distance associated with social connectivity would prompt greater uptake of physical activity.

Benefits of active transport are quantified in the guidelines but estimation of the magnitude of uptake of this activity could not be reliably quantified. The associated economic benefits of participation in sport are discussed in the *Principles and Guidelines for Economic Appraisal of Transport Investment and Initiatives (TfNSW, 2013)* and whilst useful, calculation of increased participation can be difficult to accurately quantify, but provides a useful starting point.

9.1.2 Summary

Valuation of the additional trips is linked to induced demand from the road trips. This is valued under the RMS demand induction method, described in the appendices.

Induced trips along the route would increase the trips of light vehicles by approximately 5.67% on current levels. This would translate to approximately 5,500 trips by light vehicles in the opening year, increasing in-line with population growth thereafter. The results are summarised below in Table 11. The value of connection is pro-rated along the length of the road in each shire. 64 kilometres of 77 belongs to ARC, so it is assigned 83% of this figure and the remainder to the KSC stretch of road.

Table 11 Social benefits

Vehicle Type	Induction	Surplus of trip (\$2018)	NPV Social Connection
Light Vehicles only	5.67%	\$10.91	\$410,426
Heavy vehicles	Not quantified. Insufficient information from freight carriers.		

9.2 Tourism impacts

Tourism is an industry that benefits many sectors influencing the Australian economy. For example retail, hospitality, transportation, the arts, and sports. As tourists consume goods and services multiple sectors of the economy, tourism does not fit consistently within the conventional framework used to calculate measures of economic activity.

In 2016–17, the GDP from tourism increased 6.1% (or \$3.2 billion), to reach a record of \$55.3 billion in nominal terms.

³ TfNSW; Guidelines for Economic Evaluation of Transport Projects; 2018

There are few case studies of road sealing projects that provide researched and analysed data on the impacts of sealing following the completion of the project. A review of case studies on the impacts of sealing major roads or highways that serve as tourism routes in other parts of Australia reveals the following:

Karratha Tom Price Road, WA

The Karratha-Tom Price Road links the regional centres of Karratha and Tom Price. These communities are traditional mining towns and growing tourism destinations in the Pilbara region of Western Australia. Survey data collected in 2017 indicates that a significant uplift in tourist demand would be realised if the Karratha-Tom Price Road was sealed (Metrix 2017). Sealing the road to remove the safety risk and create a more time-efficient route between destinations was forecast to increase demand by more than 70% per annum in the short term, which would stabilise at or around an annual growth rate of 20-30%.

Grampians Way, Victoria

Urban Enterprises prepared a scoping study in 2012 for the Grampians Tourism Board for the proposed Grampians Way Ring Road around the Grampians National Park. A key objective was to mitigate the impact of future road closures facilitating visitor dispersal, and developing the touring route as a tourism product in its own right. The report stated that severe flooding resulting in the closure of the major touring routes through the Grampians National Park affected visitation numbers. For example, 14% less visitors were recorded in the year to June 2011 compared to the preceding year to June 2010.

Tourism benefits from sealing unsealed roads, Waipoua Forest Road, NZTA

This report records the effects of improving the Waipoua Forest section of State Highway 12, Northland, New Zealand, using a 'before and after' study of the attitudes of tourists and other road users. The study was undertaken between 1993 and 1997. The responses from the before (1994) and after (1997) surveys have been compared to identify any changes between the two surveys. Changes were examined to assess the degree of change, if any, which could be attributed to the sealing of Waipoua Forest road.

Completion of the road sealing affected the attitudes and behaviour of tourists in regard to travelling through Waipoua Forest. Use of the Waipoua road increased significantly following completion of the sealing programme, and local tourist operators reported increased levels of tourist activity.

Bogong High Plains Road, Falls Creek, Victoria

According to a review of case studies by Urban Enterprises (2012), the sealing of 31 km of Bogong High Plains Road in April 2009 created a unique alpine loop for car tourers and motorcyclists, as well as providing an alternative route to Falls Creek via Omeo. Urban Enterprises reported that traffic volumes along the route increased by 12% between 2008 and 2011. Furthermore, Alpine Shire estimates that as a result of the road development, over 5% of visitors to the region will extend their stay by an additional night.

Anecdotal evidence and case studies from elsewhere in Australia suggests that if an outback or regional road is sealed, there is at least a 15% to 40% uplift in traffic movements along that road. Officers from the The South Australian Tourism Commission reported that sealing of the 61 km Wilpena to Blinman Road in the Flinders Ranges in 2010 saw caravan and other vehicle traffic to Blinman increase by 25% to 30% through access to South Australian RTA Daily Traffic (AADT) statistics.

9.2.1 Tourism characteristics

REMPAN, draws on Tourist Expenditure Profile data sourced from Tourism Research Australia (TRA), shows the average length of stay for both domestic overnight and international visitors.

Table 12 REMPLAN Tourism data, Armidale Regional Council

Type	Domestic Day	Domestic Overnight	International	Total
Average Stay (# Nights)	-	2.7	21	-
Total visitor nights	-	585,669	181,097	766,766
Total visitors	1,550,542	1,227,897	47,685	2,826,124
Avg accommodation spend	-	\$172	\$77	\$249
Average Spend per Night	-	\$134	\$64	\$198
Avg spend per night incl. accom.	-	\$306	\$141	\$447
Average Spend per Trip	\$155.00	\$826	\$2,961	\$1,396 B ⁴
Visitor composition	54.9%	43.4%	1.7%	100.0%

Road estimates used in this project estimated an AADT of 127 vehicles per day along the route in question.

If the traffic uptake of 5.67% was realised on this figure, the following benefits could be implied. These figures are estimates and are not added to the existing Cost-Benefit ratio.

REMPAN tourist data estimates that one in eleven visitors to the region is international. Of domestic visitors, 56% stay overnight and 44% only visit for the day⁵. With reference to Table 12, this could increase regional tourism gain by up to \$3.3 million a year. This figure of \$3.3 million would require all new induced demand to be converted to tourism.

Findings from the TRA International Visitor Survey indicate an uptake of 30% would be a more realistic estimation. The survey found up to 45% of visitors to Armidale and Kempsey visited the region for holidaying purposes. Increased access and exposure to sites such as the Blackbird Flat camping grounds, depicted below, would not be possible without guaranteed safe uses of the road.

⁴ Sum of historical per person expenditures multiplied by respective persons visiting.

⁵ Destination NSW and TRA; Armidale profile; 2017, <https://www.destinationnsw.com.au/wp-content/uploads/2012/03/Armidale-Regional-LGA-profile.pdf>, Access 18/08/18



Figure 9-3 Blackbird Flat camping grounds Source Visit NSW, 2018

The above Table 12 does not induced trips from heavy vehicles, as only passenger vehicles or passenger buses have been assumed to supply tourists. Heavy vehicle induction and benefits will require more detailed studies. Table 13 assumes the NPV induced by road safety improvements would 30% of the annual increase in traffic as stemming from 'new tourism.'

Table 13 Potential tourist gains (\$p.a above Base)

Type	Overnight Domestic	Day Domestic	International
Weightings	56%	44%	N/A
%	43.4%	54.9%	1.7%
Average expenditure (pp.)	\$155	\$826	\$2,961
Weighted average spend pp.			\$494
Uptake			30%
NPV Induced tourism			\$9.65 million

10. Reclassification analysis

The previous chapters above focus on establishing the viability of the proposed projects. The reclassification analysis follows below.

10.1 Road classification

Under the status quo, the stretch of road between Wollomombi and Brookfield along Armidale-Kempsey Road is designated as local. An argument to reclassify the road centres around who is obliged to maintain the road to an acceptable standard.

In this sense, the party responsible for road maintenance incurs both the capital and operating costs required to maintain the road to the appropriate level, as well as the benefits associated with its continued operation.

The decision to regrade the road ultimately must come down to the ability of the respective parties to manage it to the appropriate standard, and to realise the full potential of the road.

10.2 Council ability to meet high service level funding

The current situation poses an issue because neither ARC nor KSC possess the requisite funds to maintain the roads to a high level of service (LOS). After proposed works, ARC would be able to spend \$170,000 per annum to maintain the entire local road, to LOS 3, as defined in the Road management Strategy (2017). ARC estimates that maintaining the road to a fully compliant LOS; ensuring adequate provision for planned and unplanned maintenance, and preventing premature degradation of the road to two thirds of its lifespan would cost approximately \$340,000 per annum in maintenance.

The proposed project case road in the Kempsey portion would leave 3 km of road unsealed. Kempsey Shire Council have indicated that they could meet the obligation of road maintenance to the amount of \$150,000 per annum, but neither the major reseal (estimated cost \$1.5 million) fifteen years post construction, or the additional cost of maintaining 3 km on unsealed road. Furthermore, landslips would still pose a threat along the unsealed section, at an equivalent annual cost of \$130,000. One justification for reclassification therefore, is if the benefits that are lost from inadequate maintenance of the road, exceed the cost to government and the Roads and Maritime Service, of reclassifying and maintaining the section.

10.3 Benefits lost

The primary reason for reclassification in this instance ignores the indirect benefits in Chapter 9, save social benefits, because social benefits are explicitly mentioned and quantified in the TfNSW guidelines. These forms of indirect benefits, such as Tourism and Freight expediency are not explicitly quantified from the sources provided by the Councils, or externally, such as Tourism Research Australia. They are mentioned to give an indication of the theoretical upsides and wider benefits that could flow from such road works.

These wider benefits are also dependent on the existence of a fully compliant and safe road. Safety has been a paramount consideration in this submission and the allure of tourism and social use of the road will not outweigh safety concerns. Treasury NSW guidelines also state that indirect benefits of this nature should not be used to bolster a core benefit-cost ratio, so they are used here as a ceiling, not a floor.

Table 14 Reclassification - core benefit BCR

Project Case: State retains 100% funding obligation	ARC LGA (64 km)	KSC LGA (13 km)
Maintenance liability		
CAPEX – Refurbishments included	Nil	\$474,862
Maintenance liability for road	\$340,000 p.a	\$150,000 p.a
OPEX (NPV)	\$2,450,313	\$1,216,148
Total Project Costs	\$2,450,313	\$1,691,010
Project Case - Benefit Retention		
VHT Savings – Degradation immaterial on speed.		Not included
Accident Savings Retained	\$1,571,926	\$398,333
VOC Savings	\$1,090,219	\$146,259
Residual value	\$213,242	\$67,189
Elimination of residual hazards – 3 km track	Nil	\$1,482,410
Social induction of travel	\$340,653	\$80,794
Benefits - reclassification and degradation avoidance	\$3,216,040	\$2,174,985
NPV	\$765,727	\$483,975
BCR	1.313	1.286

As seen above, reclassification would prevent loss of benefits due to premature wear and tear. This has been estimated at 20% for sealed roads and 30% for gravel roads, given the latter class is more prone to premature degradation if not adequately managed. This estimation follows from *Methods of Road Condition Projection (BITRE, 1984 and 2010)*.

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GHD Report for Armidale Regional Council and Kempsey Shire Council - Armidale - Kempsey Road Reclassification Analysis

11. Conclusions

Preliminary cost estimates indicate that the nominated project upgrades to the Armidale – Kempsey roads could result in several benefits. A BCR of 2.34 is anticipated for the combined proposed road works discussed within this report. The full set of works possess a Benefit Cost Ratio above one, individually and in the aggregate.

While the proposed project in the Kempsey LGA performs well due to its ability to speed traffic up safely, the proposed works within ARC jurisdictions should serve to reduce the likelihood of fatalities and severe accidents, such as those seen in early 2018.

Indirect benefits for reclassification are summarised in Table 15 below. As Table 14 indicates, reclassification retains a BCR above one without inclusion of indirect benefits such as tourism.

Table 15 Reclassification and rework benefits

Benefit	Value (\$2018)
Time savings	\$14.47 m
Accident savings	\$2.62 m
Tourism	\$9.65 m
Social benefits	\$0.410 m

The above benefits in Table 15 could only begin to be realised if the entire road was completely remediated to the minimum safety standard implied for the three sections in the Armidale Regional Council. This remediation could not occur without road reclassification and the subsequent maintenance funding it entails. While the road is perceived to be unsafe, no tourism benefits or induced traffic could be realistically realised.

Reasons to reclassify the road to the original Regional Road status include:

- The volume of vehicles on the road more than doubled (factor 2.60 increase) relative to the 2001 numbers that were used to classify parts of Armidale-Kempsey road as 'Local.' This is supported by RMS traffic counts.
- Isolated grazing properties cannot expand into new markets when hampered by supply chain and climate costs.
- Freight costs are noted to be increasing because of the reliance on rigid-trucks.
- Past assumptions about the significance of the road should be revisited.
- Maintenance liabilities currently exceed council funding ability. This which may lead to further deterioration of the road and further safety concerns.



- Dwindling education access has been directly attributed to students in the area.
- Alternative routes such as Waterfall Way remain prone to flooding and disruption. Investment in Armidaie-Kempsey Road would allow it to be used as a strategic contingency route.

Other issues such as safety and constructability will ultimately determine future project feasibility. However, a compelling social and economic argument exists for the improvement and reclassification of the road.



Appendices

Appendix A Modelling



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Project Results		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1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Attachment 1

Appendix B Information provided



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Accident Records

Kempsey Road - Crash Data Report: 1 Jul 2012 to 30 Jun 2017

Crash No.	Date	Time	Degree of Crash Detail	Number Killed	Number Seriously Injured	Number Moderately Injured	Number Minor/Other Injured	Number Uncategorised Injured	Latitude	Longitude	Road Classification Legal	Road Classification Admin (State, Regional, Local)
811732	22/09/2012	0930	Serious injury	-	2	-	-	-	35.218246	-150.719636	Other classified road	Regional
816134	20/10/2012	0830	Non-casualty (Hit-and-run)	-	-	-	-	-	35.2420494	-150.742546	Other classified road	Regional
100863	27/12/2012	1130	Minor/Other injury	-	-	-	1	-	35.2189055	-150.743170	Other classified road	Regional
827891	30/12/2012	1500	Minor/Other injury	-	-	-	1	-	35.2189105	-150.67470	Other classified road	Regional
1041925	01/11/2014	0715	Moderate injury	-	-	1	-	-	35.2126129	-150.711139	Unclassified road	Local
1052735	16/12/2014	1630	Non-casualty (Hit-and-run)	-	-	-	-	-	35.2154787	-150.770339	Unclassified road	Local
1081189	08/12/2014	1700	Non-casualty (Hit-and-run)	-	-	-	-	-	35.2185045	-150.675327	Unclassified road	Local
1070937	23/05/2015	1745	Serious injury	-	4	-	-	-	35.2163843	-150.581781	Unclassified road	Local

Crash No.	Street ID Crash	Distance from ID feature (m)	Direction from ID feature	Identifying Feature	Town	LSGA	RMS Region	Speed Limit (km/h)	Type of Road	Road Alignment
811732	KEMPSEY RD	36000	South	WATERFALL WAY	GEORGE CREEK	Armidale Regional	Northern	100	2-Way undivided	Curved
816134	KEMPSEY RD	30	South	GEORGE CREEK BRIDGE	GEORGE CREEK	Armidale Regional	Northern	80	2-Way undivided	Curved
100863	KEMPSEY RD	40000	South	GEORGE CREEK	GEORGE CREEK	Armidale Regional	Northern	80	2-Way undivided	Curved
827891	KEMPSEY RD	11700	South	GEORGE CREEK	GEORGE CREEK	Armidale Regional	Northern	100	2-Way undivided	Curved
1041925	KEMPSEY RD	300	West	GEORGE CREEK BRIDGE	GEORGE CREEK	Armidale Regional	Northern	100	2-Way undivided	Curved
1052735	KEMPSEY RD	60000	East	ARMADALE RD	GEORGE CREEK	Armidale Regional	Northern	80	2-Way undivided	(Straight)
1081189	KEMPSEY RD	101	West	SPYRIVER FOREST WAY	GEORGE CREEK	Armidale Regional	Northern	90	Divided road	Curved
1070937	KEMPSEY RD	15000	South	WATERFALL WAY	GEORGE CREEK	Armidale Regional	Northern	100	2-Way undivided	Curved

Crash No.	Road Surface	Surface Condition	Weather	Natural Lighting	RUM Code	RUM Description	No. Traffic Units	Key TLU Direction	Type of crash - Cr.	Type of crash - Cr.	Fatigue Involved
811732	Unsealed	Dry	Fine	Daylight	85	Off-ramp/road-side	1	North	-	2	No or unknown
816134	Unsealed	Dry	Fine	Darkness	80	Off-ramp/road-side	1	South	-	1	No or unknown
100863	Unsealed	Dry	Fine	Daylight	20	Head-on	2	South	1	-	No or unknown
827891	Unsealed	Dry	Fine	Daylight	20	Head-on	2	North	1	1	No or unknown
1041925	Unsealed	Dry	Fine	Darkness	85	Off-ramp/road-side	1	West	-	1	Yes
1052735	Unsealed	Dry	Fine	Daylight	29	Other exposure	2	East	1	-	No or unknown
1081189	Unsealed	Dry	Fine	Daylight	26	Head-on	2	West	-	1	No or unknown
1070937	Sealed	Wet	Rainy	Darkness	85	Off-ramp/road-side	1	South	-	1	Yes



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Vehicle counts

**Armidale Regional Council
Kempsey Rd Traffic Survey Report**

Location	600m from Waterfall Way			
Start Date	23/06/2004	24/05/2007	10/11/2015	22/09/2016
End Date	10/08/2004	26/06/2007	27/11/2015	26/10/2016
Duration	48	33	17	34
Total Vehicles	4834	3478	2133	4263
Daily Vehicles	101	105	125	125
Class Bins	Class 1 - 4044 (83.66%)	Class 1 - 2876 (82.69%)	Class 1 - 1672 (78.39%)	Class 1 - 3316 (77.79%)
	Class 2 - 363 (7.51%)	Class 2 - 184 (5.29%)	Class 2 - 137 (6.42%)	Class 2 - 407 (9.55%)
	Class 3 - 269 (5.56%)	Class 3 - 265 (7.62%)	Class 3 - 253 (11.86%)	Class 3 - 368 (8.63%)
	Class 4 - 37 (0.77%)	Class 4 - 33 (0.95%)	Class 4 - 13 (0.61%)	Class 4 - 47 (1.10%)
	Class 5 - 1 (0.02%)	Class 5 - 2 (0.06%)	Class 5 - 1 (0.05%)	Class 5 - 2 (0.05%)
	Class 6 - 20 (0.41%)	Class 6 - 16 (0.46%)	Class 6 - 15 (0.70%)	Class 6 - 19 (0.45%)
	Class 7 - 23 (0.48%)	Class 7 - 7 (0.20%)	Class 7 - 15 (0.70%)	Class 7 - 16 (0.38%)
	Class 8 - 11 (0.23%)	Class 8 - 16 (0.46%)	Class 8 - 4 (0.19%)	Class 8 - 2 (0.05%)
	Class 9 - 56 (1.16%)	Class 9 - 57 (1.64%)	Class 9 - 27 (0.80%)	Class 9 - 44 (1.03%)
	Class 10 - 10 (0.21%)	Class 10 - 22 (0.63%)	Class 10 - 6 (0.28%)	Class 10 - 42 (0.99%)
	Class 11 - 0 (0.00%)	Class 11 - 0 (0.00%)	Class 11 - 0 (0.00%)	Class 11 - 0 (0.00%)
	Class 12 - 0 (0.00%)	Class 12 - 0 (0.00%)	Class 12 - 0 (0.00%)	Class 12 - 0 (0.00%)

Location	1150m from Waterfall Way	100m Sth of Oakey Dam Rd	150m Nth of Forest Way
Start Date	31/10/2006	25/09/2002	7/12/2004
End Date	5/12/2006	8/10/2002	7/02/2005
Duration	35	13	62
Total Vehicles	3556	1426	2470
Daily Vehicles	102	110	40
Class Bins	Class 1 - 2952 (83.01%)	Class 1 - 1196 (83.87%)	Class 1 - 2138 (86.56%)
	Class 2 - 242 (6.81%)	Class 2 - 90 (6.31%)	Class 2 - 191 (7.73%)
	Class 3 - 211 (5.93%)	Class 3 - 113 (7.92%)	Class 3 - 117 (4.74%)
	Class 4 - 41 (1.15%)	Class 4 - 10 (0.70%)	Class 4 - 12 (0.49%)
	Class 5 - 2 (0.06%)	Class 5 - 0 (0.00%)	Class 5 - 0 (0.00%)
	Class 6 - 28 (0.79%)	Class 6 - 0 (0.00%)	Class 6 - 3 (0.12%)
	Class 7 - 10 (0.28%)	Class 7 - 9 (0.63%)	Class 7 - 6 (0.24%)
	Class 8 - 12 (0.34%)	Class 8 - 0 (0.00%)	Class 8 - 0 (0.00%)
	Class 9 - 56 (1.57%)	Class 9 - 8 (0.56%)	Class 9 - 3 (0.12%)
	Class 10 - 2 (0.06%)	Class 10 - 0 (0.00%)	Class 10 - 0 (0.00%)
	Class 11 - 0 (0.00%)	Class 11 - 0 (0.00%)	Class 11 - 0 (0.00%)
	Class 12 - 0 (0.00%)	Class 12 - 0 (0.00%)	Class 12 - 0 (0.00%)



**Armidale Regional Council
Kempsey Rd Traffic Survey Report**

Location	At Newells Creek Culvert		100m Nth of Georges Ck Bridge
Start Date	7/12/2004	11/10/2016	19/07/2005
End Date	7/02/2005	18/11/2016	10/08/2005
Duration	62	38	22
Total Vehicles	2261	807	254
Daily Vehicles	36	21	12
Class Bins	Class 1 - 1966 (86.95%)	Class 1 - 533 (66.05%)	Class 1 - 137 (53.94%)
	Class 2 - 171 (7.56%)	Class 2 - 57 (7.06%)	Class 2 - 7 (2.76%)
	Class 3 - 103 (4.56%)	Class 3 - 170 (21.07%)	Class 3 - 83 (32.68%)
	Class 4 - 11 (0.49%)	Class 4 - 9 (1.12%)	Class 4 - 8 (3.15%)
	Class 5 - 1 (0.04%)	Class 5 - 2 (0.25%)	Class 5 - 0 (0.00%)
	Class 6 - 2 (0.09%)	Class 6 - 25 (3.10%)	Class 6 - 5 (1.97%)
	Class 7 - 4 (0.18%)	Class 7 - 7 (0.87%)	Class 7 - 5 (1.97%)
	Class 8 - 0 (0.00%)	Class 8 - 0 (0.00%)	Class 8 - 2 (0.79%)
	Class 9 - 3 (0.13%)	Class 9 - 3 (0.37%)	Class 9 - 7 (2.76%)
	Class 10 - 0 (0.00%)	Class 10 - 1 (0.12%)	Class 10 - 0 (0.00%)
	Class 11 - 0 (0.00%)	Class 11 - 0 (0.00%)	Class 11 - 0 (0.00%)
	Class 12 - 0 (0.00%)	Class 12 - 0 (0.00%)	Class 12 - 0 (0.00%)

Location	40m Sth of Lower Creek Rd	150m East of Dyke Creek	20m West of LGA Boundary
Start Date	11/10/2016	19/07/2004	3/06/2005
End Date	23/11/2016	10/08/2004	27/06/2005
Duration	43	22	24
Total Vehicles	2065	576	1322
Daily Vehicles	48	26	55
Class Bins	Class 1 - 1646 (79.71%)	Class 1 - 494 (85.76%)	Class 1 - 1143 (86.46%)
	Class 2 - 163 (7.89%)	Class 2 - 54 (9.38%)	Class 2 - 72 (5.45%)
	Class 3 - 226 (10.94%)	Class 3 - 25 (4.34%)	Class 3 - 97 (7.34%)
	Class 4 - 4 (0.19%)	Class 4 - 1 (0.17%)	Class 4 - 4 (0.30%)
	Class 5 - 0 (0.00%)	Class 5 - 0 (0.00%)	Class 5 - 2 (0.15%)
	Class 6 - 13 (0.63%)	Class 6 - 0 (0.00%)	Class 6 - 0 (0.00%)
	Class 7 - 6 (0.29%)	Class 7 - 0 (0.00%)	Class 7 - 3 (0.23%)
	Class 8 - 6 (0.29%)	Class 8 - 1 (0.17%)	Class 8 - 1 (0.08%)
	Class 9 - 1 (0.05%)	Class 9 - 1 (0.17%)	Class 9 - 0 (0.00%)
	Class 10 - 0 (0.00%)	Class 10 - 0 (0.00%)	Class 10 - 0 (0.00%)
	Class 11 - 0 (0.00%)	Class 11 - 0 (0.00%)	Class 11 - 0 (0.00%)
	Class 12 - 0 (0.00%)	Class 12 - 0 (0.00%)	Class 12 - 0 (0.00%)



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Appendix C Technical Factors

Reference tables from TfNSW guidelines (2018) included.



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Weekday to Annual Traffic Conversion Factors

Time	Roads - Urban	Roads - Rural	Train	Bus	
Peak 1 hour to weekday	14.31	12.1	6.08	7.1	
Peak 2 hour to weekday	7.21	6.13	3.58	4.34	
Peak 3.5 hour to weekday	4.46	3.61	3.04	3.19	
Weekday to annual	345	347	300	300	Volume
Time	Roads - Urban	Roads - Rural	Train	Bus	
Peak 1 hour to weekday	13.53	11.5			
Peak 2 hour to weekday	6.81	5.83			
Peak 3.5 hour to weekday	4.22	3.43			
Weekday to annual	365	365	N/A		AADT

TABLE 72

TABLE 73

Demand Elasticity

Mode	Rail	Bus	Car operating cost	Public transport fare cost	Car VHT
Rail	-0.25	0.004	0.009	0	0
Bus	0.009	-0.383	0.005	0	0
Car	0.015	0.007	-0.014	0	-0.12

TABLE 69

Train elasticity	Peak	Off-peak	Overall
Fare	-0.35	-0.42	-0.38
Rail VHT	-0.63	-0.74	-0.67
Service interval	-0.28	-0.32	-0.3
Generalised journey time	-1	-1.16	-1.07

TABLE 70

Train elasticity	Peak	Off-peak	Overall
Fare	-0.25	-0.5	-0.35
Rail VHT	0.25	0.5	0.35
Service interval	-0.3	-0.5	-0.4

TABLE 71


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Asset Lives

Class	Min	Max	Mid
Network	-	-	-
Earthworks	100	150	125
Bridges	120	120	120
Tunnels	100	100	100
Culverts	100	120	110
Sleepers	20	50	35
Road pave: asphalt / bitumen	20	10	Resurface per 10 yrs
Road pave: concrete	40	20	Resurface per 20yrs
Nodal infrastructure	-	-	-
Interchanges	50	-	-
Commuter parking	50	-	-
Bus stops	20	-	-
Wharves	40	-	-
Rail stations	50	-	-
System infrastructure	-	-	-
Rail sign & comms	10	20	15
Traffic lights	20	30	25
Control systems	5	-	-


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Accident Costs. RMS Appendix 4

WTP			Indexation factor		
Injury severity	Urban	Non-urban		Urban	Non-urban
Value of statistical life (VSL)	\$ 7,278,105	\$ 7,968,950	1	\$ 7,278,105	\$ 7,968,950
Value of serious injury (VSI)	\$ 436,643	\$ 578,107	1	\$ 436,643	\$ 578,107
Value of hospitalised injuries (VHI)	\$ 67,045	\$ 86,016	1	\$ 67,045	\$ 86,016
Value of minor injuries (VMI)	\$ 67,045	\$ 86,016	1	\$ 67,045	\$ 86,016
Property Damage Only (PDO)	\$ 10,139	\$ 10,139	1	\$ 10,139	\$ 10,139
Inclusive WTP					
Value of statistical life (VSL)	\$ 7,653,597	\$ 9,058,911	1	\$ 7,653,597	\$ 9,058,911
Value of serious injury (VSI)	\$ 497,393	\$ 686,163	1	\$ 497,393	\$ 686,163
Value of hospitalised injuries (VHI)	\$ 83,423	\$ 110,188	1	\$ 83,423	\$ 110,188
Value of minor injuries (VMI)	\$ 76,668	\$ 101,259	1	\$ 76,668	\$ 101,259
Property Damage Only (PDO)	\$ 10,139	\$ 10,139	1	\$ 10,139	\$ 10,139
Hybrid Human Capital					
Value of statistical life (VSL)	\$ 2,463,432	\$ 2,463,432	1	\$ 2,463,432	\$ 2,463,432
Value of serious injury (VSI)	\$ 629,484	\$ 629,484	1	\$ 629,484	\$ 629,484
Value of hospitalised injuries (VHI)	0	\$ -	1	\$ -	\$ -
Value of minor injuries (VMI)	\$ 22,992	\$ 22,992	1	\$ 22,992	\$ 22,992
Property Damage Only (PDO)	\$ 10,139	\$ 10,139	1	\$ 10,139	\$ 10,139


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Value of travel times	Non-urban	Non-urban	Non-urban
Vehicle classes	Occupancy rate / vehicle	\$ per VMT per occupant	Freight (\$/VMT)
Cars (all types)			
Private	1.7	16.89	0
Business	1.3	54.78	0
Utility vehicles			
04. Courier Van-Utility	1	28.62	0
05. 4WD Mid Size Petrol	1.5	28.62	0
Rigid trucks			
06. Light Rigid	1.3	28.62	0.81
07. Medium Rigid	1.2	28.97	2.19
08. Heavy Rigid	1	29.50	7.51
Articulated trucks			
10. Artic 4 Axle	1	30.20	18.15
11. Artic 5 Axle	1	30.20	20.59
12. Artic 6 Axle	1	30.20	22.21
Combination vehicles			
13. Rigid + 5 Axle Dog	1	30.64	31.75
14. B-Double	1	30.64	32.72
15. Twin steer + 5 Axle Dog	1	30.64	30.68
16. A-Double	1	31.52	42.96
17. B Triple	1	31.52	43.86
18. A/B Combination	1	31.52	52.82
19. A-Triple	1	32.05	63.33
20. Double B-Double	1	32.05	64.05
Buses			
09. Heavy Bus (driver)	1	28.97	0
09. Heavy Bus (passenger)	20	16.89	0


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https://projects.ghd.com/oc/Newcastle2/armidaleroadeconomic/Delivery/Documents/22185121703_ECO_KA_Road_Reclassification.docx

Rev.No.	Author	Reviewer Name	Signature	Approved for Issue Name	Signature	Date
Rev 03	V. Noutso	Wennie van Lint		A. Fletcher		05/11/2018



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ROADS AND MARITIME SERVICES

DELEGATION TO COUNCILS

REGULATION OF TRAFFIC

DELEGATION - SECTION 50



SCHEDULE 1**(Delegates)**

The Council of the Municipality of Ashfield
Auburn Council
Bankstown City Council
The Council of the Shire of Baulkham Hills
Blacktown City Council
Blue Mountains City Council
The Council of the City of Botany Bay
Burwood Council
Camden Council
Campbelltown City Council
City of Canada Bay Council
Canterbury City Council
Fairfield City Council
Hawkesbury City Council
Holroyd City Council
The Council of the Shire of Hornsby
The Council of the Municipality of Hunters Hill
Hurstville City Council
Kogarah Municipal Council
Ku-ring-gai Council
Lane Cove Council
Leichhardt Municipal Council
Liverpool City Council
Manly Council
Marrickville Council
Mosman Municipal Council
North Sydney Council
Parramatta City Council
Penrith City Council
Pittwater Council
Randwick City Council
Rockdale City Council
Ryde City Council
Strathfield Municipal Council
Sutherland Shire Council
The City of Sydney
Warringah Council
Waverley Council
Willoughby City Council
Woollahra Municipal Council

SCHEDULE 2

(Delegates)

A council other than those listed in Schedule 1 constituted under the *Local Government Act 1993*

SCHEDULE 3**(Functions)**

The exercise of all the functions of RMS under:

- 1 Division 2 of Part 8 (Regulation of traffic by roads authorities) of the *Roads Act 1993*.
- 2 Division 1 of Part 4 (Traffic control devices) of the *Road Transport (Safety and Traffic Management) Act 1999*.
- 3 Division 2 of Part 5 (Special event parking schemes) of the *Road Transport (Safety and Traffic Management) Regulation 1999*.

SCHEDULE 4**(Limitations)**

1. A council and its sub-delegate must not exercise a function:
 - (1) Outside the area constituted under the *Local Government Act 1993* for which council is the council, or
 - (2) On a road classified as a Freeway, Controlled Access Road, Tollway, Transitway or those roads classified under the *Roads Act 1993*, which are indicated as State Roads in the *Schedule of Classified Roads and State and Regional Roads* published on the RMS internet website (except where exercising a function in respect of portable traffic control light signals).
2. A council and its sub-delegate may only exercise a function in respect of any prescribed traffic control device (defined in clause 131 of the *Road Transport (Safety and Traffic Management) Regulation 1999* for the purposes of section 50 of the *Road Transport (Safety and Traffic Management) Act 1999*) being –
 - (1) any prescribed traffic control device contained in RMS's *Traffic Signs Database* located on its internet website and indicated as "Delegated to Council for Authorisation – Yes", and
 - (2) any portable traffic control lights,and under no circumstances, that is, despite (1) above, will a council or its sub-delegate be permitted to exercise a function in respect of any internally illuminated traffic control device.
3. A council and its sub-delegate must not exercise a function in respect of the following signs:
 - Permissive parking signs
 - No Parking signs
 - No Stopping signson any public road or road or road related area (or any part thereof), which falls within a 1 km radius of any train station listed in RMS's document published on its internet website, titled *Schedule of Nominated Train Stations*, and which has current unrestricted parking, without the approval of RMS.
4. (1) A council listed in Schedule 1 and its sub-delegate must not exercise a function in respect of the following activities including the referral of the matter to the Local Traffic Committee until a Traffic Management Plan, which must include an assessment of the impact of the exercise of the function and proposed measures to ameliorate such impact, has been approved by RMS:

(a) The prohibition of the passage of traffic on a public road or road or road related area to any one or more of the following classes of traffic:

- pedestrians
- vehicles
- motor vehicles

by physical means or regulatory signs (whether a prescribed traffic control device or otherwise) or both;

(b) the installation or display of the following traffic control signs on roads or road related areas:

- No Right Turn
- No Left Turn
- No Entry
- No Turns
- Left Turn Only
- Right Turn Only
- No Trucks
- No Buses
- No Pedestrians

or the installation or display of any other sign or road marking prohibiting or compelling a turning movement;

(c) changing a two-way street into a one-way street or reversing the direction of a one-way street;

(d) the construction of a median strip including a painted island which prevents a turn by a vehicle at the intersection of public roads or roads or road related areas;

(e) reduction in the number of traffic lanes on a public road or road or road related area by physical means or regulatory signs (whether a prescribed traffic control device or otherwise) or both.

