ATTACHMENTS

ORDINARY MEETING OF COUNCIL

To be held on

Wednesday, 24 August 2022
4pm

at

Armidale Council Chambers

INDEX

MINUTES

ARMIDALE Regional Council

ORDINARY MEETING OF COUNCIL

Held on

Wednesday, 27 July 2022
4pm

at

Armidale Council Chambers

PRESENT: Councillor Sam Coupland (Mayor), Councillor Todd Redwood (Deputy Mayor), Councillor Paul Gaddes, Councillor Jon Galletly, Councillor Susan McMichael, Councillor Steven Mepham, Councillor Debra O'Brien, Councillor Margaret O'Connor, Councillor Paul Packham, Councillor Dorothy Robinson and Councillor Bradley Widders.

IN ATTENDANCE: Mr James Roncon (General Manager), Mr Darren Schaefer (Chief Officer Corporate and Community), Mr Daniel Boyce (Chief Officer Sustainable Development), Mr Alex Manners (Chief Officer Assets and Services) and Ms Jessica Bower (Executive Officer).

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15.1 Endorsement of Expression of Interest (EOI) for ARC Gravel Crushing in Guyra NSW14
(General Manager's Note: The report considers contractor responses and evaluation to an Expression of Interest and is deemed confidential under Section 10A(2)(d) of the Local Government Act 1993, as it deals with commercial information of a confidential nature that would, if disclosed (i) prejudice the commercial position of the person who supplied it; or (ii) confer a commercial advantage on a competitor of the Council; or (iii) reveal a trade secret).

1. CIVIC AFFIRMATION AND ACKNOWLEDGEMENT OF COUNTRY

Cr Widders delivered the Civic Affirmation and Cr Gaddes delivered the Acknowledgement of Country.

2. STATEMENT IN RELATION TO LIVE STREAMING OF COUNCIL MEETINGS

The General Manager delivered the statement.

3. APOLOGIES AND APPLICATIONS FOR LEAVE OF ABSENCE BY COUNCILLORS

4. DISCLOSURES OF INTEREST

Name	Item	Nature of Interest	Reason/Intended Action
Clr McMichael	11.2 Increase the Annual Financial Contribution to the Armidale Neighbourhood Centre	☐ Pecuniary ■ Non Pecuniary – Significant Conflict ☐ Non Pecuniary – Non Significant Conflict	Reason: Board member of the Neighbourhood Centre. Intended action: Leave Chamber

5. CONFIRMATION OF MINUTES

5.1 Minutes of Previous Meeting held 29 June 2022 *Ref: AINT/2022/25273 (ARC16/0001-7)*

137/22 **RESOLVED**

That the Minutes of the Ordinary Council meeting held on 29 June 2022 be taken as read and accepted as a true record of the meeting.

Moved Cr Redwood **Seconded Cr Gaddes**

The Motion on being put to the vote was CARRIED unanimously.

6. MAYORAL MINUTE

6.1 Mayoral Minute - Key Pillar Working Groups *Ref: AINT/2022/28752 (ARC16/0001-7)*

138/22 **RESOLVED**

That Council note the minute.

Moved Cr Coupland

The Motion on being put to the vote was CARRIED unanimously.

7. NOTICES OF MOTION

7.1 Strategic Infrastructure Planning *Ref: AINT/2022/29839 (ARC16/0025-6)*

139/22 **PROCEDURAL MOTION**

Moved Cr Robinson Seconded Cr O'Connor

That the items be dealt with in seriatim.

DIVISION The result being:-

FOR: Crs D Robinson; M O'Connor; B Widders and S McMichael.

AGAINST: Crs S Coupland, P Gaddes, J Galletly, D O'Brien, P Packham; S Mepham and T Redwood

The Motion on being put to the vote was LOST.

RESOLVED

1. That Council convene and facilitate a workshop of Councillors to collate the structural infrastructure, planning and resourcing required to deliver on the 10000/4000 target covering;

a. Energy & Water
b. Transport
c. Education
d. Health
e. Housing
f. Recreation
g. Industry and Employment Segments

2. That the Council retain the necessary people and culture resources to deliver the target;

3. That Council KPI's be aligned with achieving the target.

Moved Cr Packham Seconded Cr Gaddes

DIVISION The result being:-

FOR: Crs S Coupland, P Gaddes, J Galletly, S McMichael, S Mepham, D O'Brien, M O'Connor, P Packham and T Redwood

AGAINST: Crs D Robinson and B Widders

The Motion on being put to the vote was CARRIED.

8. LEADERSHIP FOR THE REGION

8.1 Council Actions Report January - June 2022 *Ref: AINT/2022/25274 (ARC16/0001-7)*

140/22 **RESOLVED**

That Council notes the report summarising the actions taken on the resolutions of Council.

Moved Cr O'Connor **Seconded Cr O'Brien**

The Motion on being put to the vote was CARRIED unanimously.

8.2 Advocacy Strategy *Ref: AINT/2022/27087 (ARC16/0891-2)*

141/22 **RESOLVED**

That Council:

a. endorse the compilation of an Armidale Regional Council Advocacy Strategy and that it become the centrepiece of Armidale Regional Council's advocacy initiatives leading into the 2023 NSW State Election.

b. confirms up to six priority initiatives or projects it seeks to pursue as part of its advocacy push through to the 2023 NSW State Government Election.

c. undertake consultation in relation to the advocacy items as part of the workshop to be convened per item 7.1.

Moved Cr Redwood **Seconded Cr O'Brien**

The Motion on being put to the vote was CARRIED unanimously.

9. GROWTH, PROSPERITY AND ECONOMIC DEVELOPMENT

9.1 Cash and Investment Report 30 June 2022 *Ref: AINT/2022/23864 (ARC16/0001-7)*

142/22 **RESOLVED**

That Council note the Cash and Investment Report for June 2022.

Moved Cr McMichael **Seconded Cr Robinson**

The Motion on being put to the vote was CARRIED unanimously.

9.2 Planning Proposal for 242 Rusden Street, Armidale *Ref: AINT/2022/26265 (ARC20/4426)*

143/22 **RESOLVED**

That Council:

a. Endorse the Planning Proposal to amend the *Armidale Dumaresq Local Environmental Plan 2012* or *Armidale Regional Local Environmental Plan* (as applicable) to regularise the permissibility of the retail premises land uses that have historically and continually been carried out at 242 Rusden Street, Armidale (Lot A, DP 329168).

b. Forward the endorsed Planning Proposal to the Department of Planning and Environment with a request for Gateway Determination and exhibit the proposal in accordance with that determination.

c. Seek authorisation from the Department of Planning and Environment to be the local plan-making authority.

Moved Cr McMichael **Seconded Cr Redwood**

The Motion on being put to the vote was CARRIED unanimously.

10. ENVIRONMENT AND INFRASTRUCTURE

10.1 Compliance and Enforcement Policy - For Adoption (Post Public Exhibition)

Ref: AINT/2022/26879 (ARC22/5018)

144/22 **PROCEDURAL MOTION**

That the item be deferred to the August Council Meeting.

Moved Cr O'Connor **Seconded Cr Packham**

DIVISION The result being:-

FOR: Crs P Packham; D Robinson; M O'Connor and S Mepham.

AGAINST: Crs B Widders; S McMichael; T Redwood; J Galletly; P Gaddes; D O'Brien; S Coupland.

The Motion on being put to the vote was LOST.

RESOLVED

That Council adopt the Compliance and Enforcement Policy.

Moved Cr Widders **Seconded Cr Redwood**

DIVISION The result being:-

FOR: Crs S Coupland, P Gaddes, J Galletly, S McMichael, D O'Brien, T Redwood, D Robinson and B Widders

AGAINST: Crs S Mepham, M O'Connor and P Packham

The Motion on being put to the vote was CARRIED.

10.2 Look Up! Make the State of our Planet BAU Pilot Program

Ref: AINT/2022/26896 (ARC21/4551)

145/22 **MOVED**

That Council:

a. Endorse the Leadership Principles and Climate Action Plan initiatives contained within the outcomes of the pilot program "*Look-Up! Make the State of our Planet BAU*."

b. Reaffirm Council's resolution on 25 September 2019 to commit to achieving the goals of Project Zero30.

c. Request that the General Manager prepare an organisational plan to minimise our contribution to the global temperature rise and achieve Climate Active certification which will be reported back to Council with costings.

Moved Cr Robinson **Seconded Cr Widders**

PROCEDURAL MOTION

That the items be voted on in seriatim.

Moved Cr O'Connor **Seconded Cr Packham**

The Motion on being put to the vote was CARRIED unanimously.

RESOLVED

That Council:

a. Endorse the Leadership Principles and Climate Action Plan initiatives contained within the outcomes of the pilot program "*Look-Up! Make the State of our Planet BAU*."

DIVISION *The result being:-*

FOR: *Crs S Coupland, P Gaddes, J Galletly, S McMichael, D O'Brien, T Redwood, D Robinson; S Mepham and B Widders*

AGAINST: *Crs P Packham and M O'Connor*

The Motion on being put to the vote was CARRIED

b. Reaffirm Council's resolution on 25 September 2019 to commit to achieving the goals of Project Zero30.

DIVISION *The result being:-*

FOR: *Crs S Coupland, P Gaddes, J Galletly, S McMichael, D O'Brien, T Redwood, D Robinson; S Mepham and B Widders*

AGAINST: *Crs P Packham and M O'Connor*

The Motion on being put to the vote was CARRIED

c. Request that the General Manager prepare an organisational plan to minimise our contribution to the global temperature rise and achieve Climate Active certification which will be reported back to Council with costings.

The Motion on being put to the vote was CARRIED unanimously.

Moved Cr Robinson **Seconded Cr Widders**

11. OUR PEOPLE AND COMMUNITY

11.1 Alterations to Parking Time Limits within the Armidale CBD

Ref: AINT/2022/11591 (ARC18/2956)

146/22 **RESOLVED**

That Council:

a. Note the report on the status of the CBD Heart, Core and Frame Parking limits.

b. Endorse the implementation of changes to the CBD Heart, Core and Frame Parking limits relating to the 15min time zones only.

Moved Cr Packham **Seconded Cr Redwood**

The Motion on being put to the vote was CARRIED unanimously.

Cr Susan McMichael left the meeting, the time being 05:13 PM

11.2 Increase the Annual Financial Contribution to the Armidale Neighbourhood Centre

Ref: AINT/2022/28363 (ARC18/2827)

147/22 **RESOLVED**

That Council;

a. Increase its annual financial contribution from $20,000 pa to $80,000 pa in support of the Armidale Neighbourhood Centre's expanded service offering and the important function they play in the Armidale community.

b. Give public notice for a period of 28 days in accordance with section 356 of the *Local Government Act 1993*, Councils intent to increase the annual payment to $80,000 to the Armidale Neighbourhood Centre.

c. A further report be presented back to Council following the conclusion of the public notice period to address any matters raised during the exhibition period.

Moved Cr O'Brien **Seconded Cr O'Connor**

The Motion on being put to the vote was CARRIED unanimously.

Cr Susan McMichael returned to the meeting, the time being 05:22 PM

12. COMMITTEE REPORTS

PROCEDURAL MOTION

148/22 **Moved Cr O'Connor** **Seconded Cr McMichael**

That items 12.1 and 12.4 be voted on simultaneously.

The Motion on being put to the vote was CARRIED unanimously.

12.1 Traffic Advisory Committee - Minutes of the meeting held on 7 June 2022

Ref: AINT/2022/20823 (ARC16/0168-7)

149/22 **RESOLVED**

That in relation to the report "Armidale Regional Council Traffic Advisory Committee Minutes – 7 June 2022", that Council:

a) Note the Agenda and Minutes from the TAC Meeting held 7 June 2022;
b) Note the use of Council roads for part of the Royal Far West Kids Ride;
c) Note the traffic management plan and the temporary speed reduction to 30km/h for Kentucky St between Faulkner St and Dangar St for the NSW Country Gymnastic Competition held Tuesday 5 July to Sunday 10 July 2022;
d) Note the road closures along the route associated with the NAIDOC street march held on 7 July 2022; and
e) Install signage for a 'Kiss and Drop' zone for Guyra Central School and note the requirement for Guyra Central School to monitor the use of the zone.

Moved Cr McMichael **Seconded Cr Redwood**

The Motion on being put to the vote was CARRIED unanimously.

12.2 Sports Council - Minutes of the Meeting held on 24 March 2022

Ref: AINT/2022/11967 (ARC16/0330)

150/22 **RESOLVED**

That Council:

a. Note the Minutes of the Sports Council Committee meeting held on 24 March 2022;

b. Note that $33,000 of the Sports Development Levy Fund was utilised for Committee endorsed Armidale & District Cricket Association (ADCA) projects.

c. Note the project update on the $350,000 Regional Sport Facility Funded; Lynches Road Netball Courts Lighting Project.

d. Note the update on the $89,000 Stronger Country and Communities Fund project Indoor Cricket Centre at Armidale Sportsground including an extension of the existing indoor centre to provide amenities and an office.

e. Note the update on the financial position of the Sports Council up to 28 February 2022 and that the Committee endorsed a 2.5% increase to Sports Development Levy for the 2022-2023 season.

Moved Cr Galletly **Seconded Cr Redwood**

The Motion on being put to the vote was CARRIED unanimously.

12.3 Audit Risk and Improvement Committee - Minutes of 21 June 2022 Meeting

Ref: AINT/2022/27079 (ARC22/5007)

151/22 **RESOLVED**

That the Minutes of the Audit Risk and Improvement Committee meeting held on 21 June 2022 be noted and that Councillors retain the right to attend ARIC meetings in an observer capacity going forward.

Moved Cr Packham **Seconded Cr O'Connor**

The Motion on being put to the vote was CARRIED unanimously.

12.4 Traffic Advisory Committee - Minutes of the meeting held on 5 July 2022

Ref: AINT/2022/27081 (ARC16/0168-7)

152/22 **RESOLVED**

That in relation to the report "Armidale Regional Council Traffic Advisory Committee Minutes – 5 July 2022", that Council:

a) Note the Minutes of the Traffic Advisory Committee meeting held on 5 July 2022;

b) Endorse the road closure of Moore Street from Dangar Street to Faulkner Street as requested for the National Police Memorial Wall to Wall Ride 2022 between the hours of 6am and 8.30am on Wednesday 15th September 2022;

c) Note that complaints have been made regarding parking on Naughton Avenue and further investigations are to be undertaken and the matter has been deferred to the August Traffic Advisory Committee meeting;

d) Endorse a No Parking zone and install appropriate signage in the turn-around of the cul-de-sac of Powers Place;

e) Note further investigation and report to the August Traffic Advisory Committee meeting is required regarding the size of the bus to be used and available parking space following the termination of a taxi service in Guyra.

Moved Cr McMichael **Seconded Cr Redwood**

The Motion on being put to the vote was CARRIED unanimously.

12.5 New England Bushfire Management Committee - Minutes of the meeting held on 10 May 2022 *Ref: AINT/2022/29700 (ARC17/1987)*

153/22 **RESOLVED**

That the draft Minutes of the New England Bushfire Management Committee meeting held on 10 May 2022 be noted.

Moved Cr Mepham **Seconded Cr Robinson**

The Motion on being put to the vote was CARRIED unanimously.

13. MATTERS OF AN URGENT NATURE - NIL

14. QUESTIONS ON NOTICE - NIL

PROCEDURAL MOTION

154/22 **RESOLVED**

a) That Council move into closed Session to receive and consider the following items:

15.1 Endorsement of Expression of Interest (EOI) for ARC Gravel Crushing in Guyra NSW. (AINT/2022/18718) - (***General Manager's Note:*** *The report considers contractor responses and evaluation to an Expression of Interest and is deemed confidential under Section 10A(2)(d) of the Local Government Act 1993, as it deals with commercial information of a confidential nature that would, if disclosed (i) prejudice the commercial position of the person who supplied it; or (ii) confer a commercial advantage on a competitor of the Council; or (iii) reveal a trade secret).*

b) That Council exclude the press and public from the proceedings of the Council in Confidential Session pursuant to Section 10A, subsections 2 & 3 and section 10B of the Local Government Act 1993, on the basis that the items to be considered are of a confidential nature.

c) That Council make the resolutions made in Confidential Session public as soon as practicable.

Moved Cr Robinson **Seconded Cr O'Brien**

The Motion on being put to the vote was CARRIED unanimously.

Council entered Closed Session at 5:33pm.

Council returned to Open Session at 5:34pm.

RESUMPTION OF MEETING

155/22 **RESOLVED**

That Council move back into open Session and that the resolutions of the closed session be made public.

Moved Cr O'Connor **Seconded Cr Redwood**

The Motion on being put to the vote was CARRIED unanimously.

15. CLOSED SESSION

15.1 Endorsement of Expression of Interest (EOI) for ARC Gravel Crushing in Guyra NSW *Ref: AINT/2022/18718 (ARC22/5144)*

156/22 **RESOLVED**

That Council:

a) Accept the tender submitted by BMR Quarries Pty Ltd for crushing and screening operations;

b) Delegate authority to the General Manager to execute all documents in relation to the contracts;

c) Delegate authority to the General Manager to approve expenditure for works, estimated to be at a value of $240,592 Excluding GST, within the upper limit of available funding for crushing and screening; and

d) Delegate authority to the General Manager to approve all variations to the Contract up to the upper funding limit for any additional works completed by BMR Quarries Pty Ltd.

Moved Cr Robinson **Seconded Cr McMichael**

The Motion on being put to the vote was CARRIED unanimously.

There being no further business the Mayor declared the meeting closed at 5:35pm.

LOCAL GOVERNMENT NSW

LGNSW 2022 Annual Conference Motion Submission Guide

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Contents

Motions Submission Guide

1. Introduction

Each year, member councils across NSW submit a range of motions to the Annual Conference conducted by Local Government NSW (LGNSW). These motions relate to strategic local government issues which affect members state-wide and introduce new or emerging policy issues and actions. They are debated and resolved by Conference delegates, with successful resolutions guiding LGNSW's advocacy priorities for the year ahead.

All LGNSW member councils are invited to submit motions to the Annual Conference, with the following Guide outlining the motion development and submission process.

2. Deadlines

Members are encouraged to submit motions online as early as possible to allow assessment of the motions and distribution of the Business Paper before the Conference. Under LGNSW Rules, the latest date motions can be accepted for inclusion in the Business Paper is **12 midnight (AEDT) on Monday 25 September 2022** (28 days prior to Conference).

3. Criteria for motion submission

The LGNSW Board has resolved that motions will be included in the Business Paper for the Conference only where they:

1. are consistent with the objects of LGNSW (see Rule 4 of the Association's rules),
2. relate to or concern local government as a sector in NSW and/or across Australia,
3. seek to establish or change policy positions of LGNSW and/or improve governance of the Association (noting that the LGNSW Board is responsible for decisions around resourcing any campaigns or operational activities, and any necessary resource allocations will be subject to the LGNSW budgetary process),
4. have a lawful purpose (a motion does not have a lawful purpose if its implementation would require or encourage non-compliance with prevailing laws),
5. are clearly worded and unambiguous in nature, and
6. do not express preference for one or several members over one or several other members.

Before submitting motions for this year's Annual Conference, council members are encouraged to review Action Reports (on the member only pages of the LGNSW website) from previous Conferences and the LGNSW Policy Platform to ensure the proposed motion wording reflects any recent developments and does not duplicate existing policy positions.

4. How to write a motion

Motions adopted at Conferences inform LGNSW's advocacy actions on behalf of the local government sector. LGNSW includes the exact wording of motions when writing to ministers, departments and agencies post-conference, so it is important that the wording of motions clearly outlines your council's policy intent or objective.

The format of motions, as much as possible, should call on a specific body (e.g. LGNSW, state government, federal government, a specific department or minister) and have a specific outcome that the motion is aiming to achieve. The wording should be unambiguous.

Examples of clearly-worded Annual Conference motions:

Local government representation on National Cabinet
That Local Government NSW lobbies the Australian Government for permanent local government representation on the National Cabinet.

Natural Disaster Funding, Day Labour
That LGNSW requests the Australian and NSW governments reinstate the claimable expense for the use of council staff during their normal working hours to attend to natural disaster relief and recovery funded works and reverse the present policy that effectively requires the mandatory use of contractors for recovery works.

Companion Animal Act matters
That LGNSW advocates that the NSW Government takes the following steps to improve the management of companion animals:

- establish an integrated on-line statewide registration process as an improved service to companion animal owners;
- resolve difficulties with the *Companion Animals Act 1998* definition of an "Authorised Officer", by using the definition contained in the *Impounding Act 1993* as the definition in both Acts, allowing councils choice in the business model for its area; and
- review the dismissal of charges under section 10 of the *Crimes (Sentencing Procedure) Act 1999* in relation to offences under the *Companion Animals Act 1998*.

For more examples see Business Papers from past Conferences on the LGNSW website.

5. Demonstrating evidence of council support for motion

The member submitting the motion must provide accompanying evidence of support for the motion. Such evidence takes the form of an attachment note or extract from the minutes of the council meeting, at which the member council resolved to submit the motion for consideration by the Conference. In the absence of a council meeting, the evidence should be a letter signed by both the Mayor and General Manager.

6. How to submit a motion

LGNSW members are invited to submit motions through an online portal from **4 July 2022**.

Attachment B provides detailed instructions on how to submit motions via the online portal.

7. How LGNSW manages incoming motions

The LGNSW Board has established a committee and delegated the function of managing incoming motions for the Conference to this committee. The Chief Executive will refer motions to the committee and the committee will assess whether the motion meets or doesn't meet the criteria, or if it is unclear whether it meets the criteria. This assessment forms the final decision on which motions are included in the Conference Business Paper.

Prior to the committee making a final decision, LGNSW may contact the council that submitted the motion to seek clarity on its intent or wording.

Incoming motions which seek to change any long-held Fundamental Principles (Part A of the Policy Platform), will be highlighted in the Business Paper for members' information at time of voting.

Motions which are consistent with existing LGNSW positions or current LGNSW actions, or that are operational and can be actioned without a Conference resolution, may still be printed in the Business Paper but will not be debated at the Conference.

8. What happens to motions at the LGNSW Annual Conference

Standing orders are outlined at the front of the Business Paper and adopted at the commencement of each Conference. They outline the manner in which the Conference deals with motions. The standing orders adopted at the Special Conference can be found on our website.

During debate on motions at Conference, the standing orders generally permit councillor delegates to speak in support of or against each motion. Following a vote on a motion, the motion is either carried and becomes a resolution of the Conference, or it is defeated.

9. Post-conference: Updates to the LGNSW Policy Platform

LGNSW's Policy Platform consolidates the voices of councils across NSW, reflecting the collective positions of local government on issues of importance to the sector. Importantly, the Policy Platform guides LGNSW in its advocacy on behalf of the local government sector.

The Policy Platform consists of two parts: LGNSW's Fundamental Principles, and the more targeted Position Statements.

- **Fundamental Principles** are the enduring and overarching principles that direct LGNSW's response to broad matters of importance to the local government sector. These Fundamental Principles are endorsed (or amended) by LGNSW members at Annual Conferences.
- **Position Statements** contain LGNSW's more detailed positions on specific issues and guide LGNSW's work on, and response to, policy issues of the day. Position Statements are subordinate to LGNSW's Fundamental Principles but are more agile and are targeted at specific policy issues as they arise.

Changing Fundamental Principles
Where a motion conflicts or may conflict with a Fundamental Principle, this will be clearly highlighted for delegates in the Conference Business Paper. If the motion is adopted as a resolution at Conference, then the relevant Fundamental Principle will be changed.

It is expected that changes to the Fundamental Principles will be uncommon, given their broad focus and general acceptance among the local government sector.

Changing Position Statements
Following each Conference, LGNSW will review resolutions of that Conference to determine whether the intent of each resolution is adequately covered by existing Position Statements. Where the Position Statements do not adequately include the intent of a resolution, LGNSW will update an existing Position Statement or draft a new Position Statement, to be endorsed by the LGNSW Board as part of the LGNSW Policy Platform.

LGNSW members will be informed of updates to the LGNSW Policy Platform.

10. Post-conference: Determining LGNSW Advocacy Priorities

Following the LGNSW Annual Conference, LGNSW will review the resolutions and identify key areas of focus to guide LGNSW's advocacy for the coming year. These areas of focus are also informed by member feedback, the LGNSW strategic plan, position statements, emerging issues, and Board input.

LGNSW's Advocacy Priorities for the following year are then submitted for endorsement by the LGNSW Board, and communication to members via email.

As LGNSW undertakes advocacy actions on each of the Conference resolutions throughout the year, these actions and their outcomes will be published in LGNSW's Action Report. (Past Action reports are available on the member only pages of the LGNSW website).

11. Further information

For further information on the motion submission process, please contact Elle Brunsdon, Policy Officer at elle.brunsdon@lgnsw.org.au.

Frequently Asked Questions

How do I know if my proposed motion is consistent with existing LGNSW policy positions?

The subject matter expert within council is best placed to identify this (for example, if the motion relates to a planning matter, this question should be answered by the Planning Manager). Subject matter experts are encouraged to review LGNSW's Policy Platform to gain an understanding of LGNSW's position on a particular matter to help identify whether your proposed motion is consistent.

What is the deadline for submitting motions?

Members are encouraged to submit motions online as soon as possible to allow assessment of the motions and distribution of the Business Paper before the Conference. However, in line with the LGNSW Rules, the latest date motions can be accepted for inclusion in the Conference Business Paper is **12 midnight AEST on Sunday 25 September 2022** (28 days prior to Conference).

LGNSW can receive more than 300 motions for an Annual Conference. Submitting motions as early as possible helps LGNSW to manage the large volume of motions received within a short period of time and allows LGNSW to seek clarification on any motions if required.

However, the LGNSW Rules allow councils to submit motions with less than 28 days' notice and the LGNSW Board may allow these to be considered at Conference as a **late item** (but not included in the Business Paper).

I'm unsure which motion category or sub-category I should select in the online portal

If you are unsure, just select the category you think best fits. LGNSW can re-categorise the motion if necessary.

Who should be the council contact for motions?

We recommend the council contact is someone who is available during the months that motions are open, and able to respond promptly to communications between your council and LGNSW. Some councils have identified the General Manager and others have identified the Governance Officer – it is a decision for each council.

How can I amend my council's motion that I've already submitted?

Once a motion has been submitted it cannot be edited without contacting LGNSW so please review the content carefully before submission. If you need to edit a submitted motion, please contact Elle Brunsdon, Policy Officer at elle.brunsdon@lgnsw.org.au. You may need to provide evidence of support for the change (see section 5).