(2) A Traffic Management Plan is not required if council certifies to RMS in writing that a No Trucks or No Buses traffic control sign is to be erected solely for the purpose of protecting a road from damage by the passage of motor vehicles.

5. A council and its sub-delegate must not exercise a function in respect of portable traffic control light signals unless:
 - (1) the signals are used in connection with the carrying out of road work on public roads as authorised by the *Roads Act 1993*; and
 - (2) no fixed equipment or fixed cables are used.
6. A sub-delegate must not exercise a function in respect of Division 2 of Part 8 (Regulation of Traffic by Roads Authorities) of the *Roads Act 1993*.
7. A council or its sub-delegate must not exercise a function until they have notified the Commissioner of Police and RMS of any decision taken to exercise a function except where:
 - (1) the advice of the Local Traffic Committee is unanimous; and
 - (2) the council or its sub-delegate propose to follow such advice.
8. Where a council or its sub-delegate has notified or should have notified the Commissioner of Police and RMS of a decision to exercise a function, the council or its sub-delegate must not exercise a function for a period of fourteen (14) days from the date of notification.
9. Where an appeal has been made to the Chairperson of a Regional Traffic Committee in respect of a decision taken by a council or its sub-delegate to exercise a function, a council or its sub-delegate must not exercise the function until the Chairperson of the Regional Traffic Committee determines the appeal.
10. Where the Chairperson of the Regional Traffic Committee has determined an appeal, the council and its sub-delegate must not exercise the function in respect of which an appeal has been made, otherwise than in accordance with the determination of the Chairperson.
11. Before installing or displaying a prescribed traffic control device, a council and its sub-delegate must authorise installation or display (or interference with, alteration or removal) of the device in writing in accordance with section 51 of the *Road Transport (Safety and Traffic Management) Act 1999*.
12. A council or its sub-delegate shall keep a record of installation, display, alteration or removal of a traffic control device. Such a record must include the following:
 - Type and location of the traffic control device;
 - Time and date of completion of installation, display, alteration or removal of the traffic control device.

13. Where a council or its sub-delegate wishes to exercise a function in respect to a "Roadwork Speed Limit" traffic sign (Speed Series (R4) Sign No. R4-212 contained in RMS's Traffic Signs Database located on its internet website, the following conditions apply:
- (1) When the installation period of a 'Roadwork Speed Limit' sign is to be for 6 working days or less:
 - a) authorisation of the use of the 'Roadwork Speed Limit' sign must be carried out by council or a sub-delegate who holds a current Traffic Control at Worksites certificate issued by RMS; and
 - b) the nearest office of RMS is to be notified in writing of Council's intention to implement a roadwork speed limit prior to works commencing; and
 - c) the nearest Police Station is to be notified in writing of Council's intention to implement a roadwork speed limit prior to works commencing.
 - (2) When the installation period of a 'Roadwork Speed Limit' sign is to be for more than 6 working days:
 - a) authorisation of the use of the 'Roadwork Speed Limit' sign must be carried out by council or a sub-delegate who holds a current Traffic Control at Worksites Certificate issued by RMS, and
 - b) the nearest office of RMS is to be notified in writing of Council's intention to implement a roadwork speed limit 7 days prior to works commencing; and
 - c) the nearest Police Station is to be notified in writing of Council's intention to implement a roadwork speed limit 7 days prior to works commencing.
 - (3) The need for a 'Roadwork Speed Limit' sign shall be determined in accordance with the document, "*Traffic Control at Worksites*" Version 3.1 dated April 2006 (RTA Publication No 03.290) issued by the former Roads & Traffic Authority of NSW;
 - (4) 'Roadwork Speed Limit' signs shall be installed in accordance with the "*Traffic Control at Worksites*" document (as already referred to);
 - (5) Records maintained by a council and its sub-delegate in respect to a 'Roadwork Speed Limit' sign must include:
 - a) council's or its sub-delegate's written authorisation of the installation [The sub-delegate's Traffic Control at Worksites Certificate number must be shown.],
 - b) the location,
 - c) the installation time and date, and
 - d) the removal time and date.

(6) The 'Roadwork Speed Limit' sign is to be removed as soon as practicable after the road works have been completed.

14. A council and its sub-delegate must not exercise a function in respect to any of the roads within Sydney Olympic Park including the roads that are coloured mauve on the drawing marked "Sydney Olympic Park Authority, Sydney Olympic Park, Drawing Number HS-J-L-006" dated 29 May 2001 and deposited in the Office of the Sydney Olympic Park Authority (being all the roads referred to in section 41 of the *Sydney Olympic Park Authority Act 2001*).

SCHEDULE 5

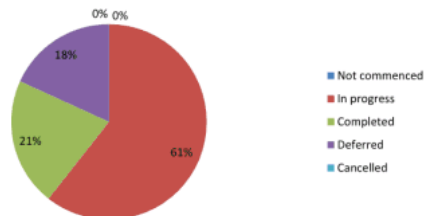
(Sub-delegates)

- 1 A councillor.
- 2 The general manager.
- 3 An employee of the council.

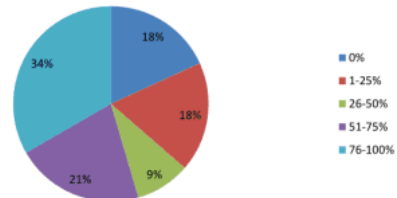
INTEGRATED PLANNING AND REPORTING

DASHBOARD - OPERATIONAL PLAN 2019-2020 SUMMARY (April - June)

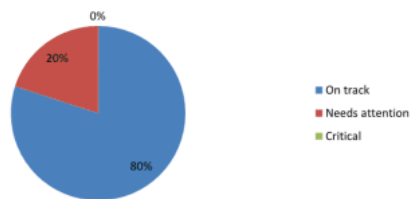
All Actions - Commencement



All Actions - % Completion



All Actions - Project Status



#OP	Operational Plan Actions	Overall Rating	% Complete
E1.4.1	Review Dumaresq Creek Masterplan	Deferred	
E3.1.1	Open Space Plans of Management	Deferred	
G3.4.1	Renewal of Community Facilities	Deferred	
E4.1.1	Cattle Grid policy	Completed	
E4.1.2	Kempsey Road Upgrade	Needs attention	
E4.1.3	Smart Parking in Armidale CBD	Completed	
E4.1.4	Bridge and Causeway Renewal	On track	
E4.1.5	Road Infrastructure Renewal	Needs attention	
E4.1.6	Safety Upgrades at blackspot intersections	On track	
E4.2.1	Regional airport competitive dialogue	Completed	
E4.3.1	Autonomous Vehicle Trial	Completed	
G1.1.1	Armidale Master Plan 2036	On track	
G1.1.3	Armidale Regional Airport Business Park	On track	
G2.3.1	Develop cluster of industry bodies	On track	
G2.4.1	Stronger industry relationships	On track	
G3.1.1	Tourism Strategic Plan	On track	
G4.1.1	Business Ecosystem	On track	
L1.3.1	Villages & Stakeholders Engagement Plan	Deferred	
L2.1.1	Special Rate Variation	On track	
L2.1.2	Harmonisation of water pricing	Deferred	
L2.2.1	Promote Council private / contract works	On track	
L2.3.1	Greater leadership capacity	Completed	
L2.4.1	Improved procurement processes	On track	
L2.4.2	Administration hub	Needs attention	
L2.4.3	Customer services realignment	On track	
L2.4.4	Revised organisation structure	Completed	
L3.4.1	Internal Audit Plan 2019-2022	On track	
L3.4.2	Centralised Compliance Register	Needs attention	
L3.4.3	Property Management Portfolio	On track	
L4.4.1	Work, Health & Safety compliance systems	On track	
P1.2.1	New library technology and programs	On track	
P2.3.1	Local history webpage	Deferred	
P4.1.1	Pre-school strategic review	Completed	

Integrated Planning and Reporting

Operational Plan Action Measures and Progress

Quarterly Report - April - June 2020

DP	E1.4	Protect and enhance the natural environment to promote and support biodiversity
	OP	Review Dumaresq Creek Masterplan and the suite of Council's spatial plans
	Measure	Corporate review of current plans by June 2019
	Progress	This action will be addressed as part of the Armidale Masterplan - G1.1.1
		Deferred
DP	E3.1	Partnerships with all levels of government to support the provision of essential infrastructure for the region
	OP	Open Space Plans of Management
	Measure	100% of generic POMs completed by 30 June 2020
	Progress	Contingent upon development of Property Management Portfolio L3.4.3
		Deferred
DP	E4.2	Create partnerships and facilitate discussions with relevant stakeholders to ensure further progress towards the implementation of the Armidale Airport Masterplan
	OP	Regional airport competitive dialogue
	Measure	* Review operations and options and recommend a way forward by 31 December 2019 * Present options to ELT and councillors in early 2020
	Progress	EOI and recommendations complete. Presentation to Councillors complete.
		Completed
DP	E4.3	Investigate opportunities for increased bus and rail services from remote areas to Armidale town centre to support people to attend work commitments, partake in activities which mitigate social isolation and carry out regular tasks and errands
	OP	Autonomous Vehicle Trial
	Measure	* Conduct Phase 2 * Review Phase 1 * Begin review of Phase 2
	Progress	All phases completed. The project ended 20 February 2020. A white paper in conjunction with all partners will be completed August. ARDi is currently still stored in Armidale during COVID-19, but will be transported once restrictions ease.
		Completed

DP	G1.1
	Plan for the needs of the region
	OP
	Armidale Master Plan 2036
Measure	Master Plan prepared by June 2020
Progress	Data from the Draft Masterplan will be incorporated into the Local Strategic Planning Statement (LSPS) to be placed on public exhibition August 2020
	In Progress
	51-75%
	On track
	On Budget
OP	Development of Armidale Regional Airport Business Park
Measure	Funding secured & build commenced, with contracts signed for service centre and 10 blocks. Erection of Bill Boards on both sides of the highway
Progress	Contractors are continuing works, with 75% of works completed. Drainage and utilities are completed. Landscaping will commence soon.
	In Progress
	76-100%
	On track
	Below Budget
DP	G2.3
	Develop partnerships with operators in the agricultural sector including local agencies and UNE, to encourage careers in agriculture
OP	Develop cluster of industry bodies
Measure	
	* Conduct 2 round tables in 2019/20
	* Pitch or enter into discussions to host at least four agricultural industry forums or conferences in Armidale
Progress	Two Business Symposia have been held to develop this further. Further development has been restricted by waiting for Hub development and COVID19 engagement restrictions. Branding narratives derived from Symposia will be utilised to shape future Economic and Business Development digital media and programme offerings. A contacts list (ED CRM) is being developed to assist outreach and engagement of regional businesses, based on sector analyses and key needs identified for these groups.
	In Progress
	51-75%
	On track
	On Budget
DP	G2.4
	Strive to grow the horticultural industry with new investment attraction strategies throughout the region to reduce the impact of climatic conditions on the produce industry
OP	Stronger industry relationships
Measure	Speak to four potential horticultural investors
Progress	Engagement is ongoing with the horticultural industry to provide infrastructure and support programs where appropriate.
	In Progress
	1-25%
	On track
	On Budget

DP	G3.1
	Develop a Tourism Strategy and branding to attract visitors to stay in the Armidale Region longer and also enhance the economic and cultural offerings and attractions of the region
OP	Tourism Strategic Plan
Measure	
Progress	<ul style="list-style-type: none"> * Winter event established * Night time multicultural food event established in Beardy Street Mall, with at least 20 local business participating. * Four stakeholder workshops held * Events & Festivals calendar built * EduTourism space developed * Assist with grant applications to Destination NSW for Guyra Lamb & Potato Festival, Guyra Troutfest and Colour New England Street Art Festival * 10% increase in visitor numbers to LGA * Increased visitor spend per capita, bed stays per capita, and tourism GDP for the region compared to 2018/19 * Increased hospitality and tourism-based employment compared to 2018/19 * Increased fee-for-service revenue streams for ARC compared to 2018/19 * ForageFest expanded * Tourism eNewsletter established
	<ul style="list-style-type: none"> - Planned events including Autumn Festival, community music concert and monthly Twilight Food Markets cancelled due to Covid-19 pandemic. - New England High Country projects being planned for roll out Oct 2020 including new visitor guide, motorbike program extension, classic car program and refreshed NEHC website. - Worked with The Australian Travel & Indulgence Editor on article for July publication. - Grant applications completed for 1. Armidale Spring Games and 2. Marketing funding for Beer & BBQ Festival and 3. Sound Trails @ Wollomombi NP - Worked with DNSW to support bid to bring Hayden Quinn Taste of Australia to the region to film. - Prepared proposal to host 2022 Farmers Conference for approximately 250 delegates. - 2022 National Orienteering Championships postponed to 2024. - Grant acquittal for SCCF Round 2 projects
	In Progress
	51-75%
	On track
	On Budget
DP	G4.1
	Provide local businesses with information and access to technology as part of a Digital Economy Strategy, as well as advocating for improved high speed internet access
OP	Business Ecosystem
Measure	
Progress	<p>The Economic Development Webpage will be worked on shortly.</p> <p>Evocities membership has been cancelled. Resources will be redeployed to Business Symposiums and initiatives to directly support businesses through the Business Hub.</p>
	In Progress
	1-25%
	On track
	On Budget

DP	L1.3	Elected representatives are supported to engage with their community and provided a process to share feedback they receive	
	OP	Villages & Stakeholders Engagement Plan	
	Measure	Develop and start to implement Villages & Stakeholders Engagement Plan	
	Progress	This action has been identified as a non-core project and will be deferred.	Deferred
DP	L2.1	Financial sustainability is maintained through effective short, medium, and long term financial management	
	OP	Harmonisation of water pricing	
	Measure	* Modelling undertaken to determine water harmonisation impacts * Communications strategy implemented for water harmonisation	
	Progress	Implementation has been deferred to 2020/21 due to the impacts of drought and other key projects on staff resourcing. Some actions will continue to be undertaken i.e. policy framework finalisation and further modelling.	Deferred
OP	Special Rate Variation		
	Measure	* Rates harmonisation impacts modelled and a strategy for implementation determined * Special rate variation business case prepared and community engagement undertaken	
	Progress	Council determined to extend the rates freeze provisions until 30 June 2021	In Progress
			1-25%
OP	L2.2	Council implements a business excellence program across its operations	
	OP	Promote availability of Council crews for private / contract works	
	Measure	Promote capabilities and availability of Council Crews to undertake private and other contract works: * Generate revenue for reinvestments in region's road network	
	Progress	Plant fleet coordination of Internal and external plant hire is being centralised through the Plant Fleet Coordinator.	In Progress
OP	L2.3	Council staff are supported to deliver high quality services to the community through training, sufficient staff resourcing and systems to create a user friendly, customer focused approach	
	OP	Greater leadership capacity	
	Measure	Leadership Program for Program Leaders determined and implemented by September 2019 Talent and succession plans implemented for all critical roles by September 2019	
	Progress	Senior Leaders have completed an Executive Development Program, with all participating staff achieving an Advanced Diploma in Leadership and Development.	Completed

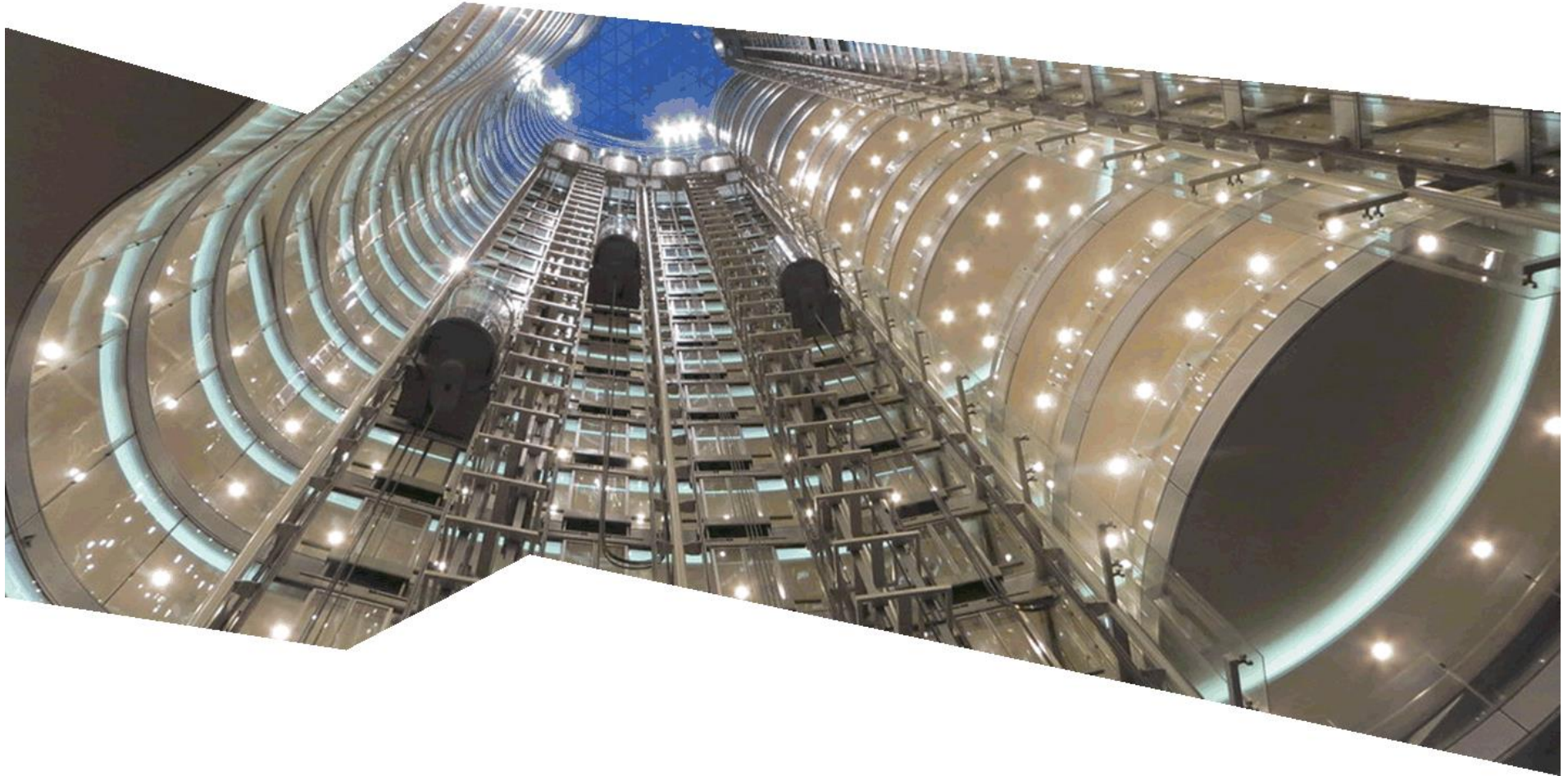
DP	L2.4
	Manage operations to ensure delivery of value for money services for our community and customers
OP	Administration hub
Measure	<ul style="list-style-type: none"> * Implement Administration Hub to service whole organisation * Reduced level of administrative duties by non-administration staff
Progress	<p>- Business Process Mapping documented for 95% of Customer Service business division -</p> <p>Process improvement initiatives are scheduled for improvement including: Funerals, Booking rooms at Kent & Hughes House, Online GIPA Act Applications & digitising services in the website via ePathway</p> <p>In Progress</p> <p>51-75%</p> <p>Needs attention</p> <p>On Budget</p>
OP	Customer services realignment
Measure	<ul style="list-style-type: none"> * Completed review of Council's Customer Services * Implemented realignment to maximise provision of customer services with available resources
Progress	<p>- Internal processes are being streamlined and updated in Promapp and content authored in Live Pro Knowledge base software program.</p> <p>- Ongoing, more effective telephone processes are being investigated and tested for Customer Experience delivery impact. We have consistently seen significant savings monthly savings due to voicemail implementation.</p> <p>- Customer Experience Strategy being developed following the testing of LivePro with next directions to explore online website Chat (Once the website has been significantly updated with customer self-serve processes automated and improved)</p> <p>- Staff reviews - Customer Service skills Gap analysis and training needs have been identified.</p> <p>In Progress</p> <p>51-75%</p> <p>On track</p> <p>On Budget</p>
OP	Improved procurement processes
Measure	<ul style="list-style-type: none"> * Procure to Pay business process improvements implemented. * Accounts Payable automation implemented.
Progress	<p>The Accounts Payable process has been converted to fully electronic and there is no longer any paper-based manual handling in the process. The review by Regional Procurement has occurred and the report recommends appointment of a Procurement resource to assist with organisational compliance and efficiency.</p> <p>In Progress</p> <p>1-25%</p> <p>On track</p> <p>On Budget</p>
OP	Revised organisation structure
Measure	New structure implemented by end of 2019
Progress	<p>Levels 1-4 of the structure have been populated.</p> <p>Completed</p>

DP	L3.4	Ensure the organisation is well led and managed through implementation of the Good Governance framework	
	OP	Centralised Compliance Register	
	Measure	Compliance Register implemented by December 2019 - 100% compliance met	
	Progress	Compliance information is currently being circulated to relevant staff. A review for the compliance register is currently being undertaken.	
			In Progress
			26-50%
			Needs attention
			On Budget
OP	Internal Audit Plan 2019-2022		
Measure		Number of internal audits completed - as indicated in the Audit Plan	
		100% of recommendations implemented	
Progress		An Internal Auditor has been appointed. The audit plan has been set and presented to the Audit & Risk Committee	
			In Progress
			26-50%
			On track
			On Budget
OP	Property Management Portfolio		
Measure		*Compliant Land Register by June 2020	
		* Road closures completed within regulatory timeframes	
		* Reduction in Land Divestment properties	
Progress		Native Title Manager training was undertaken and a Native Title Manager appointed. Crown Land has been reviewed against Councils asset register and the registers have been updated.	
			In Progress
			26-50%
			On track
			On Budget
DP	L4.4	Develop and implement a robust risk management process across all of Council's operations	
	OP	Work, Health & Safety compliance systems	
	Measure	Development and implementation of Audit/Inspection program by 30 June 2020	
	Progress	Safety Management Plans are being implemented for each area of the business. A Safety Officer will be presenting a sample of these plans to the Audit and Risk Committee in the near future.	
			In Progress
			51-75%
			On track
			On Budget

DP	P1.2
	Provide a network of a modern library and learning centres across the region, including a designated library service in Guyra and Armidale town centres which caters for the needs of the community including meeting spaces, accessible internet services and up to date resources
OP	New library technology and programs
Measure	<ul style="list-style-type: none"> * Identify and begin implementation of new technology at each library * Start implementing Library Strategic Plan * Regular use of new equipment by community members. * Increased library visitor numbers compared to 2018/19
Progress	<ul style="list-style-type: none"> - The Library Strategic Plan draft is almost complete. Will be completed and launched to the public in early 20/21. - Library App is operational and has been launched to the public. - PC Booking software has been installed on all public PCs
	In Progress
	76-100%
	On track
	On Budget
DP	P2.3
	Develop an Arts and Cultural Program with an emphasis on creating vibrant and attractive public spaces, including the installation of public art in city centres
OP	Local history webpage
Measure	* Local heritage information published on Council's corporate website by June 2020.
Progress	This action will be deferred due to resourcing constraints.
	Deferred
DP	P4.1
	Facilitate and support the delivery of high quality early childhood and out of school hours services across the region
OP	Pre-school strategic review
Measure	* Strategic review completed by December 2019
Progress	<p>Following an unsuccessful Expression of Interest process which did not result in any organisation or business wishing to take over the Operation and Management of the Preschool. Council reviewed the Business Case of the Pre School and pursued additional grant funding to build and expand the Centre. Additional funding was secured and the decision was made to build a new Centre on Council land adjacent to the Council Office and Library in Guyra. A design and floor layout is currently being refined and it is hoped that a Development Application for the new Centre will be lodged in the first quarter of 20/21 with tenders being called around September/October 2020.</p>
	Completed

DP	E3.4
	Provide and maintain functional, appropriate, safe and desirable community facilities
	Renewal of Community Facilities
	Complete all works as scheduled by 30 June 2020
Measure	Staff and resources have been redirected to water management projects and programs. Essential works on facilities will continue.
Progress	Deferred
DP	E4.1
	Maintain safe and effective traffic facilities on the road network
	Cattle Grid policy
	* Grid Management Plan endorsed by Council * Condition assessment completed * Start progressively removing unwanted grids - coinciding with programmed scheduled maintenance.
Measure	DCP funding has made it possible to complete all Cattle grids that were requiring maintenance work. Any further maintenance work that is required will be carried out as described in the Cattle Grid policy.
Progress	Completed
OP	Kempsey Road Upgrade
	* Complete design * Begin site preparation * Complete first four projects
	Of the 12 subcomponents no. 2 & no. 3 are completed and no. 7 has been designed.
	In Progress 1-25% Needs attention On Budget
OP	Smart Parking in Armidale CBD
	Parking within the CBD appropriately enforced
	The replacement of the parking sensors means Rangers are now able to undertake enforcement of CBD parking
	Completed
OP	Bridge and Causeway Renewal
	Replace Timber Bridges as scheduled by 30 June 2020
	Dumaresq Creek (Cooks Road) will be completed by December 2020, Pint Pot Creek (Rockvale Road) and Shingle Hut Creek (Castledoye Road) are on track to be completed by February 2021.
	In Progress 1-25% On track Below Budget

OP	Road Infrastructure Renewal
Measure	Complete all works as scheduled by 30 June 2020
Progress	<p>Local and Regional roads resealing works have been completed. However water crisis of 2019 has curtailed the local road gravel resheeting program and ongoing uncertainty has resulted in the deferral of the proposed upgrading of the unsealed section of Rockvale Road due to the scarcity of water necessary for roadbase compaction.</p> <p>In Progress</p> <p>51-75%</p> <p>Needs attention</p> <p>Below Budget</p>
OP	Safety Upgrades at blackspot intersections
Measure	Install roundabout at intersection with Elm Avenue & Traffic Calming Niagara & QE Drive
Progress	<p>Elm Avenue roundabout works have been completed. Lighting still has to be completed and we are waiting for the approval of easement access.</p> <p>In Progress</p> <p>76-100%</p> <p>On track</p> <p>On Budget</p>



31 July 2020 Armidale Regional Council Month End Report

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Disclaimer

This document is intended to provide you with general information only, it is not intended to imply a recommendation or otherwise constitute advice in relation to financial products. It does not take into account your investment objectives, financial situation or particular needs. Before acting on any information you obtain from this document you need to consider the appropriateness of the information in lieu of your investment objectives, financial situation or needs.

Month End Report

ARMIDALE REGIONAL COUNCIL

Yield Hub

MONTH END REPORT

Report Date: 31 July 2020

SECTION 1: PORTFOLIO SUMMARY

SUMMARY

Total Cost	\$50,000,000.00
Total Portfolio Value	\$50,336,288.50
Weighted Average Term	197
Weighted Average Yield	1.37 %
Unrealised Capital Gain/Loss	\$0.00
Total Monthly Accrued Interest	\$49,212.07
Total Interest Received this month	\$90,564.38
Interest Payments this month	4
Matured Investments this month	4
Total Funds Matured this month	\$12,000,000.00
New Investments this month	7
Total Funds Invested this month	\$20,000,000.00
Compliant Portfolio	No
Compliance - Term Classification	Yes
Compliance - Product Weights	No

ARMIDALE REGIONAL COUNCIL

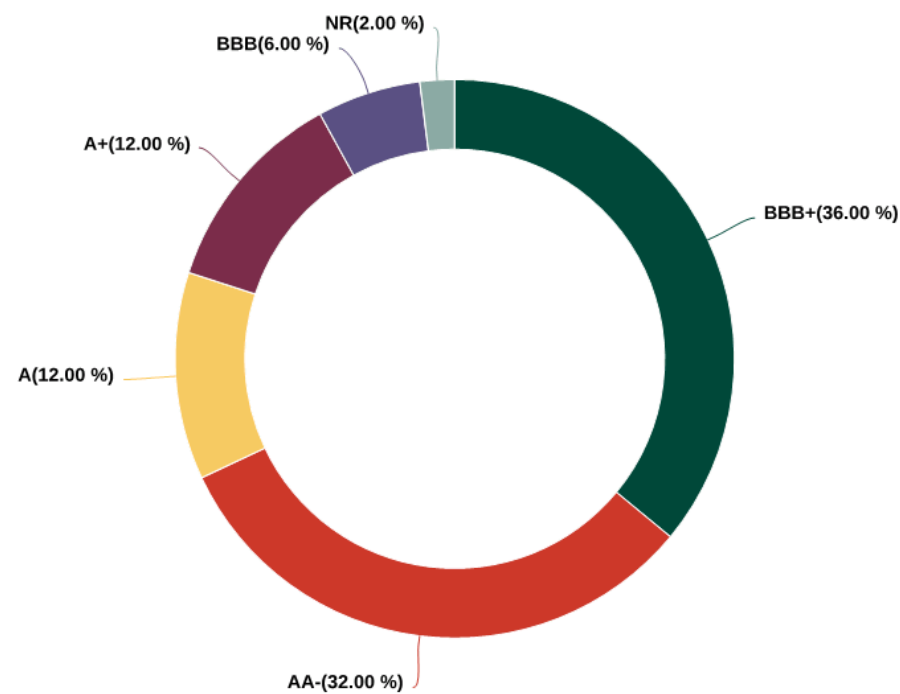
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MONTH END REPORT

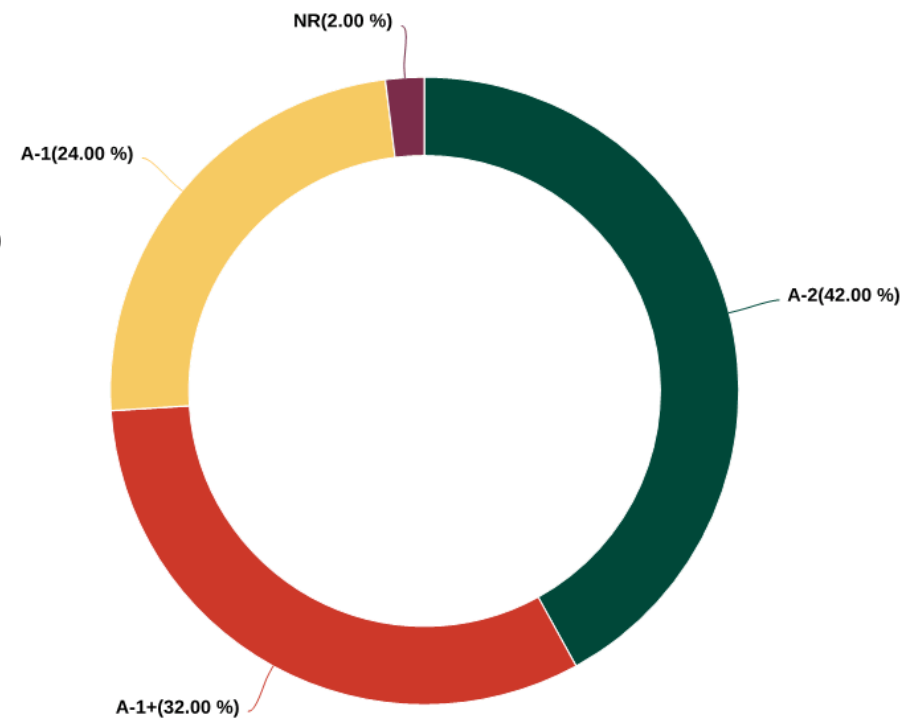
Report Date: 31 July 2020

SECTION 1: PORTFOLIO SUMMARY

Long Term Credit Rating



Short Term Credit Rating

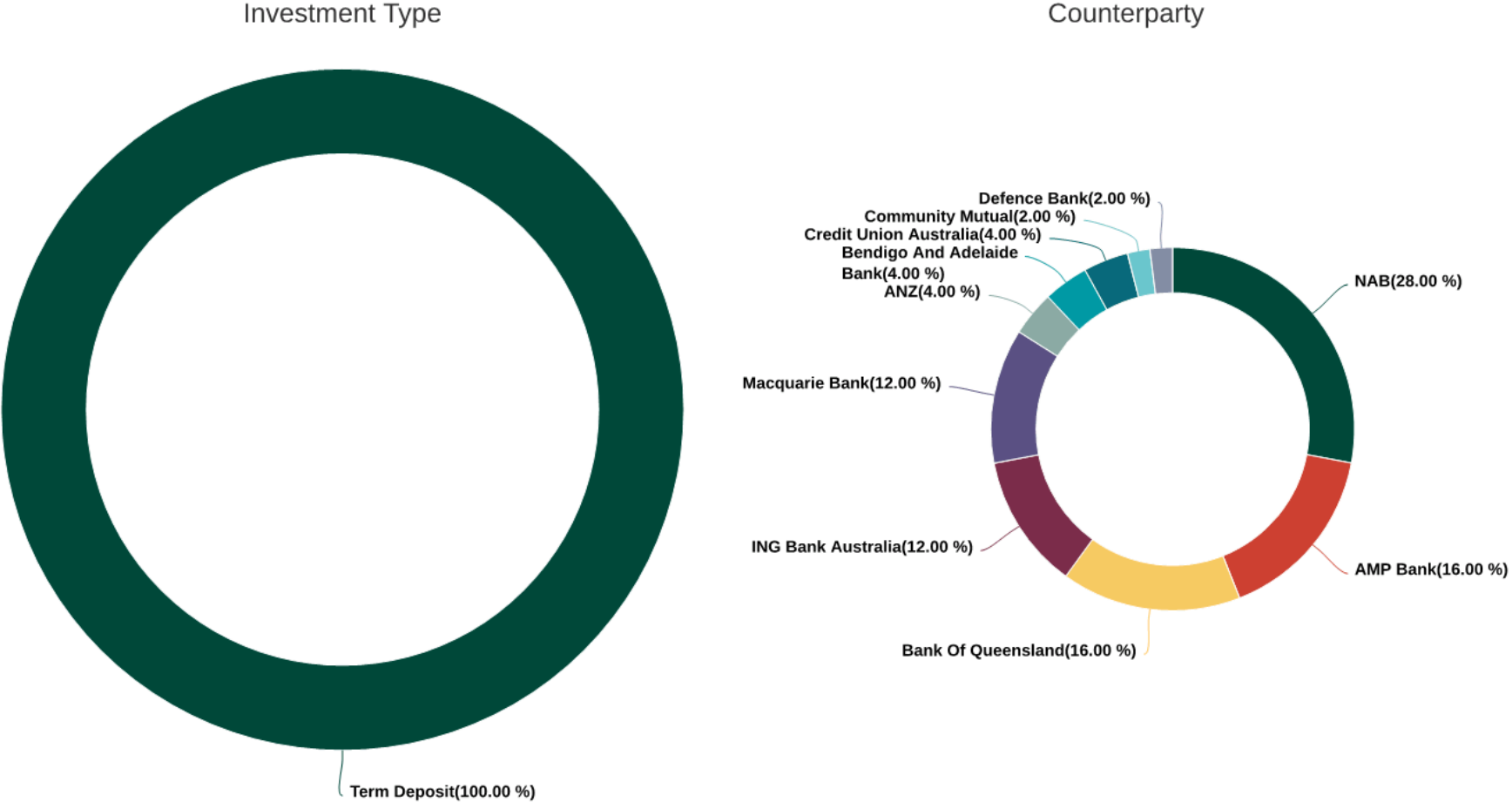


ARMIDALE REGIONAL COUNCIL

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SECTION 2: INVESTMENT REGISTER