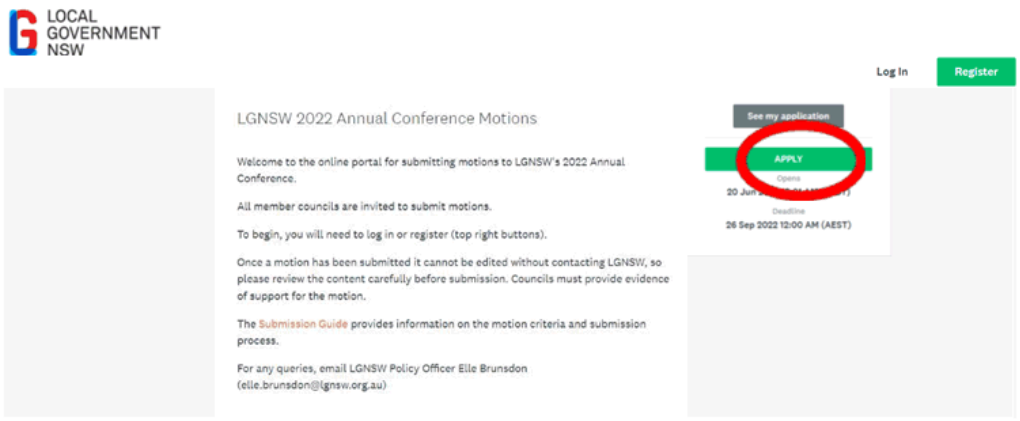
Attachment A – Step by Step guide to lodge a motion

This section provides step-by-step instructions to assist council staff in lodging a motion via Survey Monkey Apply.

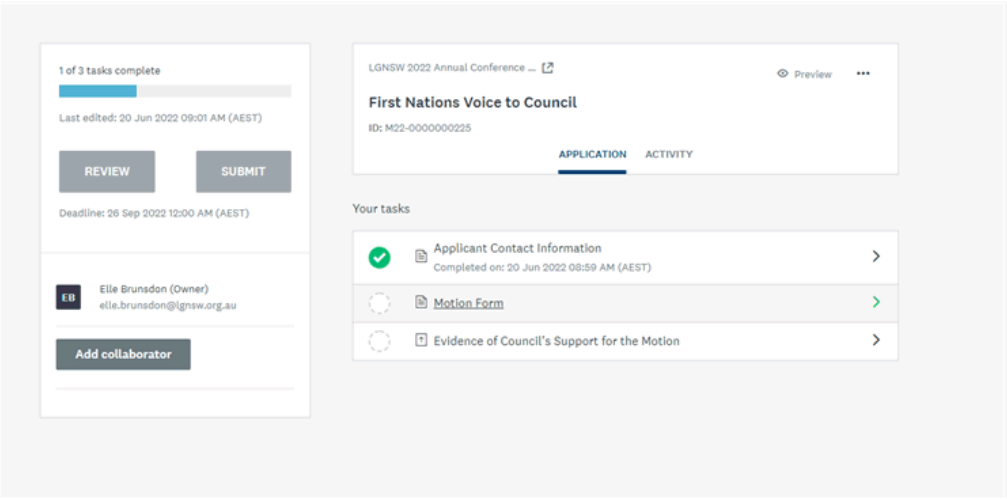
- Member councils are invited to submit motions for the LGNSW Annual Conference via Survey Monkey Apply.
- Under LGNSW Rules, the latest date motions can be accepted for inclusion in the Business Paper is **12 midnight (AEDT) on Monday 25 September 2022** (28 days prior to Conference).
- Once a motion has been submitted it cannot be edited without contacting LGNSW, so please review the content carefully before submission.

For further assistance contact Elle Brunsdon, Policy Officer at elle.brunsdon@lgnsw.org.au.

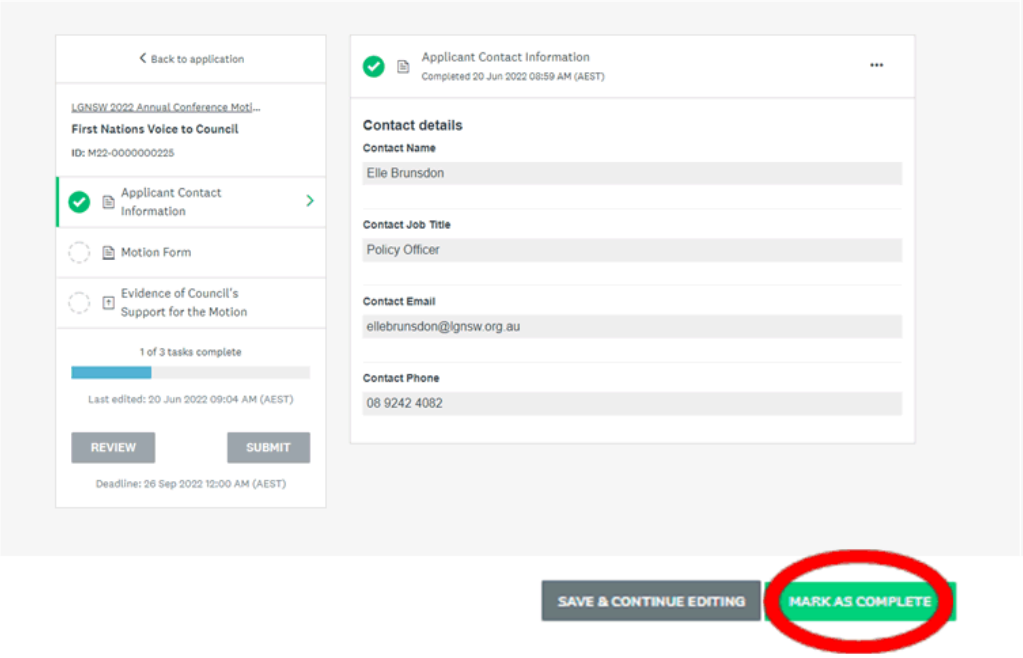
Step 1: Log into LGNSW's online portal and click **APPLY**.
Note: you will need to register for Survey Monkey Apply if you are logging in for the first time.



Step 2: Add your motion title (a few words). You will then be taken to the landing page which will show three tasks to complete.



Step 3: Click on 'Applicant Contact Information' to add the contact information. This could be the relevant officer within council or someone who can respond to questions promptly. Click **MARK AS COMPLETE** once finished.



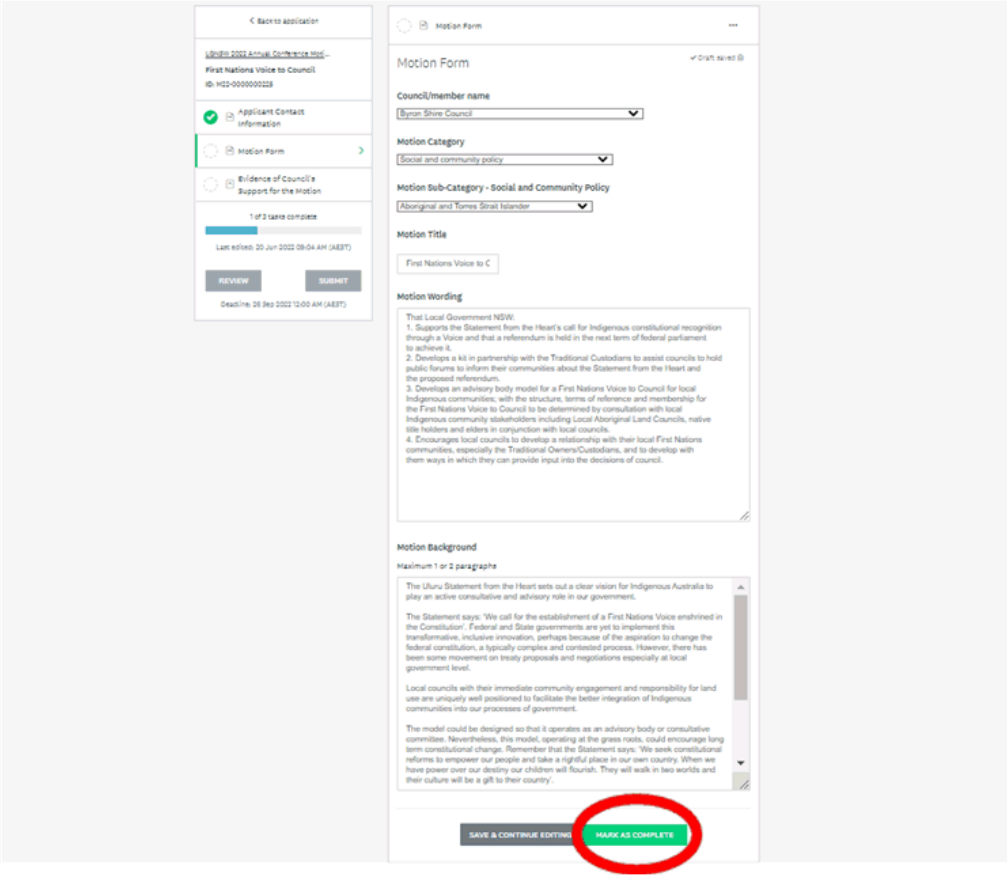
Step 4: Click 'Motion Form' to add the motion details.

Motion category and sub-category assists with assigning motions to the relevant policy staff and grouping related motions in the Conference Business Paper.

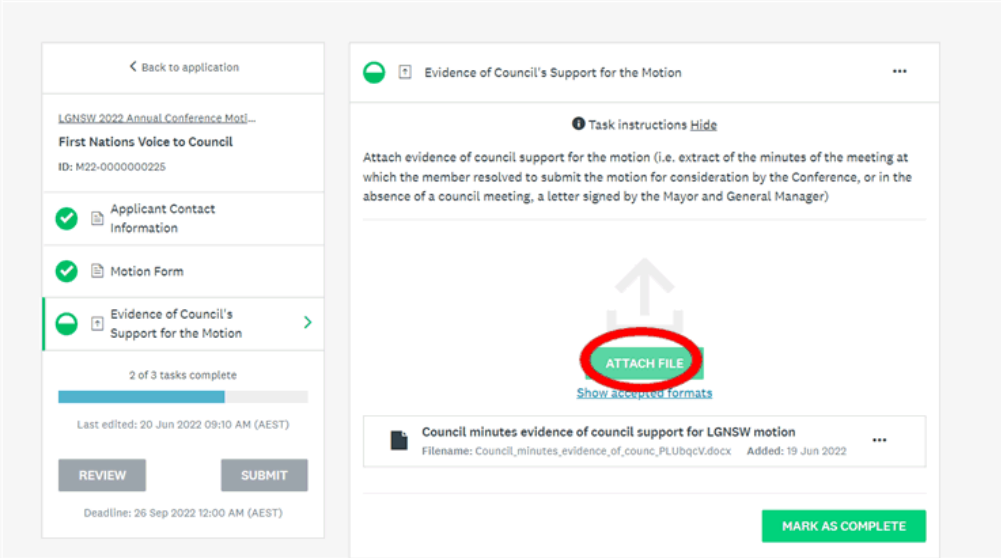
Motion wording should include a sentence or two which includes the call to action.

Background note should provide a paragraph or two to explain the context and importance of the issue to the local government sector.

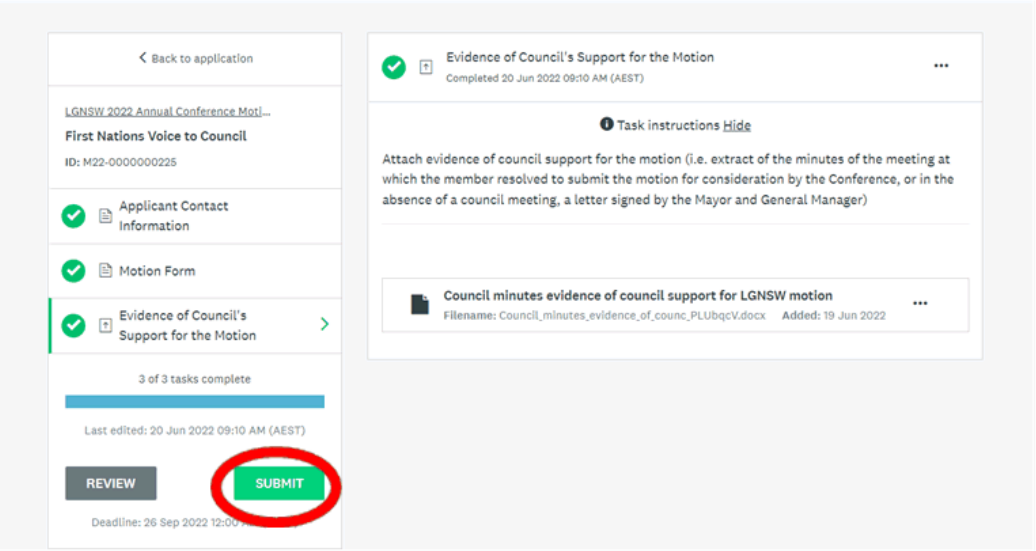
Click **MARK AS COMPLETE** once finished.



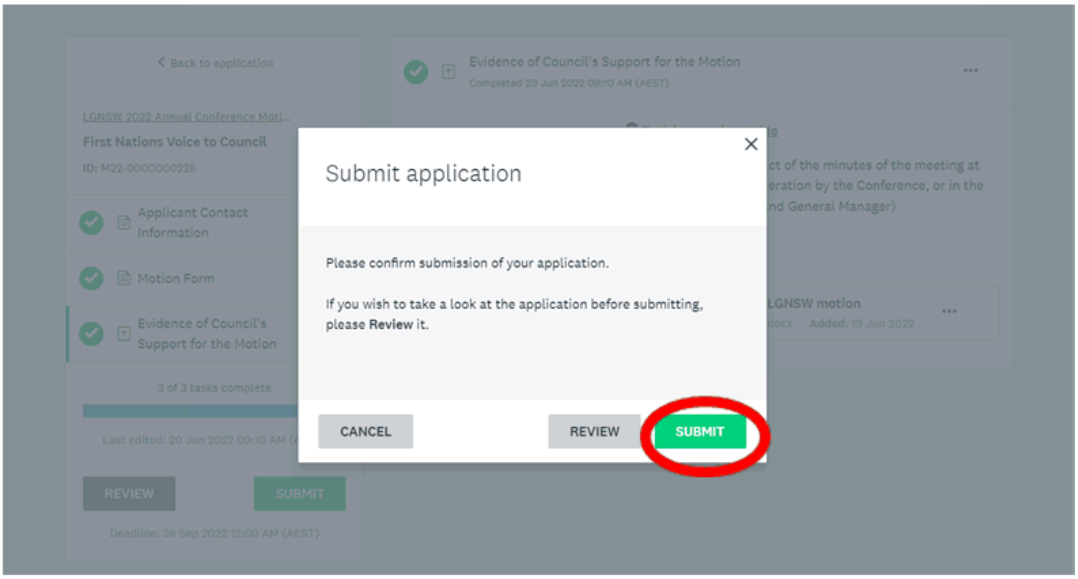
Step 5: Click 'Evidence of Council's Support for the Motion' and attach the relevant file. This could be an extract of council meeting minutes. Click **MARK AS COMPLETE** once finished.