Currency in AUD

Contract number	Investment type	ADI/Security Name	Settlement date	Maturity date	Amount	Short term rating	Long term rating	Term (days)	Monthly accrued interest	Total accrued	Next payment date	Yield
041055	Term Deposit	ANZ	08/08/2019	05/08/2020	\$2,000,000.00	A-1+	AA-	363	\$2,632.88	\$30,490.41	05/08/2020	1.55 %
041045	Term Deposit	Bank Of Queensland	07/08/2019	11/08/2020	\$2,000,000.00	A-2	BBB+	370	\$2,887.67	\$33,534.25	11/08/2020	1.70 %
041120	Term Deposit	Bendigo And Adelaide Bank	13/08/2019	12/08/2020	\$2,000,000.00	A-2	BBB+	365	\$2,717.81	\$31,035.62	12/08/2020	1.60 %
041219	Term Deposit	AMP Bank	21/08/2019	20/08/2020	\$1,000,000.00	A-2	BBB+	365	\$1,528.77	\$17,063.01	20/08/2020	1.80 %
041504	Term Deposit	Bank Of Queensland	04/09/2019	02/09/2020	\$1,000,000.00	A-2	BBB+	364	\$1,316.44	\$14,098.63	02/09/2020	1.55 %
041691	Term Deposit	NAB	12/09/2019	09/09/2020	\$1,000,000.00	A-1+	AA-	363	\$1,358.90	\$14,202.74	09/09/2020	1.60 %
041921	Term Deposit	Community Mutual	25/09/2019	23/09/2020	\$1,000,000.00	NR	NR	364	\$1,486.30	\$14,910.96	23/09/2020	1.75 %
042033	Term Deposit	Credit Union Australia	02/10/2019	30/09/2020	\$2,000,000.00	A-2	BBB	364	\$2,547.95	\$24,986.30	30/09/2020	1.50 %
044320	Term Deposit	NAB	12/02/2020	14/10/2020	\$1,000,000.00	A-1+	AA-	245	\$1,256.99	\$6,933.70	14/10/2020	1.48 %
044055	Term Deposit	AMP Bank	29/01/2020	28/10/2020	\$1,000,000.00	A-2	BBB+	273	\$1,443.84	\$8,616.44	28/10/2020	1.70 %
044782	Term Deposit	Macquarie Bank	03/03/2020	04/11/2020	\$2,000,000.00	A-1	A+	246	\$2,717.81	\$13,238.36	04/11/2020	1.60 %
044343	Term Deposit	NAB	13/02/2020	11/11/2020	\$2,000,000.00	A-1+	AA-	272	\$2,513.97	\$13,786.30	11/11/2020	1.48 %
044979	Term Deposit	Macquarie Bank	12/03/2020	11/11/2020	\$2,000,000.00	A-1	A+	244	\$2,887.67	\$13,227.40	11/11/2020	1.70 %
044454	Term Deposit	AMP Bank	19/02/2020	18/11/2020	\$1,000,000.00	A-2	BBB+	273	\$1,443.84	\$7,638.36	18/11/2020	1.70 %
046576	Term Deposit	AMP Bank	27/05/2020	25/11/2020	\$1,000,000.00	A-2	BBB+	182	\$1,401.37	\$2,983.56	25/11/2020	1.65 %
043481	Term Deposit	ING Bank Australia	23/12/2019	16/12/2020	\$2,000,000.00	A-1	A	359	\$2,717.81	\$19,463.01	16/12/2020	1.60 %
043771	Term Deposit	ING Bank Australia	15/01/2020	14/01/2021	\$1,000,000.00	A-1	A	365	\$1,401.37	\$8,995.89	14/01/2021	1.65 %
044592	Term Deposit	Defence Bank	25/02/2020	20/01/2021	\$1,000,000.00	A-2	BBB	330	\$1,401.37	\$7,142.47	20/01/2021	1.65 %
044191	Term Deposit	AMP Bank	05/02/2020	03/02/2021	\$2,000,000.00	A-2	BBB+	364	\$2,887.67	\$16,580.82	03/02/2021	1.70 %
044455	Term Deposit	AMP Bank	19/02/2020	17/02/2021	\$1,000,000.00	A-2	BBB+	364	\$1,443.84	\$7,638.36	17/02/2021	1.70 %
044591	Term Deposit	ING Bank Australia	25/02/2020	24/02/2021	\$1,000,000.00	A-1	A	365	\$1,358.90	\$6,926.03	24/02/2021	1.60 %
044593	Term Deposit	ING Bank Australia	25/02/2020	24/03/2021	\$2,000,000.00	A-1	A	393	\$2,717.81	\$13,852.05	25/02/2021	1.60 %
046121	Term Deposit	Macquarie Bank	06/05/2020	05/05/2021	\$1,000,000.00	A-1	A+	364	\$1,104.11	\$3,098.63	05/05/2021	1.30 %

ARMIDALE REGIONAL COUNCIL

Yield Hub

MONTH END REPORT

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Contract number	Investment type	ADI/Security Name	Settlement date	Maturity date	Amount	Short term rating	Long term rating	Term (days)	Monthly accrued interest	Total accrued	Next payment date	Yield
046495	Term Deposit	Macquarie Bank	20/05/2020	20/05/2021	\$1,000,000.00	A-1	A+	365	\$1,061.64	\$2,500.00	20/05/2021	1.25 %
047420	Term Deposit	AMP Bank	08/07/2020	08/07/2021	\$1,000,000.00	A-2	BBB+	365	\$756.16	\$756.16	08/07/2021	1.20 %
047822	Term Deposit	NAB	23/07/2020	23/07/2021	\$10,000,000.00	A-1+	AA-	365	\$1,972.60	\$2,219.18	23/07/2021	0.90 %
047828	Term Deposit	Bank Of Queensland	29/07/2020	28/07/2021	\$5,000,000.00	A-2	BBB+	364	\$246.58	\$369.86	28/07/2021	0.90 %
Total					\$50,000,000.00				\$49,212.07	\$336,288.50		

ARMIDALE REGIONAL COUNCIL

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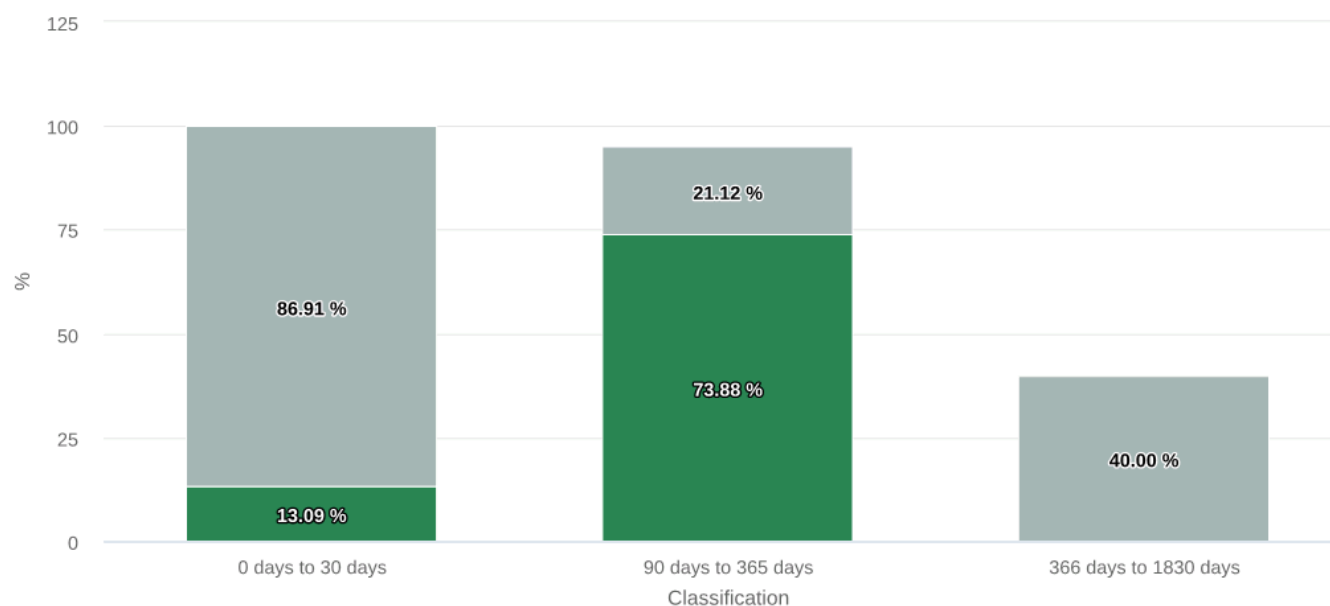
SECTION 3: LIMIT COMPLIANCE REPORT

S&P Equivalent Long Term

Term Classification

Classification		Compliant?		Available Limit %	Limit Used %	Limit Used \$	Remaining Limit %
0 days to 30 days	✓	Yes	✓	100.00 %	13.09 %	\$7,112,123.29	86.91 %
90 days to 365 days	✓	Yes	✓	95.00 %	73.88 %	\$40,143,473.96	21.12 %
366 days to 1830 days	✓	Yes	✓	40.00 %	0.00 %	\$0.00	40.00 %

Investment by Classification



ARMIDALE REGIONAL COUNCIL

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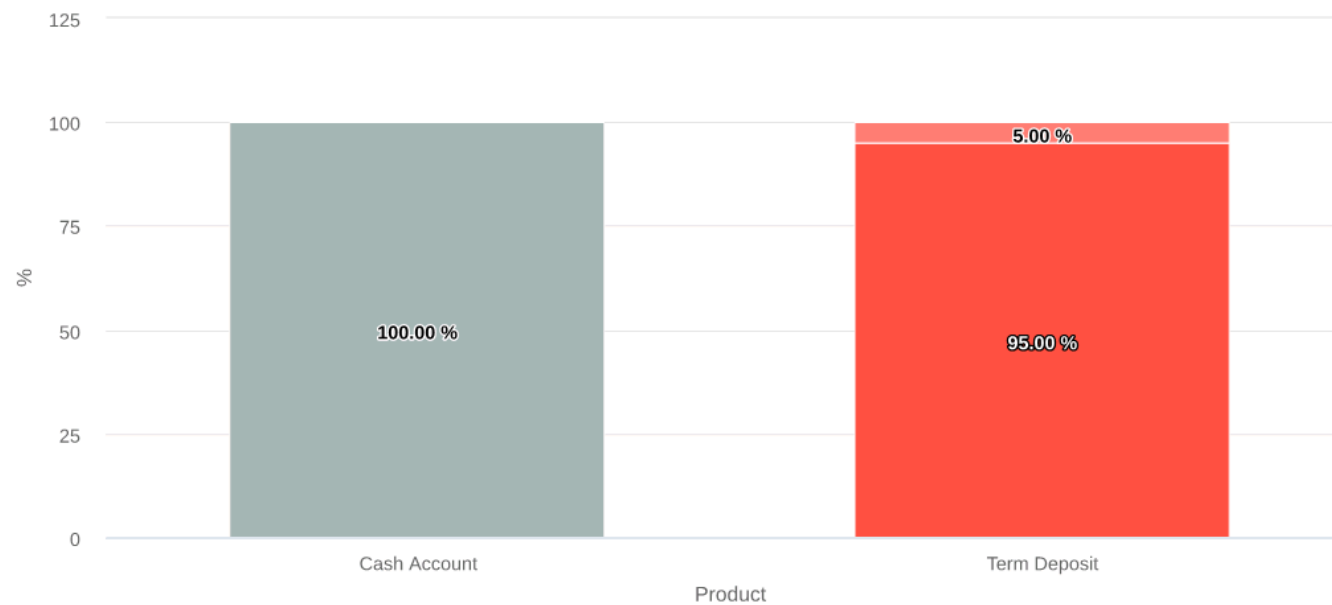
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Product Weights

Product		Compliant?		Available Limit %	Limit Used %	Limit Used \$	Remaining Limit %
Cash Account	✓	Yes	✓	100.00 %	0.00 %	\$0.00	100.00 %
Term Deposit	✗	No	✗	95.00 %	100.00 %	\$54,339,346.02	-5.00 %

Investment by Product



ARMIDALE REGIONAL COUNCIL

Yield Hub

MONTH END REPORT

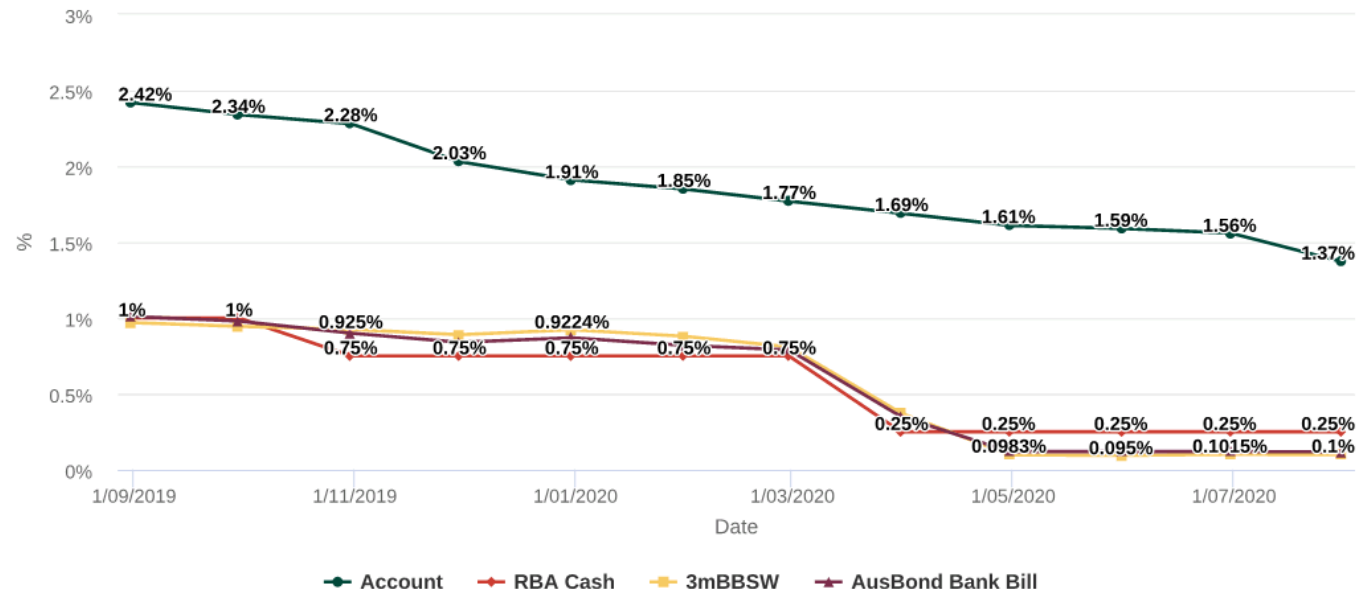
Report Date: 31 July 2020

SECTION 4: END OF MONTH PERFORMANCE

Account vs RBA Cash vs 3m BBSW vs Bloomberg AusBond Bank Bill Index

Term	Account	RBA Cash	Outperformance	3m BBSW	Outperformance	AusBond Bank Bill	Outperformance
1m	1.51 %	0.25 %	1.26 %	0.10 %	1.41 %	0.12 %	1.39 %
3m	1.56 %	0.25 %	1.31 %	0.10 %	1.46 %	0.12 %	1.44 %
6m	1.65 %	0.38 %	1.27 %	0.36 %	1.29 %	0.27 %	1.38 %
12m	1.92 %	0.62 %	1.30 %	0.66 %	1.26 %	0.59 %	1.34 %

Performance



ARMIDALE REGIONAL COUNCIL

Yield Hub

MONTH END REPORT

Report Date: 31 July 2020

SECTION 5: TRANSACTIONS

Currency in AUD

NEW INVESTMENTS

Contract number	ADI/Security name	Type	Settlement date	Term in days	Maturity date	Amount	Yield	Short term rating	Long term rating	Credit/Debit	Ledger code
047828	Bank Of Queensland	New investment	29/07/2020	364	28/07/2021	\$5,000,000.00	0.90 %	A-2	BBB+	Credit	
047822	NAB	New investment	23/07/2020	365	23/07/2021	\$10,000,000.00	0.90 %	A-1+	AA-	Credit	
047420	AMP Bank	New investment	08/07/2020	365	08/07/2021	\$1,000,000.00	1.20 %	A-2	BBB+	Credit	
Total						\$16,000,000.00					

ARMIDALE REGIONAL COUNCIL

Yield Hub

MONTH END REPORT

Report Date: 31 July 2020

MATURED INVESTMENTS

Contract number	ADI/Security name	Type	Settlement date	Term in days	Maturity date	Amount	Yield	Short term rating	Long term rating	Credit/Debit	Ledger code
045930	Macquarie Bank	Matured	28/04/2020	92	29/07/2020	\$8,000,000.00	1.25 %	A-1	A+	Debit	
043923	Mystate Bank	Matured	22/01/2020	183	23/07/2020	\$1,000,000.00	1.65 %	A-2	BBB+	Debit	
040743	Members Equity Bank	Matured	26/07/2019	362	22/07/2020	\$2,000,000.00	1.80 %	A-2	BBB	Debit	
040487	AMP Bank	Matured	11/07/2019	363	08/07/2020	\$1,000,000.00	2.15 %	A-2	BBB+	Debit	
Total						\$12,000,000.00					

ARMIDALE REGIONAL COUNCIL

Yield Hub

MONTH END REPORT

Report Date: 31 July 2020

INTEREST PAYMENTS

Contract number	ADI/Security name	Type	Transaction date	Maturity date	Amount	Yield	Credit/Debit	Ledger code
045930	Macquarie Bank	Interest	29/07/2020	29/07/2020	\$25,205.48	1.25 %	Debit	
043923	Mystate Bank	Interest	23/07/2020	23/07/2020	\$8,272.60	1.65 %	Debit	
040743	Members Equity Bank	Interest	22/07/2020	22/07/2020	\$35,704.11	1.80 %	Debit	
040487	AMP Bank	Interest	08/07/2020	08/07/2020	\$21,382.19	2.15 %	Debit	
Total					\$90,564.38			



Our ref: DOC19/142765

Mr Viv May
Interim Administrator
Armidale Regional Council
PO Box 75A
ARMIDALE NSW 2350
council@armidale.nsw.gov.au

Dear Mr May

Notice of Intention to consider listing on the State Heritage Register

Item: Former Armidale Courthouse and Sheriff's Cottage (including furniture and fixtures of Main Courtroom)
Address: Beardy Street, Armidale

I am writing to advise that the Heritage Council of NSW resolved, at its meeting of 7 July 2020, to give notice of its intention to consider listing the **Former Armidale Courthouse and Sheriff's Cottage (including furniture and fixtures of Main Courtroom)** on the State Heritage Register in acknowledgement of its heritage significance to the people of New South Wales. This advice is in accordance with section 33(1)(a) of the *Heritage Act 1977 (NSW)*.

Any members of the community, owners, managers, organisations or other interested parties are invited to make a written submission regarding the proposed listing and significance of **Former Armidale Courthouse and Sheriff's Cottage (including furniture and fixtures of Main Courtroom)**. Submissions should be posted or emailed to the Heritage Council of NSW at the following address during the public submission period commencing on **10 July 2020** and closing on **9 August 2020**:

Heritage Council of NSW
Locked Bag 5020
PARRAMATTA NSW 2124
heritagemailbox@environment.nsw.gov.au

Please note that the Heritage Council is unable to accept submissions received after the above closing date.

The former Armidale Courthouse and Sheriff's Cottage (including furniture and fixtures of Main Courtroom) may be of state heritage significance as the oldest surviving public building in Armidale and the New England region. With the passing of the District Court Act 1858, the former Armidale Courthouse is among the earliest regional courthouses in NSW.

The former Armidale Courthouse is the architectural legacy of three successive NSW Colonial Architects - Alexander Dawson (1856-1862), James Barnet (1862-1890) and Walter Liberty Vernon (1890-1911), who were all prominent and distinguished architects in the history of NSW.

Level 6, 10 Valentine Ave Parramatta NSW 2150 ■ Locked Bag 5020 Parramatta NSW 2124
P: 02 9873 8500 ■ E: heritagemailbox@environment.nsw.gov.au

Constructed as the Armidale township was becoming an important government centre in regional NSW, the former courthouse complex is a fine representative example of the courthouse typology of buildings in NSW. A prominent landmark building in the locality, the design, configuration and fit-out of the courthouse retains the common characteristics of regional courthouse buildings, particularly those characteristics designed by the state's colonial architects of the mid-late 19th century.

The evolving architectural design of the former Armidale Courthouse building demonstrates the changing colonial attitudes to law and justice and the embellished grandeur of the building today fittingly reflects the value of Armidale as a regional centre in NSW.

A copy of the draft curtilage map for this item is enclosed for your reference. Further details on the nominated item, the State Heritage Register, listing criteria, making a submission and the benefits of listing can be viewed on the Heritage NSW website at:

<http://www.environment.nsw.gov.au/heritageapp/NominationsOfStateHeritageRegister.aspx>

If you have any questions or require further information, please do not hesitate to contact Lucy Hampton, Senior Heritage Office, North East Region at Heritage NSW, Department of Premier and Cabinet on (02) 9873 8535 or lucy.hampton@environment.nsw.gov.au.

Yours sincerely



Cheryl Brown
Manager
Regional Heritage Operations North
Heritage NSW
Department of Premier and Cabinet
As Delegate of the Heritage Council of NSW
7 July 2020

Heritage Council of New South Wales



State Heritage Register - Proposed Curtilage for Investigation:
Armidale Courthouse and Sheriff's Cottage (under consideration).
Plan: 3230

0 5 10 20
Meters

Scale: 1:600 @A4
Datum/Projection: GCS GDA 1994
Date: 6/02/2019

**Legend**

- Proposed Curtilage
- SHR Curtilage
- LGAs
- Suburbs
- Land Parcels



NSW Department of Planning, Industry and Environment

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Former Armidale Courthouse and Sheriff's Cottage (including furniture and fixtures of Main Courtroom) (under consideration for listing)

The Heritage Council of NSW considers nominations for listing on the State Heritage Register based on an assessment of its heritage significance and taking into account any submissions received from the public. The Heritage Council of NSW then makes a recommendation to the Minister who has the final decision on whether or not to direct the listing of the item on the State Heritage Register.

Item details

Name of item:	Former Armidale Courthouse and Sheriff's Cottage (including furniture and fixtures of Main Courtroom) (under consideration for listing)
Type of item:	Built
Group/Collection:	Law Enforcement
Category:	Courthouse

Property description

Lot/Volume Code	Lot/Volume Number	Section Number	Plan/Folio Code	Plan/Folio Number
LOT	24		DP	1176464

Statement of significance:

The former Armidale Courthouse and Sheriff's Cottage (including furniture and fixtures of Main Courtroom) may be of state heritage significance as the oldest surviving public building in Armidale and the New England region. With the passing of the District Court Act 1858, the former Armidale Courthouse is among the earliest regional courthouses in NSW.

The former Armidale Courthouse is the architectural legacy of three successive NSW Colonial Architects - Alexander Dawson (1856-1862), James Barnet (1862-1890) and Walter Liberty Vernon (1890-1911), who were all prominent and distinguished architects in the history of NSW.

Constructed as the Armidale township was becoming an important government centre in regional NSW, the former courthouse complex is a fine representative example of the courthouse typology of buildings in NSW. A prominent landmark building in the locality, the design, configuration and fit-out of the courthouse retains the common characteristics of regional courthouse buildings, particularly those characteristics designed by the state's colonial architects of the mid-late 19th century.

<https://www.environment.nsw.gov.au/heritageopen/NomHeritageItemDetails.aspx?ID=6108/2020>

The evolving architectural design of the former Armidale Courthouse building demonstrates the changing colonial attitudes to law and justice and the embellished grandeur of the building today fittingly reflects the value of Armidale as a regional centre in NSW.

*Note: The State Heritage Inventory provides information about heritage items listed by local and State government agencies. The State Heritage Inventory is continually being updated by local and State agencies as new information becomes available. Read the **OEH copyright and disclaimer**.*

Description

Designer/Maker: Alexander Dawson, James Barnet, Walter Liberty Vernon

Builder/Maker: Moore & Glover

Construction years: 1860-1897

Physical description: The former Armidale Courthouse is a single storey rendered brick structure with a southern orientation to Beardy Street. The central building has a gabled roof with portico, behind which is a belltower and clock turret. The portico features embellished mouldings and the words 'COURT HOUSE'. Four Ionic columns support the portico and form the entrance to the open-air foyer which has a deeply coffered ceiling. The central facade is flanked by symmetrical eastern and western wings with hipped roofs and chimneys.

The side and rear elevations (including the original primary elevation to Faulkner Street to the east) are simpler in form and style, although ruled joints contribute to a stone-like appearance in some areas of the facade (particularly on the corners of the building). Simplified versions of several of the architectural features of the courthouse (being its gables and columns) are repeated in these elevations.

Entrance to the courthouse is gained through elaborate metal gates to the open-air foyer, behind which the doors to the courthouse are shielded by a timber and glass structure. The main courtroom occupies the central space of the courthouse building and much of the original cedar furniture of this room remains (including seating and boxes for the judge, accused, witnesses and spectators). This room has undergone some alteration with the installation of contemporary technological facilities.

The second courtroom, in the western wing, is smaller in scale and contains original cedar furniture related to its former courthouse use (including seating and boxes for the judge, accused, witnesses and spectators).

The reception room for the courthouse is located in the eastern wing and this room retains its reception desk.

Although original furniture does not remain throughout the building, the original cedar doors and windows, architraves and skirting boards are largely present. Some wall-mounted light fixtures have been retained and various fireplaces, several of which have marble surrounds, also remain throughout the building. Some rooms contain contemporary former office fitments.

The former Sheriff's Cottage is a face brick residence with hipped roof and front verandah with timber balustrade. Although original furniture does not remain throughout the building, the original timber doors and windows, architraves and skirting boards are largely present.

	<p>The site includes general landscaping and a hardscaped parking area to the rear of the former courthouse. One mature c1870 Camphor Laurel tree is at the south eastern corner of the site.</p>
Modifications and dates:	<p>1860 - Colonial Architect, Alexander Dawson, designed modest rendered brick building with a high central gabled iron roof over the court room, orientated to Faulkner Street to replace 'bush' courthouse</p> <p>1870 - Colonial Architect, James Barnet, reorientated the courthouse building to Beardy Street, constructed an arcaded portico at its entrance and added symmetrical side wing buildings. Barnet introduced Classical influences to the architecture of the courthouse building</p> <p>1870 - A stand of Camphor Laurel trees, one of which remains at the south east corner, were planted</p> <p>1878 - The first single dial chiming clock and belltower for the courthouse was built</p> <p>1878 - Lock-up facility (now the Sheriff's Cottage) constructed</p> <p>1884 - Repair works undertaken</p> <p>1890 - Repair work undertaken</p> <p>1897 - Colonial Architect, Walter Liberty Vernon, introduced Ionic columns, an entry foyer and wrought iron gates to the Beardy Street facade. The portico was also brought forward, thus recessing the flanking wing buildings behind the facade. With elaborate mouldings and greater decoration, Vernon's work gave the courthouse a richly embellished and well-proportioned appearance</p> <p>1899 - Existing clock and bellcote replaced with a four dial clock within a turret</p> <p>1907 - Lock-up facility remodelled for use as Sheriff's Cottage</p> <p>1971 - Conservation works undertaken and time capsule discovered</p> <p>1978 - Conservation works undertaken</p>
Former use:	Courthouse, lock-up/holding cells, court officer's residence

History

Historical notes:	<p>As colonial settlement expanded through NSW in the 19th century, the northern township of Armidale was founded in 1839 and, with the discovery of gold in the locality, soon became an important government centre in the region.</p> <p>In its earliest years, the new settlers to Armidale called for the provision of law and order services in the town and Commissioner George Macdonald, then responsible for the border police force, had a slab-walled courthouse built in 1844 for the adjudication of land disputes.</p> <p>Following its completion, Armidale's first courthouse hosted the Bishop of Australia, William Grant Broughton, in conducting the first Christian service for the New England district. Taking place on 12 October 1845, this event was commemorated by the Synod of the Diocese of Armidale with the erection of a monument on the corner</p>
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of Beardy and Faulkner Streets in 1945.

Although allocated a prominent corner allotment in the developing town, like many of the early buildings of new settlements, the design of the country courthouse was improvised and it soon became apparent that Armidale's first 'bush' courthouse could not meet the demands of the residents. Furthermore, it was not considered fitting of the growing regional centre and a more permanent courthouse was required. In 1856, a 1500-signature petition was served by the residents of Armidale to the NSW Legislative Assembly and 3250 pounds was allocated by the government for the construction of a new courthouse.

Development of the new Armidale Courthouse coincided with the passing of the District Court Act 1858. The act distributed the power of the court system amongst newly created districts in the colony, each with a District Court with civil jurisdiction and an appointed District Court Judge. Effectively, the district courts worked to relieve the responsibilities of the Supreme Court and simplified legal proceedings for people of outlying colonial settlements.

With the passing of the District Court Act 1858, the provision of the colony's earliest regional courthouses fell to the colonial architect, Alexander Dawson (1856-62). Although Dawson held the office of the Colonial Architect for only a short time, he was responsible for the design and construction of courthouses in Armidale, Albury, Gundagai, Kiama, Coonabarabran, Mudgee, East Maitland, Murrurundi, Paterson, Grafton, Cassilis, Eden and Wollongong.

Dawson's design for the new Armidale Courthouse provided for a modest, but still monumental, brick building that was orientated to Faulkner Street and onto what had been envisioned to become a market square for the Armidale community. Completed in 1860 and replacing the earlier 'bush' courthouse, the new courthouse was the first substantial public building for Armidale and the New England region and its scale and quality of workmanship demonstrated the transition of Armidale from a fledgling colonial outpost to an established township and centre of government administration and commerce. The courthouse was a landmark, previously unseen in the township, and it fittingly reflected the importance of Armidale as a regional centre in NSW and, for the residents of Armidale, symbolised self-confidence, civic pride and progress of the colonial centre.

During its operation, the colonial importance of Armidale was reflected in its district courthouse becoming a Court of General and Quarter Sessions in the northern region of the state and a Court of Petty Sessions, where minor criminal as well as civic matters were heard. The courthouse also had civic purposes including the distribution centre from which blankets were issued to the Aboriginal people of the region from 1890 to 1905.

By 1870, within only a decade of its construction, further changes within the region called for changes to the courthouse. Initial intentions to create a market square on Faulkner Street had not eventuated and it was becoming clear that Beardy Street would be the main civic precinct of Armidale. In these circumstances, Armidale's most prestigious government building was facing in the wrong direction. Coupled with the inadequacy of its layout for the building's judicial functions, Colonial Architect James Barnett (1862-90), Dawson's successor, designed plans for the reorientation and alteration of the building to take pride of place in Armidale's civic precinct. Undertaken in 1870, Barnett's designs transformed the simple rendered brick courthouse into an elaborate building with Classical influences. With an arcaded entrance, decorative mouldings and symmetrical wing buildings, the Armidale courthouse now had a grand, distinguished and imposing form that reflected the importance of the town's most prominent civic building and symbolised the authority and power of the colonial justice system. The redevelopment also served to define the importance of the Beardy/Faulkner Street intersection within the civic precinct. A stand of Camphor Laurel trees, one of which remains at the south east corner, were planted at this time.

In the years following the remodelling of the courthouse, and to accompany the prosperity of the town and the prominence of the building, a public clock was envisioned for the new Beardy Street facade. Constructed in 1878, the modest single dial clock with bellcote was

positioned behind the pediment of the building.

It was also in

1878 that the Sheriff's Cottage was constructed to the rear of the courthouse, fronting Faulkner Street. Originally used as a lock-up facility associated with the function of the courthouse, the single storey brick and iron building replaced the original 1853 lock-up which was located on the opposite corner of the Beady/Faulkner Street intersection. Given the prominence of the location, the original lock-up facility was considered inadequate, insecure and generally unsightly in what was becoming a public thoroughfare in the Armidale township and was demolished upon construction of the new building. Used as a lock-up until 1907, the simple building was remodelled for use as a caretaker's residence and later for courtroom administration.