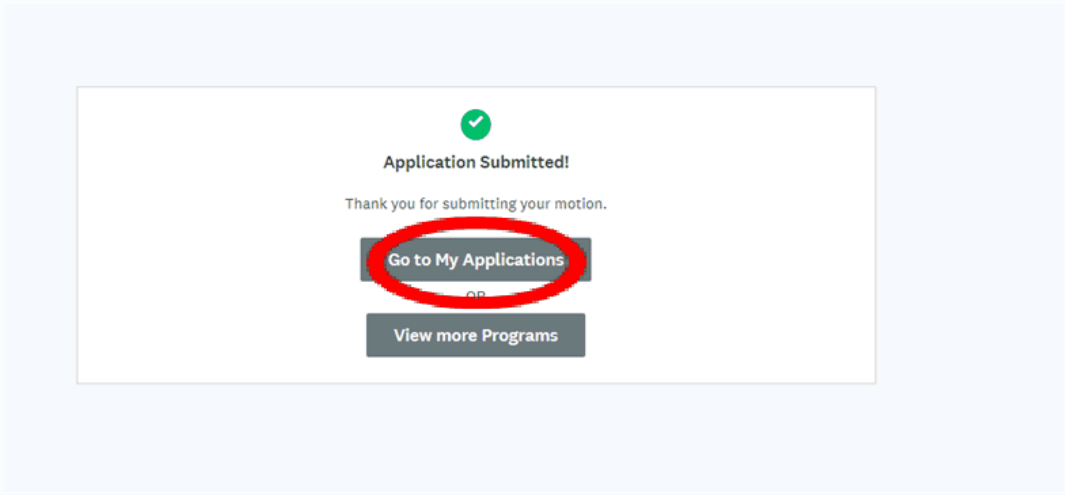
Step 6: Once you have completed all tasks (a green tick is displayed next to each task), click **SUBMIT**.



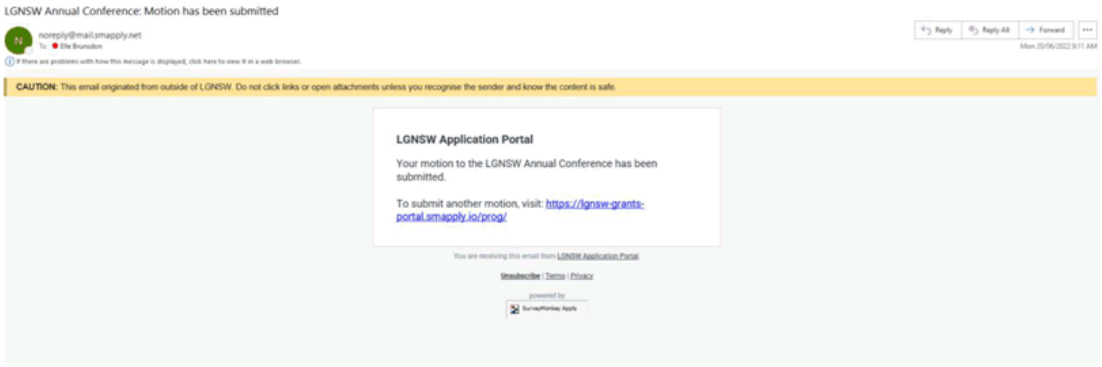
Step 7: You will be asked to confirm submission of the motion. There is an option to review the motion before submitting. When you are ready, click **SUBMIT**.



Step 8: If you are submitting multiple motions, click 'Go to My Applications'. This will take you to a landing page to submit more motions. It will also show all the motions you have submitted.



Step 9: An automated confirmation email will be sent to the email address listed in the 'Applicant Contact Information' section.



ACTIONS TRACKING SUMMARY SHEET

Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
28/04/2022	Standard Instrument LEP Natural Disasters Clause	85/22	**RESOLVED** a. That Council advise the Department of Planning and Environment to incorporate the Dwelling house or secondary dwelling affected by natural disaster clause (Clauses 5.9), into the *Armidale Dumaresq Local Environmental Plan 2012* and *Guyra Local Environmental Plan 2012* or *Armidale Regional Local Environmental Plan* (as applicable), applying in the zones that currently permit dwelling house or secondary dwelling. b. That Council develop a policy that assists building owners to recover from disasters including but not limited to: i. the use of the Orders provisions in the Environmental Planning and Assessment Act 1979 and Local Government Act 1993 to the maximum extent possible to permit the repair and rebuild of buildings without the need for the DA, ii. an appropriate reduction in DA fees for replacement buildings that require a DA, iii. provide a concierge advisory and fast-track approval service for disaster affected building owners. **Moved Cr Packham Seconded Cr Galletly** **The Motion on being put to the vote was CARRIED unanimously.** **AMENDMENT** iii. provide a concierge advisory and fast-track approval service for disaster affected building owners that also provides advice on information on building back better	Boyce, Daniel	**13 May 2022 8:07am Boyce, Daniel** Disaster clause package sent to NSW Department of Planning and Environment., Policy to be developed.

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Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
			to meet desirable energy-efficiency standards and passive solar design. **Moved Cr Robinson** **Seconded Cr O'Brien** *FOR:* *Cr D O'Brien, M O'Connor and D Robinson* *AGAINST:* *Crs S Coupland, P Gaddes, J Galletly, S McMichael, S Mepham, P Packham, T Redwood, and B Widders* **The Motion on being put to the vote was LOST.** Cr Bradley Widders left the meeting, the time being 4:56 PM Cr Bradley Widders returned to the meeting, the time being 4:58 PM		
25/05/2022	Simpler Financial Information	102/22	**RESOLVED** That Councillors and Council Staff collaborate on the development of a format to provide financial information that is easy for councillors and lay people to understand. **Moved Cr Robinson** **Seconded Cr O'Brien** *DIVISION* *The result being:-* *FOR:* *Crs S Coupland, P Gaddes, S McMichael, S Mepham, D O'Brien, M O'Connor, P Packham, T Redwood, D Robinson and B Widders* *AGAINST:* *Cr J Galletly*	Hoult, Melissa	**20 Jun 2022 11:39am Bower, Jessica** Manager Financial Services to meet with Cr Robinson week of 20 June to discuss. **15 Aug 2022 4:16pm Hoult, Melissa** Due to staff resourcing and other imperatives, staff will seek to provide a response towards the end of October 2022. **15 Aug 2022 4:19pm Hoult, Melissa - Target Date Revision** Target date changed by Hoult, Melissa from 08 June 2022 to 31 October 2022 - Due to staff resourcing and other imperatives, staff will seek to provide a response towards the end of October 2022.

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ACTIONS TRACKING SUMMARY SHEET

Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
			The Motion on being put to the vote was CARRIED.		
25/05/2022	Planning Proposal for 48 Kurrawatha Avenue, Armidale	108/22	**RESOLVED** That Council: a. Endorse the Planning Proposal to rezone the land at 48 Kurrawatha Avenue, Armidale (part Lot 101 DP 1260865) from C4 Environmental Living and C3 Environmental Management to R2 Low Density Residential, and alter the Lot size from 1 hectare and 4 hectare to 4000m^2. b. Forward the endorsed Planning Proposal to the Department of Planning and Environment with a request for Gateway Determination and exhibit the proposal in accordance with that determination. c. Seek authorisation from the Department of Planning and Environment to be the local plan-making authority. **Moved Cr O'Connor Seconded Cr Robinson** **The Motion on being put to the vote was CARRIED unanimously.**	Boyce, Daniel	**16 Jun 2022 9:05am Boyce, Daniel** The PP for 48 Kurrawatha Avenue was rejected by NSW Government planners at Gateway stage. Council planners have met with the NSW Government planners who have expressed concerns with the proposal in the absence of a strategic plan for housing growth for Armidale. It is considered unlikely that the NSW Government will support the PP until Council has completed a housing and infrastructure strategy. This outcome has highlighted the urgency of a Housing Strategy for Armidale Region. **15 Aug 2022 8:54am Boyce, Daniel** Meeting held with NSW Government planners to discuss reasons for rejection. Council to provide additional information lodged with approved subdivision for review by NSW Government planners with the view to moving the PP forward.
25/05/2022	Recommendation for Acquisition of the Old Armidale Court House via Property Portfolio Management	122/22	**RESOLVED** That: a. Council accept the offer from Property NSW re the vesting of 100 Faulkner Street Armidale, the former Court House and Sheriff's Office, into its custodianship for the sum of $1.	Drake, Sam	**16 Jun 2022 9:04am Boyce, Daniel - Reallocation** Action reassigned to Drake, Sam by Boyce, Daniel **20 Jun 2022 9:48am Drake, Sam**

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Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
			b. Council note that the property will be transferred to Council outside of the Community Use Policy (i.e. without a 15-year community use restriction being registered on title). c. Council note that the NSW Government will be provided with a first right of refusal to reacquire the property (for a price of $1 plus any capital costs reasonably incurred by Council) should Council seek to divest it within 15 years of the date of transfer. d. Council affirm that any capital expenditure (other than holding costs) required (within the next five years) to restore the Old Armidale Court House must be grant funded or via an approved capital works budget by Council. e. The operating cost for holding the asset and investigation to identify most appropriate future uses be funded (partially) from recent land sales in Armidale (43 White Avenue). f. Council articulate its proposed timeframes around acquiring and deploying the Old Armidale Courthouse in conjunction with the Courthouse Working Group (as established at the January 2022 OCM) so as to manage community expectations. **Moved Cr O'Connor** **Seconded Cr Mepham** *The result being:-* *FOR:* *Crs S Coupland, P Gaddes, J Galletly, S McMichael, S Mepham, D O'Brien, M O'Connor, P Packham, T Redwood and D Robinson*		Property NSW have supplied heritage documents for both built form and moveable objects. The majority of smaller court related items moved into new Court House (Coat of Arms, Ledgers, Gavels,etc) Legal provider engaged and waiting contact from DoJ and Property NSW. An anticipated handover for July/August 2022 **18 Jul 2022 3:01pm Drake, Sam** Legal contract is now with ARC Counsel and under review, advice to execute expected week ending 22 July 2022. **27 Jul 2022 8:45am Drake, Sam** ARC has signed contract and execution is due week ending 30th August, with a 42 day period before handover **15 Aug 2022 9:39am Boyce, Daniel** Contracts exchanged. Settlement expected in coming days.

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Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
			AGAINST: Nil **The Motion on being put to the vote was CARRIED.**		
29/06/2022	Rural Fire Services Assets Accounting Treatment 2021-22	128/22	**RESOLVED** That Council : a) Note the advantages and disadvantages of the accounting treatment options currently available for Rural Fire Service assets; and b) Endorse the recognition of Rural Fire Service assets as non-current assets due to the potential risks outlined in this report, including risk of audit qualification, for the year ending 30 June 2022. c) make a formal request to the NSW Government for RFS Service assets to be owned by the RFS, and seek the support of LGNSW to achieve this outcome. **Moved Cr Robinson Seconded Cr Mepham** **The Motion on being put to the vote was CARRIED unanimously.**	Schaefer, Darren	**19 Jul 2022 9:13am Schaefer, Darren** Items a, b and c are complete. **16 Aug 2022 1:13pm Bower, Jessica - Completion** Action completed by Bower, Jessica - Noted
29/06/2022	Grids and Gates Policy	129/22	**RESOLVED** That Council: a. Refer POL087 – Gates and Stock Grids on Public Roads and public feedback to the Connected Region Key Pillar Working	Schaefer, Darren	**19 Jul 2022 9:20am Schaefer, Darren** This item will be referred to the Connected Key Pillar Working Group once established. **16 Aug 2022 11:11am Bower, Jessica** The item was included on the Agenda for the July Connected KPWG meeting.

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ACTIONS TRACKING SUMMARY SHEET

Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
			Group to discuss and make comment on proposed grid ownership, maintenance liabilities and transition options; b. Extend the ownership nomination period for an additional 12 months for Council staff, in consultation with the relevant working group, to determine ownership of existing grids and gates on Council roads where ownership is uncertain. c. Extend the current transition period for an additional 12 months from the 1st July 2022 for existing grid and gate owners to upgrade, repair, remove or replace non-compliant grids and bring them into compliance with the updated policy POL087, noting all associated costs are currently the responsibility of the grid or gate owner as per the policy. **Moved Cr Packham Seconded Cr Mepham** **The Motion on being put to the vote was CARRIED unanimously.**		
29/06/2022	Proposed Electricity Contract for Small Sites	130/22	**RESOLVED** That Council: a. Endorse the procurement strategy of utilising Retail Supply of Electricity to NSW Government (Large and Small Sites) and Eligible Buyers Contract 3062; b. That this Procurement Strategy be endorsed under Section 55(g) of the *Local Government Act 1993* as a contract for the purchase of goods, materials or services specified by the NSW Procurement Board;	Schaefer, Darren	**19 Jul 2022 9:42am Schaefer, Darren** In progress. **12 Aug 2022 6:59am Schaefer, Darren** a. Endorsed as per Council meeting 29 June 2022 and minutes;, b. The tender is both compliant with the tendering provisions and compliance of the LGA; c.& d. Signed agreement completed by the GM and sent electronically the following day, 30 June, 2022. Trim Folder ARC 22/5249

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Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
			c. Enter into an agreement with Shell Energy under this contract for the supply of retail electricity to small sites from 1 July 2022 to 30 June 2025; and d. Authorise the General Manager to sign the contract documents on behalf of Council. **Moved Cr Robinson Seconded Cr Redwood** **The Motion on being put to the vote was CARRIED unanimously.**		
27/07/2022	Mayoral Minute - Key Pillar Working Groups	138/22	**RESOLVED** That Council note the minute. **Moved Cr Coupland** **The Motion on being put to the vote was CARRIED unanimously.**	Hoult, Melissa	**15 Aug 2022 11:38am Hoult, Melissa - Completion** Action completed by Hoult, Melissa - Noted
27/07/2022	Strategic Infrastructure Planning	139/22	**PROCEDURAL MOTION** **Moved Cr Robinson Seconded Cr O'Connor** That the items be dealt with in seriatim. *DIVISION The result being:-* *FOR: Crs D Robinson; M O'Connor; B Widders and S McMichael.* *AGAINST: Crs S Coupland, P Gaddes, J Galletly, D O'Brien, P Packham; S Mepham and T Redwood*	Hoult, Melissa	**15 Aug 2022 11:36am Hoult, Melissa** Planning underway for a workshop to likely being held in October.

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ACTIONS TRACKING SUMMARY SHEET

Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
			The Motion on being put to the vote was LOST. **RESOLVED** 1. That Council convene and facilitate a workshop of Councillors to collate the structural infrastructure, planning and resourcing required to deliver on the 10000/4000 target covering; a. Energy & Water b. Transport c. Education d. Health e. Housing f. Recreation g. Industry and Employment Segments 2. That the Council retain the necessary people and culture resources to deliver the target; 3. That Council KPI's be aligned with achieving the target. **Moved Cr Packham Seconded Cr Gaddes** *DIVISION The result being:-* *FOR: Crs S Coupland, P Gaddes, J Galletly, S McMichael, S Mepham, D O'Brien, M O'Connor, P Packham and T Redwood* *AGAINST: Crs D Robinson and B Widders*		

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ACTIONS TRACKING SUMMARY SHEET

Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
			The Motion on being put to the vote was CARRIED.		
27/07/2022	Council Actions Report January - June 2022	140/22	**RESOLVED** That Council notes the report summarising the actions taken on the resolutions of Council. **Moved Cr O'Connor** **Seconded Cr O'Brien** **The Motion on being put to the vote was CARRIED unanimously.**	Bower, Jessica	**01 Aug 2022 4:34pm Bower, Jessica - Completion** Action completed by Bower, Jessica - NFA.
27/07/2022	Advocacy Strategy	141/22	**RESOLVED** That Council: a. endorse the compilation of an Armidale Regional Council Advocacy Strategy and that it become the centrepiece of Armidale Regional Council's advocacy initiatives leading into the 2023 NSW State Election. b. confirms up to six priority initiatives or projects it seeks to pursue as part of its advocacy push through to the 2023 NSW State Government Election. c. undertake consultation in relation to the advocacy items as part of the workshop to be convened per item 7.1. **Moved Cr Redwood** **Seconded Cr O'Brien** **The Motion on being put to the vote was CARRIED unanimously.**	Bower, Jessica	**10 Aug 2022 4:17pm Bower, Jessica** GM advises will enact following outcomes of item 7.1 of the July OCM.

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ACTIONS TRACKING SUMMARY SHEET

Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
27/07/2022	Cash and Investment Report 30 June 2022	142/22	**RESOLVED** That Council note the Cash and Investment Report for June 2022. **Moved Cr McMichael Seconded Cr Robinson** **The Motion on being put to the vote was CARRIED unanimously.**	Schaefer, Darren	**12 Aug 2022 6:50am Schaefer, Darren - Completion** Action completed by Schaefer, Darren - Complete
27/07/2022	Planning Proposal for 242 Rusden Street, Armidale	143/22	**RESOLVED** That Council: a. Endorse the Planning Proposal to amend the *Armidale Dumaresq Local Environmental Plan 2012* or *Armidale Regional Local Environmental Plan* (as applicable) to regularise the permissibility of the retail premises land uses that have historically and continually been carried out at 242 Rusden Street, Armidale (Lot A, DP 329168). b. Forward the endorsed Planning Proposal to the Department of Planning and Environment with a request for Gateway Determination and exhibit the proposal in accordance with that determination. c. Seek authorisation from the Department of Planning and Environment to be the local plan-making authority. **Moved Cr McMichael Seconded Cr Redwood** **The Motion on being put to the vote was CARRIED unanimously.**	Boyce, Daniel	**15 Aug 2022 8:52am Boyce, Daniel** Planning Proposal (PP) package lodged with NSW Government.

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ACTIONS TRACKING SUMMARY SHEET

Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
27/07/2022	Compliance and Enforcement Policy - For Adoption (Post Public Exhibition)		**PROCEDURAL MOTION** That the item be deferred to the August Council Meeting. **Moved Cr O'Connor Seconded Cr Packham** *DIVISION The result being:-* *FOR: Crs P Packham; D Robinson; M O'Connor and S Mepham.* *AGAINST: Crs B Widders; S McMichael; T Redwood; J Galletly; P Gaddes; D O'Brien; S Coupland.* **The Motion on being put to the vote was LOST.**	Boyce, Daniel	**15 Aug 2022 8:53am Boyce, Daniel** Policy added to Council register and relevant staff briefings commenced.
		144/22	**RESOLVED** That Council adopt the Compliance and Enforcement Policy. **Moved Cr Widders Seconded Cr Redwood** *DIVISION The result being:-* *FOR: Crs S Coupland, P Gaddes, J Galletly, S McMichael, D O'Brien, T Redwood, D Robinson and B Widders* *AGAINST: Crs S Mepham, M O'Connor and P Packham* **The Motion on being put to the vote was CARRIED.**		

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ACTIONS TRACKING SUMMARY SHEET

Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
27/07/2022	Look Up! Make the State of our Planet BAU Pilot Program	145/22	**MOVED** That Council: a. Endorse the Leadership Principles and Climate Action Plan initiatives contained within the outcomes of the pilot program *"Look-Up! Make the State of our Planet BAU."* b. Reaffirm Council's resolution on 25 September 2019 to commit to achieving the goals of Project Zero30. c. Request that the General Manager prepare an organisational plan to minimise our contribution to the global temperature rise and achieve Climate Active certification which will be reported back to Council with costings. **Moved Cr Robinson Seconded Cr Widders** **PROCEDURAL MOTION** That the items be voted on in seriatim. **Moved Cr O'Connor Seconded Cr Packham** **The Motion on being put to the vote was CARRIED unanimously.** **RESOLVED** That Council:	Bower, Jessica	**11 Aug 2022 11:55am Bower, Jessica** Correspondence forwarded to Project Zero30 Board members advising councils resolution. GM advised a further report will be provided to Council in Sep/Oct 2022 relating to item C once it is fully scoped and resource commitment better understood.

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Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
			a. Endorse the Leadership Principles and Climate Action Plan initiatives contained within the outcomes of the pilot program *"Look-Up! Make the State of our Planet BAU."* *DIVISION* *The result being:-* *FOR:* *Crs S Coupland, P Gaddes, J Galletly, S McMichael, D O'Brien, T Redwood, D Robinson; S Mepham and B Widders* *AGAINST:* *Crs P Packham and M O'Connor* **The Motion on being put to the vote was CARRIED** b. Reaffirm Council's resolution on 25 September 2019 to commit to achieving the goals of Project Zero30. *DIVISION* *The result being:-* *FOR:* *Crs S Coupland, P Gaddes, J Galletly, S McMichael, D O'Brien, T Redwood, D Robinson; S Mepham and B Widders* *AGAINST:* *Crs P Packham and M O'Connor* **The Motion on being put to the vote was CARRIED** c. Request that the General Manager prepare an organisational plan to minimise our contribution to the global temperature rise		

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Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
			and achieve Climate Active certification which will be reported back to Council with costings. **The Motion on being put to the vote was CARRIED unanimously.** **Moved Cr Robinson Seconded Cr Widders**		
27/07/2022	Alterations to Parking Time Limits within the Armidale CBD	146/22	**RESOLVED** That Council: a. Note the report on the status of the CBD Heart, Core and Frame Parking limits. b. Endorse the implementation of changes to the CBD Heart, Core and Frame Parking limits relating to the 15min time zones only. **Moved Cr Packham Seconded Cr Redwood** **The Motion on being put to the vote was CARRIED unanimously.**	Boyce, Daniel	**16 Aug 2022 2:04pm Boyce, Daniel** As the Council has resolved to change 15 min zones only this reduces the work and can be completed by end September 2022.
27/07/2022	Increase the Annual Financial Contribution to the Armidale Neighbourhood Centre	147/22	**RESOLVED** That Council; a. Increase its annual financial contribution from $20,000 pa to $80,000 pa in support of the Armidale Neighbourhood Centre's expanded service offering and the important function they play in the Armidale community. b. Give public notice for a period of 28 days in accordance with section 356 of the *Local Government Act 1993*, Councils intent to increase the annual payment to $80,000 to the Armidale Neighbourhood Centre.	Hoult, Melissa	**29 Jul 2022 3:45pm Hoult, Melissa** The Public Notice has been advertised on the Council website and submissions close Thursday 25 August 2022. https://yoursay.armidale.nsw.gov.au/increase-of-the-annual-financial-contribution-to-armidale-neighbourhood-centre

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Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
			c. A further report be presented back to Council following the conclusion of the public notice period to address any matters raised during the exhibition period. **Moved Cr O'Brien Seconded Cr O'Connor** **The Motion on being put to the vote was CARRIED unanimously.**		
27/07/2022	Traffic Advisory Committee - Minutes of the meeting held on 7 June 2022	149/22	**RESOLVED** That in relation to the report "Armidale Regional Council Traffic Advisory Committee Minutes – 7 June 2022", that Council: a) Note the Agenda and Minutes from the TAC Meeting held 7 June 2022; b) Note the use of Council roads for part of the Royal Far West Kids Ride; c) Note the traffic management plan and the temporary speed reduction to 30km/h for Kentucky St between Faulkner St and Dangar St for the NSW Country Gymnastic Competition held Tuesday 5 July to Sunday 10 July 2022; d) Note the road closures along the route associated with the NAIDOC street march held on 7 July 2022; and e) Install signage for a 'Kiss and Drop' zone for Guyra Central School and note the requirement for Guyra Central School to monitor the use of the zone. **Moved Cr McMichael Seconded Cr Redwood** **The Motion on being put to the vote was CARRIED unanimously.**	Manners, Alex	**11 Aug 2022 1:09pm Manners, Alex – Completion** Action completed by Ackling, Belinda - a) Note the Agenda and Minutes from the TAC Meeting held 7 June 2022; - no further action required, b) Note the use of Council roads for part of the Royal Far West Kids Ride; -no further action required, c) Note the traffic management plan and the temporary speed reduction to 30km/h for Kentucky St between Faulkner St and Dangar St for the NSW Country Gymnastic Competition held Tuesday 5 July to Sunday 10 July 2022; no further action required, d) Note the road closures along the route associated with the NAIDOC street march held on 7 July 2022; and no further action required, e) Install signage for a 'Kiss and Drop' zone for Guyra Central School and note the requirement for Guyra Central School to monitor the use of the zone.- Completed

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Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
27/07/2022	Sports Council - Minutes of the Meeting held on 24 March 2022	150/22	**RESOLVED** That Council: a. Note the Minutes of the Sports Council Committee meeting held on 24 March 2022; b. Note that $33,000 of the Sports Development Levy Fund was utilised for Committee endorsed Armidale & District Cricket Association (ADCA) projects. c. Note the project update on the $350,000 Regional Sport Facility Funded; Lynches Road Netball Courts Lighting Project. d. Note the update on the $89,000 Stronger Country and Communities Fund project Indoor Cricket Centre at Armidale Sportsground including an extension of the existing indoor centre to provide amenities and an office. e. Note the update on the financial position of the Sports Council up to 28 February 2022 and that the Committee endorsed a 2.5% increase to Sports Development Levy for the 2022-2023 season. **Moved Cr Galletly** **Seconded Cr Redwood** **The Motion on being put to the vote was CARRIED unanimously.**	Manners, Alex	**11 Aug 2022 12:46pm Manners, Alex - Completion** Action completed by Ackling, Belinda - All items were for notation only no further action required
27/07/2022	Audit Risk and Improvement Committee - Minutes of 21 June 2022 Meeting	151/22	**RESOLVED** That the Minutes of the Audit Risk and Improvement Committee meeting held on 21 June 2022 be noted and that Councillors retain the right to attend ARIC meetings in an observer capacity going forward. **Moved Cr Packham** **Seconded Cr O'Connor**	Schaefer, Darren	**12 Aug 2022 6:33am Schaefer, Darren**

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Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
			The Motion on being put to the vote was CARRIED unanimously.		The Office of Local Government recently provided an update to the membership requirements of an ARIC committee - last updated July 2022. In this update, Councillor attendance is defined as optional. If Councillors where invited to attend, they must be must be prequalified and able to fulfil required selection criteria set out by that of the Office Of Local Government in the latest update. Consultation is occurring with ARIC Chair & GM regarding consideration of the optional attendance of Councillors at the ARIC meetings.
27/07/2022	Traffic Advisory Committee - Minutes of the meeting held on 5 July 2022	152/22	**RESOLVED** That in relation to the report "Armidale Regional Council Traffic Advisory Committee Minutes – 5 July 2022", that Council: a) Note the Minutes of the Traffic Advisory Committee meeting held on 5 July 2022; b) Endorse the road closure of Moore Street from Dangar Street to Faulkner Street as requested for the National Police Memorial Wall to Wall Ride 2022 between the hours of 6am and 8.30am on Wednesday 15th September 2022; c) Note that complaints have been made regarding parking on Naughton Avenue and further investigations are to be undertaken and the matter has been deferred to the August Traffic Advisory Committee meeting; d) Endorse a No Parking zone and install appropriate signage in the turn-around of the cul-de-sac of Powers Place;	Manners, Alex	**11 Aug 2022 2:27pm Manners, Alex – Completion**

*Note: THIS INFORMATION IS GENERATED FROM INFOCOUNCIL. DO NOT UPDATE THIS SPREADSHEET AS YOUR CHANGES WILL BE LOST.