With further growth of the

region's population and with the successful arrival of the railway in 1883, the importance of the Armidale township was consolidated and, as the colonial finances recovered after the depression of the 1890s, the Government Architect's Office made plans for what would be the final extension of the building and refitting of the court room. Under the direction of Colonial Architect Walter Liberty Vernon (1890-1911), further works were carried out in 1897 which saw Barnet's vestibule replaced with a portico which provided a public foyer for the Beady Street entrance and which served to recess the wing buildings from the principal facade. Further decorative mouldings, Ionic columns and wrought iron gates gave the courthouse a richly embellished and well-proportioned appearance that befitted its premier status in the civic precinct.

Following

completion of the works, the existing single dial clock was converted to a four dial clock within a new turret structure.

Few alterations

have been made to the Armidale Courthouse since the late 19th century and, today, the work of the three successive government architects is discernible in the fabric of the building. During renovations to the building in 1971, a time capsule, having lain undisturbed beneath the floorboards of the courthouse building since 1870, was discovered. Written by the then Clerk of Petty Sessions, Sydney Blythe, the capsule contained the following letter sealed within a cognac bottle:

"1870,
November 26

This piece of parchment is this day placed in a bottle

and sealed by me and the bottle placed under the flooring of one of the rooms of the Court House Armidale during the repairs to the said Court House. If ever in ages to come this bottle is found I wish to record that Armidale is a town of about 800 inhabitants - that it has a Municipal Council - that the Railway has progressed as far as Aberdeen that James Buchanan Esquire is Police Magistrate and also that I the undersigned am Clerk of Petty Sessions Land Agent and Registrar of Births Deaths and Marriages for the district - I have no hesitation in stating that all the World is a stage and all the Men and Women merely players

can the

men who find this drink their twelve glasses of grog in a day - I doubt it - We can! The name of my son is Edward Vyner - Louis Napoleon is kicked out of France by the Germans and Paris we hear is bombarded.

My

friends whoever you may be who find this, rest assured that the world has waged before your time and it will after your time, and that nothing is certain

but

Death

For and on behalf of my numerous
creditors

Sydney Blythe"

The Armidale Courthouse and

Sheriff's Cottage is the oldest public building surviving in Armidale and the New England region but it ceased its law and order operational

functions in 2012. As of 2020, the former courthouse and Sheriff's Cottage remain vacant and unused.

Historic themes

Australian theme (abbrev)	New South Wales theme	Local theme
4. Settlement-Building settlements, towns and cities	Towns, suburbs and villages-Activities associated with creating, planning and managing urban functions, landscapes and lifestyles in towns, suburbs and villages	Creating landmark structures and places in regional settings-
7. Governing-Governing	Law and order-Activities associated with maintaining, promoting and implementing criminal and civil law and legal processes	Administration of justice-
7. Governing-Governing	Law and order-Activities associated with maintaining, promoting and implementing criminal and civil law and legal processes	Dispensing justice-
9. Phases of Life-Marking the phases of life	Persons-Activities of, and associations with, identifiable individuals, families and communal groups	Associations with Walter Liberty Vernon, Government Architect 1890-1911, private architect-
9. Phases of Life-Marking the phases of life	Persons-Activities of, and associations with, identifiable individuals, families and communal groups	Associations with James Barnet, Colonial (Government) Architect 1862-90-
9. Phases of Life-Marking the phases of life	Persons-Activities of, and associations with, identifiable individuals, families and communal groups	Associations with Alexander Dawson, NSW Colonial Architect 1856-62-

Assessment of significance

SHR Criteria

a)

[Historical significance]

The

former Armidale Courthouse and Sheriff's Cottage (including furniture and fixtures of Main Courtroom) may be of state heritage significance as the oldest surviving public building in Armidale and the New England region and as the historical centre of the administration and delivery of law and order in the district from 1860 (until its closure in c2013).

With

the passing of the District Court Act 1858, the former Armidale Courthouse is among the earliest regional courthouses in NSW. Constructed as the Armidale township was becoming an important government centre in regional NSW, the former courthouse complex has long been a prominent landmark building in the locality and reflects the self-confidence, civic pride and progress of the colonial centre of Armidale in the mid-late 19th century. The evolving architectural character of the former courthouse building demonstrates the changing colonial attitudes to law and justice and the embellished grandeur of the building today fittingly reflects the value of Armidale as a regional centre in NSW.

SHR Criteria b)

[Associative significance]

The former Armidale Courthouse and Sheriff's

Cottage (including furniture and fixtures of Main Courtroom) may be of state heritage significance as the architectural legacy of three successive NSW Colonial Architects - Alexander Dawson (1856-1862), James

Barnet (1862-1890) and Walter Liberty Vernon (1890-1911). All prominent and distinguished architects in the history of NSW, who all have a legacy of public buildings to their credit, each of these architects left a discernible record of their work in the former Armidale Courthouse building.

SHR Criteria c)

[Aesthetic significance]

The former Armidale Courthouse and Sheriff's Cottage (including furniture and fixtures of Main Courtroom) is of local heritage significance for its aesthetic values. An amalgamation of architectural work undertaken between 1860 and 1897 by three successive colonial architects - Alexander Dawson, James Barnet and Walter Liberty Vernon - the former Armidale Courthouse has evolved from a modest building into a grand building with Classical influences. The addition of the side wing buildings, front portico, foyer, Ionic columns, wrought iron gates and decorative mouldings has given today's courthouse a richly embellished and well-proportioned appearance that befits the oldest surviving public building in Armidale and the New England region and fittingly reflects the community's pride in its historic courthouse.

SHR Criteria d)

[Social significance]

The former Armidale Courthouse and Sheriff's Cottage (including furniture and fixtures of Main Courtroom) is of local heritage significance for its social values. As the oldest surviving public building in Armidale and the New England region, the former courthouse has long held a prominent landmark position within Armidale's civic precinct and it is one that is well regarded and valued by the local community. The physical presence of the building within the streetscape provides the local community with a sense of place and pride in its architectural history.

The historical records of the courthouse and its public use since 1860 are held in the collection of the NSW State Archives and Records.

SHR Criteria e)

[Research potential]

The former Armidale Courthouse and Sheriff's Cottage (including furniture and fixtures of Main Courtroom) is of local heritage significance for its potential to yield information that will further contribute to an understanding of the cultural history of the Armidale region. As much of the site has been developed, there is limited archaeological potential to demonstrate new evidence of previous uses or occupation of the site. The discovery of the 1870 time capsule during renovations in 1971 was likely to be the greatest find on the site.

SHR Criteria f)

[Rarity]


The former Armidale Courthouse and Sheriff's Cottage (including furniture and fixtures of Main Courtroom) is not considered to be rare in NSW as it retains many of the characteristics that defines the courthouse building typology, particularly those designed by colonial architects in the 19th century. Further to this, as courthouses were the responsibility of the Colonial Architects Office, it is not considered rare for successive colonial architects to make alterations and additions to existing buildings.

SHR Criteria g)

[Representativeness]

The former Armidale Courthouse and Sheriff's Cottage (including furniture and fixtures of Main Courtroom) may be of state heritage significance as a fine representative example of the courthouse typology of buildings in NSW. In its design, configuration and fit-out, the former courthouse retains the common characteristics of regional courthouse buildings, particularly those characteristics designed by the state's colonial architects of the mid-late 19th century. The evolving architectural design of the former Armidale Courthouse building reflects the changing attitudes to the delivery of law and justice in regional NSW in the mid-late 19th century and its intactness and integrity of its fabric (particularly in the Main Courtroom) lends it to being a fine representative example of its type.

Assessment criteria:

Items are assessed against the  **State Heritage Register (SHR) Criteria** to determine the level of significance. Refer to the Listings below for the level of statutory protection.

Listings

Heritage Listing	Listing Title	Listing Number	Gazette Date	Gazette Number	Gazette Page
Heritage Act - Under consideration for SHR/IHO listing	Armidale Dumaresq Council		02 Oct 12		

References, internet links & images

Type	Author	Year	Title	Internet Links
Electronic		1945	First Christian service in New England	View detail
Written	Armidale Dumaresq Council	2012	SHR Nomination Form	
Written	Attorney General's Department	2002	Section 170 Heritage and Conservation Register: Armidale Courthouse and Sheriffs Cottage (3080003)	
Written	Godden Mackay Logan	2011	Department of Justice and Attorney General Heritage and Conservation Register	
Written	John Ferry & John Carr Architects	1997	Armidale Courthouse: A Conservation Study	

Note: internet links may be to web pages, documents or images.



(Click on thumbnail for full size image and image details)

Data source

The information for this entry comes from the following source:

Name: Heritage Office

Database number: 5061814

File number: EF10/19106

Every effort has been made to ensure that information contained in the State Heritage Inventory is correct. If you find any errors or omissions please send your comments to the [Database Manager](#).

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7 August 2020

Your ref: DOC19/142765

Our ref: AO/2020/07306

Cheryl Brown
Manager
Regional Heritage Operations North
Heritage NSW
Department of Premier and Cabinet
Locked Bag 5020
PARRAMATTA NSW 2124

Dear Ms Brown

Notice of Intention to consider listing on the State Heritage Register –

Former Armidale Courthouse and Sheriff's Cottage

I refer to your correspondence addressed to Mr Viv May, Interim Administrator of Armidale Regional Council dated 7 July 2020 giving notice of the intention to list the former Armidale Courthouse (including furniture and fixtures of the Main Courtroom) and Sheriff's Cottage on the State Heritage Register.

It is understood from your correspondence and the information contained in the nomination form that the former Armidale Courthouse (including furniture and fixtures of the Main Courtroom) and Sheriff's Cottage may be of state heritage significance as the oldest surviving public buildings in Armidale and the New England region. With the passing of the District Court Act 1858, the former Armidale Courthouse is among the earliest regional courthouses in NSW.

It is noted that under Schedule 5 – Environmental Heritage of Armidale Dumaresq Local Environmental Plan 2012 (LEP 2012) lists the Courthouse, Lot 24 DP 1176464 as "state nominated" and the former Sheriff's Cottage as "local" significance.

The nomination form information acknowledges the former courthouse complex as long standing prominent landmark building in the locality and reflects the self-confidence, civic pride and progress of the colonial centre of Armidale in the mid-late 19th century. Colonial Architect, Alexander Dawson, design of the courthouse provided a modest, but still monumental, brick building that was orientated to Faulkner Street and onto what had been envisioned to become a market square for the Armidale community.

It is noted that changes within the region called for changes to the courthouse with the initial intentions to create a market square on Faulkner Street had not eventuated and it was becoming clear that Beardsley Street would be the main civic precinct for Armidale. In these circumstances, Armidale's most prestigious government building was facing the wrong direction and therefore Colonial Architect James Barnet, designed plans for the reorientation and alteration of the building to take pride of place in Armidale's civic precinct, with the

Page 1 of 3

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E council@armidale.nsw.gov.au
W armidaleregional.nsw.gov.au
135 Rusden Street PO Box 75A Armidale NSW 2350

ABN 39 642 954 203



redevelopment also serving to define the importance of the Beardy/Faulkner Street intersection within the civic precinct.

Whilst Council acknowledges the importance of these buildings in contributing to an understanding of the cultural history of the Armidale region, Council wishes to raise its concern with what the listing may mean as far as the future potential use or changes of the site particularly in relation to how it can significantly contribute to the revitalisation of Beardy Street.

The recognition of the Courthouse (and Sheriff's Cottage) playing such a significant role in defining the main civic precinct of Armidale with Beardy Street being the focus is critical in allowing for the Courthouse and the Sheriff's Cottage to continue to play an active role in the revitalisation (and ongoing vibrancy) of this precinct.

Maintaining heritage values for listed buildings is a challenge for any owner. To best ensure a future owner of the Courthouse can appropriately and sympathetically maintain the site, commercial activities should be permitted within the building.

It is understood that with the listing of the site as State significant that some constraints (and many opportunities) may impact upon the future use of the building. One area of particular concern is the listing of the internal furniture and fixtures of the main courtroom and the restriction this may place on the future use of the building to ensure that it plays a vital role in the activation of the Armidale CBD.

In this regard, Council Officers have spoken to staff within the operating courthouse, who have advised that there have been a number of break ins into the Old Courthouse and that much of the furnishings have been vandalised. As such, it is recommended that prior to consideration of the inclusion of the internal furniture and fixtures of the main courtroom that an inspection be undertaken of the building to establish that the internal aspects of the building are still of State significant value.

In 1979 the Department of Public Works in collaboration with the Minister for Justice, the local member and Armidale City Council agreed for the construction of a public toilet at the rear of the Courthouse, extending the Armidale mall down the eastern side of the Courthouse. It appears that this structure is therefore an addition to the courthouse building. It was agreed that following construction Council would be responsible for cleaning and maintenance of the building. A bus shelter was later constructed in this area. This public toilet block contained in the north eastern corner of the Courthouse precinct is the only public convenience in the central CBD area. A second automatic toilet was installed within the structure in approximately 2009 at a cost of \$100,000 with a further \$10,000 spent on upgrading the existing toilet. The replacement of this public convenience would be considerable and therefore the identification of the curtilage boundary and ongoing use of this facility must be addressed to ensure its ongoing use and management is not unnecessarily hindered.

An existing bus shelter is located on the eastern side of the Courthouse precinct (Faulkner Street) and a monument in the south eastern corner of the Courthouse precinct.

If the curtilage of the Courthouse and Sherriff's Cottage is to be modified to incorporate the bus shelter and monument, the ongoing management of these elements must be considered to ensure that any works can be undertaken without unnecessarily hindering any works.



Investigations have been undertaken previously by Council in October 2018 when the NSW Government instructed the sale of the Courthouse. As part of this investigation it was identified (amongst other matters) that an easement for sewerage must be incorporated as shown on the attached plan.

Concern is raised with the future management and maintenance of the toilet block, bus shelter and monument if the property fell into private ownership. Whilst any proposed exemptions would enable Council to undertake routine maintenance on the structures access to these facilities must be maintained in perpetuity for the community.

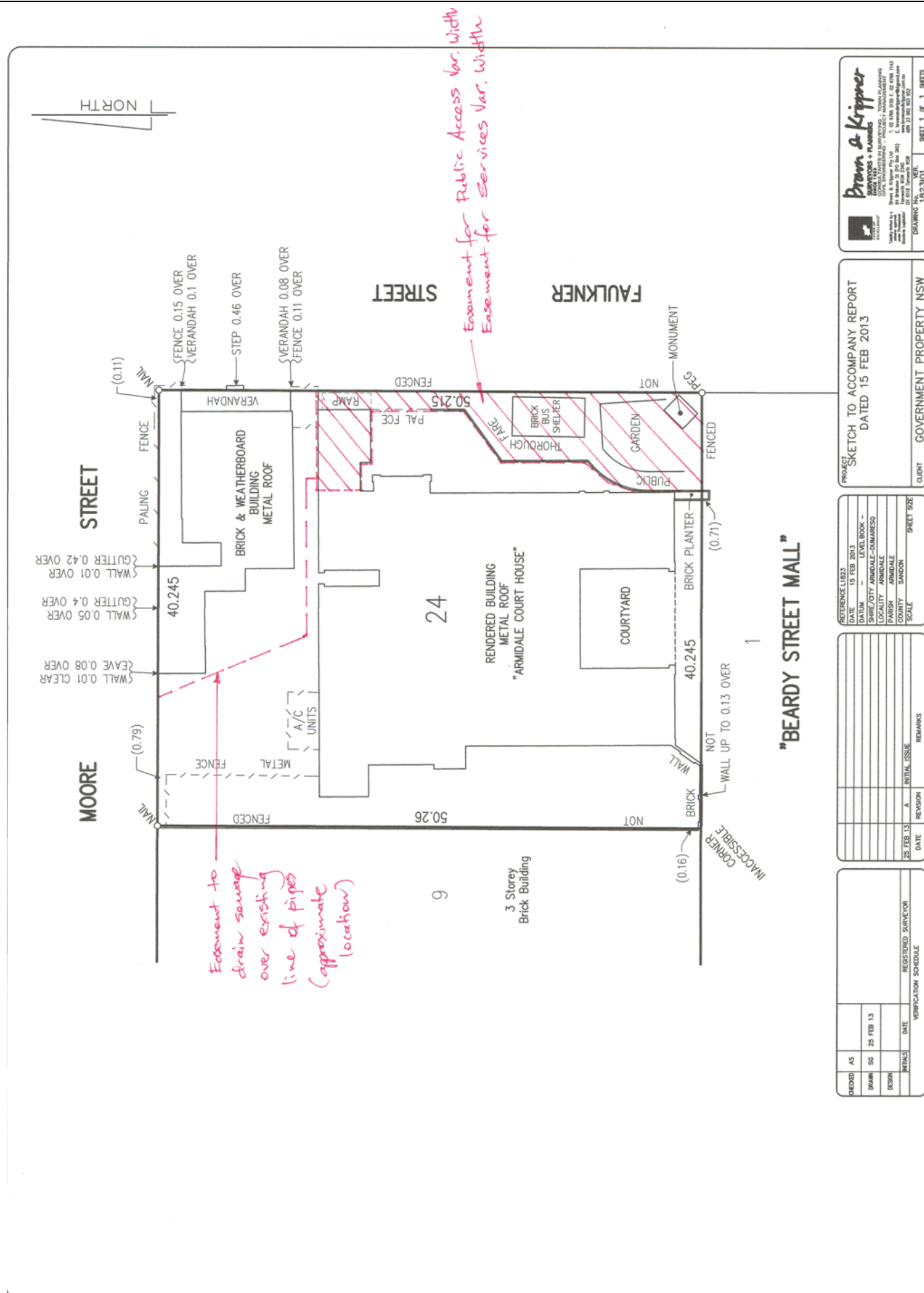
Whilst it is not necessarily a matter for consideration as part of this process, Council wishes to advise that the ongoing ownership and management of the Courthouse and Sheriff's Cottage must be addressed. It is imperative that any proposed or new ownership changes to these buildings must be accompanied by a detailed Conservation Management Plan including costings so that an informed decision can be made along with ensuring that access is maintained to public infrastructure such as the public toilets, bus shelter and monument. In this regard, Council has also written to Property NSW.

Please contact Jocelyn Ullman, Principle Advisor Strategic Natural Resources and Land Use Planning on (02) 6770 3827 or by email at jullman@armidale.nsw.gov.au if we can be of further assistance.

Yours sincerely

A handwritten signature in blue ink, appearing to be "DK" followed by a flourish.

David Kerr
Acting General Manager



MINUTES OF THE ORDINARY MEETING OF THE NEW ENGLAND TABLELANDS (NOXIOUS PLANTS) COUNTY COUNCIL HELD IN THE ARMIDALE OFFICE AND ONLINE, 129 RUSDEN STREET, ARMIDALE ON TUESDAY, 16 JUNE 2020 COMMENCING AT 8:40AM.

PRESENT: Councillor M. Dusting - Chairperson, Mr V May (ARC Administrator).

IN ATTENDANCE: General Manager, Mr John Duggan

APOLOGIES: Councillor S Kermode, Senior Biosecurity Officer, Mr James Browning

DECLARATIONS OF INTEREST

There were no declarations of interest.

CONFIRMATION OF MINUTES OF THE ORDINARY MEETING HELD ON TUESDAY 21 APRIL 2020.

19/20 RESOLVED on the motion of Councillors Dusting and May that the Minutes of the Ordinary Meeting of the New England Tablelands (Noxious Plants) County Council held on 21 April 2020, copies of which have been distributed to all members, are taken as read and confirmed a true record.

BUSINESS ARISING FROM THE MINUTES OF THE ORDINARY MEETING HELD ON TUESDAY 21 APRIL 2020.

There were no matters arising.

CHAIRMAN'S REPORT

The Chair advised of the following:

- Firstly I would like to welcome the new Administrator of Armidale Regional Council, Viv May to our meeting. Viv commenced at Armidale last week and we thank him for taking time out of his busy schedule to attend our meeting.
- On another note congratulations to Councillor Kermode on his recent election to the Northern Tablelands LLS Board. No doubt this is the result of your efforts and dedication to the region.
- We have finally arrived at an agreement that NEWA will provide the Executive Officer role for the Regional Weeds Committee. This agreement provides partial funding for our Admin Officer over the next 5 years of WAP 2025 and ensures the longer term employment of Heather.
- Armidale Regional Council has been successful in gaining Federal Government funding to "combat the State Priority Weed, Tropical Soda Apple in the Macleay Valley", under the "Communities combating pests and weeds Impacts during Drought " Program. The grant provides funds over 2 years to assist landowners in

beating this devastating environmental weed. A Memorandum of Understanding has been signed between ARC and NEWA to ensure this program meets the project goals.

- Glen Innes Council was also successful in gaining funds under the program to combat local priority weeds by assisting landholders and primary producers in eradicating any infestations introduced with livestock fodder, employ local contractors and control the infestations at no cost to the landholder. NEWA will assist in weed identification and project management.
- Congratulations also to Walcha Council on obtaining a grant under the program to erect 44km of predator proof fencing in the Moona Winterbourne area effectively protecting 110,000 hectares of livestock production.
- The above grants bring over \$2 Million into the New England Region helping farmers and landholders manage pest and weeds when they are least able to do so.
- We seem to have survived the worst of the Covid 19 issues and are moving forward. A number of our staff are currently in the Macleay Valley tackling TSA which has returned with vigor after droughts, bushfires and rain. We look to have a very busy time ahead.

1. NEW ENGLAND WEEDS AUTHORITY ANNUAL OPERATIONAL PLAN 2020-2021 (ITEM 7.1.1)

20/20 RESOLVED on the motion of Councillors May and Dusting that Council in accordance with the provisions of the Local Government Act 1993 and Regulations thereunder, adopt the New England Weeds Authority Annual Operational Plan 2020 – 2021.

2. LOCAL GOVERNMENT REMUNERATION TRIBUNAL (ITEM 7.1.2)

21/20 RESOLVED on the motion of Councillors Dusting and May that Council apply the Local Government Remuneration Tribunals determination to their current annual fees for 2020/21.

3. PUBLIC INTEREST DISCLOSURES REPORT (ITEM 7.1.3)

22/20 RESOLVED on the motion of Councillors May and Dusting that:

1. That the six- monthly report on Council's compliance with their obligations under the Public Interest Disclosures Act 1994 be received and noted.
2. That a copy of the report be forwarded to the NSW Ombudsman.

5. GOVERNMENT INFORMATION (PUBLIC ACCESS) ACT 2009 (GIPA) (ITEM 7.1.4)

23/20 RESOLVED on the motion of Councillors Dusting and May that under the provisions of Section 21 of the Government Information (Public Access) Act 2009, Council adopts the revised New England Tablelands (Noxious Plants) County Council Publication Guide, as attached to the report.

6. REVIEW OF COUNCIL POLICIES (ITEM 7.1.5)

24/20 RESOLVED on the motion of Councillors May and Dusting that:

1. Council reaffirm the adoption of the following Policies, as attached to the report.
 - Investment Policy No: 01/11
 - Credit Card Policy 02/11
 - Drug and Alcohol Policy No: 03/11
 - Engagement of Contractors Policy No: 04/11
 - Procurement of Goods and Services Policy No: 05/11
 - Annual Leave Policy No: 02/12
 - Gifts and Benefits Policy No: 03/12
 - Records Management Policy No: 01/13
 - Equal Employment Opportunity Policy 03/18

7. LOCAL GOVERNMENT NSW ANNUAL CONFERENCE (ITEM 7.1.6)

25/20 RESOLVED on the motion of Councillors May and Dusting that Council:

1. Approve the attendance of two representatives at the 2019 Local Government Annual Conference, those representatives being the Chair as Voting Delegate and the General Manager.
2. Approve payment of all expenses associated with the attendance at the Conference in accordance with the Payment of Expenses Policy.

8. INVESTED FUNDS REPORT (ITEM 8.1.1)

26/20 RESOLVED on the motion of Councillors May and Dusting that:

1. The report indicating Council's Fund Management position be received and noted.
2. The Certificate of the Responsible Accounting Officer be noted and the report adopted.

9. 2019/2020 WEEDS ACTION PROGRAM (ITEM 9.1.1)

27/20 RESOLVED on the motion of Councillors Dusting and May that the report on the 2019/2020 Weeds Action Program be received and noted.

11. MATTERS OF URGENCY

There were no matters of urgency.

NEXT MEETING

The next meeting will be held on Tuesday, 25 August 2020 at 8.30 am.

THERE BEING NO FURTHER BUSINESS THE CHAIR DECLARED THE MEETING CLOSED AT 9.05 AM.



TRAFFIC ADVISORY COMMITTEE

Held on

Tuesday, 4 August 2020

10am

at

Function Room

In attendance

Committee Members:

Mr Hans Hietbrink (Rep. Member for Northern Tablelands)

Snr Sgt Paul Caldwell (NSW Police)

Mr Stefan Wielebinski (RMS)

Council Staff:

Mr Ambrose Hallman (Manager Development and Regulatory Services)

Mr Graham Earl (ARC Technical Officer)

Ms Belinda Ackling (Minute Taker)

Mr Ian Chetcuti (Ranger)

Others:

Mr John Nash & Mr Stuart Boggs – speaking to item

MINUTES

1. Apologies / Leave Of Absence
Nil
2. Confirmation of Previous Minutes -

CONFIRMATION OF THE MINUTES OF THE TRAFFIC ADVISORY COMMITTEE MEETING HELD ON 7 JULY 2020

Moved Snr Sgt Caldwell Seconded Mr Hietbrink

That the minutes be taken as read and be accepted as a true record of the Meeting.

The Motion on being put to the vote was CARRIED.

3. Declarations of Interest
Nil
4. Business Arising
Nil
5. Special Event Reports

5.1 2020 Armidale Athletic Club's Wednesday Winter Social Cross-Country

Ref: AINT/2020/24382 (ARC16/0168-5)

Moved Mr Hietbrink Seconded Snr Sgt Caldwell

That the application for the 2020 Armidale Athletic Club's Wednesday Winter Social Cross-Country be approved, as per the Special Event Transport Management Plan.

The Motion on being put to the vote was CARRIED.

6. Correspondence

6.1 Proposed Changes to Parking in Jessie St adjacent to St Mary School

Ref: AINT/2020/25265 (ARC16/0168-5)

John Nash to Stuart Boggs expressed their concerns, advising they believe the installation of a full time bus zone takes away kerb side parking restricting potential parking for businesses in times when the school is not operating or the bus zone is not applicable. A lot of visitors coming into Armidale and using this area to visit the gallery and the Goldfish Bowl & believe and they generally make mistakes not knowing the area. In Covid19 times this has added to struggling business.

It was also advised that they believe that traffic using this area becomes confused with the signs and bus zone times, with congestion being worse in the afternoon where morning tend to flow much better. They have seen up to 6 buses at one time in the afternoon which causes issues. Parking in the bus zone does not occur very often. Parking on the western side parking has changed from 1 hour to 2 hours and would like this changed back to 1 hour to provide a better

turn over of customers for businesses.

Q- If the western side of the street if it is reduced to 1 hour ,will this help business will this give patrons enough time to conduct business?

A – reverting this back to 1 hour would be much more helpful to business meets are generally under an hour.

Q-How would you control the buses.

A–bus schedule movement spread out their drop off times.

Advised of the how the schedule is set for buses requiring approval from TfNSW and why their timing is required.

Police explained there is a generic problem of people not wanting to walk to a location specially when there is 20 parking spaces available adjacent to their businesses. Police explained that visitor are better at parking and obeying the rules in a new area, it is locals who tend to push restrictions and having multiple signs people tend to ignore them.

John Nash to Stuart Boggs left the meeting for the committee discussed the recommendation.

Action

That the recommendations made by the Committee to Council be provided and explained to the business for their information.

RECOMMENDATION:

- a) That a part time Bus Zone be installed on the northern end of Jessie Street closest the intersection with Rusden Street, equivalent to 24.4 mtr or 4 car parking spaces operational during School Zone hours between 8am to 9.30am and 2.30pm to 4pm, and then revert back to general ½ parking outside of the School Zone times.**
- b) That a full time Bus Zone equivalent to 42.3 mtr or 3 bus parking spaces operate full time during School Days in Jessie Street (following the part time Bus Zone) be installed.**
- c) That the parking on the western side of Jessie Street be left at 2hr, in accordance with the parking strategy.**

7. General Business

7.1 O'Connor School TfNSW inspection

Ref: ARC16/0168

The TfNSW representative advised that after an inspection and assessment of the O'Connor Catholic College School Zone in Donnelly Street, no issues can be identify. The recommendation made by the Committee that Council formalise the parking on the western end of the school zone in Donnelly Street as per Technical Direction TTD 2014/004 Off – road parking provision on narrow roads was a very reasonable solution to the issue . The School Zone could be extended

to the end of the street but this recommendation will be discussed at the next Traffic Advisory Committee meeting.

TfNSW representative will make contact with complainant to discuss the assessment and moving forward.

There being no further business the Chairman declared the meeting closed at 11.30am.



ENVIRONMENTAL SUSTAINABILITY ADVISORY COMMITTEE

Held on

Monday, 10 August 2020
5.30pm

at

Council Chambers/GoTo Meeting

Present

Mr VHR (Viv) May PSM (Interim Administrator)

Committee Members:

Ms Jo Leoni, Ms Mahalath Halperin, Ms Sara Schmude, Mr David Carr, Mr Charles Williams

CEWG Committee members: Ms Anette Kilarr, Helen Web

Council Staff:

Mr David Kerr (Interim General Manager)

Ms Leah Cook (Acting Director Organisational & Corporate Services)

Ms Jocelyn Ullman (Principal Advisor Natural Resources and Land Use Planning)

Ms Mandy McLeod (Sustainability Officer)

Ms Belinda Ackling (Minute Taker)

MINUTES

1 APOLOGIES:
Ms Suzannah Mitchell, Ms Navjot Bhullar

2 CONFIRMATION OF PREVIOUS MINUTES

CONFIRMATION OF THE MINUTES OF THE ENVIRONMENTAL SUSTAINABILITY ADVISORY COMMITTEE MEETING HELD ON 20TH APRIL 2020

Moved Ms Mahalath Halperin

Seconded Ms Sara Schmude

That the minutes of the meeting held on 20th April be taken as read and be accepted as a true record of the Meeting.

The Motion on being put to the vote was CARRIED.

3 DECLARATIONS OF INTEREST
Nil

4 CORRESPONDENCE
Nil

5 ADMINISTRATION REPORTS
Nil

6 BUSINESS ARISING
Nil

7 GENERAL BUSINESS

7.1 Revised Terms of Reference and Election of Committee Chair

Ref: AINT/2020/25931 (ARC16/0864)

At the Ordinary Council Meeting on 22nd July 2020, the Model Terms of Reference template was adopted for Council Advisory Committees. As a result it has been necessary to review and update the Environmental and Sustainability Advisory Committee, Terms of Reference and also the election a new Chairperson.

Interim Administrator Viv May addressed the Committee and requested Item 7.1 to be deferred, he apologised for the inconvenience this has caused. Mr May advised a further review of the ToR is required and that he wants to address matters pertaining to Mayoral authority. Mr May recognises that he did endorse this Model ToR at the Ordinary Council Meeting on 22nd July 2020, however he now wants to give it further consideration.

Moved: Ms Mahalath Halperin

Seconded: Mr David Carr

a) That the adoption of the ToR be deferred until such time that Council has investigated and endorsed a Model ToR that will ensure representation of the Committee is appropriately reflected.

- b) That a Council staff member chair the Committee until such time as the Committee has endorsed a ToR and elected a Chair.

The Motion on being put to the vote was CARRIED.

7.2 Final Report Climate Emergency Working Group Ref: AINT/2020/26260 (ARC16/0864)

An introduction and overview of the report document *A Framework for Climate Action* and the recommendations made within the document was provided by Annette Klilarr and Helen Webb.

Staff and members present recognised the enormous effort in applying their knowledge and donating their time to produce such a highly professional report and thanked the Climate Emergency Working Group for such dedication.

Two nominees of the Committee will meet with staff and undertake an analysis of the report to determine how to move forward with the actions and recommendations.

Moved: Ms Mahalath Halperin Seconded: Mr David Carr

- a) That the Climate Emergency Working Group report for *A Framework for Climate Action* be noted;
- b) That the Environment and Sustainability Advisory Committee (ESAC) members and Council formally thank the Climate Emergency Working Group for applying their knowledge and donating their time to produce a highly professional report;
- c) That the actions identified by the Climate Emergency Working Group that align with EcoARC Councils "Green print" document that was adopted by Council on 11th December 2019 and endorsed by the Community be noted;
- d) That the Committee consider all recommendations within Priority actions in Table 1 of the report and acknowledge that a selection of these initiatives will need to be considered to align with the adopted 20/21 Operational Plan and budget allocation;
- e) That initiatives identified within this report be considered in future years when developing operational plans and budgets;
- f) That two nominees of the Committee meet with Council staff and undertake a detailed analysis of the report to determine how some of the actions and recommendations could be undertaken through Council initiatives and alternate delivery models in order to achieve a broad community reach and achieve targeted outcomes.

The Motion on being put to the vote was CARRIED.

8 AGREEMENT ON ITEMS FOR AGENDA FOR NEXT MEETING

9 TIME AND DATE OF NEXT MEETING
Tuesday 6th October 2020

There being no further business the Chairman declared the meeting closed at 7.10pm

A Framework for Climate Action

Armidale Regional Council: Climate Emergency Working Group

Report

19 July, 2020



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1. Executive Summary

The climate is in crisis. In 2019, Armidale Regional Council (ARC) unanimously adopted a Climate Emergency Declaration as a response to community pressure to take action. As a result, the Climate Emergency Working Group (CEWG) was established in 2020 – this report is the result of the working group's deliberations to provide a list of doable, viable and urgent actions for Council to move forward in addressing the Climate Emergency.

The Climate Emergency requires urgent action, mobilisation of the community and leadership that can be provided by ARC. Council has already developed the EcoARC Greenprint¹ and it is important that the CEWG report be read in conjunction with those guidelines. However, the CEWG report has been written in a different format to the EcoARC Greenprint as it needed to address the three pillars of the Climate Emergency in the first instance –

- Emissions Reduction,
- Carbon Sequestration, and
- Climate Change Adaption and Mitigation

Bringing together the CEWG report, the EcoARC Greenprint and actions by Council can, and should be, done under the auspices of the Council's Environmental Sustainability Advisory Committee (ESAC).

While Council has established four Community Strategic Plan Categories (Growth Prosperity and Economic Development, Our People Our Community, Leadership for the Community, Environment and Infrastructure), it is important that all these principles are encompassed by the Climate Emergency Declaration and it provides the overarching guiding direction for all Council decisions. When the Community Strategic Plan is reviewed in 2021, the Climate Emergency should be incorporated in to that plan. Identifying transition to zero carbon emissions by 2030, transition to renewable energy, managing climate change risks and responding to climate change as Planning Priorities and identify appropriate actions and timeframes for implementation consistent with this report².

The following report addresses the three areas of concern, as well as issues of Community Engagement and Funding. Recommendations are noted throughout the report, as applicable to each specific area, with further detail noted in the Appendix and References. Moving forward with these recommendations means implementing specific projects as suggested throughout – not by writing yet another report. Which is why ESAC and Council's Sustainability Officer should now be tasked with implementing the recommendations and converting them into real actions. Likewise the Risk Analysis tables provide a strong starting point to further develop the necessary actions to mitigate and adapt to future climate change impacts.

Timely to the preparation of this report, the NSW Government announced on 10 July, 2020, that the region, which includes Armidale Regional Council, would become the state's largest Renewable Energy Zone (REZ)³. This game changer provides certainty for the renewables markets and sets ARC well-placed to take the leadership necessary to enact many of the recommendations of the CEWG report, and become the leading climate-responsible Council in NSW, if not Australia.

CEWG Co-Chairs – Mahalath Halperin & Annette Kilarr

Key Authors – Helen Webb & Mahalath Halperin

17th July, 2020

¹ The draft document is available via download on yoursay.armidale.nsw.gov.au/exhibition-of-draft-ecoarc

² Local Strategic Planning Statements for Bega Valley, Blue Mountains and Kiama Councils include some provisions that could be adapted for inclusion in ARC planning documents.

³ energy.nsw.gov.au/renewables/renewable-energy-zones
www.theguardian.com/australia-news/2020/jul/10/nsw-government-says-renewable-energy-zone-in-new-england-could-power-35m-homes

2. Introduction

Context

In October, 2019, Armidale Regional Council approved support of a Climate Change Emergency Declaration as a result of a community push to do so. The following Notice of Motion was unanimously approved –

Climate Emergency Declaration

A) That Council acknowledge our local and global communities are facing a climate emergency that requires urgent action by all levels of government; that human-induced climate change represents a great threat to humanity, civilisation and other species; and that, to prevent the most catastrophic outcomes, societies including local councils, need to take urgent action.

B) That Council therefore declares that we are in a 'Climate Emergency'.

C) That a report be prepared by February 2020, with input from a working group of the Environmental Sustainability Advisory Committee (ESAC) and the community, on current initiatives and additional future actions that can be undertaken in the short, medium and long term to:

1. Reduce greenhouse emissions aiming, by 2030, for no additional contribution from our region to the global temperature rise
2. Adapt to current and anticipated climate change impacts
3. Reduce atmospheric concentrations of greenhouse gases, e.g. sequester and store carbon in trees and soils

D) That Council encourages other local governments (that have not already done so) to take similar action to reduce greenhouse emissions and protect our climate.

E) That Council lobbies State and Federal Governments for urgent action to reduce greenhouse emissions and protect our climate.⁴

Climate Emergency Working Group⁵

In order to enact upon the declaration, it was agreed to form the Climate Emergency Working Group (CEWG) under the auspices of Council's Environmental Sustainability Advisory Committee (ESAC). There was delay in establishment of the CEWG, with the first meeting (held by webinar due to Covid19 restrictions) on 30th March, 2020. The aim was to provide input through ESAC to the report to be prepared by Council to action this motion.

Despite an extremely short time frame between the establishment of the CEWG and the April deadline for the provision of input from the working group, an Interim Report identifying priority actions for Council was submitted through the ESAC in April and accepted at the meeting of Council held by webinar on 22nd April, 2020.

This included -

- priorities highlighted for consideration for the 2020/2021 budget determinations.
- a larger draft and working document of compiled recommendations for consideration for short, medium and longer term action.

Herein is now the more detailed report to guide further actions for the short, medium and long term as the group was originally charged, and as the Climate Emergency continues.

We recommend that a Grant Development Strategy be developed between CEWG, ESAC and Council support staff to best utilise available corporate and community knowledge.

⁴ See Appendix 1 for Background notes to the Climate Emergency Declaration motion

⁵ See Appendix 2 for Climate Emergency Working Group Terms of Reference & EOI

Climate Emergency Working Group Input Report

Three modes of action are required as follows:

- *Council Operations* – actions undertaken directly by Council, relating to facilities and operational activities; This also relates to less tangible issues such as planning and regulation;
- *Community Engagement* – actions where Council engages the community to in order to educate, raise awareness and facilitate further discussion and action;
- *Community Assistance* – actions where Council can facilitate proactive actions by the community (residential, individual, business, industrial etc) such as better planning, rebates, and so on.

Regardless of the make-up of those actions, any decisions should come under the **decisions making process** of:

- An overall strategy consistent with the Climate Emergency Declaration and goals of reducing greenhouse emissions, community adaptation to climate change, and carbon sequestration;
- Weighting to those actions with the greatest positive effect (particularly in relation to current base level emissions) as well as cost effectiveness;
- Building on initiatives in progress and/or where groundwork and/or an audit has already been done;
- Working collaboratively within the existing council framework including the Community Strategic Plan, EcoARC GreenPrints, and with Project Zero30, RGPAAC and SLA and the like;

In regards to the specific recommendations from this report in addressing the issues, CEWG has determined that the best format to provide more detailed input is in the following **three sections**, based on the initial list of priorities submitted to Council with the Interim Input report:

Part 1: Recommended initiatives to **reduce greenhouse emissions**

Part 2: Recommended initiatives to **reduce atmospheric concentrations** of greenhouse gas emissions (sequester and store carbon)

Part 3: **Adapt** to current and **anticipated** climate change impacts

Additionally, many of these recommendations address **engagement with the community** and the need for education towards reducing greenhouse emissions and adapting to climate change impacts as per the modes of action noted above. Additional information and recommendations are also provided in this regard.

And while the focus overall is to reduce greenhouse gas emissions and concentrations, we need to widen our lens about climate change solutions to include less obvious strategies:

- food waste reduction and plant-rich diets,
- preventing leaks and improving disposal of chemical refrigerants,
- restore ecosystems and prevent further land clearing,
- access high-quality health care, and

That said, the recommendations in this report are still not totally comprehensive, though do cover a broad range of issues beyond fossil-fuelled energy generation as noted.

2. CEWG Members

Membership

An Expression of Interest⁶ was circulated for membership of the Climate Emergency Working Group in mid-March, 2020, with selections made by late March. As per the Terms of Reference³ and Council resolutions, the CEWG is intended to be the enabler to develop this report for recommendations for Council to move forward on enacting their Climate Emergency Declaration.

Membership of the working group is as follows –

Dale Curtis, B.Sc (Hons), Dip Comp Sc.

- Key initiator of the Climate Emergency Declaration in Armidale;
Software Engineer, Angus Australia;

Thomas Davidson, Ph.D.

- National Coordinator Livestock Productivity Partnership, University of New England;

Mahalath Halperin, B.Arch, B.Sc (Arch), FRAIA, Cert IV Carbon Management

- ESAC member and Co-Chair CEWG; Former SLA Convenor;⁷ Architect and Environmental Consultant;

Annette Kilarr, BA(Hons) Anthropology; Grad Dip Nat Res;

- Co-Chair CEWG; SLA Climate Action Group Co-convenor;

Suzannah Mitchell, B Eng-Environmental Engineering (Hons)

- ESAC Member; Environmental Sustainability Manager, University of New England;

Dorothy Robinson, Adjunct Professor (UNE)

- (Suspended) Chair ESAC⁸; (suspended) Councillor ARC; Senior Statistician, University of New England

David Stellar, B. Eng, FIEAust

- Member Zero30 Community Committee; Former Director ADC Public Infrastructure;
Retired Local Government Engineer; Armidale Tree Group Inc. President;

Helen Webb, B.Sc

- Convenor SLA Climate Action Group; ARC Environmental Champion, 2019;
Presenter of the Climate Emergency Declaration to Council, 2019;

The report was predominantly co-authored by Helen Webb and Mahalath Halperin, with assorted input from the working group members, plus outside expertise and comment from Pats Asch, Dave Carr, Rachel Lawrence, Sara Schmude, Bec Smith and Karle Vernes.

⁶ See Appendix 2 for Climate Emergency Working Group Terms of Reference & EOI.

⁷ During the preparation of this report, Ms Halperin was SLA Convenor but has retired on 2 July, 2020 after a 3 year term.

⁸ Note that at the time of the CEWG appointment, Dr Robinson was both a Councillor and Chair of ESAC: However, all ARC Councillors were suspended in June 2020, and thus also membership of both ESAC and CEWG suspended for the time being.

3. Initial Priorities

Priorities

The Interim Input report was sent to Council in April, 2020. This report was produced in a very short time frame, and consequently, with more thought and time, the bulk of the following report has rearranged some categories and issues. However, the principles of the priorities remain the same.

The table shown was included as the proposed actions and projects for consideration into the 2020/2021 Council budget. Whilst there are many more projects to consider (see following) these were prioritised as the main ones to consider initially as determined by CEWG overall.

a) Reduce greenhouse gas emissions, aiming, by 2030, for no additional contribution from our region to the global temperature rise					
		Council operations	Community Engagement	Community Assistance	Potential specific projects
a)1	All Electricity sourced from renewable energy	✓	✓		PV array on Malpas
a)2	All other energy from renewable sources	✓			
a)3	PVs onto all Council facilities	✓			
a)4	Upgrade facilities for energy efficiency	✓	✓	✓	Insulation under CAB; Energy efficient retrofits; Audits;
a)5	Reduce emissions from wood heating		✓	✓	Enabling actions from WSAG Report group
a)6	Alternative vehicle fuels	✓	✓		Council Greenfleet; Enhanced bike use facilitation
b) Adapt to current and anticipated climate change impacts					
b)1	Risk analysis on outcomes of climate change	✓	✓	✓	On Council operations, whole of LGA and community generally
c) Reduce atmospheric concentrations of greenhouse gases, e.g. sequester & store carbon in trees & soils					
c)1	Wide-scale tree planting & carbon sequestration	✓	✓	✓	Dumaresq Dam planting; Enabling farmland; Minimum planning requirements;
c)2	Reduce agricultural emissions		✓	✓	Climate Solutions Fund access; Local Food; Regen Agricultural hub;

Table 1: Prioritised actions from the CEWG Interim Input Report, April2020

- **Council Operations** – actions taken by Council directly, such as facilities and operational activities; This also relates to less tangible issues such as planning and regulation;
- **Community Engagement** – actions where Council engages the community to educate, raise awareness and facilitate further discussion and action;
- **Community Assistance** – actions where Council can facilitate proactive actions by the community (residential, individual, business, industrial etc) such as better planning, rebates, etc.

4. Process

Principles

In order to assess the recommendations proposed throughout this report, these should be aligned with a valid set of principles as appropriate to the intent of the Climate Emergency Declaration. In enacting the process of both making the declaration then taking action to implement the declaration, there is strong opportunity for Armidale Regional Council to become very inclusive of all its residents, businesses and associations, thus setting a high benchmark for good communities in general.

- It is essential that the process involves non-partisan whole-of-community engagement that fosters collaboration between Council members, staff, residents, businesses and educational institutions and adopts a commitment to science-based policies that make climate a first priority of government and of the community.
- By so doing, this will strengthen our democracy by involving the community in decision-making.
- Inclusiveness means taking action to empower our Indigenous residents and their leaders.
- Social justice for all residents should be at the heart of our decisions.
- Engage with local businesses, Council staff and other institutions to build an understanding of the risks, the pace of change and what they can do to cut emissions and lend their support to a whole-of-community transformation.
- There must also be an emphasis on the benefits of action, and in building a more inclusive, safer community, not just the danger of inaction.
- All Council decisions should be informed by duty of care to ensure the safety of our residents, which includes planning for events that are likely to occur e.g. increased frequency and severity of drought, decreased availability of regional water, increased likelihood of intense fires, probable increase in population leading to higher demands on infrastructure, education, water, food, jobs, and so on.
- Ensure enough flexibility to respond to the unexpected.
- Support the transformation of local agricultural practices to respond to climate change.
- Fiscal responsibility must be calculated in terms of the above principles.

In line with Council's EcoARC Greenprint, planning should take into account at least six overlapping categories: energy; the built environment; transport; agriculture; biodiversity, vegetation, local food; and waste plus consumption. It is important to keep at the forefront of all decisions – planning, action and so on – that the environment underpins all these issues.

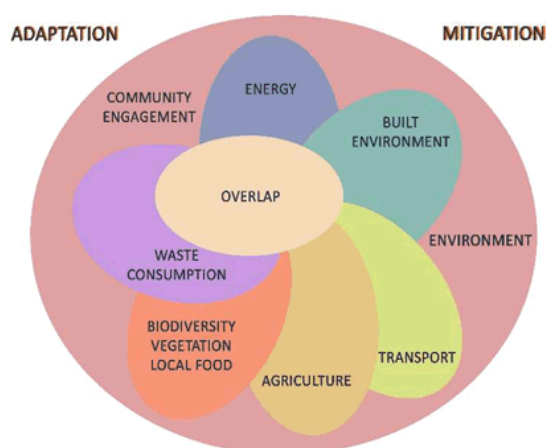


Diagram 1: Inter-relation between all decision making

Source: Patsy Asch, Armidale 2020

5. Recommendations

Part 1. Reduce Greenhouse Gas Emissions (GGE)

“Reduce Greenhouse Gas Emissions, aiming, by 2030, for no additional contribution from our region to the global temperature rise”

1. Council Planning & Strategy – make the climate planning framework coherent, and prioritise climate change action above other actions.

Climate change poses substantial risks and barriers to the achievement of the vision, key themes, strategic directions and community outcomes identified in Council's Community Strategic Plan 2017-2027. However, a transition to a zero emissions future also offers substantial opportunities for Council to be pro-active and build on, or tap into, initiatives already underway in the New England region, particularly the growth of renewable energy and the recently announced Government support for the New England Renewable Energy Zone.

The vision of regional growth should be based on careful planning with attention to potential adverse impacts or benefits for environment and community, availability of resources such as water and energy, potential to increase or decrease greenhouse gas emissions, existing and potential future infrastructure and employment.

We note that the ARC's Regional Growth and Place Activation Advisory Committee (RGPAAC) initial list for short, medium and long term actions to be taken to revitalise the economy as the Covid pandemic is managed, also includes attention to some similar veins such as renewable energy and local food production, and thus there is potential for coordination and synergy here.

Short term:

- In order to facilitate effective cross-departmental action, identify within Council a leader – a Climate Champion (an individual or small core team with the seniority and influence to implement change). The focus of the Champion will be to plan and facilitate action across the organisation, facilitate ongoing stakeholder engagement, monitor progress and hold people to account, challenge business-as-usual approaches, and help to find beneficial solution.
- Identify and prioritise actions that are consistent with the goals of the Climate Emergency Declaration and with Council's current planning framework, with emphasis on those that are likely to have greatest positive effect (particularly in relation to current base level emissions as well as cost effectiveness); In particular those that build on work already started arising from ARC Community Strategic Plan 2017-2027 and the EcoARC Greenprint for a sustainable future.
- Incorporate the above priority actions into ARC's operational plan and budget.
- Continue collaboration with University of New England (UNE) and Zero30 towards no additional contribution by ARC LGA to global temperature rise by 2030, achieving Climate Active Carbon Neutral Standard (formerly the National Carbon Offset Standard)⁹ by 2030.
- Maintain on-going communication and liaison between Council and its relevant committees including Environmental Sustainability Advisory Committee (ESAC), Regional Growth and Place Activation Advisory Committee (RGPAAC), Community Wellbeing Advisory Committee (CWAC) and their working groups, as well as community groups such as Sustainable Living Armidale (SLA), Southern New England Landcare (SNELC), and groups seeking or implementing climate change actions.
- Adopt and implement a Sustainable Procurement policy with procedures that support socially just work practices and environmentally sound sources and, where possible, support Australian and preferably local businesses and skills. Procurement policy should take into account a range of

⁹ www.ipaustralia.gov.au/sites/default/files/certification_rules/1369520.pdf
www.climateactive.org.au

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factors (such as priority energy efficiency, reducing water consumption, use of recycled materials, reducing waste and single use plastics and so on).

- Facilitate (via planning) and incorporate small-scale co-generation measures into the design of new developments (such as the new Airport Business Park).
- Implementation of these strategies and plans (and following for medium and short term also) should be staged and occur concurrently with their development.

Medium term:

- Develop an overall Council strategy for council operations that is consistent with the Climate Emergency Declaration and the goals of reducing greenhouse emissions, adaptation to climate change and carbon sequestration. This would incorporate –
 - a Net Zero Emissions / Renewable Energy Strategy and Action Plan (with short, medium and long term targets and costed actions),
 - a Plan for Carbon Sequestration,
 - a Climate Change Risk Assessment and Adaptation Plan for Council, and,
 - where relevant to council jurisdiction, the community;

Strategies anchored to corporate objectives will add strength to potential funding grant applications.

- Review ARC Local Environment Plan (LEP) to incorporate flexibility of zoning in the context of climate change, especially where possible zoning of agricultural and environmentally sensitive land.
- While Council might not be able to specifically direct changes within the community, all planning should take into account Council's role to influence community outcomes for the greatest benefit (such as Council's highly successful 2019 program to reduce water consumption in the face of serious water shortages). Due to the urgency of the need for action and consistent with the zero emissions aim for 2030, it is recommended these strategies and plans should be placed directly underneath the Community Strategic plan, in turn informing underlying strategies and plans such as the Economic Sustainability and Development Strategy.
- Formalisation of a Grant Development Strategy, developed with assistance from CEWG, ESAC and Council support staff to best utilise available corporate and community knowledge (see Section 7).

Long term:

- Council must ensure that the elements of its Integrated Planning Framework are consistent with the priority of action towards a safe climate.
- Ongoing evaluation of implementation of strategies and plans, and where necessary making appropriate changes, to facilitate the best outcomes towards zero net emissions by 2030, increased community resilience to climate change impacts and drawdown of greenhouse emissions.

ARC collaboration with other councils and organisations:

- Collaborate with other LGAs in the New England region, including with the New England Joint Organisation (NEJO)¹⁰ to amplify and strengthen initiatives towards reducing greenhouse gas emissions, carbon sequestration and adaptation. This aligns with NEJO's aims for sustainable economic growth, and educated, healthy and connected communities.
- Work with resources such as the Z-NET Blueprint, a model created for rural towns, villages and regions to be able to assess and design their Z-NET plan to achieve the goal of 100% renewable energy and beyond. Utilise the approach taken, the logic and principles applied in assessing options and the framework used for developing the implementation plan¹¹.
- Likewise refer to resources available through other bodies such as C40 Cities¹², Cities Power Partnership, Beyond Zero Emissions¹³, Zero Carbon Communities.¹⁴

¹⁰ nejo.nsw.gov.au

¹¹ zneturalla.org.au, znet.org.au/hepburn

¹² www.c40.org

¹³ bze.org.au

¹⁴ bze.org.au/zero-carbon-communities

2. Specific Reduction of GGE

2.1 Undertake steps towards developing a Community Net Zero Emissions Strategy

In line with the issues identified in the NSW Government Draft Net Zero Guidance for NSW Councils¹⁵ -

- expand engagement of stakeholders (build on engagement already in progress through ongoing collaboration with UNE and other stakeholders via the Zero30 project and the community via the Climate Emergency Working Group of the Environmental Sustainability Advisory Committee).
- get to know your community greenhouse gas emissions profile,
- establish a net zero emissions target,
- identify emissions reduction pathways,
- develop and implement your net zero strategy,
- track your progress (monitor, evaluate and review) and
- share your success.

These principles are further detailed in the NSW Climate Change Policy Framework, NSW Electricity Strategy and New England North West Regional Plan (NENWRP) which provide additional information¹⁶.

a) Emissions Profile

For the purposes of this report, information on ARC emissions is sourced from Snapshot NSW¹⁷. This resource is designed to help identify the highest greenhouse emissions sectors, thence actions that can be taken to reduce and raise awareness about CO₂e emissions. Snapshot has been generated from 'top down' or state level data on the volume of greenhouse gases emitted within Armidale LGA - and the different sources of these emissions (refer Table 1). Snapshot should be used alongside local data sets where more detail is needed.

Source		Sector Emissions (t CO ₂ e)	% of Total
Electricity	Residential	96,400	11.96
	Commercial	60,500	7.5
	Industrial	95,800	11.88
			31.34
Gas	Residential	Not specified	Not specified
	Commercial	Not specified	Not specified
	Industrial	Not specified	Not specified
Transport	On road	122,800	
	Domestic air travel	19,500	
			17.65
Waste	Landfill	9,400	1.75
Agriculture ¹		397,100	49.26
Land Use ²		-11,400	
Total (net)		790,100	100.00

Table 2: Armidale region's 2017 Greenhouse Gas Emissions by Sector¹⁵

1. Emissions from agriculture are presumed to be based on the number of livestock in the region and estimates of the amount of methane emitted.

2. Land use data (see above table) is not defined on the web page but is a negative value and is presumed to be an estimate of the change in the amount of carbon stored in trees - based on LULUCF in Australia's emissions inventory.

This profile is based on 2017 emissions and may have significant omissions or errors - for example, cattle numbers in the region decreased significantly during the 2018-2019 drought; emissions increased due to the 2019 bushfires; and the contribution to greenhouse emissions of domestic use of gas is not included, nor are methane and black carbon emissions from burning wood for heating in Armidale. Also,

¹⁵ www.environment.nsw.gov.au/topics/climate-change/net-zero-plan

¹⁶ www.environment.nsw.gov.au/topics/Climate-change/Policy-framework

energy.nsw.gov.au/government-and-regulation/electricity-strategy

www.planning.nsw.gov.au/Plans-for-your-area/Regional-Plans/New-England-North-West

¹⁷ snapshotclimate.com

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it is not clear which sector institutions such as local government, education and health care facilities are classified in with regard to electricity, transport and waste emissions, or what proportion of each sector is attributable to food production and distribution. Nevertheless, the profile gives a broad estimate of the proportional source of emissions for our region and therefore the sectors in which emissions reduction might be the most effective in reducing overall emissions.

Recommendations:¹⁸

- Armidale Regional Council join and contribute to Snapshot in order to feed information in and update information as it becomes available.
- Utilise the Project Zero30 collaboration between ARC and UNE to provide more accurate information with further breakdown of emissions from government, educational and health institutions and commercial, business and industrial emissions.

b) Establishment of a Net Zero Emissions Target.

This is a critical first step. For the purposes of this report ARC Zero Emissions target should be taken as 2030 goal based on Armidale Regional Council's Zero30 collaboration with the University of New England (UNE).

- Establish a Net Zero Emissions Target in conjunction with UNE Zero30 with *realistic and viable* outcomes.

2.2 Identify Emissions Reduction Pathways¹⁹

Planned reduction of greenhouse gas emissions should be based on the emissions profile and further refined as more detail regarding emissions and their sources becomes available. The NSW Government (Adapt NSW) Western Enabling Regional Adaptation New England North West Region Report (2017) has developed transitional models for key regional systems, including energy, and identifies actions that can be taken towards achieving the following aims:

- a decentralised renewable energy system with large scale renewables,
- net zero emission towns,
- electric vehicles and supporting infrastructure,
- green and active local transport options,
- emissions reduction actions accepted and widely supported by the community, and
- clean-energy jobs contributing to employment and the regional economy.

The recommendations in this report are all consistent with the aims of this model.

The steps in the pathway towards cost-effectively achieving significant levels of renewables are identified in the Northern NSW Renewable Energy Blueprint for Local Government²⁰ as follows:

- a) Reduce energy demand (energy efficiency, technology upgrades, sustainable growth)
 - b) Produce renewable energy (behind the meter, mid-scale)
 - c) Purchase renewables / offsets
- Investigation by Council for options for NSW Government funding that may be available to support some of these initiatives.

a) Council Reduce energy demand (energy audits, education, behaviour change, technical modifications)

The most cost effective way to achieve emissions reductions is to implement energy efficiency combined with onsite renewable energy initiatives in council operations. Efficiency and onsite renewables can

¹⁸ Note that Recommendations are listed throughout each section as relevant to the topic and discussion

¹⁹ The Z-net Hepburn Community Transition Plan provides a succinct example of a plan for a local community to set targets and achieve zero net emissions

²⁰ www.olg.nsw.gov.au/councils/policy-and-legislation/guidelines-and-policy-information-resources-for-councils/northern-nsw-renewable-energy-blueprint

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typically reduce a local government's operational energy use by 20-40%²¹ depending on past initiatives, age of equipment and controls and available land and roof space. Purchasing green energy can still contribute in meeting a zero emissions goal by 2030 (see 2.2.c).

Council Energy audits

Energy use audits provide baseline information and are useful in identifying those changes (behavioural change and technical modification) that can result in the greatest gains in energy efficiency.

- Evaluate the effectiveness of actions arising from energy audits that have already been carried out for some areas of ARC buildings (Civic Administration Building, previous Library - now vacant, Water Treatment Plant, Airport - now redeveloped, and Monkton Aquatic Centre) and operations such as street lighting. Where justified by the audits, identify projects that are yet to be completed and make recommendations for their completion.
- Carry out additional audits to monitor effective changes, identify high emission areas and those areas with the greatest potential for change and form a basis for further action arising.
- Inform the community about improvements in energy efficiency and savings.

Council Education/Behaviour Change

- Educate staff with the energy audit results and the identified changes in behaviour needed to reduce energy demand (such as turning off lights, electrical equipment turned off at the wall, and energy efficient operation of air conditioners); as well as general behavioural actions that reduce energy demand (such as appropriate dressing, open/close doors and windows).

Council Technical modifications

- Prioritise energy efficiency and emissions reduction when purchasing new plant and equipment.
- Replace energy hungry technologies with newer, more efficient technologies where the energy cost of replacement (including the embodied energy in production) does not exceed the gain in energy efficiency (over a life cycle).
- Reduce energy losses from buildings through improved and upgraded fabric, such as the previously considered option of installing insulation under Armidale Council's administration building, above the below ground level car park.
- Incorporate minimum energy efficient design criteria into construction of any new facilities – such information is readily available from many sources, including in regards to the building design, building fabric and materials systems, and energy requirements.

b) Council Produce Renewable Energy (Transition from coal-fired electricity to renewable sources) aiming for 100% renewable energy source for electricity by 2028

It is important in the context of climate change that there is a rapid transition from fossil fuel energy to renewable energy rather than continuation of fossil fuel energy production as well as renewable energy growth. The New England North West Regional Plan 2036²² seeks growth of New England North West as the renewable energy hub of NSW. The opportunity exists for ARC to align its planned changes with NSW government initiatives and become a leader in renewable energy in the area and to take advantage of possible funding opportunities.

- Expand Council-owned renewable energy generation capacity in parallel with energy efficiency measures to achieve cost effective emissions reductions.
- Expert advice regarding quality and durability of new equipment, and monitoring of performance and efficiency of existing renewable energy installations, is essential in order to avoid undetected failures in productivity and future poor choices in quality of equipment²³.

²¹ www.energy.gov.au/business/large-businesses

²² www.planning.nsw.gov.au/Plans-for-your-area/Regional-Plans/New-England-North-West

²³ Refer article highlighting the risk of "performance issues" and significant reduction in output over time at a large scale solar farm - reneweconomy.com.au/performance-issues-hobble-output-at-ground-breaking-solar-farm-39496

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- Provision should also be made for ongoing maintenance of facilities and preference given to employment of local installers and maintenance providers.

Energy Generation from Solar Panels

- Complete planned installation of solar panels on existing Council buildings and facilities –
 - Solar panels installed on roofs and land at Council facilities can partially or fully supply daytime demand for energy. If sized correctly, most of the renewable energy generation can be used directly without exporting anything to the grid. An update of ARC's energy audit should identify priorities for additional renewable energy installations.
 - Solar Panels have been installed at Armidale Information Centre, Kolora Aged Care, Armidale Sewerage Treatment Plant & Works Depot, and Guyra Aquatic Centre (underway). Information available to the Climate Emergency Working Group indicates that funding for solar panel installation is not fully expended to date (April 2020). Council should establish whether all planned installations have been completed and investigate the best options for further installations and expenditure of remaining funding.
- ARC is well placed in that it owns Armidale's and Guyra's water and sewer assets. Additional PV panels to power ARC's water and sewage treatment plants and waste facility could be investigated along with the potential for installing solar panels on land purchased by Council for the new waste facility. There is potential to use the sewage lagoon structure and the water surface of Malpas Dam to accommodate floating PV panels.
- Solar hot water and heat pumps provide additional options for renewable energy and efficiency. Energy audits can highlight locations where these may be the best option.

Energy Generation from Micro / Mini hydro

- Reconsider the installation of a turbine placed near the Armidale Water Treatment Plant to utilise the energy generated from the head difference between Malpas Dam and Armidale. The project has been scoped and is on file and could be investigated and funded through loans and/or increased water charges or levies over a small number of years.

Energy Generation from Pumped Hydro

- A number of potential local sites for pumped hydro have been identified by ANU²⁴, with funding from ARENA already allocated to investigate the Oven Mountain proposal²⁵. Council should be pro-active in investigating these to assess those with best potential and least environmental impact, and identify ways ARC can facilitate the most suitable projects²⁶.

Peer-to-peer trading

- Once changes in energy regulation are adopted to allow for electricity sharing between different solar installations, Council should take advantage of low cost renewable energy that is locally generated and stored through peer-to-peer trading. A pilot project implemented in Byron Bay Arts and Industry Estate Microgrid that was approved as a trial by the NSW government and was led by Byron Bay-based community-owned energy company Enova Energy in collaboration with Essential Energy. There is potential for Council to lobby the State Government for regulatory changes or an exemption and to set up peer-to-peer trading on Council-owned buildings or support business initiatives for peer-to-peer trading on buildings in the CBD.

Mid-scale Renewable Energy (500kW - 15 MW)

- Investigate options for Council to take on mid-scale energy generation and thus a supply role to energy retailers. Renewable energy generated by Council-owned facilities can be used to

²⁴ energy.anu.edu.au/research/highlights/anu-finds-22000-potential-pumped-hydro-sites-australia

²⁵ arena.gov.au/news/pumped-hydro-plant-could-unlock-new-england-renewable-energy-zone/

²⁶ It is important that ARC bases its forward planning on up to date information from the Australian Energy Market Operator (AEMO). Refer renew.org.au/renew-magazine/renewable-grid/transition-delayed indicating anticipated revisions to the draft 2020 Integrated System Plan.

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provide supply for Council's own electricity use. Subject to available space, the system(s) could be sized large enough to meet a significant proportion of the electricity consumption of all council sites. Local generation would also employ local people, further signalling Council's commitment to renewables and emissions reduction to the community. All renewable energy projects 'in front of the meter' must have a retailer to sell the energy to the market. Caution is needed as there is a future risk that the grid may become saturated with solar energy during peak production times and that there will be constraints placed on supply to the grid.

- Consider the potential for supporting the establishment of a small renewable energy generation network owned by the community or co-owned between ARC and the community. If Council was a co-owner, this would provide return on investment as well as supporting the local community.

Battery storage

- Assess the need and potential for battery storage to help maximise the value of renewable energy systems in future and help to further reduce grid costs.

c) Council purchase renewable energy (Transition from coal-fired electricity to renewable sources)

A renewable electricity goal could be achieved by simply purchasing electricity from Greenpower® (energy supply offset from renewables) or a renewable energy Power Purchase Agreement (PPA), thus offsetting emissions from fossil-fuel electricity. Groups of organisations can now buy renewable energy from specific renewable energy projects (corporate PPAs), enabling purchasers to identify the source of their renewable energy. The performance risk sits with the developer. Organisations enter into these agreements primarily to lock in future energy prices and to meet carbon reduction or renewable energy targets where this can be achieved at no/minimal cost and with no greater risk than purchasing regular grid power.

Council Negotiate a Power Purchase Agreement.

- ARC could play a lead role with the New England Joint Organisation of Councils to negotiate a power purchase agreement with an energy producer / supplier that can reliably meet Council's energy needs. This is especially so in light of the recently announced REZ² which will potentially be an exporter of energy from the region. In considering options, rather than seeking the cheapest option (which could likely involve big corporations with heavy investment in fossil-fuel based energy) give weighting to energy producers that will feed back into the economic base of the local community. Formal agreements by government and industry to purchase renewable energy helps to make it more affordable. Note that in the current market, the period of a renewable energy contract is much longer than a regular electricity contract (7-10 years).

2.3 Identify Emissions Reduction Pathways for the Community

Council is a role model in the local community for energy use and encourages and supports energy efficiency in the broader community. ARC's community engagement towards reducing water consumption provides a blueprint for supporting the community in energy efficiency. The ARC collaboration with UNE on the Zero30 project provides opportunities to apply for funding and develop joint projects to support energy audits and efficiency gains by businesses and institutions.

a) Community Reduce energy demand (education, energy audits, behaviour change, technical modifications)

Community education and information is one of the main ways in which Council can help and encourage the community to act to reduce greenhouse gas emissions and save money. A community that is educated, informed and literate regarding climate change, renewables and other abatement measures, and is supported by its local government, can be empowered to make the changes needed.