Current as at 16 August 2022 - Page 17

ACTIONS TRACKING SUMMARY SHEET

Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
			e) Note further investigation and report to the August Traffic Advisory Committee meeting is required regarding the size of the bus to be used and available parking space following the termination of a taxi service in Guyra. **Moved Cr McMichael Seconded Cr Redwood** **The Motion on being put to the vote was CARRIED unanimously.**		Action completed by Ackling, Belinda - a) Note the Minutes of the Traffic Advisory Committee meeting held on 5 July 2022; = Noted, b) Endorse the road closure of Moore Street from Dangar Street to Faulkner Street as requested for the National Police Memorial Wall to Wall Ride 2022 between the hours of 6am and 8.30am on Wednesday 15th September 2022; =Completed, c) Note that complaints have been made regarding parking on Naughton Avenue and further investigations are to be undertaken and the matter has been deferred to the August Traffic Advisory Committee meeting; =Completed, d) Endorse a No Parking zone and install appropriate signage in the turn-around of the cul-de-sac of Powers Place;=Completed, e) Note further investigation and report to the August Traffic Advisory Committee meeting is required regarding the size of the bus to be used and available parking space following the termination of a taxi service in Guyra.
27/07/2022	New England Bushfire Management Committee - Minutes of the meeting held on 10 May 2022	153/22	**RESOLVED** That the draft Minutes of the New England Bushfire Management Committee meeting held on 10 May 2022 be noted. **Moved Cr Mepham Seconded Cr Robinson** **The Motion on being put to the vote was CARRIED unanimously.**	Hoult, Melissa	**29 Jul 2022 3:44pm Hoult, Melissa - Completion** Action completed by Hoult, Melissa - Minutes have been noted.

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ACTIONS TRACKING SUMMARY SHEET

Ordinary and Extraordinary Council Meetings 2022

ARMIDALE Regional Council

Meeting Date	Report Title	Res #	Detail	Officer	Notes
27/07/2022	Endorsement of Expression of Interest (EOI) for ARC Gravel Crushing in Guyra NSW	156/22	**RESOLVED** That Council: a) Accept the tender submitted by BMR Quarries Pty Ltd for crushing and screening operations; b) Delegate authority to the General Manager to execute all documents in relation to the contracts; c) Delegate authority to the General Manager to approve expenditure for works, estimated to be at a value of $240,592 Excluding GST, within the upper limit of available funding for crushing and screening; and d) Delegate authority to the General Manager to approve all variations to the Contract up to the upper funding limit for any additional works completed by BMR Quarries Pty Ltd. **Moved Cr Robinson** **Seconded Cr McMichael** **The Motion on being put to the vote was CARRIED unanimously.**	Manners, Alex	**16 Aug 2022 9:37am Manners, Alex - Completion** Action completed by Ackling, Belinda - a) Accept the tender submitted by BMR Quarries Pty Ltd for crushing and screening operations; Completed, b) Delegate authority to the General Manager to execute all documents in relation to the contracts; Completed, c) Delegate authority to the General Manager to approve expenditure for works, estimated to be at a value of $240,592 Excluding GST, within the upper limit of available funding for crushing and screening; and : completed, d) Delegate authority to the General Manager to approve all variations to the Contract up to the upper funding limit for any additional works completed by BMR Quarries Pty Ltd. Completed

*Note: THIS INFORMATION IS GENERATED FROM INFOCOUNCIL. DO NOT UPDATE THIS SPREADSHEET AS YOUR CHANGES WILL BE LOST.

DISCLOSURES BY COUNCILLORS AND DESIGNATED PERSONS RETURN [TRIM ARC19/3250]

Disclosure of pecuniary interests and other matters

By: PACKHAM, Paul Dennis

In respect of the period from 1/7/2021 to 30/6/2022

[redacted] 27 June 2022

[Councillor's or designated person's signature] [As at Date]

A. Real Property

Street address of each parcel of real property in which I had an interest at the return date/at any time since 30 June	Nature of interest
106 Thorpleigh Rd, Armidale	Owner
[redacted] Park Ave, Armidale	Owner
[redacted] Dr, Armidale	Owner
[redacted] Mann St, Armidale	Lessee
[redacted] Mann St, Armidale	Lessee
[redacted] Beardy St, Armidale	Lessee
[redacted] Marsh St, Armidale	Lessee

B. Sources of income

1. Sources of income I reasonably expect to receive from an **occupation** in the period commencing on the first day after the return date and ending on the following 30 June

   Sources of income I received from an **occupation** at any time since 30 June

Description of occupation	Name and address of employer or description of office held (if applicable)	Name under which partnership conducted (if applicable)
NIL		

2. Sources of income I reasonably expect to receive from a **trust** in the period commencing on the first day after the return date and ending on the following 30 June

   Sources of income I received from a **trust** since 30 June

Name and address of settlor	Name and address of trustee

Page 1

DISCLOSURES BY COUNCILLORS AND DESIGNATED PERSONS RETURN [TRIM ARC19/3250]

Link Rd Pty Ltd ATF Link Road Trust

3. Sources of **other income** I reasonably expect to receive in the period commencing on the first day after the return date and ending on the following 30 June

Sources of other income I received at any time since 30 June
[Include description sufficient to identify the person from whom, or the circumstances in which, that income was received]

Councillor stipend> Armidale Regional Council
Councillor stipend> New England Weeds Authority
Independent ARIC Member Stipend> Uralla Shire Council

C. Gifts

Description of each gift I received at any time during since 30 June	Name and address of donor

D. Contributions to travel

Name and address of each person who made any financial or other contribution to any travel undertaken by me at any time since 30 June	Dates on which travel was undertaken	Name of States, Territories of the Commonwealth and overseas countries in which travel was undertaken

E. Interests and positions in corporations

Name and address of each corporation in which I had an interest or held a position at the return date/at any time since 30 June	Nature of interest (if any)	Description of position (if any)	Description of principal objects (if any) of corporation (except in case of listed company)
ifarm365 Pty Ltd	Director		Farming
Ibake365 Pty Ltd	Director		Retail Bakery Goods

F. Were you a property developer or a close associate of a property developer on the return date

No

G. Positions In trade unions and professional or business associations

DISCLOSURES BY COUNCILLORS AND DESIGNATED PERSONS RETURN [TRIM ARC19/3250]

Name of each trade union and each professional or business association in which I held any position (whether remunerated or not) at the return date/at any time 30 June	Description of position
Associate Member, Institute of Chartered Accountants, Australia & New Zealand	

H. Debts

Name and address of each person to whom I was liable to pay any debt at the return date/at any time since 30 June

NIL debt owing

I. Dispositions of property

1. Particulars of each disposition of real property by me (including the street address of the affected property) at any time since 30 June as a result of which I retained, either wholly or in part, the use and benefit of the property or the right to re-acquire the property at a later time

Nothing to Report

2. Particulars of each disposition of property to a person by any other person under arrangements made by me (including the street address of the affected property), being dispositions made at any time since 30 June, as a result of which I obtained, either wholly or in part, the use and benefit of the property

Nothing to Report

I. Discretionary disclosures

DISCLOSURES BY COUNCILLORS AND DESIGNATED PERSONS RETURN [TRIM ARC19/3250]

1 The pecuniary interests and other matters to be disclosed in this return are prescribed by Schedule 1 of the Model Code of Conduct for Local Councils in NSW.

2 If this is the first return you have been required to lodge with the general manager after becoming a councillor or designated person, do not complete Parts C, D and I of the return. All other parts of the return should be completed with appropriate information based on your circumstances at the return date, that is, the date on which you became a councillor or designated person.

3 If you have previously lodged a return with the general manager and you are completing this return for the purposes of disclosing a new interest that was not disclosed in the last return you lodged with the general manager, you must complete all parts of the return with appropriate information for the period from 30 June of the previous financial year or the date on which you became a councillor or designated person, (whichever is the later date), to the return date which is the date you became aware of the new interest to be disclosed in your updated return.

4 If you have previously lodged a return with the general manager and are submitting a new return for the new financial year, you must complete all parts of the return with appropriate information for the 12-month period commencing on 30 June of the previous year to 30 June this year.

5 This form must be completed using block letters or typed.

6 If there is insufficient space for all the information you are to disclose, you must attach an appendix which is to be properly identified and signed by you.

7 If there are no pecuniary interests or other matters of the kind required to be disclosed under a heading in this form, the word "NIL" is to be placed in an appropriate space under that heading.

Important information

This information is being collected for the purpose of compliance with clause 4.21 of the Model Code of Conduct.

You must not lodge a return that you know or ought reasonably to know is false or misleading in a material particular (see clause 4.23 of the Model Code of Conduct). Complaints about breaches of these requirements are to be referred to the Office of Local Government and may result in disciplinary action by the council, the Chief Executive of the Office of Local Government or the NSW Civil and Administrative Tribunal.

The information collected on the form will be kept by the general manager in a register of returns. The general manager is required to table all returns at a council meeting.

Information contained in returns made and lodged under clause 4.21 is to be made publicly available in accordance with the requirements of the Government information (Public Access) Act 2009, the Government Information (Public Access) Regulation 2009 and any guidelines issued by the Information Commissioner.

You have an obligation to keep the information contained in this return up to date. If you become aware of a new interest that must be disclosed in this return, or an interest that you have previously failed to disclose, you must submit an updated return within three months of becoming aware of the previously undisclosed interest.

Version: Mode Code of Conduct 2018 Schedule 2

Oxley Solar Farm

Daniel Boyce
Chief Officer Sustainable Development
Armidale Regional Council
135 Rusden Street
PO Box 75A
Armidale NSW 2350

by email: DBoyce@armidale.nsw.gov.au

1st August 2022

Dear Dan,

Proposed terms of contributions
SSD - 10346
OXLEY SOLAR FARM

Further to our recent discussions, this letter sets out the proposed terms of an offer we would be prepared to make in the future in relation to entering into a Voluntary Planning Agreement (**VPA**) with Council. The VPA would relate to State significant development (**SSD**) application number SSD-10346 for the Oxley Solar Farm development (the **Project**).

1. Lump sum of ***$2,790,000*** (adjusted annually for CPI) on commencement of construction.
2. Annual payment to ***$139,500*** (adjusted annually for CPI) for 20 years from commencement of construction.
3. An agreement to provide assistance with purchasing solar panels and steel components on behalf of Council at Oxley Solar Farm corporate rates.
4. Annual sponsorship of Project Zero30 of ***$20,000*** (adjusted annually for CPI) for 10 years from commencement of construction.
5. Provision of ***four electric vehicle charging stations*** at agreed locations no later than commencement of operation.

We look forward to progressing discussions in relation to a VPA.

Yours sincerely,

[redacted]

Rhyson Li
Director - Oxley Solar Development
m: 0497 550 095
e: rhyson.li@solarmegawatt.com.au

Armidale Regional Council

Catchment Water Quality Strategic Plan 2022-2032

2/6/2022

DOCUMENT CONTROL

Project name:	Armidale Regional Council		
Report name	Catchment Water Quality Strategic Plan 2022-2032		
Date	2/6/2022	Version V1	Status Final
Prepared by	Dr Bronwyn Cameron, Ellen Ryan		
Reviewed by	Dr Paul Frazier		
Approved by	Dr Paul Frazier		

ACKNOWLEDGEMENTS

We acknowledge the staff and communities of the Armidale Regional Council who have contributed to the development of this strategy. We also acknowledge and pay our respects to the Anaiwan people, their elders past and present and to the future generations of the Armidale and Guyra townships and surrounds.

DISCLAIMER

The information contained in this publication is based on knowledge and understanding at the time of writing (August 2021) and may not be accurate, current, or complete. The State of New South Wales (including Local Land Services), the author and the publisher take no responsibility, and will accept no liability, for the accuracy, currency, reliability, or correctness of any information included in the document (including material provided by third parties). Readers should make their own inquiries and rely on their own advice when making decisions related to material contained in this publication.

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EXECUTIVE SUMMARY

This Catchment Water Quality Strategic Plan (CWQ Strategic Plan) was developed by Armidale Regional Council (ARC) in consultation with community members and stakeholders to provide a roadmap to improve water quality in water reservoirs for the townships of Guyra and Armidale. The CWQ Strategic Plan includes a broad range of goals and specific priority projects to be implemented over the next 10 years that will provide healthier river systems and water catchments for the benefit of town water supplies derived from the Malpas, Guyra and Puddledock Dams, and the surrounding businesses, communities, and natural environments. While the focus of the CWQ Strategic Plan is the Gara and Commissioner's Waters catchments, this Strategic Plan provides the framework that can be used to improve water quality in other water catchments across the Armidale Region.