Community Package

- Council, in association with the community, develop and implement programs focussed on engaging and working with residents, businesses and institutions towards undertaking energy

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audits, reducing energy demand and making the behavioural changes needed to achieve energy use reduction, as well as generating or purchasing renewable energy. ARC's program to engage whole-of-community in behavioural change to reduce water usage was very effective in reducing per person usage from 240 L per day to 160 L per day. A similar model could be adapted for energy usage. Employment of a project officer to run these programs would greatly enhance its potential success. Funding could be sought through the state government for this. This could also involve revisiting SLA's 'I Can Do It' program which assisted households in reducing their energy demand. These programs and processes might include, but are not limited to, the following –

Energy audits

- Widespread energy audits and assessments are needed for households, businesses and institutions as they provide baseline information and can identify those changes needed (behavioural change and technical modification) that can result in the greatest gains in energy efficiency. SLA is planning to set up energy assessment opportunities for households by trained volunteers, while professional audits²⁷ are recommended for business and institutions. UNE has conducted audits and implemented recommended changes in some areas of its operations which can be evaluated, built on and expanded.
- Work with the community to promote and encourage above said energy audits by community, business and institutions to provide a basis for improvements in energy efficiency.

b) Facilitate and encourage Renewable Energy Generation in the community

- Foster installation of rooftop solar for households (5 kW systems recommended), businesses (such as high-energy-use shopping centres) and institutions. Give particular consideration to options for providing renewable energy access to low-income households (such as private/public funding for a Rolling Solar Scheme for low income housing). Provide planning for installation of PVs on new homes by 2023, potentially providing the basis for entire solar suburbs or 'solar gardens'.
- Investigate community energy connectivity. This could include Distributed Energy resources with consumer-led investments into a 2-way grid (refer to report by Australian Energy Market Operator²⁸). This could also be relevant for businesses.
- Lobby NSW government to support ways for businesses and households to share electricity in a peer-to-peer system (refer earlier comments) that lowers electricity costs and emissions while also supporting the grid; and to urge that all investment in poles and wires also supports the transition to renewable energy.

Battery Storage

- Facilitate opportunities for the community to benefit from NSW Government plan to support, through interest free loans, the installation of up to 300,000 solar-battery systems across the state over a period of 10 years²⁹. This program can potentially add up to 3000 MW hours of storage into the NSW energy system, hence helping with ARC's Zero30 goal.

c) Facilitate and encourage Renewable Energy Purchase in the community

- Educate the community regarding the benefits of purchase of green power where connection to locally generated renewable energy is impractical.

d) Energy Efficiency Options for Heating

Modification of ambient temperature is a significant component of energy consumption. Due to its topography, emissions from wood heating are exacerbated in the Armidale City area, with increased

²⁷ www.nabers.com.au

²⁸ aemo.com.au/en/initiatives/major-programs/nem-distributed-energy-resources-der-program

²⁹ www.nsw.gov.au/news/interest-free-loans-for-battery-systems

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emissions of methane and black carbon (potent shorter term greenhouse gases) by wood heaters. An accurate estimate of these emissions in Armidale is not yet available, though there are long-term records of PM2.5 levels.

Use of inefficient or poorly operated wood heaters for home heating also contributes to unacceptable levels of air pollution in winter in the Armidale City area. The high levels of air pollution detected as a result of bushfires in 2019-2020 further highlighted harmful effects, and provides additional incentive for ARC to act effectively towards minimising pollution from wood heaters.

- The report³⁰ prepared by ARC's Wood Smoke Advisory Group (WSAG) provides recommendations for strategies to address the wood smoke issue in Armidale. The report notes that Reverse-cycle air conditioners (heat pumps) have become a reasonably cost-effective method of heating in Australia and lists advantages and disadvantages of these. As well as being energy efficient if used properly, they can be run during the day for pre-heating using free in-house solar energy (if available), as well as pre-cooling for summer.

Reduce emissions from wood heating

Baseline information is needed, although historical PM2.5 levels are available. Enactment of the recommendations from the WSAG will assist in reducing wood smoke and therefore the emissions created.

- Obtain baseline information through ARC and UNE Zero30 collaboration to better quantify the contribution of wood heaters to Armidale region's overall emissions and make research-based recommendations on reducing CO₂, black carbon and methane emissions from wood heaters.
- Council educate both staff and the community on recommendations re behavioural and technological changes to reduce energy loss (improved building fabric), exclusion of draughts and recommended changes to operation of heating and cooling devices (refer WSAG report for details)³¹ and the benefits of replacing inefficient wood heaters with low- or zero- emissions alternatives such as reverse cycle air conditioners.
- Establish the proposed Air Quality Working Group as soon as possible to enact the recommendations of the WSAG report.

e) Transition from Gas

Bottled gas is used throughout the ARC area by residents, businesses and institutions for cooking, heating water and heating buildings. The CEWG does not have information at this stage re the quantity of gas used or greenhouse gas emissions generated. While gas was popularly touted during the 1980s onwards as a transition fuel from coal-fired electricity to renewables³², this is no longer the case given the derivation of new gas sources, as well as the increased opportunity to leapfrog straight to renewable energy sources.

- Obtain baseline information through ARC / UNE Zero30 collaboration to better quantify the contribution of gas to the ARC region's overall emissions and make research-based recommendations towards reducing these emissions to zero by 2030.

2.4 Reduce transport emissions

a) Reduce transport emissions from Council operations

- Update Council's transport emissions audit to provide a basis for identifying potential priority areas for emissions reduction. This would include revisiting Council's participation in the NSW Greenfleet Program³³ (focused on offsets) and/or joining the NSW Clean Fleet Program³⁴ (focused on reducing emissions from diesel vehicles).

30 slarmidale.org/wp-content/uploads/2020/06/WSAG-Rreport-V6-26sep19-P.pdf

31 slarmidale.org/wp-content/uploads/2020/06/WSAG-Rreport-V6-26sep19-P.pdf

32 www.greenamerica.org/fight-dirty-energy/amazon-build-cleaner-cloud/natural-gas-transition-fuel-myth#

33 greenfleet.com.au

34 www.rms.nsw.gov.au/documents/about/environment/air/clean-fleet-0606.pdf

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- Collaborate with UNE Zero30 project towards increased research and development to enable early transition from fossil fuel powered transport to more efficient transport options powered by, or with potential to be powered by, renewable energy and batteries.
- Modify Council's vehicle and plant replacement program to ensure that opportunities are taken to replace current unleaded petrol vehicles with hybrid or electric vehicles; and diesel plant and equipment is replaced with equipment with power-plants that meet or preferably exceed, the current best emission standards. Aim to ultimately power these with renewable energy.
- Investigate locating plant and equipment strategically around the LGA to minimise travel time and therefore fuel consumption when travelling between jobs site and meetings.
- Educate staff regarding behaviour change and facilitate changes such as car-pooling to reduce emissions.
- Reduce long distance travel with opportunities for staff and councillors to communicate via webinar and by enabling staff to work from home where appropriate.
- Encourage bicycle travel on behalf of Council business by purchase of a fleet of electric bicycles for use by Council employees and representatives and / or by paying a transport allowance to councillors or staff who use their own bicycle (pay similar rates to those provided to public servants in other countries such as the UK).

b) Facilitate and support community reduction of transport emissions including safe bicycle travel
There was a noticeable increase in use of footpaths and cycleways for exercise by Armidale and Guyra residents in response to the Covid-19 restrictions. Recent installation by Council of signs on walking and cycling tracks is noted and appreciated by users.

- Prioritise ARC region-wide transport plan and actions to encourage, facilitate, improve safety of, and increase low emissions transport including cycling, walking and use of public transport. This may include or supersede the update of Council's bicycle strategy.
- Work with community to improve access and mobility for disabled people. (Whilst not specifically emissions reducing, still part of the bigger picture for a sustainable inclusive community overall).
- Engage with community to identify actions to facilitate pedestrian transport, (such as upgrade of footpaths and walking paths and safer road crossings).
- Develop and extend current walking and cycling tracks, ensuring inclusion in new residential subdivisions (possibly in conjunction with koala corridors).
- Identify and implement further key changes needed for safe bicycle transport such as community education, improved infrastructure including road marking to identify cycling routes on roads, secure parking and lock up options, better lighting, signage and maps.
- Engage with business to investigate options for, and implement reduction in, transport emissions, (such as transitions of Edwards Buses to electric vehicles powered by renewable energy).
- Facilitate integration of cycling and bus travel, especially improving the capacity of buses to carry bicycles.
- Engage with all levels of community to encourage transition to electric vehicles.
- Collaborate with stakeholders to identify optimum locations for fast charging of electric vehicles and support installations, encouraging renewable energy source for power³⁵. Additional to the

³⁵ myelectriccar.com.au/charge-stations-in-australia

www.mynrma.com.au/community/news-and-media-centre/nrma-fast-charging-new-england-north-west-tourism

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existing EV charging stations at Armidale Showground, Quality Hotel Powerhouse, Armidale Motel and Petersons Armidale Winery & Guesthouse, more could be added at the Armidale Airport and Armidale & Guyra Visitors Centres as locations with the added benefit of encouraging tourism in our region. Vehicle batteries have potential to store solar energy, particularly from solar installations on roofed car parks.

- Work with Transport NSW to extend public transport options and train services generally, including those between Armidale and airport and adjacent towns and regions, (particularly faster and improved train links to Tamworth thence Sydney).
- Revisit potential for passenger and freight train services north to the Qld border.
- There is also considerable community support (but also non-support) for a bicycle rail trail north of Armidale on the unused northern rail corridor which Council has undertaken to investigate. The potential benefits of Council investment in this project need to be weighed against investment in other priorities consistent with greenhouse gas emissions reduction.
- Work with air services to reduce emissions arising from air transport. Note that the goal of increasing air travel in Council's Community Strategic Plan 2017-2027 is in conflict with the goal of decreasing greenhouse gas emissions.
- Investigate further options for reducing emissions arising from road construction and maintenance, building on recycling of road base material already underway.

Part 2. Reduce Atmospheric Concentrations of GGE

“Reduce atmospheric concentrations of Greenhouse Gases via methods such as carbon sequestering, storing carbon in trees and soils”

If global greenhouse gas emissions were reduced to zero today, climate change outcomes would continue to manifest due to emissions already present in the atmosphere. Additional to ceasing to generate greenhouse gas emissions, excess carbon (and other greenhouse gases) need to be removed from the atmosphere and stored accordingly. One of the best ways to do that is carbon storage in soil and in biomass.³⁶

While reducing waste and other land-based emissions is also a way of reducing greenhouse gas emissions (as applicable to Part 1 of the recommendations) the practices involved in doing so – such as regenerative agriculture – will also contribute drawdown of carbon and other GGE.

1. Reduce Waste

1.1 Reduce emissions from human waste

Methane (a potent greenhouse gas) is emitted from primary digestion of sewage at ARC’s two sewage plants – Armidale Sewage Treatment Plant and Guyra Sewage Treatment Plant. In Armidale, methane is harvested on-site and is currently used to operate a heating system for the primary digester, with excess methane flared to the atmosphere as CO₂.

- When Council investigates replacement of this ageing infrastructure, further use of methane capture for power, re-use as a fuel and potential for methane powered plant and equipment, should also be investigated and incorporated into the infrastructure renewal project.

1.2 Reduce emissions from Post-consumer waste

Waste is significant in the context of GGE as fossil fuels are used both as an energy source in the production and distribution of most consumer items (including production of food and availability of water) and fossil fuels are used as a raw material in manufacture of many items such as plastics.

Waste into landfill is responsible for approximately 1.75% of greenhouse gases in Armidale LGA³⁷. It is presumed that this estimate refers to operation and maintenance of plant and equipment involved in waste collection and landfill operation as well as release of methane from landfill. This figure would not take into account the fossil fuels used in manufacture and distribution of consumer items and the value of returning part of the fossil fuel value for re-use. In addition, the environmental and emissions cost of disposing of a consumer item are not factored into the price of the item, which means that the community overall pays those costs in terms of pollution and environmental degradation or measures to minimise pollution and environmental degradation.

As Council is responsible for waste collection, as well as the provision of landfill and recycling services, it is therefore in a position to have considerable influence over reducing waste emissions. ARC has been a leader in a number of waste management initiatives that have already enabled reduction of emissions from waste. These include recycling of paper, plastic, glass, metal including aluminium cans, building waste and road materials as well as organic waste collection (City to Soil³⁸) and green-waste utilisation in production of saleable compost and mulch for use as soil conditioner, garden fertiliser and in conserving soil moisture. Recycling opportunities are influenced by positive engagement of the community as well as by the cost of recycling initiatives and the potential for cost recovery.

- Implement the strategic directions in the Waste section of Council’s EcoARC.
- Revisit ARC’s previous waste audit in order to assess effectiveness of interventions and provide a baseline for further emissions and waste reduction. In so doing, identify sectors with high contribution to waste and target with education and incentives.

³⁶ 2040, *A Handbook for the Regeneration*, based on the documentary 2040, Gameau Damon, Pan Macmillan 2019

³⁷ snapshotclimate.com

³⁸ www.armidaleregional.nsw.gov.au/environment/waste-and-recycling/city-to-soil

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- Investigate option to reduced frequency of non-recyclable waste collection (ie fortnightly collection of waste), while continuing or expanding organic and recyclable waste collection.
- ARC can further help to prevent items from entering the waste stream by influencing government initiatives that reduce single-use plastics, influence consumer choice in refusing unnecessary or high-emissions items, choosing more durable products, re-using and recycling rather than discarding.
- Tap into the recently announced grants program to develop new industry from recycled plastics³⁹, whether by forwarding ARC collection to other businesses, and/or establishing new local businesses
- Identify factors limiting success of previous or existing recycling initiatives, such as attrition of volunteers who recycle computer components leading the program to cease; insufficient undercover area at the Waste Transfer Station to protect items from deteriorating; balancing cost effectiveness with community benefits (such as mulch from green waste)
- Investigate incentives to encourage effective resource recovery such as paid or commissioned collectors, sorters and recyclers.

Refusing unnecessary or high-emissions items

With many unnecessary or high-emissions items available for consumer purchase in Armidale and Guyra, such as mass-produced clothing (with global statistics indicating major waste to landfill issues⁴⁰), there is an opportunity to build on support for the local supply and manufacture, in particular the highly-prized local wool industry and support re-establishment of local or regional production of natural fibre, textiles and clothing as well as retail outlets and reduce emissions and reduction of waste.

- ARC community engagement and education programs could identify selected items to target initially and then follow up with further community engagement.
- Collaborate with local supply and manufacture, such as super-fine wool to re-establish local manufacture and natural fibre markets.

Recycling

- Continue to promote and encourage recycling and re-use of items made from fossil fuels when they are no longer useful, hence returning fossil fuels as consumer items for further use.
- Continue to promote and encourage recycling and re-use items that require substantial amounts of fossil fuels for manufacture and/or are composed of materials that are scarce or highly valued such as aluminium cans.

Reduce organic waste emissions from landfill (methane)

- Educate consumers to minimise their generation of organic waste by only buying what they need and where viable, recycling food scraps in-situ in compost or worm farms for their own garden use.
- Expand City to Soil program to the commercial sector and institutions, collecting waste from restaurants, commercial hostel kitchens, food processors, university colleges, and the like.
- Work with UNE Sustainability officer to include organic waste for campus in the City-to-Soil program.
- Implement the proposed phytocapping design and reforestation of the landfill site at Long Swamp Road. A study has been completed on the closing of the landfill which would identify the value of phytocapping in offsetting the long-term fugitive methane emissions from landfill.

³⁹ minister.awe.gov.au/ley/media-releases/turbo-charging-recycling-nation

⁴⁰ For wastage and emissions information, refer www.fibershed.org

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- Investigate the potential for manufacturing of biochar from organic waste for incorporation in carbon sequestration projects.

1.3 Reduce food emissions

The production, transport, storage, refrigeration, distribution, retailing, preparation and waste of food is responsible for a substantial proportion of global greenhouse gas emissions (up to 25% of the total where high emissions foods predominate). These emissions are attributed across all sectors such as electricity, transport, waste and agriculture sectors hence their connection to food is not easily identified.

Factors that help to minimise food emissions include consumption close to the point of production (locally produced food that is in season), using renewable energy sources for machinery and transport involved in production, using fertilisers, weed and pest control measures that are not made from fossil fuels in food production (organically certified foods) and choosing to buy low emissions foods that are minimally processed and packaged and do not require high energy storage for long periods. There is much potential for reduction of emissions through consumer choice.

- Council identify way to implement reduction of emissions from food production, transport and distribution, storage, preparation, retailing and waste.
- Council engage with community to identify and implement ways to encourage low emissions and low waste food choices.
- Amend planning policy to reduce food miles by better facilitating and encouraging food growing within city and town boundaries, including increased community gardens, food on footpaths and in parks.
- Revisit options for water restriction concessions for the growing of local food to encourage greater local production and therefore reduce emissions from food miles and packaging.

2. Reduce Emissions from Agriculture

Greenhouse emissions from agriculture are estimated on the Snapshot website⁴¹ to be almost 50% of emissions overall in Armidale LGA. The basis for this estimate is likely to relate to the number of livestock (predominantly sheep and cattle) in the area and estimates of methane emissions from livestock digestion. Additionally, agriculture emissions arise from the use of fossil fuels embodied in inputs for fertiliser, pasture sowing and supplementary feed for livestock.

The 2018 Snapshot emissions estimate substantially reduced in 2019 due to extensive de-stocking during unprecedented drought conditions in 2017-2019. In early 2020 there is still a significant deficiency of post-drought livestock numbers compared to pre-drought. Following drought it takes some time for producers to return to previous stocking levels due to shortages, high costs of restocking, and the time lag for young cattle to reach sale weight.

The Snapshot emissions estimate shows that initiatives in the area of reduction of methane emissions from livestock are of value, although accurate emissions data would provide a better basis. Council has limited jurisdiction in the area of agriculture hence limited ability to influence outcomes.

The Zero30 collaboration between ARC and UNE and work already being undertaken by Local Land Services and Southern New England Landcare provides opportunities to develop joint projects to reduce agricultural GGE and to draw on government funding for this purpose.

The Federal Government has made funding available for this purpose via the Emissions Reduction Fund (ERF, established 2014 with \$2.55 billion available) and Climate Solutions Fund (CSF, established 2019

⁴¹ snapshotclimate.com

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with a further \$2 billion)⁴². The Clean Energy Regulator is responsible for administering the fund and approving contracts with the Commonwealth.

- Utilise the UNE Zero30 project to determine accurate emissions data for agriculture.
- Council collaborate with the UNE Zero30 project, Local Land Services (LLS) and Southern New England Landcare (SNELC) and local agricultural producers to identify funding opportunities and develop joint projects to reduce agricultural greenhouse gas emissions.
- ARC in the next 5 years implement UNE research recommendations for reducing livestock emissions through herd management strategies at Council's beef production operation located at the Waste Water Management Facility. This could provide a working example for the broader rural community.
- Run a series of aggregated projects across a number of farms within the ARC in the arenas of
 - Soil carbon
 - Beef Herd Management
 - Plantation forestry
- Council Collaborate with the UNE Zero30 project to run a series of workshops to educate producers on current UNE research and the opportunities provided by the Carbon Reduction fund, with information on how the carbon market works in Australia and on aggregated carbon projects⁴³. This would facilitate evaluation of the viability of an aggregated approach at the regional level. The Council owned saleyards at Armidale and Guyra could provide a venue or an outlet for promoting such workshops.
- Lobby state government to revise land clearing laws to prevent further land clearing (ie retain tree cover).

Reduce Horticulture emissions

The production of food and other plants in the region also creates similar emissions issues (other than animal digestion emissions) to the Agriculture industry overall. These include emissions from transport, delivery of product, machinery use, potential pollution of waterways and soils and so on. These can be similarly addressed through the above recommendations. While currently not a large local sector (compared to animal and fibre production), actions to reduce food miles with an increased local food supply and the consequent expansion of the local horticulture industry may ultimately increase emissions, so caution and best practice must be taken to ensure it does not produce new emissions issues.

3. Carbon storage / Drawdown of atmospheric carbon

Diverse solutions to climate change include removal of carbon from the atmosphere. There is potential for this to be achieved in part through innovative land use practices (including forest protection and afforestation), regenerative agriculture and agroforestry.

There is potential for Armidale Regional Council to collaborate with the UNE Zero30 project and with local revegetation initiatives to develop projects that achieve drawdown of atmospheric carbon as well as environmental and productivity benefits. The above mentioned Emissions Reduction or Carbon Solutions Fund provides substantial funding opportunities. Guidelines for the fund specify a number of methods defining how landowners can earn income from Carbon projects.

Approximately 70% of all Carbon reduction contracts under the current Emissions Reduction Fund scheme have been made with cattle or sheep producers across Australia and involve carbon reduction

⁴² www.publications.industry.gov.au/publications/climate-change/climate-change/government/emissions-reduction-fund/about.html; www.cleanenergyregulator.gov.au/csf/Pages/Home.html

⁴³ Aggregation enables smaller farmers / participants to join together to make a larger project, or a larger farmer/participant to have a number of methods active on land under their control, but to trade them as one parcel of Carbon.

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through retaining or enhancing native vegetation, revegetation, savannah burning management, soil carbon and or beef herd management.

- Drawing on UNE research that is being validated at the UNE Smart farm, Council take a proactive role as an advocate in our community to assist the rural community in reducing their carbon footprint and encourage the take-up of carbon storage in soils to offset livestock emissions.
- Council work with other councils to call for the introduction of a realistic carbon price ensure the real costs of carbon emissions are part of the decision-making process. Some activities Council is currently involved in will have to be stopped and the funds reallocated to carbon emission reduction operations and projects.
- Council take a proactive role as an advocate in our community to assist the rural community in reducing their carbon footprint and encourage the take up of carbon storage in soils to offset livestock emissions working closely with UNE research that is being validated at the UNE Smart farm.
- Council owns the saleyards in both Armidale and Guyra and could run education programs for livestock farmers on carbon storage and UNE research outcomes.
- Council operates the Effluent Re-use scheme at the Wastewater Treatment facility that usually sustains a herd of 400+ livestock and could in the next 5 years implement UNE research outcomes in management of the herd as a working example for the broader rural community.

3.1 Regenerative Agriculture

- Use the Zero30 project to determine the extent and nature of Regenerative Agriculture⁴⁴ (or similar such as Holistic Management⁴⁵, RCS⁴⁶ etc) in the LGA and its potential for sequestering carbon.
- ARC in collaboration with Zero30, Local Land Services, Southern New England Landcare and Armidale Tree group develop a series of Carbon reduction projects at the Regional Level with the aim of reducing / sequestering atmospheric carbon and with the added motivation for collaborative projects to benefit from the Carbon Reduction Fund. There is potential for aggregated projects across within the ARC region in the arenas of increasing soil carbon, reducing herd methane emissions and establishing tree / forestry plantations.

3.2 Tree Planting

The Armidale community has been engaged for many years in successful tree planting projects through Armidale Tree Group, Citizens Wildlife Corridors, Greening Australia, Southern New England Landcare, the High Country Biodiversity Project, and Armidale Urban Rivercare. Tree planting activities have additional benefits including biodiversity and wildlife corridor enhancement, improving water quality, improving public amenity and contributing to scenic beauty and people's enjoyment of public spaces. Tree planting and re-vegetation have an important role in absorbing and reducing greenhouse gas emissions as well as adaptation to climate change. Trees on farms help to modify climate extremes and also provide corridors for wildlife displaced by climate change.

A diversity of information is available on carbon sequestration through tree planting⁴⁷. The ability to store carbon can vary and fluctuates throughout a tree's lifecycle. Thus while agroforestry projects have potential to capture carbon to offset other emissions, it can be limited by the ability to accurately calculate the actual carbon absorbed.

⁴⁴ regenfarmers.com.au

⁴⁵ savory.global/hubs/australian-holistic-management-co-operative-limited

⁴⁶ www.rcsaustralia.com.au

⁴⁷ carbonneutral.com.au/faqs

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- ARC in collaboration with Zero30, Local Land Services, Southern New England Landcare and Armidale Tree group assess opportunities for large scale tree planting and ecological restoration and develop tree planting projects for the purpose of carbon sequestration.
- ARC, in developing tree planting projects, considers the use of Council land and Crown land under its care and control. In addition to carbon sequestration, there is potential for ARC to grow additional harvestable wood for the building and construction industry and for ecological purposes to improve biodiversity.
- The Council-owned land adjacent to Dumaresq Dam (approx. 1600acres) that is leased to UNE for rural purposes could be partially removed from the lease and planted out over a twenty year period to replicate and expand the existing endangered grassy box woodland community growing around the dam and on the slopes of Mt Duval and enhance Koala habitat.
- Investigate options to participate in carbon offsetting services that help organisations to reduce their carbon footprint and achieve environmental goals. Council previously participated in Greenfleet offsetting vehicle emissions through planting of biodiverse native forests in Australia or New Zealand, and there are also options to offset functions, conferences and activities generally⁴⁸.
- Armidale Tree Group could take the lead in setting up a project or projects to form the basis for an aggregated Carbon market. In that case, the workshops would only need to explain the benefits of participating in an aggregated Carbon market and identify willing landowners.

48 marketplace.carbonmarketinstitute.org/participate

Part 3. Adapt to Current & Anticipated Climate Change Impacts

“Recommended initiatives to reduce the severity of climate change risk and hence adapt to current and anticipated climate change impacts”

1. Identify Risks as a result of climate change

In assessing and determining how to move forward, it is important to determine what the current and anticipated risks will be as a result of inaction. The natural, social and economic systems of NSW will all be affected by climate change, requiring every sector of society to adapt. NSW councils are key players in adaptation to climate change, with responsibility for a broad range of functions that are likely to be affected, such as public infrastructure, local emergency responses, building regulation and planning, public health and environmental management. Early planning and preparation can minimise long-term economic, social and environmental costs to communities.

Regional information provided at the Adapt website can help to identify effect of the expected impacts of climate change on local communities, and identify opportunities to respond. The Regional Vulnerability Assessment (IRVA)⁴⁹ for Climate Change provides a process to help identify and understand regional climate vulnerabilities.

The NSW Government has both identified risks to local government and provided guidelines for adaptation and mitigation. This risk assessment guide⁵⁰ is focused on assessing the risks to council operations rather than wider community risks, but also acknowledges that councils should also carry out a process to consider these broader risks, in consultation with the community.

Local Impacts

The ARC local government area has its own unique set of geographical, environmental, economic and social circumstances, hence there is a need to identify effects and risks of climate change that are specific to the area. Rather than focusing on the background information, this report stresses the need for actions and thus the recommendations based on specific risk analysis for this region. As noted above, regional information from the Adapt website⁵¹ can help to identify how the expected impacts of climate change may affect local communities, and identify opportunities to respond. The report provides detailed information specific to New England and North West region, which have been used as a basis for further development of impact chains specific to the ARC region (refer Appendix 4).

Other resources include the IRVA as noted above. Local knowledge is important in identification of potential threats and response options and in helping communities prepare for climate change.

Definition of impacts and reactions are clarified as follows –

- Vulnerability is seen as the degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes (IPCC 2001),
- Adaptation is defined as actions taken to reduce or moderate or adjust to the expected or actual negative effects of climate change and take advantage of new opportunities.
- Resilience is the ability of communities and settlements not to collapse in the face of crises such as adverse climatic conditions and water, food and energy shortages and their ability to respond to disturbance with adaptation. It may involve being more prepared for a leaner future.

The predicted alterations to ocean and climate systems, namely the impact of the Indian Ocean Dipole⁵², and more frequent El-Nino phases of the Southern Oscillation Climate driver⁵³, will significantly alter the ARC region in coming years, in some cases already impacting with the resultant severe drought and bushfires of recent years.

⁴⁹ climatechange.environment.nsw.gov.au/Adapting-to-climate-change/Regional-vulnerability-and-assessment

⁵⁰ climatechange.environment.nsw.gov.au/Adapting-to-climate-change/Local-government

⁵¹ climatechange.environment.nsw.gov.au/; including specifically Western Enabling Regional Adaptation New England North West Report

⁵² www.bom.gov.au/climate/iod/;

www.abc.net.au/news/2019-05-16/positive-indian-ocean-dipole-bad-news-for-drought-crippled-areas/11120566

⁵³ www.bom.gov.au/climate/enso/;

www.sciencedaily.com/releases/2019/10/191021153346.htm

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Key areas identified

Areas identified in Armidale Regional Council's Planning documents, including the Community Strategic Plan 2017-2027 and ARC's Greenprint, are jeopardised by climate change. These include environment and infrastructure, growth, prosperity and economic development, community, living, air, water, transport, resilience, future, biodiversity. The potential for severe consequences of climate change is well documented⁵⁴ with impacts already occurring in the New England North West.

Consequence Rating	Criteria				
	Public safety	Local economy and growth	Community and lifestyle	Environment and sustainability	Public administration
Catastrophic	Large numbers of serious injuries or loss of lives.	Regional decline leading to widespread business failure, loss of employment and hardship	The region would be seen as very unattractive, moribund and unable to support its community	Major widespread loss of environmental well-being and progressive irrecoverable environmental damage	Public administration would fall into decay and cease to be effective

Table 3: Example of severe consequence rating, Australian Greenhouse Office guide (AGO 2006)

If the unprecedented drought and water shortage of 2019 had continued to the degree that Armidale ran out of water, some of these catastrophic outcomes could have eventuated. Similarly, the scale of the 2019-2020 bushfires had the potential to result in such catastrophic outcomes. This report stresses the need for actions and thus the recommendations based on specific identification of risks for this region.

In comparison, national and international responses to the 2020 coronavirus pandemic has potentially severe consequences for public safety and local economy and growth but does not directly threaten environment and sustainability which underpin food production and biodiversity. A co-operative national and global response, such as has occurred in response to the potential consequences of the Coronavirus Pandemic, has the potential to reduce the risk of severe consequences from climate change, which become greater the longer that action is delayed.

The introduction to Armidale Regional Council 2020-21 Budget notes that the 2019/20 financial year was highly unusual with the combined impacts of drought, fire, flood and pandemic in one financial year. Predicted climate change impacts mean that these impacts, identified as unprecedented and unusual, are highly likely to become more frequent and severe into the future. From a budgetary perspective in 2019/2020, the severe drought conditions negatively impacted Council's Water Fund by almost \$6 million. This included around \$3.2 million in net costs associated with drought response communications, rebate programs and bore drilling and around a \$2.5 million reduction in revenue from water usage charges resulting from decreased water usage. The risk posed by climate change impacts to Council's financial security as well as the community's water security is clearly demonstrated.

Analysis of Climate Change impacts so far

- ✱ *Sequential annual increase in average maximum and minimum temperature and seasonal shift with later onset of cold conditions and earlier onset of warm conditions, ground remaining warmer for longer, extended growing season and later frosts in spring (already evident from weather records, reversible only through reduction of atmospheric carbon / reversal of climate change).*
- ✱ *Changes in seasonal rainfall patterns - decreased winter rainfall, increased summer rainfall and changing water cycles.*
- ✱ *Increased incidence, duration and intensity of drought and water shortage, low rainfall combined with high evaporation, dust, dust storms.*

⁵⁴ www.environment.gov.au/system/files/resources/21c04298-db93-47a6-a6b0-eaaaae9ef8e4/files/risk-management.pdf

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- * *Increased hot days, heat waves*, episodes of prolonged and excessive heat (less frequent occurrence than at lower altitude due to cold climate but increasing impact with increasing warming particularly when associated with increasing incidence of drought and water shortages).
- * *Increased incidence, intensity and severity of storm events* and associated weather events such as high velocity winds, heavy rain, hail and flooding.
- * Decreased snowfalls and changed incidence of frosts including potential for *increased severity of frosts occurring later in the season* and during the growing season.
- * *Increased duration of period of increased fire risk with increased frequency, intensity and severity of fire events* and reduced ability to reduce hazard and to manage fire effectively to protect life and property.

Potential Climate Impacts for New England Region

There is high risk across the board of varying issues as noted in the following table, with flow-on impacts which are complex and which affect a broad range of human impacts such as the natural environment, landscape, food production, livelihood and human health. Some of these flow on impacts are presented in tables (refer Appendix 4).

	Potential Climate Impacts for New England Region							
Predicted & unfolding climate change outcomes	Natural environment	Built environment Housing & home environs	Food production & distribution (agriculture, horticulture)	Energy supply Communi-cations Transport & connectivity	Community cohesion Education Childcare	Business Livelihood Economy	Emergency response Governance & Service delivery	Health & wellbeing
Heat waves, hot days, episodes of prolonged & excessive heat	Impacts on fauna & flora, particularly threatened species Local extinctions Increased stress on trees & vegetation in public recreation areas	Existing buildings unable to cope, increased used of supplemental cooling	Compromised particularly if associated with periods of low rainfall	Increased use of air conditioners Increased energy demand Interruption to supply due to overload	School absenteeism Locals holiday elsewhere during hot periods People move to cooler regions	Loss of farm income, reduced viability Greater workload on farms	People seek cool public spaces	Increased stress and anxiety Human health impaired, increased mortality Challenge to keep outdoor workers cool Too hot to exercise
Increased incidence, duration and intensity of drought and water shortage	Ground hardens Prolonged desiccation and death of ground cover &/or plants Wetlands dry out	Changes in gardening and household uses	Drying out of water storage for stock Reliance on ground water Water table depletion Death of or need to cull livestock due to shortage of water &/or feed. Disposal of carcasses - health issues	Increased use of air conditioners	School absenteeism Family members seek off-farm employment Social friction due to increased constraints and competition for water resources People leave the area / seek to move to 'better' regions	Productivity drops Loss of farm income & reduced viability Greater workload on farms Farmers need to buy water Unemployment in agricultural sector	Water restrictions Changed attitudes to water use Water allocation conflict Policy and regulation changes Greater infrastructure costs	Increased stress and anxiety Adverse impacts on mental health Increased demand for medical services
Low rainfall combined with high evaporation	Decreased water quality Pest & algae increase in water sources		Increased vulnerability of livestock to disease					
Dust	Damage to ecosystems Refugio loss Native species affected Biodiversity loss		Changes in fertiliser usage Crop failure					
Dust storms	Reduced food, water & habitat for fauna & flora,		Reduced crop yield Decreased pollination			Increased commodity prices Decreased spending in region Decreased demand for	Increased costs passed on to users Sporting injuries due to compacted surfaces - reduced participation	

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	Potential Climate Impacts for New England Region							
Predicted & unfolding climate change outcomes	Natural environment	Built environment Housing & home environs	Food production & distribution (agriculture, horticulture)	Energy supply Communi- cations Transport & connectivity	Community cohesion Education Childcare	Business Livelihood Economy	Emergency response Governance & Service delivery	Health & wellbeing
	particularly threatened species Local extinctions Decreased pollination Competition between human land use & eco-system needs for resources eg water, grazing		Increased costs for producers & increased price of food. High cost of re-stocking			manufacturing services		
Changing water cycles Changes in seasonal rainfall patterns	Changes in wetlands and stream/river morphology Impacts on fauna & flora particularly threatened species Local extinctions eg snow gums Tree loss and increased dieback		Previously viable livestock or agricultural production no longer possible in the area Extension of invasive species			Productivity drops Loss of farm income and reduced viability.	Increased maintenance requirements for sporting fields	Increased vector borne disease Increased demand for medical services
Storms High winds Heavy rain Hail Snow and ice Decreased frost and/or increased frost severity	Trees down Erosion Instability of watercourse embankments	Property and infrastructure damage Destruction of glasshouses Increased demand for building and repair services Produce late to market	Damaged crops Injury or death of livestock from exposure Access to markets interrupted	Interruption to energy supply Communications limited or blacked out Damage to vehicles, roads, railway lines Interrupted / limited transport/ flights	School absenteeism	Loss of farm income and reduced viability Business interrupted Insurance claims	Increased demand for emergency services Emergency response times slower Maintenance & repair costs Council costs Access to services cut	Increased stress and anxiety Human injury and increased mortality
Fire	Impacts on fauna & flora particularly threatened species Injury & increased mortality to wildlife across extensive areas Decreased potential for population recruitment Local extinctions	Property damage - loss of homes, businesses and other infrastructure Increased demand for building and repair services	Damaged crops Injury or death of livestock.	Interruption to energy supply Communications limited or blacked out Damage to vehicles, roads, railway lines Interrupted / limited transport/ flights	School absenteeism Cancelled events that promote community cohesion Social friction and seeking to attach blame	Human exposure to effluent, chemical hazard, pollution Productivity drops or at a standstill Extensive insurance claims	Increased demand for emergency services Emergency response times slower Insufficient capacity to respond to the extent of the crisis and meet goals of protecting life and property	Human injury or death directly from fire or indirectly from smoke inhalation and associated illness Increased demand for medical services Volunteer fatigue

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	Potential Climate Impacts for New England Region							
Predicted & unfolding climate change outcomes	Natural environment	Built environment Housing & home environs	Food production & distribution (agriculture, horticulture)	Energy supply Communi- cations Transport & connectivity	Community cohesion Education Childcare	Business Livelihood Economy	Emergency response Governance & Service delivery	Health & wellbeing
	Air pollution from smoke Pollution of natural vegetation & waterways from fire retardants						Cancelled sporting events Volunteer fatigue	Decreased activity levels Social isolation
Flooding	Pollution, effluent and harmful chemicals in waterways Mechanical damage to vegetation Erosion	Property damage. Temporary relocation of residents Increased demand for building and repair services	Drowning of livestock Feed shortage for livestock Damaged or failed crops Food spoilage	Interruption to energy supply / blackouts. Interruption to communications Damage to transport routes Interrupted / limited transport/ flights	Access issues due to road closures	Access issues due to road closures	Cost of clean-up and maintenance	Loss of life from drownings Human exposure to effluent, chemical hazard, pollution Community disruption Stress on vulnerable people
Combined / cumulative impacts overall	Degradation of the environment, flora and fauna	Property values drop	Decreased agricultural productivity Change in crop selection	Increased demands	Increased pressures and disruptions	Increased regional unemployment Regional economy diminished Hard to attract people to region Tourism affected Increased insurance claims. Delayed payouts. Greater infrastructure costs Increased income support/ welfare claims	Emergency response time slower Increased demand for volunteers Volunteer fatigue Less productive workforce Policy and regulation changes Planning for water storage and improved efficiency of use	Vulnerable people particularly at risk / suffer from impacts. Increased demand for medical services Increased stress on hospitals Hospital staff work longer hours Demographic changes Regional decline Aging population

While effective global action to reduce greenhouse gas emissions and draw down atmospheric carbon is the only pathway to reduce the severity of predicted and unfolding changes identified above and return to a safe climate, local action is still essential and imperative.

- Council, potentially in conjunction with the Zero30 and relevant community representatives, hold workshops to inform the community regarding climate change risks and flow on impacts. These could be followed by focussed workshops for community members with expertise in different areas such as agricultural production, native species and ecosystem conservation, water management, built environment, and human health and wellbeing to enable identification of a diversity of possible interventions by Council and the community.

Impacts on water availability are highlighted as having the potential for the most severe consequences for the Armidale Regional Local Government Area.

2. Adaptation and Mitigation

As noted previously, **adaptation** is defined as actions taken to reduce or moderate or adjust to the expected or actual negative effects of climate change and take advantage of new opportunities. **Mitigation** includes actions taken to limit the climate changes caused in the global climate by human activities. Mitigation activities are designed to reduce greenhouse emissions and/or increase the amounts of greenhouse gases removed from the atmosphere by greenhouse sinks.

Whilst many of the recommendations in Part 1 and Part 2 of the report address these issues anyhow, there are many interventions that have the potential to increase community resilience and reduce the severity of these flow on impacts. That is, adaptation and mitigation is more than just reducing GGE from energy use and other applications as highlighted in Parts 1 and 2 of the recommendations.

Further to those already highlighted, some possible interventions are included below; however the complexity of possible options is beyond the scope of this report.

2.1 Natural Environment

a) Water availability and water security

Council

- Complete 30-year Integrated Water Cycle Management (IWCM) Strategy and Secure Yield Model long-term assessment of the ARC's water infrastructure, supply needs and community expectations. Ensure that investigation is not weighted towards increase of storage capacity at Malpas Dam without proper assessment of alternative options including options for decreasing usage, upgrading existing infrastructure and increasing inflow.
- Plan for further grant applications to enable detailed planning, design and construction works to improve the region's water security.
- Identify and implement measures such as stock exclusion and revegetation to protect water catchments. This needs to be assessed in the context of increased blue-green algal contamination of domestic water storage due to increased temperatures and increased nutrient runoff due to livestock manure.⁵⁵ Further revegetation of Malpas and Dumaresq Dam catchments is consistent with the goal of carbon sequestration.
- Identify and implement measures to decrease evaporation from domestic water storage. Installation of floating solar panels on Malpas Dam has potential in this regard.

Council and community

- Engage with and inform community regarding environmentally sound options for optimising water security. Inform community regarding opportunities and potential barriers to security of domestic water supply in the face of predicted and unfolding changes to climate. For example, a costly elevation of Malpas Dam wall will not improve water security if there is insufficient rain or runoff to fill the increased capacity.
- Continue incentives for residential use of grey water and water storage in rainwater tanks.
- Council build on engagement started in 2019 with residents, businesses and institutions, in particular high water users, to bring about behaviour change and technical modifications to decrease water consumption and enhance efficient use of water.
- Work with UNE researchers to investigate potential for decreasing water usage particularly in the food production sector. For example, reduced stocking levels, rotational grazing and regenerative agriculture practices can help with water percolation and moisture retention in soils and water. Also, consumption by sheep is significantly less than that of cattle⁵⁶ hence there

⁵⁵ Council has not consistently implemented a recommendation by Southern New England Landcare to remove cattle from the catchment of Malpas Dam. Stock exclusion would help improve water quality and facilitate revegetation.

⁵⁶ www.agric.wa.gov.au/small-landholders-western-australia/livestock-water-requirements-and-water-budgeting-south-west

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is potential for producers to re-evaluate their operations to retain farm dam supplies for longer periods.

- Continue to work with intensive horticultural operations to reduce their water usage. Tomato production at Guyra has incorporated water efficient design in more recent greenhouse construction. However, sufficient rainfall and/or underground water is still required in order to meet the design needs and expansion of intensive horticultural operations may need to be limited to ensure that domestic and underground water supplies are not depleted in the face of climate changes such as the unprecedented drought and water shortages of 2019.
- Facilitate planned joint workshops with agricultural producers

Council and State Government

- Council work with the NSW Natural Resources Access Regulator⁵⁷ to ensure that, in the face of predicted changes to climate, cumulative extraction of underground water will not exceed the overall capacity for underground aquifers to be replenished and will not reduce inflow into domestic water storage. The potential for reduced inflow into Malpas Dam due to depletion of aquifers from irrigation by bores, hence diminished flow from springs into waterways that feed domestic water storage must be carefully assessed.

b) Native fauna and flora / protection of threatened species and communities.

Local governments can help protect at-risk flora and fauna species and communities by working with local experts and interested community groups, encouraging collaborative citizens' science projects, providing community education and through sensitive planning, policy development and project design. These help to engage the community and bring about an integrated response as well as avoiding impacts on nationally protected matters and minimising the need for Australian Government regulation of local projects.⁵⁸

Opportunities for measures to protect two threatened fauna species are provided in Appendix 5 as examples of steps that Council and the community can take to reduce climate change risks to fauna and flora.

2.2 Built Environment

As climate change impacts hit home, the functionality of existing buildings and infrastructure will alter. Residential buildings designed for cool winters but mild summers may, on the one hand, cope better with reduced winters, but no longer cope with increased summers. While the sun's angles have not altered, the heat has and where once shading provided appropriate protection for summer and solar penetration for winter, this will become increasingly inaccurate during spring and autumn. While Council does not have the authority to legislate above the requirements of National and State building regulations, best practice can be encouraged and Council can lead by example.

Council

- Upgrading of all Council infrastructure to best cope with changing weather patterns (insulation, improved lighting, improved glazing, new shading, water storage and so on).
- Upgrading existing water supply infrastructure as it nears its end-of-use to a dual system that provides recycled water from the two sewerage treatment systems in Armidale and Guyra. Consideration of dual-plumbing systems to new infrastructure (to allow for future use of recycled water).

Council and Community

- Education programs and encouragement of best practice for good building design to ensure long-term adaptation of buildings to cope with changing weather patterns.

⁵⁷ www.industry.nsw.gov.au/natural-resources-access-regulator

⁵⁸ www.environment.gov.au/resource/local-government-and-australian-environment-law

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- Rebates and incentives for water saving and storage (such as the 2019 Water tank and Water efficient appliances rebates).
- Assistance with audits and assessments to allow for forward planning for improvements.

Council and State Government

- Lobbying for higher standards in building design for increased energy and water efficiency and long-term thermal comfort, with acknowledgment of local climate-specific variations.

2.3 Food Production

With water scarcity likely to have the biggest impact on local food production, so will heat, fire, and extreme weather events. (Refer Appendix 5). Mitigation and forward planning can ensure security of food for the region and a long-term reduced reliance on imported (state, national and international) supplies. Encouragement of Regenerative Farming practices (refer Recommendations Part 2, section 3.1) can assist with ensuring long-term viability of local food production.

Council

- Consideration of Council planting to include food trees, such as nut and fruit trees for street trees as has been done in various other council jurisdictions.⁵⁹
- Enacting policy for preferential use of local suppliers and growers for Council events and services.

Council and Community

- Amending regulation to allow for and encourage verge planting,⁶⁰ especially for residents who do not have direct access to suitable gardens of their own.
- Increasing flexibility for community gardens, for local sales and genuine farmers markets.

Council and State Government

- Lobbying to relax rules on local suppliers (such as mobile butchers) to encourage local production and investment.

For **Energy Supply** and **Transport** refer to **Recommendations Part 1: Reducing Greenhouse Gas Emissions**.

⁵⁹ theconversation.com/our-land-abounds-in-nature-strips-surely-we-can-do-more-than-mow-a-third-of-urban-green-space-124781

⁶⁰ communitygarden.org.au/verge-gardens/

6. Community Engagement

Community Engagement

While many of the recommendations already noted relate in some form to community involvement, specific whole-of-community engagement with residents, businesses (including agricultural producers) and institutions is essential for this process to successfully move forward. Building local engagement with climate emergency action will empower the community to take action and to be proactive towards the climate emergency. This will involve raising community awareness regarding climate change, and ways in which the community can act to reduce greenhouse gas emissions, draw down atmospheric carbon and reduce the severity of the adverse impacts of climate change. A sense of urgency needs to be maintained consistent with ARC's Climate Emergency Declaration, the need to implement change towards a safe climate and the real affects such as water shortages ie take action now not later.

Community Engagement Policy

ARC has a Community Engagement Policy, which provides guidance for a "consistent and best practice approach to engaging with the community across all Armidale Regional Council (ARC) area and functions"⁶¹. These principles should also be applied in relation to the recommendations to advance positive action on the climate emergency, as per the policy table adapted below.

	Public Participation Goal	Relationship to Climate Emergency Declaration
INFORM	To provide the public with balanced and objective information to assist them in understanding the problems, alternatives, opportunities and/or solutions	Inform regarding the Climate Emergency Inform the need for urgent action Inform proposed actions and solutions
CONSULT	To obtain public feedback on analysis, alternatives and/or decisions	Receive feedback on proposals Obtain information on current understanding, perceptions, needs in regard to Climate issues Be open to community alternative suggestions
INVOLVE	To work directly with the public throughout the process to ensure the public concerns and aspirations are consistently understood and considered	Ensure relevance to our specific region as well as the wider global context Facilitate networks relationships across the various environmental and community groups as well as like-minded and like-skilled groups and bodies
COLLABORATE	To partner with the public in each aspect of the decision including the development of alternatives and identification of the preferred solution	Make use of local skills and expertise on Climate emergency related actions Provide regular forums, newsletters etc on progress and input
EMPOWER	To place final decision-making in the hands of the public	Allow the community to own the issue and therefore the solution Assist the community in influencing government on climate issues

Table 2: Public Participation Components as applicable to the CED

⁶¹ epathway.newengland.nsw.gov.au/ePathway/Production/Web/GeneralEnquiry/EnquirySummaryView.aspx
Note that an updated policy is currently being produced but not yet available on Council's website.

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- Identify options and establish the best methods of getting the community engaged, making use of ARC's Sustainability Officer in collaboration with UNE's Sustainability Officer, such as holding community days, as part of the strategy.
- Adhere to the principles of the current Community Engagement Policy with the option to develop an Environmental Engagement Strategy and Climate Emergency Action Plan as per budget that prioritises action consistent with the Climate Emergency declaration commitment. Ideally this should underpin all community engagement, and potentially append the current Community Engagement Policy.
- Identify potential catalysts to community action on climate, such as:
 - knowledge regarding climate impacts and risks most likely to mobilise action in diverse community sectors
 - the opportunities for the region in encouraging innovative businesses with a 'clean-green' image
 - eco-tourism initiatives that promote the Armidale region as being environmentally friendly
 - the benefit of acting early to reduce the compounding cost of Climate Change, if nothing is done to reverse it (such as insurance costs and decrease in property values)
- Identify barriers to climate action and strategies that might overcome these, such as community scepticism about climate science and limited perception of climate risk, as well as deliberate dissemination of confusing and contradictory information; Engagement with specific local issues such as acting to conserve water in the face of water shortages have been highly successful.

Council support for business opportunities

Both Armidale and Guyra have Chambers of Commerce, and while not all businesses are members of the Chambers, there is an opportunity to work together and disseminate and assist with information and recourses.

- Liaise with Armidale and Guyra Chambers of Commerce to further disseminate and assist with information, and create opportunities to access programs and subsidies.
- Set up a region-wide, public smart network. It would have the potential to spawn a self-sustaining economy and put Armidale and Guyra at the forefront of using tech to improve communities. Some prospective services might include pet location, car park location, resource monitoring, intelligent traffic lights, smart signage, smart street lighting, garbage bin monitoring, and so on.
- Support development of green skills, in part by working with TAFE, and doing an assessment of the skills needed in our region.
- There is opportunity to also facilitate and enable communication with the Indigenous community on issues such as land-management practices that may enhance actions towards addressing the Climate Emergency.
- Provide regular reporting to promote progress.

Business impacts and opportunities

- Liaise and work with members of the new Regional Development Business Hub currently being established in the former Memorial Library premises in Armidale.
- Work with ARC's RGPAAC (Regional Growth and Place Activation Advisory Committee) on relevant issues and projects as they are identified.
- Encourage hi-tech businesses to the region, as part of the region's clean-green image.
- Establish a register of 'green' businesses, encouraging good consumer choice. However care must be taken to avoid 'greenwash'.

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- Investigate business sponsorship, detailing ways that businesses can help the process forward and gain 'brownie' awards, but in a way that avoids Council bias.
- Spread information on the dangers of inaction and also the benefits of action for businesses
- Encourage eco-tourism initiatives – the Armidale LGA is eco-friendly.

Research collaboration

The University of New England (UNE) enables access in Armidale LGA to world class experts working in a diverse range of relevant fields including botany, ecology, water, waste, education, psychology, law and business. It is part of every academics' role is to demonstrate 'service' when they go for promotion and is therefore in their interest to demonstrate involvement in our community through partnerships and projects.

- Council engage with UNE for mutual benefit and access to the valuable resource it provides.
- Council collaborate with UNE to identify relevant projects for UNE honours, masters and PhD students to facilitate actions identified in the report.

7. Funding

Resources

While the bottom line is often the final assessment to proceed with issues, under a CED, this should be based on the triple bottom line – ie social and environmental weighting equally with fiscal. So fiscal responsibility must be factored into, rather than dominate, all environmental decisions, especially since the long term cost (financial and otherwise) of not taking action on many of these issues may be far greater down the track. Climate actions have been demonstrated to get substantial net operational savings over net implementation costs, sometimes 4-5 times the cost of implementation⁶². That said, upfront funding is always an issue with local government, and additional resources should be sought if current funds do not provide what is needed.

As previously noted, a comprehensive Grant Development Strategy should be developed between CEWG, ESAC and Council support staff to best utilise available corporate and community knowledge.

- Many of these opportunities/projects can be funded through Council's normal operations, albeit with additional cost, but at some point Council will have to invest in Zero30 to ensure that emissions are reduced. This will require a refocus by Council to change: transitioning from a business as usual approach to the level of response required by the urgency of the need to act. Council will need to include the impact of its activities on the environment and cost that as part of its cost/benefit analysis of operations and project outcomes.
- Funding opportunities are available from State and Federal Governments and there is a web based service that Council officers can subscribe to as grants submissions are called and where and when applications can be made.
- Environmental Trust Grants are often available for environmental projects that rehabilitate damaged ecosystems such as riparian and degraded lands requiring rehabilitation. These projects can address multiple criteria and environmental outcomes, including carbon emission offsets through use of plants and trees to store carbon in trees and soils.
- ARC must prioritise allocation of its own funding towards relevant projects (such as ARC's obligation of the rehabilitation of the Long Swamp Rd Waste Management Facility's landfill in the next 5 years once it has closed).
- Philanthropic funds are available as a source of funding and Council can assist not-for-profit groups to get involved in these opportunities as they are not always open to Local government agencies.
- Carbon Offsets funding is available to Council as many businesses are unable to reduce their carbon emissions but through social conscious want to purchase carbon offsets. An example is airline passengers have the option to offset their carbon emission contribution for a small additional fee, the collected funds then used by the airline on carbon offset or mitigation projects.
- Council's Sustainability Officer ideally has the knowledge and contacts to pursue many of these funding opportunities, and this should be included under the terms of reference for their employment.

Divestment

Relevant to this discussion, in order not to be hypocritical, it is advisable that Council divests itself of those organisations that extract and supply fossil fuels, or who directly invest in such companies.

⁶² drawdown.org

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- Actively invest with fossil-fuel free financial institutions within the limitation of any existing Investment Policy.
- Create awareness about divestment and related campaigns
- Lobby government to divest from and phase out extraction and supply of fossil fuels in Australia.

8. References

References

Additional to and/or including references cited throughout the document, the following references, while not exhaustive, were either referred to in preparation of this report, or add valuable further input into the various issues addressed:

Armidale Regional Council references:

City to Soil program

www.armidaleregional.nsw.gov.au/environment/waste-and-recycling/city-to-soil

Community Engagement Strategy

epathway.newengland.nsw.gov.au/ePathway/Production/Web/GeneralEnquiry/EnquirySummaryView.aspx

EcoARC Green Print

yoursay.armidale.nsw.gov.au/exhibition-of-draft-ecoarc

WSAG Wood smoke report

slarmidale.org/wp-content/upload/2020/06/WSAG-Rreport-V6-26sep19-P.pdf

Other Armidale region specific resources:

Projected changes to climate New England North West

climatechange.environment.nsw.gov.au/Climate-projections-for-NSW/Climate-projections-for-your-region/New-England-North-West-Climate-Change-Downloads

Armidale emissions profile

snapshotclimate.com

Planning NENW

www.planning.nsw.gov.au/Plans-for-your-area/Regional-Plans/New-England-North-West

New England Joint Organisation (7 local Councils NENW)

nejo.nsw.gov.au

Northern NSW Renewable Energy Blueprint

www.olg.nsw.gov.au/councils/policy-and-legislation/guidelines-and-policy-information-resources-for-councils/northern-nsw-renewable-energy-blueprint

Australian Government resources & other national resources:

Annual Climate Statement 2019

www.bom.gov.au/climate/

Australian Energy Market Operator

aemo.com.au/en/initiatives/major-programs/nem-distributed-energy-resources-der-program

Australian Government quarterly update of Australia's national greenhouse gas inventory June 2019

publications.industry.gov.au

National Australian Built Environment Ratings System (non-residential)

www.nabers.com.au

NSW Government resources:

NSW Electricity Strategy

energy.nsw.gov.au/government-and-regulation/electricity-strategy

NSW emissions - NSW government analysis

climatechange.environment.nsw.gov.au/About-climate-change-in-NSW/NSW-emissions

NSW Government Climate Change Policy framework

www.environment.nsw.gov.au/topics/climate-change/policy-framework

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NSW Government net zero emissions plan.

www.environment.nsw.gov.au/topics/climate-change/net-zero-plan

Draft Net Zero Emissions Guidance for NSW Councils

www.energetics.com.au/insights/thought-leadership/nsw-net-zero-emissions-goal-for-2050-and-new-energy-efficiency-drive

Batteries

www.nsw.gov.au/news/interest-free-loans-for-battery-systems

Other Climate resources:

Climate Transparency - Australian section - clear analysis of Australia's emissions and where we are at with mitigation and adaptation

www.climate-transparency.org/countries/asia/australia

International Renewable Energy Agency 2020 Global Renewables Outlook Summary 2020

www.irena.org/-/media/Files/IRENA/Agency/Publication/2020/Apr/IRENA_GRO_Summary_2020.pdf

Climate solutions resource

drawdown.org;

Book: 2040, A Handbook for the Regeneration, by Damon Gameau, Pan Macmillan, 2019

Book: Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming

Paul Hawken, Penguin Books, 2017

Carbon Neutral & Carbon Reduction information:

Carbon offsets programs

carbonneutral.com.au

Carbon offsets registry

marketplace.carbonmarketinstitute.org/

Climate Solutions Funds

www.cleanenergyregulator.gov.au/csf/Pages/Home.html

National Carbon Offset program

www.ipaustalia.gov.au/sites/default/files/certification_rules/1369520.pdf

Renewable Energy Certificates and Clean Energy Regulator

www.rec-registry.gov.au/rec-registry/app/home

Climate related articles:

Australian government and international initiatives

publications.industry.gov.au/publications/climate-change/climate-change/government.html

Editorial comment and news

reneweconomy.com.au

Hydro research

energy.anu.edu.au/research/highlights/anu-finds-22000-potential-pumped-hydro-sites-australia

Built Environment Resources:

Australian Sustainable Built Environment Council

asbec.asn.au

Australian Renters Guide to Energy Efficiency

energy.gov.au/publications/english-renters-guide

Nationwide House Energy Rating Scheme (NatHERS)

nathers.gov.au

Passive Solar design basics

[www.yourhome.gov.au/passive design](http://www.yourhome.gov.au/passive-design)

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Regenerative Agriculture and related systems:

Regenerative Australian Farmers
regenfarmers.com.au

Australian Holistic Management Co-operative Limited
savory.global/hubs/australian-holistic-management-co-operative-limited

Resource Consulting Services & Grazing for Profit
www.rcsaustralia.com.au

Transport:

Clean Fleet diesel vehicle maintenance program
www.rms.nsw.gov.au/documents/about/environment/air/clean-fleet-0606.pdf

Electric charging stations locations
myelectriccar.com.au/charge-stations-in-australia

Electric car NENW
www.mynrma.com.au/community/news-and-media-centre/nrma-fast-charging-new-england-north-west-tourism

Transport emissions offset program
greenfleet.com.au

Zero Net & Zero Carbon organisations:

Beyond Zero Emissions climate change think tank
bze.org.au

Beyond Zero Emissions communities
bze.org.au/zero-carbon-communities

C40 cities megacities network
www.c40.org

Australian local government climate network
citiespowerpartnership.org.au

Zero net energy towns
z-net.org.au/hepburn; zneturalla.org.au

Waste

Climate Change & Resource & Waste Recovery sectors
www.environment.gov.au/system/files/resources/2fbcdb0b-be9b-435b-9799-db16e4e1bfbd/files/climate-change.pdf

National emissions from waste
www.abs.gov.au/ausstats

Wastage and emissions information
www.fibershed.org

Appendix 1

ARC Climate Emergency Declaration

What do we mean by a climate emergency?

- **The situation where significant and/or catastrophic changes to the world's climate caused by human activity result in the loss of a safe climate and threaten all life on earth.**
- **The response which seeks to mobilise and act at a scale and speed that will restore a safe climate with the least possible loss and damage during the transition back to a safe climate.**

Community Support

There is strong support within the Armidale, Guyra and surrounding Communities for the Armidale Regional Council to declare a Climate Emergency, as evident from the signatures (approximately 1800) on the petition from all parts of our community that was presented to Council. It includes at least 750 participants, both young and old, in the Global Strike for Climate in Armidale, 20th September 2019. These numbers substantiate the organisers' estimate of 1000 locals who gathered at Central Park to show or voice their concern. Council's support for this event is noted and appreciated.

Feedback from residents also indicates that many more people would have signed had they been aware of the petition.

Our community is calling upon Council to show strong leadership to bring about urgent action to reduce global warming and to mitigate, adapt to and where possible, reverse the adverse effects of the climate reality we face. An all-of-community response is needed: there are many people in the community who have appropriate skills and knowledge and are willing to support and work with Council in responding to the Climate Emergency.

Through its networks, Council is in a strong position to strengthen the response of other councils as well as laying down the groundwork for climate action at higher levels of government.

Precedents already set

Climate Emergency Declarations (CED) have been made, as at June, 2020, by 1,731 jurisdictions in 30 countries across the world. In Australia this includes about 100 jurisdictions, representing over 8.8 million Australians, with 37 in NSW. These declarations are being made with increasing frequency⁶³.

Why declare a climate emergency?

The Scientific Evidence

There is a vast body of scientific evidence for the existing and predicted changes and trends in climate and for the need to act urgently and effectively. These include:

- **Australian Bureau of Meteorology and CSIRO State of the Climate report 2018⁶⁴** which states that observations and climate modelling paint a consistent picture of ongoing, long term climate change interacting with underlying natural variability. These changes affect many Australians, particularly the changes associated with increases in the increasing frequency or intensity of heat events, severe fire weather and drought. We will need to plan for and adapt to some level of climate change.
- **The Special Report on Global Warming of 1.5°C by the Intergovernmental Panel on Climate Change (IPCC)⁶⁵**, published October 2018, describes the enormous harm that a 2°C rise is likely to cause compared to a 1.5°C rise, and tells us that limiting Global Warming to 1.5°C may still

63 Climate emergency declarations in 1,110 jurisdictions and local governments cover 273 million citizens. Update as at 9 October 2019: <https://climateemergencydeclaration.org/climate-emergency-declarations-cover-15-million-citizens>

64 www.csiro.au/en/Showcase/state-of-the-climate

65 www.ipcc.ch/sr15/

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be possible with ambitious action from national and sub-national authorities, civil society, the private sector, indigenous peoples and local communities.

- **The IPCC's Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security and Greenhouse gas fluxes in Terrestrial Ecosystems, published August 2019⁶⁶**, states that many land-related responses that contribute to climate change adaptation and mitigation can also combat desertification and land degradation and enhance food security.
- **The Reserve Bank of Australia (RBA)⁶⁷** has warned changing weather patterns could lead to some risks becoming uninsurable.
- **A report by Admiral Chris Barrie (former Chief of the Australian Defence Force) and the Australian Climate Council⁶⁸** warns that: 1) Climate change poses a significant and growing threat to human and societal wellbeing, threatening food, water, health and national security; 2) Global military forces are labelling climate change a "threat multiplier" and 3) Climate change puts the Australian Defence Force under pressure.
- **The Australian Medical Association⁶⁹** has formally declared climate change a health emergency, pointing to "clear scientific evidence indicating severe impacts for our patients and communities now and into the future".

Despite current interventions Australia's greenhouse emissions are increasing rather than decreasing. We are running out of time - much stronger and more effective action is needed. The unprecedented drought and water shortages are made more severe by underlying climate change that:

- threatens our food security, local economy and potentially our ability to continue to live in this region.
- undermines and detracts from Council's ability to implement its Community Strategic Plan 2017-2027.

The more quickly we act and the more co-ordinated our action is as a community, the more effective our action is likely to be and the less damage and cost in the long term.

Strengths and the Anticipated Benefits to Our Region

- During 2019, ARC successfully mobilising resources to address the critical and unprecedented water shortage that developed in the LGA, as well as in adjacent areas including Tenterfield, Stanthorpe, Dubbo and Orange. Council's leadership in identifying the problem and providing information and technical assistance to support appropriate response by the community to the water crisis has been effective in gaining positive community response.
- ARC already has in place, or in plan, a number of initiatives that can be expanded on, endorsed and implemented to form the basis for effective climate action. For example, Council's EcoARC Greenprint for a Sustainable Future refers to policies and practices in relation to climate change mitigation and adaptation which can be integrated into Council's operations and services to the community.
- Council is to be congratulated for its most recent agreement to partner with the University of New England (UNE) to undertake Project Zero30, aiming by 2030 for no additional contribution from our region to the global temperature rise.

⁶⁶ www.ipcc.ch/report/SRCCL

⁶⁷ RBA warns climate risks may become uninsurable, www.afr.com/policy/energy-and-climate/rba-warnsclimate-risks-may-become-uninsurable-20191004-p52xt8

⁶⁸ Be Prepared: Climate Change, Security and Australia's Defence Force by Chris Barrie, Will Steffen, Alix Pearce and Michael Thomas (Climate Council of Australia) - apo.org.au/node/57413

⁶⁹ Australian Medical Association declares climate change a health emergency, 3 September 2019. www.theguardian.com/australia-news/2019/sep/03/australian-medical-association-declares-climate-change-ahealth-emergency

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- Council has demonstrated leadership in environmental issues, with (amongst other things) waste management and sewage management systems that integrate sustainable practices that other councils have sought to emulate.
- The local community has shown itself to be highly supportive of sustainable living practices such as sustainable housing, renewable energy installations, supporting local businesses, local food production including farmers' markets and community gardens, and revegetation activities.
- Council, the University of New England and local businesses have supported several Sustainable Living Expos that highlighted sustainability practices.
- Investment in renewable energy will bring jobs and growth to our region and lower power prices. New England and the Northern Tablelands are two of the four Renewable Energy Zones listed in the AEMO's (Australian Energy Market Operator's) Integrated Systems Plan.⁷⁰ In October 2019, the head of NextEra Energy, the biggest and most successful power utility in the United States, said the cost of renewables and battery storage – without subsidies – is beating gas, as well as existing coal and nuclear on costs⁷¹. In December 2018 a joint report by CSIRO and the AEMO noted that renewables are the cheapest new-build power.⁷²
- Current policy confusion is deterring investment and pushing up power prices.⁷³

Armidale Regional Council is well placed to join other councils seeking to mobilise and take action at a scale and speed that will restore a safe climate, with the least possible loss and damage during the transition back to a safer climate.

⁷⁰ AEMO's integrated Systems Plan: www.aemo.com.au/Electricity/National-Electricity-Market-NEM

⁷¹ reneweconomy.com.au/us-energy-giant-says-renewables-and-batteries-beat-coal-gas-and-nukes-78962/

⁷² www.csiro.au/en/News/News-releases/2018/Annual-update-finds-renewables-are-cheapest-new-build-power

⁷³ Energy companies pocketing an extra \$1 billion profit.

www.dailytelegraph.com.au/news/national/energycompanies-pocketing-an-extra-1-billion-profit/news-story/59b15191e33ffe5da5c2d2c0bb8a65cb

Appendix 2

CEWG Terms of Reference

Name

Climate Emergency Working Group

Establishment

The working group is a sub-committee to the Environmental Sustainability Advisory Committee.

Term

The Working Group will function until 30 June 2020, or until the report is prepared as per the Council resolution 266/19, whichever is sooner. The Council reserves the right to dissolve the committee at any time by a resolution of the Council. A recommendation from the Working Group report may be that the committee continues to be considered by ESAC after June 2020.

Delegations

The working group has no delegations from the Council.

Financial Arrangements

The working group has no powers to commit or expend any Council funds.

Purpose

The working group will research, explore funding opportunities for, and report upon initiatives in the short, medium and long term that council and our community can undertake to:

- a) Reduce greenhouse emissions, aiming, by 2030, for no additional contribution from our region to the global temperature rise
- b) Adapt to current and anticipated climate change impacts
- c) Reduce atmospheric concentrations of greenhouse gases, e.g. sequester and store carbon in trees and soils.

Core Responsibilities

The core responsibilities of the working group are to:

- a) Recommend actions that council and the community can undertake, after considering the costs vs benefits of those activities;
- b) gather a list of current activities and future actions for council and the community to reduce global warming and adapt to current and anticipated climate change impacts, including those proposed in EcoARC;
- c) engage the community and stakeholders to develop this list, after considering whatever information is available on the costs vs benefits of each action;
- d) explore funding options
- e) provide relevant content for a report to the Council Ordinary Council Meeting (OCM) in April 2020.

Membership

The working group membership is to be determined by an Expression of Interest process, and will include members of the Environmental Sustainability Advisory Committee and other interested people. All potential members must apply through an Expression of Interest, which will be assessed by council staff in mid March. Youth and indigenous applications are strongly encouraged. The working group will be a maximum of 12 people, and no more than half the membership will be ESAC members. Membership will be supported by a council officer.

Reporting

The committee will report to the ESAC.

Frequency of Meetings

Meeting schedules will be determined by the Chairperson, in consultation with working group members and Council Officers.

Code of Conduct

The Model Code of Conduct applies to the members of the working group.

Code of Meeting Practice

The Council's Code of Meeting Practice shall guide the meeting procedures. However, videoconferences e.g. by Zoom or GoToMeeting will be permitted if members desire this option.

Remuneration of Members

Working Group members will not be remunerated for meeting attendance and no reimbursement of travel expenses will be payable, unless prior approval from the CEO (or delegate).