The vision for this CWQ Strategic Plan is:

"Healthy water for people, communities, and their natural environment"

The goals of the CWQ Strategic Plan are, by 2032:

- a minimum of 90% groundcover will be maintained across the Gara and Commissioner's Waters catchments
- stock access to waterways, wetlands and supply dams will be reduced
- native riparian vegetation extent and areas of natural regeneration on farms and around supply dams will be increased through protection and new plantings
- landholder and community knowledge of appropriate fertiliser use, and agrichemical use is improved
- impacts from erosion areas are reduced
- point source pollution from industry is reduced
- rubbish dumping in waterways and gullies is reduced
- leakage from onsite effluent management infrastructure is minimised
- the community is more informed and actively involved in catchment management through citizen science and education programs
- public access areas to supply dams are rehabilitated

The goals of the CQW Strategic Plan will be achieved through a variety of collaborative activities including supporting landholders to increase ground and tree cover, reducing erosion and pollution from industry, create awareness and skills in catchment management and connecting groups and individuals to funding and citizen science opportunities to improve catchment health. Priority projects highlighted in this Strategic Plan include:

1. Targeted awareness and education for whole of community
2. Supporting water monitoring program(s) (e.g. EcoHealth)
3. Identify and map key areas of water quality impactors (e.g. old dumps, leaky septics, erosion areas)
4. Deliver extension services including farm hydrology assessment services that will enable land practice change to benefit water quality outcomes
5. Community rebuilding and reconnection program
6. Dam fencing and management
7. Wetland protection

The priority projects within this Strategic Plan will assist ARC and partners adopt a targeted approach to provide a healthy water and catchment for the environment and humans into the future.

CONTENT

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS

Abbreviation	Description
ADWG	Australian Drinking Water Guidelines
ANZECC	Australian and New Zealand Environment and Conservation Council
ARMCANNZ	Agriculture and Resource Management Council of Australia and New Zealand
ARC	Armidale Regional Council
BAC	Biologically Activated Carbon
BOM	Bureau of Meteorology
CWQ	Catchment Water Quality (Strategic Plan)
DAWE	Department of Agriculture, Water and Environment
DPIE	Department of Planning and Environment
EC	Electrical Conductivity
EPA	Environmental Protection Agency
LEP	Local Environmental Plan
LGA	Local Government Area

LLS	Local Land Services
LWD	Large Woody Debris
ML	Megalitre
NHMRC	National Health and Medical Research Council
NRC	Natural Resources Commission
NRM	Natural Resource Management
NRMMC	National Resource Management Ministerial Council
NPWS	National Parks and Wildlife Service
NWQMS	National Water Quality Management Strategy
NRAR	Natural Resources Access Regulator
PFAS	Per and Poly Fluoroalkyl Substances
UNE	University of New England

01 INTRODUCTION AND BACKGROUND

Armidale Regional Council (ARC), situated in the New England region of NSW, has responsibilities to provide services including town water supply for the townships of Guyra and Armidale. Armidale's water is drawn from Malpas Dam, situated on the Gara River downstream of Guyra. Guyra town water is drawn from two dams in the headwaters of the Gara River water source with an emergency water supply pipeline linking Malpas Dam to Guyra (ARC, 2017a; Armidale Express 08/10/2019). A second dam, Puddledock on the Commissioner's Waters water source was built in the 1920's and acts as an emergency supplementary supply for Armidale since the construction of Malpas Dam. Council operates water management and purification systems from both water storages to ensure clean, safe and reliable water is provided to Guyra and Armidale.

In addition to maintaining and improving water quality treatment operations for town water supply, ARC have identified the need to better manage water quality across the water catchments so that the water entering and stored in the water supply dams is of as high quality as possible. ARC recognise that climate change may lead to increased drought event frequency, duration and severity and more intense heavy rain events (ARC, 2020a), both of which will negatively impact catchment water quality. Projected regional population growth could increase production and development pressure potentially further impacting catchment water quality (Bossio et al, 2009; Wilcock et al, 1999). To help improve water quality ARC has developed this 10-year Catchment Water Quality Strategic Plan (CWQ Strategic Plan) to articulate catchment water quality goals and to guide strategic improvements to the health of contributing catchments and council storages.

This CWQ Strategic Plan sets out a vision, goals and activities for ARC and stakeholders to contribute to improved catchment water quality. It includes a series of implementation plans to clearly articulate the options for improved water quality management across water supply catchments. The CWQ Strategic Plan was developed to allow ARC and its contributing partners to adapt to prevailing conditions and act on opportunities as they arise. The CWQ Strategic Plan also allows for adaptive management and provides a monitoring and evaluation guide so that ARC and partners can be assured that their projects and activities are making a difference to the catchment health and overall water quality.

To ensure its relevance and implementation, this CWQ Strategic Plan has been developed following significant consultation with ARC representatives, community, and stakeholders in late 2021 and early 2022.

01.1 Armidale Regional Council Local Government Area

The ARC local government area (ARC LGA, LGA) represents a total area of 8,621 km^2 in the New England region of NSW (Figure 01-1) and is home to an estimated 29,704 people (ARC, 2020). The population is projected to grow 119-129% by 2031 (from 35,486 and 38,411 people) (DPIE, 2019).

The region comprises the townships of Armidale and Guyra, the villages of Ebor and Ben Lomond and several hamlets including Hillgrove, and encompasses a variety of landscapes including national parks, state forests and large tracts of agricultural lands. The region supports several important industries including tertiary education and agriculture (predominantly beef and fine wool production). More recently, controlled environment horticulture has grown to a major industry with the establishment of glasshouse tomato production (ARC, 2017c). The region has also experienced a significant growth in renewable energy industries such as solar and wind developments with more planned in the future within the proposed Renewable Energy Zone (ARC, 2017c).

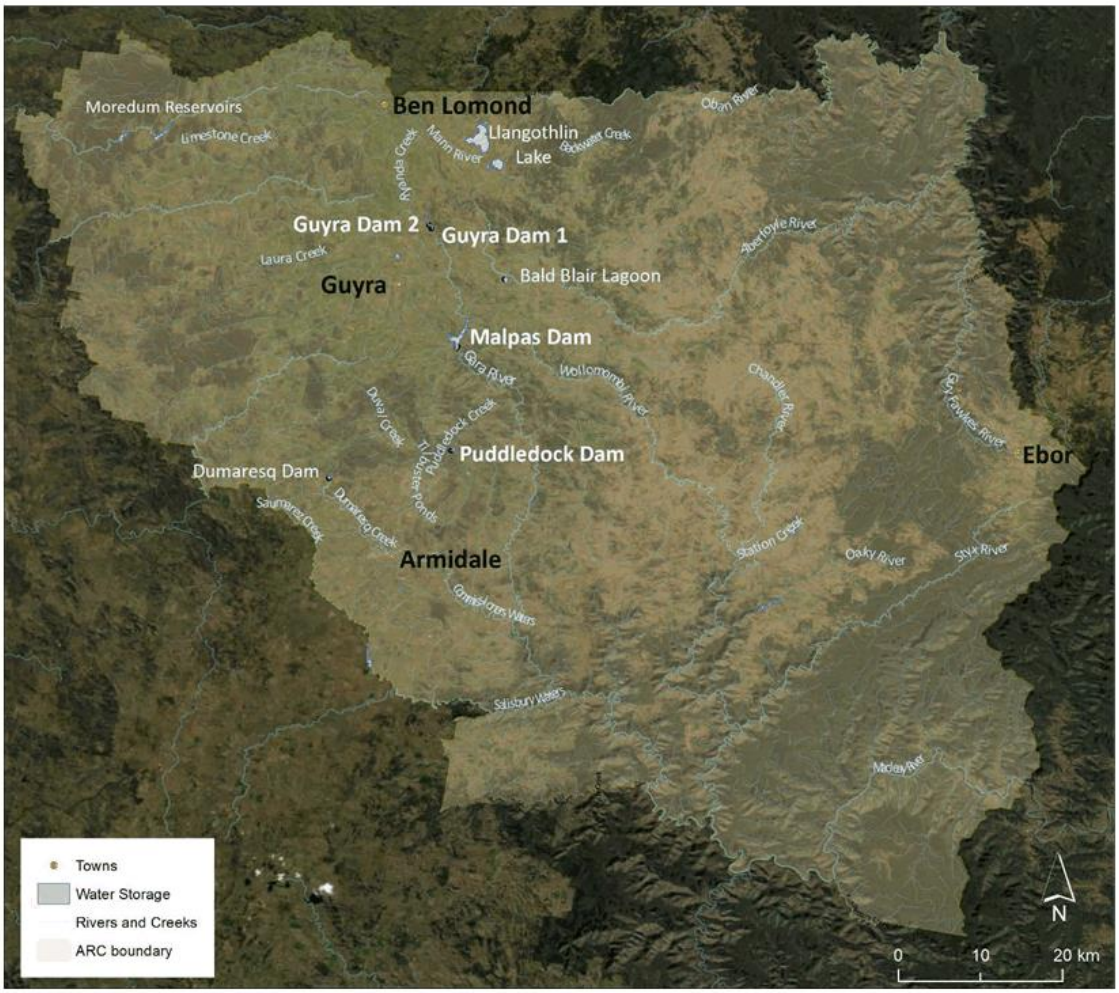

Figure 01-1 Map of water supply network in the Armidale Regional Council LGA

The regional climate is cool to temperate with mild, wet summers and slightly drier cool winters with overnight frosts (Marklad, 2014). On average, the Guyra climate, where the tributaries for water storages arise, experiences a mean of 99.5 cloudy and 132.7 clear days each year (BOM (Bureau of Meteorology). The last 40 years of weather data at Guyra Hospital weather station (056229) is shown in Figure 01-2.

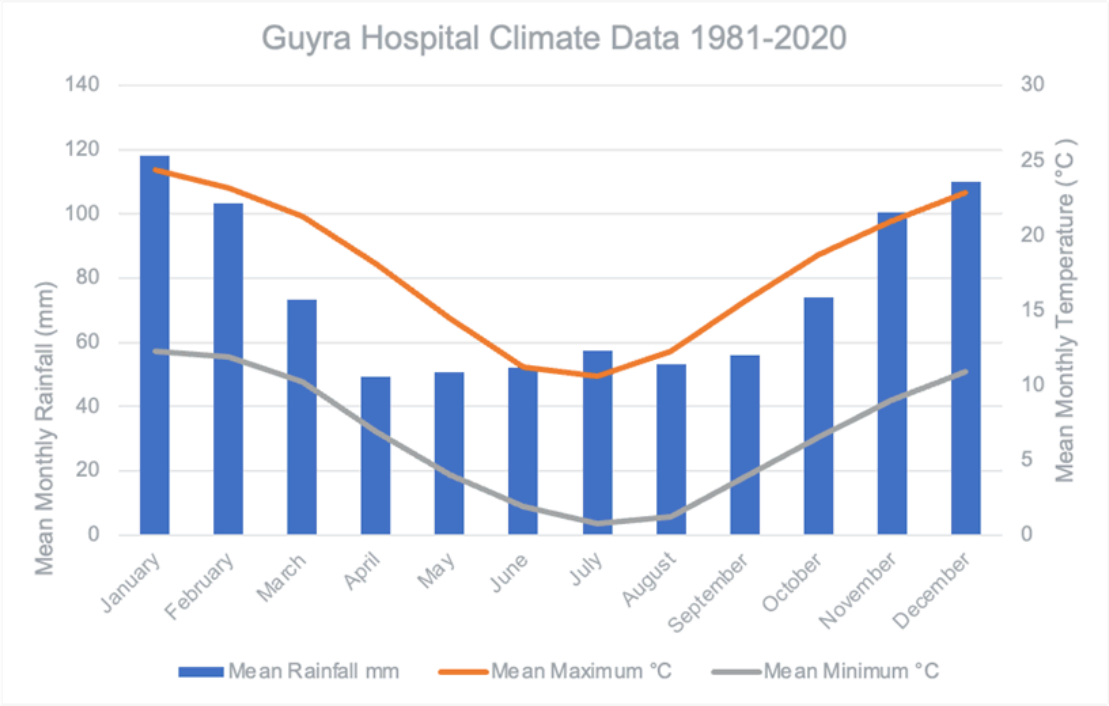

Figure 01-2 Mean monthly rainfall, evapotranspiration, and temperature graph Armidale 2016-2021.

The New England Tableland is a stepped plateau of hills and plains with elevation ranging from 600 m ASL to 1500 m ASL on Permian sedimentary rocks, intrusive granites and extensive tertiary basalts (NPWS (National Parks and Wildlife Services), 2003). There are three main soil type derivations of the Northern Tablelands, consisting of granite, metasediments, and basalt. The topography ranges from undulating to steep gorges that drain eastern flowing catchments to the ocean.

Water in the ARC region has five main uses:

- domestic drinking (water quality described in sections below)
- industry and agriculture
- recreation and amenity (access to water for human wellbeing and social interaction)
- tourism, and
- environmental uses.

01.2 Drinking water supply in the Armidale Regional Council area and their catchments

Daily water use for the townships of Armidale is approximately 14 ML/day and for Guyra is approximately 1.5 ML/day (Hydroilex Groundwater Geosciences, 2019). Town water is drawn from several sources along the Gara River and its tributaries including:

- Malpas Dam (built in 1968) has a current capacity of 12,200 ML, however, an augmentation of the dam wall by 6.49 m is proposed that will increase capacity to 27,600 ML
- Guyra Dams have a combined capacity of 463 ML. Pipeline access that link Malpas Dam to the Guyra Water Treatment Plant provides ancillary water supply. A supplementary groundwater access licence application and works are under development

- Puddledock Dam (built 1928) has a 700 ML capacity with supplementary emergency supply pipeline, limited to supply 5.5 ML/day. A new pipeline upgrade to increase supply capacity is expected to commence in June 2022.