Chairperson

The chairperson shall be determined by an election at the first meeting of the working group.

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CEWG Call for Expression of Interest**Do you want to help Council Respond to the Climate Emergency?**

Armidale Regional Council Residents are invited to express their interest in membership of the Climate Emergency Working Group, to be set up as a sub-committee of the Environmental Sustainability Advisory Committee. Young and Indigenous community members are strongly encouraged to submit an application.

The primary function of the working group is to provide relevant content for a report to the Council Ordinary Council Meeting (OCM) in April 2020 by:

- a) Recommending actions that council and the community can undertake, after considering the costs vs benefits of those activities;
- b) Gathering a list of current activities and future actions for council and the community to reduce global warming and adapt to current and anticipated climate change impacts;
- c) Engaging the community and stakeholders to develop this list, after considering whatever information is available on the costs vs benefits of each action;
- d) Exploring funding options;
- e) Providing relevant content for further reports as required by Council.

The role of the individual members is to:

- a) Understand and gather ideas from our local community;
- b) Have some knowledge of climate change and the types of activities that can reduce emissions;
- c) Be passionate in making a positive contribution to local climate change mitigation and adaptation;
- d) Be able to gather ideas from others within the community; and
- e) Actively contribute to the Working Group to provide relevant content for reports to Council.

Expenses will not be reimbursed

Unless Council resolves otherwise. Working Group members will not be remunerated for their time and no reimbursement of travel expenses will be payable, unless prior approval is received from the CEO (or delegate). However, it might be possible to attend meetings via video-conferencing. See yoursay.armidale.nsw.gov.au for further information and the Terms of Reference. Information is also provided on other Environmental Sustainability policies, including:

- a) EcoARC Greenprint strategy that was adopted on 11 December 2019 and will guide Council's operations and assist groups in the community to improve sustainability in our region.
- b) Information on Project Zero30, a partnership with UNE that aims for no additional contribution from our region for the global temperature rise by 2030.
- c) Background reports to the Climate Emergency Declaration adopted on 23 October 2019.

If you think you have the skills and enthusiasm to serve on the Climate Emergency Working Group, please email an expression of interest (EOI) to council@armidale.nsw.gov.au by 20 March 2020. The EOI should be in the form of a letter, addressing each selection criteria in 100-150 words.

Appendix 3

Zero30 Project Action Plan Years 1-3

In October of 2019 the University of New England and the Armidale Regional Council came together to create a joint venture, Project Zero30⁷⁴.

**The aim of Project Zero30 is to bring the
Armidale Local Government Area (ALGA) to net zero emissions by 2030.**

Project Zero30 will achieve its goal of bringing the ALGA to net zero emissions by 2030 through a unique partnership between science to the community. The project will leverage the combined networks of UNE and ARC to identify, develop and implement both climate mitigation and adaptation activities through the innovation and research that can be only achieved by community successfully working with its civic university. The open and transparent nature of Project Zero30 will provide communication pathways to ensure other communities can progressively adopt rather than wait for completion of the project to benefit from its research and innovation. Project Zero30 will achieve the Federal Government's Climate Active Carbon Neutral Standard (CACNS). CACNS is a voluntary standard to manage greenhouse emissions and achieve carbon neutrality. CACNS provides best-practice guidance on how to measure, reduce, offset, report and audit emissions for organisations, products & services, events, precincts and buildings.

Project Zero30 will achieve CACNS certification for the ALGA by 2030 under CACNS category five - Precincts.

Climate adaptation will influence carbon emissions and play an important part in achieving CACNS certification. To recognise the importance of climate adaptation in achieving certification, CACNS will be known as CACNSA within Project Zero30.

The activities of Project Zero30 will contribute to growing the ALGA gross regional product to \$2b by 2030. This will be achieved through the following outcomes of the ALGA.

The ALGA will:

1. Be a net renewable energy exporter;
2. Have 50% of its businesses and farms accredited under the national climate action carbon neutral standard;
3. Have 90% of its riparian zones revegetated;
4. Have 50% of its industry and homes exporting solar energy to the grid;
5. Generate power using biochar power generation technologies;
6. Have planted 1,000,000 trees to offset carbon usage;
7. Be active in the bio-sequestration market;
8. Have 25% of its buildings carbon certified;
9. Be an eco-ag tourism destination;
10. Be a true circular economy;
11. Be a model for carbon transitions and adaptation;
12. Have a green house accounting system;
13. Utilise green logistics and transport; and Winter air quality levels below the Department of Health's guidelines.

⁷⁴ zero30.org.au

Climate Emergency Working Group Input Report

Project Zero30 consist of two phases. Phase 1 is concerned with short term actions that can be undertaken from Years 1-3, while Phase 2 will begin once Phase 1 is complete and build upon the activities in Phase 1 and the baselining activity of Phase 1.

Action	Year of Completion
Establish Zero30 web site.	Year 1
Develop and circulate Information packs for farmers, business and community on how to achieve carbon neutrality.	Year 1
Establish school engagement campaign where every child in the ALGA is provided with a Project Zero30 t-shirt. This campaign also includes the development of educational activities for schools to distribute the t-shirt.	Year 2
Attract sponsorship from business and government.	Year 2
Establish citizen science network that enables community to collect data that can be utilised in science projects.	Year 2
Develop a carbon counter tool for individuals, businesses and farmers to track and map their own carbon footprint.	Year 2
Baseline the ALGA	Year 2
Establish a tree planting program	Year 2
Develop a 'led lit' free community program	Year 3
Undertake a feasibility study on biochar as an energy source	Year 3

Appendix 4

Risk Analysis of Climate Change Impacts for New England

Climate Change Impacts on Natural Environment for Armidale Guyra Area

Predicted and unfolding climate change outcomes	Impacts on natural environment that are already being experienced or are predicted to occur as a result of climate change						
	Surface water creeks and wetlands Dams	Ground water	Soil	Native Vegetation (significant areas on rural land)	Fauna (Rural land important in supporting and enabling dispersal of many native fauna species)	Human modified natural landscape	Air Quality
Increase in average maximum and minimum temperature and seasonal shift. Changed seasonal rainfall patterns - decreased winter and increased summer rainfall Changing water cycles	Threat multiplier in association with other threats listed below	Threat multiplier in association with other threats listed below	Threat multiplier in association with other threats listed below	Change in times of flowering and fruiting. Potentially out of sync with fertilising insects and breeding cycles of fauna. Disruption of connections between plants or plants and insects or plants and animals.	Cold adapted species unable to move to higher altitudes / become locally vulnerable to extinction or extinct Threat multiplier in association with other threats listed below	Autumn trees retain leaves longer Deciduous trees come into leaf / blossom earlier in season. Vulnerable to frost damage.	Minimal impact in the short term
Increased hot days, heat waves, episodes of prolonged and excessive heat Increased hot days, heat waves, episodes of prolonged and excessive heat	Increased evaporation. Water bodies store less oxygen. Stagnation and algal growth. Increased water usage by humans and animals. Depletion of natural and man-made water storage.	Increased extraction of ground water for domestic, agricultural and commercial use. Water table depletion	Potential for soil loss increasing with extent of bare soil and wind intensity	Cold adapted species such as snow gums adversely affected if heat exceeds their tolerance levels. Local extinctions	Sensitive animals such as flying foxes heat stressed with potential for widespread mortality. Reduced health of animal species due to poor water quality / decreased availability. Change in aquatic fauna due to hotter water temperatures.	Deciduous trees lose leaves early Landscape less attractive, extensive areas of dead grass or bare ground and vegetation Increased wildfire risk with potential for catastrophic fire risk.	Increased dust levels in air from dusty roads
Increased incidence, duration and intensity of drought and water shortage Low rainfall combined with high evaporation Dust Dust storms	Progressive reduction and drying out of water storage (waterholes and dams) that supply wildlife. Wetlands dry out. Water shortage. Decreased water quality - increased algae and bacterial contamination, potential for dead animals contaminating	Decreased rainfall replenishing groundwater supplies. Increased extraction of ground water for domestic, agricultural and commercial use. Decreased water infiltration and increased groundwater extraction	Progressive decrease in soil moisture. Expanding areas of bare ground / loss of ground cover. Ground hardens and cracks. Soil biota dies or moves deeper in soil. Soil less fertile and less able to store	Prolonged drying, death and dessication of ground cover and / or of shrubs and trees. Decreased pollination. Reduced breeding success and recruitment of new plants. Adverse ecosystem impacts due to failure of parts	Insufficient water in leaves for foliage dependent animals such as koalas Competition with domestic animals for water resources Insufficient food impacting on survival and breeding success, multiplication of threat for endangered species.	Deciduous trees lose leaves early. Die back of non-native trees Landscape and parks and gardens unattractive Increased wildfire risk with potential for catastrophic fire risk.	Dust storms, dust pollution of air

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Predicted and unfolding climate change outcomes	Impacts on natural environment that are already being experienced or are predicted to occur as a result of climate change						
	Surface water creeks and wetlands Dams	Ground water	Soil	Native Vegetation (significant areas on rural land)	Fauna (Rural land important in supporting and enabling dispersal of many native fauna species)	Human modified natural landscape	Air Quality
	water. Sequential loss /adverse impact on aquatic species with repeated events. Increased competition for water between human land use and ecosystems. Changes in stream morphology	causing depletion of aquifers, including those that feed into springs and water storages	carbon. Exposure of soil to wind erosion, soil loss. Bare soil vulnerable to water erosion during storm events	of connected systems eg flowering of plants no longer co-incident with breeding of associated fauna. Decreased habitat for waterbirds. Local extinctions / biodiversity loss	Disruption of ecosystem connections. Loss of habitat / refuge. Increased susceptibility to predation and disease. Longer travel distance between water sources. Biodiversity loss.		
Increased incidence, intensity and severity of storm events and associated weather events such as high velocity winds, heavy rain, hail and flooding	Pollution from effluent and garbage associated with flooding, dead animals and harmful chemicals washed into waterways.	Replenishment of some aquifers where flood water is stored and is able to seep into groundwater.	Erosion, damage to creek banks and waterways	Mechanical damage to vegetation. Death of vegetation arising from prolonged immersion. Tree fall in storms, hail damage, defoliation from hail	Drowning of animals. Interruption to life cycles. Death, injury or illness of wildlife arising from hail impact, loss of shelter, flooding, subsequent exposure to cold or predators	Mature trees lost from extensive swathes of land due to windstorms. Loss of stored carbon to atmosphere	
Fire - increased duration of fire season, earlier onset, later cessation. Increased intensity, spread, extent and destruction of fires.	Less water available for fire suppression in times of drought. Pollution of natural vegetation and waterways from use of fire retardants	Unknown	Baking of soil and destruction of soil biota relative to heat penetration of soil. Erosion of exposed soil in follow up storm events.	Destruction of flora with variable potential for recovery dependent on cumulative impacts. ⁷⁵ Decreased potential for population recruitment where fires are extensive. Local extinctions. Damage to vegetation through use of fire retardants	Injury and substantially increased mortality where fires are severe or catastrophic and extensive. ⁷⁶ Decreased potential for population recruitment where fires are extensive.	Destruction of landscape elements by fire. Landscape unattractive for visitors.	Particulate pollution of air from smoke with adverse health effects for animals and humans. Extensive loss of stored carbon to atmosphere

⁷⁵ More than 8 million hectares of land was devastated in Australia in the 2019-2020 bushfires (The Conversation 10/06/2020)

⁷⁶ The world Wide Fund for Nature estimated that 1.25 billion animals were killed in Australia in the 2019-2020 bushfires, with 800 million lost in NSW (www.wwf.org.au/what-we-do/bushfires#gs.9wibvb).

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Climate Change Impacts on Food production for Armidale Guyra Area

Predicted and unfolding climate change outcomes	Impacts on food production that are already being experienced or are predicted to occur as a result of climate change						
	Surface water and stored water Ground water - bores and springs	Soil / Landscape / Land tenure	Rural vegetation Crops and pasture, fodder production, availability	Effects on livestock, rural animals	Energy supply Communi-cations Transport and connectivity	Technical resources Productivity and business profitability Markets Local economy	Human resources Livelihood
<p>Increase in average maximum and minimum temperature and seasonal shift.</p> <p>Changed seasonal rainfall patterns - decreased winter and increased summer rainfall</p> <p>Changing water cycles</p>	Threat multiplier in association with other threats listed below	Threat multiplier in association with other threats listed below	<p>Invasive species able to move to higher altitudes, extend range and populations; greater resources required for control. Crop and pasture flowering potentially asynchronous with fertilising insects.</p> <p>Potential for increased range and productivity of some crops and pasture species due to extended seasons but only if sufficient water available.</p>	Potential for increased livestock productivity if sufficient water available.	Threat multiplier in association with other threats listed below	Potential for productivity increase and increase in farm income and viability due to longer growing season if occurring in the absence of other threat multiplier effects listed below and if agricultural producers change their production to reflect change in climate. Increased probability of combined impacts listed below may negate potential increases in productivity.	Threat multiplier in association with other threats listed below
Increased hot days, heat waves, episodes of prolonged and excessive heat	<p>Increased evaporation and drying out of water storage for stock.</p> <p>Increased water consumption by livestock.</p>	Soil dry, compacted. Increased vulnerability of soil to wind and water erosion.	Decreased growth / die off of ground cover and pasture and crop species during prolonged or excessive heat. Leaf fall from trees (especially introduced trees such as willows).	Heat stress and decreased weight gain in livestock.	Increased energy demand to service water supply and cooling devices. Potential Interruption to supply due to overload.	Reduced farm income and reduced viability and profitability of agricultural enterprises. Less money available to spend locally on farm equipment, education and other services	Less energy for outside work. Challenge to maintain conditions cool enough for horticultural workers in glasshouses. Smaller and less efficient landholders forced out reducing rural population diversity
<p>Increased incidence, duration and intensity of drought and water shortage</p> <p>Low rainfall combined with high evaporation</p> <p>Dust</p> <p>Dust storms</p>	<p>Decrease in water quality due to algal and bacterial growth and potentially animals dying in water reserves.</p> <p>Progressive reduction and drying out of water storage (waterholes and dams) for stock. Need to purchase water increases</p>	Soil dry, compacted, progressive loss of groundcover. Decreased soil nutrients due to impoverished soil biota and decreased ability of soil to store humus. Stored carbon released to atmosphere. Increased vulnerability	<p>Changes in fertiliser usage</p> <p>Increased crop and pasture disease and stress, reduced crop yield, crop failure.</p> <p>Previously viable agricultural production no longer possible for extended periods.</p> <p>Trees and shrubs die off. Decreased shelter for stock</p>	<p>Increased feed purchasing, thus increased costs.</p> <p>Decreased animal health and weight loss due to reduced availability and quality of feed and water. Death of or need to cull livestock due to shortage of</p>		<p>Productivity substantially reduced or absent. Increased commodity prices. Loss of farm income and reduced viability.</p> <p>Greater workload on farms.</p> <p>All resources directed to survival rather than productivity. Productivity drops or absent.</p> <p>Decreased rural employment/une</p>	<p>Increased stress and anxiety</p> <p>Human health and wellbeing impaired / increased mortality</p> <p>Challenge to keep outdoor workers cool. Less energy for outside work.</p> <p>Increased demand for medical services</p>

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Predicted and unfolding climate change outcomes	Impacts on food production that are already being experienced or are predicted to occur as a result of climate change						
	Surface water and stored water Ground water - bores and springs	Soil / Landscape / Land tenure	Rural vegetation Crops and pasture, fodder production, availability	Effects on livestock, rural animals	Energy supply Communi-cations Transport and connectivity	Technical resources Productivity and business profitability Markets Local economy	Human resources Livelihood
	costs. Reliance on ground water where available. Decreased water infiltration and increased groundwater extraction causing depletion of aquifers, including those that feed into springs.	of soil to wind and water erosion. Progressive land degradation consistent with intensity and duration of drought. Increased sell off of rural land.	as well as wildlife.	water and or feed. Health issues arising from disposal of carcasses. Increased vulnerability of livestock to disease. Potential loss of breeding stock, increased cost of restocking following drought. Livestock carrying capacity reduced. Decreasing viability of livestock production for longer periods.		employment in agricultural sector. Decreased spending in region. Decreased demand for manufacturing services	Adverse impacts on local community (including community cohesion and cooperation in times of emergency) Reduced volunteers available for emergency services such as firefighting. Increased vector borne disease such as Ross River fever. Increased demand for medical services
Increased incidence, intensity and severity of storm events and associated weather events such as high velocity winds, heavy rain, hail and flooding		Property damage. Temporary relocation of residents. Increased demand for building and repair services. Access to markets interrupted	Damaged or failed crops Food spoilage	Injury or death of livestock from exposure. Drowning of livestock. Feed shortage for livestock. Need to purchase fodder - increased costs	Blackouts / interruption to energy supply Communications limited or blacked out Damage to vehicles, roads, railway lines Interrupted / limited transport/ flights	Loss of farm income and reduced viability. Property and infrastructure damage and associated costs. Destruction of glasshouses. Resources directed to rebuild and recovery rather than productivity. Increased insurance claims and costs. Increased demand for building and repair services (may stimulate economy) Produce not able to be harvested or late to market. Repair and maintenance costs. Council costs. Interruption to service provision	Increased stress and anxiety Human injury and increased mortality. Increased demand for emergency services. Emergency response times slower. Loss of life from drownings. Human exposure to effluent, chemical hazard, pollution in floodwater. Community disruption. Stress on vulnerable people
Fire - increased duration of fire season,	Likely to coincide with times of water	Soil baked and left bare in intense fire conditions.	Damaged crops.	Injury or death of livestock.	Blackouts / interruption to energy supply	Property and infrastructure damage. Productivity	Human injury or death directly from fire or

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Predicted and unfolding climate change outcomes	Impacts on food production that are already being experienced or are predicted to occur as a result of climate change						
	Surface water and stored water Ground water - bores and springs	Soil / Landscape / Land tenure	Rural vegetation Crops and pasture, fodder production, availability	Effects on livestock, rural animals	Energy supply Communi-cations Transport and connectivity	Technical resources Productivity and business profitability Markets Local economy	Human resources Livelihood
earlier onset, later cessation. Increased intensity, spread, extent and destruction of fires.	shortage. Redirection of water usage to fire fighting, further depletion of water storage. Damage to water storage infrastructure such as melting of plastic tanks during bushfire. Water unavailable to people in burnt out areas	Soil fauna destroyed to depth of heat penetration. Soil exposed to erosion from wind or rain following fire.	Productivity drops or at a standstill.	Loss of fences to contain livestock. Destruction of pasture. Need to buy in fodder at a time when costs likely to be high. Resources directed away from productivity to repair and rebuild	Communications limited or blacked out. People unable to access electronic funds to purchase essentials Damage to vehicles, roads, railway lines Interrupted / limited transport/ flights	reduced or at a standstill. Loss of income due to livestock losses and cost and time needed to rebuild Extensive insurance claims and increased costs. Property values drop	indirectly from smoke, and associated illness. Loss of home and means of livelihood in short or long term. Increased demand for medical and volunteer services Volunteer fatigue Decreased activity levels Social isolation Crisis can bring communities together as well as challenge them
Combined / cumulative impacts overall	Progressive depletion of surface and underground water storage. Water allocation conflict. Withdrawal rather than expansion of water hungry industries such as intensive horticulture. Decreasing ability to sustain rural population and agricultural production.	Progressive soil erosion and land degradation Property values drop. Increased sell off of rural land. Potential for purchase by corporate or international buyers with minimal connection to local community environment or economy	Decreased crop and pasture production capability in area	Decreased livestock production capability in area	Potential for connectivity and technical issues to		
Predicted and unfolding climate change outcomes	Water restrictions Changed attitudes to water use substantially decreased Policy and regulation changes	Reduction of water usage by horticultural industries to a level that is able to be sustained.					

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Climate Change Impacts on human community, built environment, health and wellbeing

Predicted and unfolding climate change outcomes	Impacts on human community, built environment, health and wellbeing that are already being experienced or are predicted to occur as a result of climate change						
	Food production, distribution and availability Water availability	Built environment housing and effects on home environs	Business Livelihood Economy	Energy supply Communications Transport and connectivity	Emergency response Governance and Service delivery	Community cohesion Education Childcare	Health and wellbeing
Increase in average maximum and minimum temperature and seasonal shift. Increased hot days, heat waves, episodes of prolonged and excessive heat Changed seasonal rainfall patterns - decreased winter and increased summer rainfall Changing water cycles	Compromised particularly if heat waves associated with periods of low rainfall and high evaporation.	Potential for expanded range of garden species with extended warmer seasons. Heat waves cause leaf fall and potential loss of shade trees from gardens, parks and recreational areas especially when combined with drought and fire. People seek shade in surrounding environs during hot periods whereas previous priority has been warmth from sun during cool seasons.	Less tourism during hot periods	Increased use of air conditioners Increased energy demand Potential for interruption to energy supply due to overload. Potential impact on rail services due to warping of train lines by heat or out of area impacts Reduced use of air services due to decrease in tourism.	Flow on effects from impacts on other sectors eg increased need for shade, potential interruption to energy supply, increased need for invasive species control	School absenteeism during heat waves. Locals take holidays during hot periods hence reduced demand for goods and services. Reduced options for people to move away to cooler regions as local area is identified as a cooler region.	Heat waves cause adverse human health effects and increased mortality. Increased demand for health care services. Challenge to keep outdoor workers cool. Too hot to exercise Increased vector borne disease due to extension of warm weather seasons and decreased cold.
Increased incidence, duration and intensity of drought and water shortage Low rainfall combined with high evaporation Dust Dust storms	Reduced or severely compromised ability to grow local food; Most food for the region is distributed by, and purchased from, three major supermarkets. Water restrictions greatly limit capacity for local food growing. Increased demand for food increases food cost in line with the degree to which drought and bushfire impact on food supply from outside sources. Risk that available food will be preferentially distributed within urban areas. Reduced viability of livestock or agricultural production due to increased frequency of adverse events.	Water restrictions impact on peoples' enjoyment of their environs and recreational gardening. People unable to sell houses due to perception of area as undesirable to move to. Reduction in real estate values.	Loss of income, reduced viability of businesses with high water demand (farms, horticulture, institutions, car wash) or are reliant on scenic landscape (tourism). Greater workload for domestic water supplier (ARC) and for some businesses in managing water usage. Drop in productivity Increased costs for businesses needing to buy water. Unemployment in vulnerable sectors (tourism) Increased commodity prices Decreased spending - flow-on effect to	Increased use of air conditioners Increased energy demand. Potential for interruption to energy supply due to overload.	Water restrictions Changed attitudes to water use Water allocation conflict Policy and regulation changes Greater infrastructure costs Increased costs passed on to users Increased maintenance requirements for sporting fields and or reduced quality and appeal.	Reduced enrolments at private schools due to flow on of economic impacts. Increase at public schools. School absenteeism Family members leave area to seek employment. Pressure to close valuable services enhancing social cohesion such as swimming pools. Social friction due to increased constraints and competition for water resources Locals take holidays during hot periods	Increased stress and anxiety Adverse impacts on mental health - sadness and grief arising from adverse impact on environs, loss of income. Increased demand for medical services Adverse health effects due to increased dust. Sporting injuries due to compacted surfaces leading to reduced participation and reduced fitness.

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Predicted and unfolding climate change outcomes	Impacts on human community, built environment, health and wellbeing that are already being experienced or are predicted to occur as a result of climate change						
	Food production, distribution and availability Water availability	Built environment housing and effects on home environs	Business Livelihood Economy	Energy supply Communications Transport and connectivity	Emergency response Governance and Service delivery	Community cohesion Education Childcare	Health and wellbeing
	Extension of invasive species.		other businesses				
Increased incidence, intensity and severity of storm events and associated weather events such as high velocity winds, heavy rain, hail and flooding	Local food sources damaged or lost in impacted areas. crops. Injury or death of livestock from exposure. Access to markets interrupted.	Property and infrastructure damage, eg damage to roofs and windows and vehicles from hail, wind, treefall; road damage from flooding Destruction of glasshouses Increased demand for building and repair services	Loss of farm income and reduced viability. Business interrupted Increased insurance claims and costs	Blackouts / interruption to energy supply Communications limited or blacked out Damage to vehicles, roads, railway lines Interrupted / limited transport/ flights	Increased demand for emergency services Emergency response times slower. Repair and maintenance costs Council costs Access to services cut	Interrupted School absenteeism	Increased stress and anxiety Human injury and increased mortality Human exposure to effluent, chemical hazard and pollution particularly during flood events.
Fire - increased duration of fire season, earlier onset, later cessation. Increased intensity, spread, extent and destruction of fires.	Damaged crops. Injury or death of livestock. Feed shortage for livestock Damaged or failed crops Food spoilage Increased food costs. Potential disruption to	Property damage - loss of homes, businesses and other infrastructure Increased demand for building and repair services	Productivity drops or at a standstill. Long time-frame for recovery where resources and labour are directed away from productivity towards rebuilding of housing and infrastructure such as fences, shed, business premises, and water storage. Source of income may be lost and employees may be stood down for extensive periods Extensive insurance claims and subsequent increases in insurance costs	Blackouts / interruption to energy supply with potential impacts on ability of people to access electronic funds to pay for water, food and petrol plus impact on essential services such as water supply, sewerage. Communications limited or blacked out Damage to vehicles, roads, railway lines Interrupted or limited transport/ flights available	Potential short term acute shortage of water and food. Increased demand for emergency services Emergency response times slower Insufficient capacity to respond to the extent of the crisis and to meet goals of protecting life and property Volunteer fatigue.	Community effort directed towards safety, protection of human life and property during fire events. Extensive short term and potentially long term displacement of people from their homes, communities and places of work. School absenteeism Cancelled events that promote community cohesion Social friction and seeking to attach blame	Human injury or death directly from fire or indirectly from smoke inhalation and associated illness. Human exposure to effluent, chemical hazard and pollution from damage to infrastructure causing release of pollutants Increased demand for medical services Volunteer fatigue Decreased activity levels Social isolation
Combined / cumulative / overall impacts	Decreased agricultural productivity Change in crop selection	Decreased resilience and capacity to recover from adverse events occurring with greater frequency, intensity and longer duration. Property values drop. Greater infrastructure	Regional economy diminished Region less attractive to visitors or people wishing to relocate. Decreased diversity and prosperity of businesses and	Interruption to energy supply / blackouts. Interruption to flights communications Damage to transport routes Interrupted / limited transport/ flights	Emergency response time slower Increased demand for volunteers Volunteer fatigue Less productive workforce	Decreased community resilience and cohesion. People move away from area	Decreased overall level of health and wellbeing in community. Increased mortality. Loss of life from drownings Human exposure to effluent,

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Predicted and unfolding climate change outcomes	Impacts on human community, built environment, health and wellbeing that are already being experienced or are predicted to occur as a result of climate change						
	Food production, distribution and availability Water availability	Built environment housing and effects on home environs	Business Livelihood Economy	Energy supply Communications Transport and connectivity	Emergency response Governance and Service delivery	Community cohesion Education Childcare	Health and wellbeing
		costs. Increased incidence of property damage not able to be repaired due to decreased economic resilience. Temporary relocation of residents Increased demand for building and repair services	institutions resulting in Increased regional unemployment. Increased insurance costs and increased conditions of insurance . Delayed payouts. Increased income support/ welfare claims		Cumulative increase in cost of clean up and maintenance		chemical hazard, pollution Community disruption. Vulnerable people particularly susceptible to adverse impacts as decrease in stability of environs and community detracts from wellbeing. Increased demand for medical services Increased stress on hospitals Hospital staff work longer hours Demographic changes Regional decline Aging population
Interventions that may help to reduce severity of impacts	Policy and regulation changes Behaviour change and technical modifications to decrease water consumption and enhance efficient water use. Measures to protect water catchments, decrease evaporation from water storage. Investigate potential for increased size of community water storage to enhance water security. Increase soil percolation of water Planning for water storage and improved efficiency of use						

Appendix 5

Native fauna and flora - Protection of threatened species and communities

Koalas

In April 2012, the Australian Government declared the Koala as 'Vulnerable' under the Federal EPBC Act in New South Wales, the ACT and Queensland. Koalas are in serious decline suffering from the effects of habitat destruction, domestic dog attacks, bushfires and road accidents. Recent research indicates that the koala population in Armidale is relatively healthy. This is significant in the context of substantial eucalypt die off in the area of Mt Duval (an important koala habitat area) during the 2019 drought and extensive death of koalas in south eastern Australia during the 2019-2020 bushfires.

Koalas are regularly seen in the vicinity of Armidale. A Council pamphlet entitled 'The survival of the koala is in our hands' lists the locations of koala sightings in the area⁷⁷. It states that around Armidale, fragmentation of woodland on the urban rural fringe (peri-urban area) and the wider landscape, makes it harder for young koalas to find new home ranges and adult koalas to find mating partners.

Climate change has been clearly identified as a threat to koalas. The June 2020 New South Wales parliamentary inquiry of the Legislative Council into Koala populations and habitat in New South Wales⁷⁸ states that at every hearing, the committee received evidence that climate change was having an extremely detrimental effect on koala populations and that the International Union for Conservation of Nature recognises the koala as one of ten species most likely to be adversely impacted by climate change.

The Parliamentary Inquiry made a number of recommendations for action⁷⁹ by the NSW Government that are relevant to koalas in the Armidale area. These are listed as follows:

- Urgently prioritise the protection of koala habitat and corridors in the planning and implementation stages of urban growth areas.
- Fund and support local councils to conserve koala habitat, including by identifying pockets of urban bushland to include in the State's protected area network.
- Provide additional funding and support to community groups, so that they can plant trees and regenerate bushland along koala and wildlife corridors and explore mechanisms to protect these corridors in-perpetuity.
- Ensure that in planning for future bushfires, conservation values and the protection of koala habitat is given greater priority.
- Increase funding to local councils to support the implementation of local koala conservation initiatives.
- In finalising the State Environmental Planning Policy (Koala Habitat Protection) 2019 framework, strengthen the ability of consent authorities to protect koala habitat.
- Require all councils with koala populations to develop comprehensive koala plans of management in a timely manner.
- Publish the final State Environmental Planning Policy (Koala Habitat Protection) Guideline as soon as practicable.
- Increase resources to local councils to support them in conducting mapping required for comprehensive koala plans of management.
- Work with willing landholders to identify koala habitat that is of outstanding biodiversity value under the Biodiversity Conservation Act 2016 in order to facilitate more koala habitat on private land being protected.
- Ensure that the NSW Koala Strategy: Bushfire Recovery Plan contains as its key focus, the protection of koala habitat.

⁷⁷ www.armidaleregional.nsw.gov.au/ArticleDocuments

⁷⁸ Legislative Council Portfolio Committee No. 7 - Planning and Environment Koala populations and habitat in New South Wales June 2020 Report 3 - June 2020.
<https://www.parliament.nsw.gov.au/lcdocs/inquiries/2536/Koala%20populations%20and%20habitat%20in%20New%20South%20Wales%20-%20Report%203.pdf>

⁷⁹ www.parliament.nsw.gov.au/lcdocs/inquiries/2356/Koala%20populations%20and%20habitat%20in%20New%20South%20Wales%20-%20Report%203.pdf

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Mapping, such as where koalas have been recorded and their habitat, is a critical component for local councils to develop comprehensive koala management plans. Koala conservation must take priority over land clearing, regardless of the demand for that land. That principle might seem simple, but so far it's proved agonisingly difficult.

- It is recommended that Armidale Regional Council develops a comprehensive koala plan of management and lobbies the NSW government to implement these recommendations, in particular increasing funding to local councils to support the implementation of local koala conservation initiatives and increasing resources to local councils to support them in conducting mapping.

Grey-headed Flying-fox *Pteropus poliocephalus*

Anecdotal evidence from a local orchardist stated that flying foxes were common in the region in the past and that landowners used to seek out their roosts and shoot them⁸⁰. A colony of grey-headed and little red flying foxes started forming at Black Gully in Armidale in October 2017 and reached a peak population of between 40,000 and 50,000 in December that year. Both species are protected under biodiversity protection laws. Neighbouring residents were concerned regarding noise, smell, droppings and damage to vegetation, raising issues on how to manage the site.

The colony left the city in early 2018 and Stage 1 works that year removed selected trees to create a buffer between flying fox habitat trees and neighbouring homes. A management plan for the flying-fox camp at Black Gully was adopted by Council at the Ordinary Council Meeting held on Wednesday 25 July 2018⁸¹, allowing Council to take action to reduce the impact on residents if flying foxes return.

The Grey-headed Flying-fox is currently listed as vulnerable under the Environment Protection and Biodiversity Conservation Act.

A 2009 Draft Recovery plan for the species⁸² states that climate change in the coming decades has the potential to affect food availability and heat related mortality in Grey-headed Flying-foxes. Exposure to high temperatures results in mortality in Grey-headed Flying-foxes⁸³. Mortality rates are low at ambient temperatures of 41 to 43.5°C but increase rapidly at temperatures > 43.5°C, particularly affecting flightless young. Climate change is also predicted to affect nectar food supplies as many eucalypts have a narrow range of tolerance to temperature and rainfall, and the predicted levels of change are expected to impact distribution and reproduction.⁸⁴

It is possible that the cooler Armidale climate may enable flying foxes to persist in the region in the short term. Retained willows and native vegetation planted alongside Dumaresq Creek in 2011 are currently (June/July 2020) providing habitat for a small population of Grey-headed Flying-foxes. Expansion and maturation of plantings in the area could provide additional habitat while at the same time avoiding adverse impacts on residential areas.

80 www.armidaleregional.nsw.gov.au/news/news-2019/black-gully-weeds-cleared-for-flying-fox-plan

81 www.armidaleregional.nsw.gov.au/living-here/animals-and-pets/flying-foxes

82 [www.environment.gov.au/cgi-bin/sprat/publicspecies.pl?taxon_id=186#:~:text=Lack%20of%20foraging%20resources%20can,%20foxes%20\(Tidemann%20et%20al.](http://www.environment.gov.au/cgi-bin/sprat/publicspecies.pl?taxon_id=186#:~:text=Lack%20of%20foraging%20resources%20can,%20foxes%20(Tidemann%20et%20al.)

83 Parry-Jones 2000, Eby et al. unpublished, Welbergen et al. 2007

84 Hughes et al. 1996, Hughes 2003