Dam levels and volumes are currently only metered on Malpas Dam. Figure 01-3 shows dam volume from July 1999 through to July 2021 including a period of extreme drought between 2019 and 2020.

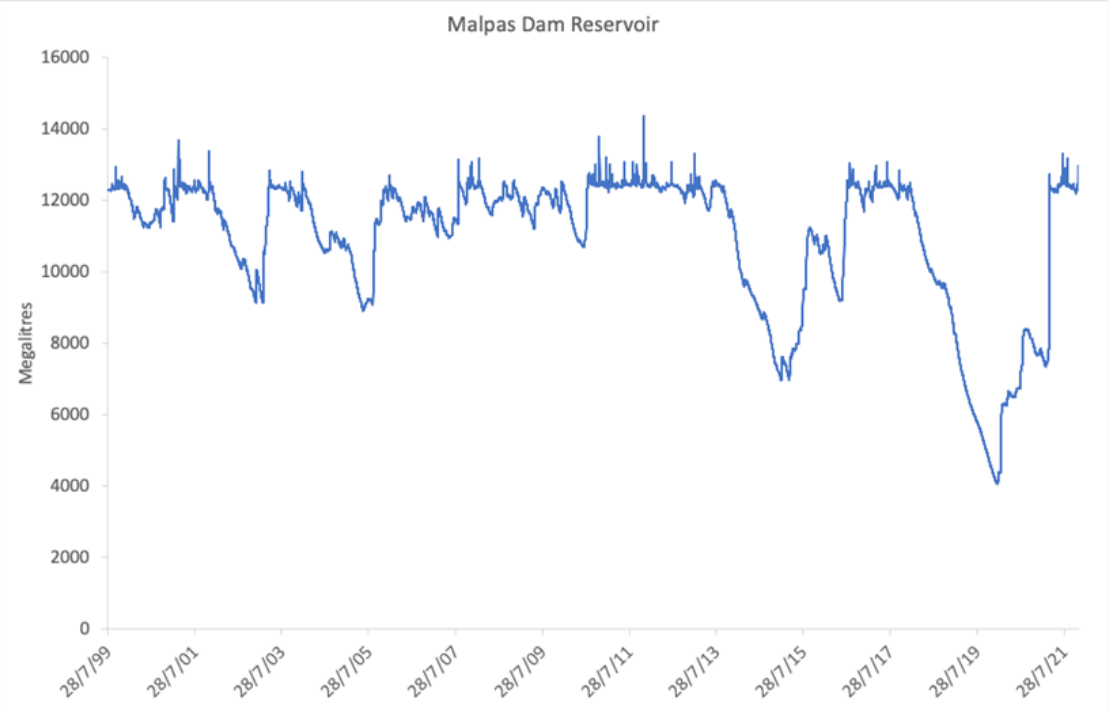

Figure 01-3 Malpas Dam Water Volume (ML) from 1999-2021.

01.3 Water Quality

Reliable access to high quality water is important to communities of ARC. Water quality can be measured in a variety of ways depending on the intended use. For instance, water for human consumption must be clear, free of pathogens, taint, and odour. Water for agriculture has higher thresholds for turbidity (how clear the water is), the presence of salts (measured as electrical conductivity (EC)) and taste or smell. Although we can treat and disinfect our water to improve its quality to meet Australian Drinking Water Guidelines (ADWG), the first line of defence against poor quality water is to prevent contamination at the source by minimising contamination from human waste, livestock, and other hazards.

Water quality can be measured under the following categories:

- Physical
- Chemical, including carbon (inorganic and organic) and pollutants such as pesticides
- Microbial
- Radiological.

For human consumption, the microbial quality of water is the most critical factor. Other useful indicators for water quality include appearance, taste, and odour. However, water that is turbid or

coloured, or has an objectionable taste or odour, may not be unsafe to drink. Conversely, the absence of any unpleasant qualities does not guarantee that water is safe (NHMRC, NRMMC, 2011). Water quality usage thresholds are summarised in **Appendix A**.

01.4 Potential drivers of drinking water quality

Some general catchment drivers of water quality that can affect drinking water quality are summarised below:

- Condition of the contributing catchments and tributaries to a water reservoir including land use and riparian health
- Presence of pollution including:
    - ***diffuse source*** **-** for example from agricultural practices including stock accessing waterways, poor grazing practices leading to "sheep camps," runoff, poor groundcover, land clearing, overgrazing and riparian vegetation
    - ***point source*** - polluting industries such as intensive livestock, waste from food manufacturing, automobile (mechanics, painters etc.) or other industry, quarries and mines, old industrial sites e.g., gas works, abandoned fuel stations, timber treatments, tanneries, meat processing plants, disposal of sharps and biohazards from the human and animal health industries, town sewerage system
- Natural contributors to poor water quality - parent rock contaminants, water hardness, lack of natural filtration, periods of low groundcover followed by high rainfall/runoff events or floods

Other non-catchment related drivers of water quality include:

- Inherent condition of water reservoirs
- Age and condition of water treatment plant and water supply infrastructure
- Type of water treatment used (e.g., ozone, activated charcoal, chlorinators)
- Storm water runoff - pollutants from car and transport industry, street dirt, litter, and poorly managed waste chemical disposal

01.5 Current risks to catchment water quality in the ARC town supplies

Current water quality measurements would indicate that the ARC catchment yields elevated levels of phosphorus, nitrogen, turbidity and relative salinity due to diffuse source pollution (UNE, 2016). Natural levels of radionucleotides contribute to the water sources from the natural rock base and geology of the area (NHMRC, NRMMC, 2011).

The Gara River water source catchment is a headwater sub-catchment of the Macleay River Catchment. An environmental health check (Ecohealth) of waterways undertaken in 2016 indicated that the Gara sub-catchment was in poor health with a score of D- (UNE, 2016). The Ecohealth condition score is a combination of water quality, riparian vegetation, geomorphic condition, macroinvertebrate and fish condition. The poor Ecohealth condition score for the Gara catchment is lower than the overall Macleay Catchment health of a C-, however, is still in slightly better health than other contributing sub-catchments including the Tia, Commissioners Waters and Salisbury Waters sub-catchments each with an extremely poor Ecohealth score (F) (UNE, 2016).

The main driver of the poor condition score for the Gara sub-catchment is historical heavy clearing and modification of the landscape to facilitate low-density sheep and cattle grazing (Hunter H2O, 2021). Whilst there are no urban developments within the Gara catchment near to the Malpas or Puddledock Dams, there are several rural dwellings (6 and 9 respectively), each with onsite effluent management systems that potentially contribute to poor water quality. The upper catchment for the two Guyra Dams includes the small villages of Ben Lomond and Llangothlin with the remainder of the catchment being sparsely populated. The reaches above the two dams are generally cleared and grazed. The Guyra Wastewater Treatment Plant is situated in a different water catchment so is not considered a potential point-source of pollution for the dams, likewise

the large hydroponic tomato farm within the Gara catchment is considered to have a near zero water contribution to the water catchment (Hunter H2O, 2021).

Malpas Dam is fenced and access controlled via a locked gate, hence it is generally protected from access by stock. Tributaries leading into the dam are generally unfenced with stock having regular direct access to water ways which contribute to poor water quality entering the dam (Hunter H2O, 2021). Pollution from overland flow following pesticide, herbicide (Hunter H2O, 2021) and fertiliser applications are each ongoing risks to water quality in the catchment.

Recreational access to Malpas dam is controlled by the Malpas Aquatic Association and a range of activities are permissible including canoeing, sailing, and fishing, however swimming is prohibited. An onsite effluent management system is in place within 100m of the dam's edge (Hunter H2O, 2021), however, this is likely to be relocated as part of the proposed dam wall augmentation (sic. Mark Byrne).

Puddledock Dam has 9 nearby residences, each with onsite effluent management systems, with no urban areas in this part of the catchment. Whilst the dam itself is mostly fenced, the Malpas Dam tributaries are not fenced from grazing stock, which impacts dam water quality (Hunter H2O, 2021). Some localised recreation by neighbouring landholders has been evident in the past but not extensively, so is not thought to contribute significantly to poor water quality (Hunter H2O, 2021).

Despite the level of agricultural use being considered as low intensity, the continuation of stock access to contributing waterways and the presence of onsite septic systems proximate to the water resources continue to pose a microbial loading risk issue for water quality in both Malpas and Puddledock water storages. This means that both drinking water catchments are classified as Category 4 (Unprotected catchments) under the Water Services Association of Australia's Manual for the Application of Health Based Treatment Targets for Drinking Water Safety 2018 (Hunter H2O, 2021),

Likewise, for the Guyra dams and contributing tributaries, whilst stock access is restricted around the dams, free access by stock in waterways and the presence of onsite effluent management systems pose an ongoing risk to water quality for the Guyra township supply. Other risks identified include fertiliser application on farms, potential chemical spills, and other potential pollution sources within the Guyra supply dam catchment area (Viridis, 2021).

Per and Polyfluoroalkyl Substances (PFAS) are widely used, long lasting chemicals, components of which break down very slowly. Many PFAS are found in the blood of people and animals all over the world and are present at low levels in a variety of food products and in the environment. There are currently no known PFAS focus sites within the drinking water catchments for Guyra and Armidale. The NSW Environmental Protection Agency are currently investigating focus sites where PFAS is likely to remain in large quantities, only one site has been identified in the ARC area, the Armidale Fire and Rescue NSW (Mann St Armidale). Since this is not in the water catchment for Malpas or Puddledock Dams PFAS is not considered as a major threat to water quality in these catchments (Atom Consulting, 2019).

01.6 Drinking water quality controls in place

Both the Armidale and Guyra drinking water supplies have a range of water quality remediation stages to refine raw water from storages to a quality that meets the ADWG (**Table 01-1**).

Table 01-1 Drinking Water quality controls at the Armidale and Guyra Water Treatment Plants

Control	Armidale Water Treatment	Guyra Water Treatment
PAC Dosing: Pre-treatment of raw water to help improve taste. Can be used as a back-up when Ozone fails and treatment also for high Mn levels.	✔	✔
Pre-chlorination		✔
Coagulation and flocculation: Alum is used to remove suspended solids and colloids. Removes some organics, colour, and microorganisms. Polyelectrolyte is used for flocculation.	✔	✔
Clarification: Sedimentation tanks are used for the flocs to settle; sludge is removed from the bottom and clear water flows form top of the tank.	✔	✔
Ozonation: Breaks down taste and odour components, algal toxins, chemicals and performs some disinfection functions.	✔	
BAC (Biologically Activated Carbon) filtration: Filtration through adsorption and biological degradation. Removed nitrates, taste and odour compounds, algal toxins, pesticides, and herbicides. Dosed with soda ash post filtration.	✔	✔
Chlorination: disinfection to allow for sustained disinfection through water supply system.	✔	✔
Fluoridation: Water adjusted to ideal fluoride levels for dental protection.	✔	✔

An analysis of treated drinking water, against ADWG health guidelines, conducted from July 2014 to June 2019 indicated that drinking water for Armidale was within the guidelines throughout this period with the three exceptions, for Aluminium, Nickle, and Total Coliforms (Table 01-2).

Table 01-2 Armidale system NSW Health verification microbiological data July 2014 - June 2019 (ATOM Consulting, 2019)

Characteristic	ADWG Health Guideline	Health or Aesthetic	Min	Max	Samples	Exceptions
Aluminium (mg/L)	0.2	A	0.01	0.31	63	4 (1%)
Nickle (mg/L)	0.02	H	0.005	0.03	63	1 (2%)
Total coliforms (cfu/100 mL)	0	H	0	200	478	3 (1%)

For all other water quality parameters, the Armidale drinking water supply was within the ADWG health guidelines (ATOM Consulting, 2019).

02 POLICY CONTEXT

Water is managed at the Commonwealth, NSW state and local scales through a range of legislation, policies and strategies summarised in Table 02-1.

Table 02-1 Waterway management legislation and policy summary relevant to ARC CWS CWQ Strategic Plan

Jurisdiction	Legislation / Policy	Description
Commonwealth	*Water Management Act 2007*	Sets out the requirements to protect and restore the environmental assets of the Murray-Darling Basin through the Murray-Darling Basin Plan and establishes the Murray-Darling Basin Authority and Commonwealth Environmental Water Holder. Not relevant in the ARC town supply water catchments, included here for inclusivity.
	Environment Protection and Biodiversity Conservation Act 1999	Provides a legal framework to protect and manage nationally and internationally significant flora, fauna, ecological communities, and heritage areas.
	National water initiative (2004)	Governments across Australia have committed to create cohesiveness in the way Australia manages, measures, plans, trades, and prices water
	National Water Quality Management Strategy Tools:	Australian Drinking water Guidelines 2011 (updated March 2021)
		Australian and New Zealand Environment and Conservation Council - ANZECC & ARMCANNZ 2000 Water Quality Guidelines (revised version 2018)
		Effluent Management Guidelines (historical guidelines)
		Guidelines for Groundwater Quality Protection in Australia 2013
		Guidelines for Managing Risks in Recreational Water 2008
		Australian Guidelines for Water Recycling: Augmentation of drinking water supplies 2008
		Rural Land Uses and Water Quality: A Community Resource Document (historical guidelines)
		Sewerage systems guidelines: Sewerage system overflows 2004; Use of reclaimed water 2000; Effluent Management 1997; Biosolids Management 2004
		Australian Guidelines for Urban Stormwater Management 2000 (historical guidelines)
NSW State	*Water Management Act 2000*	Governs basis of water management and development under individual WSP and associated regulations and ensures development and water management is carried out in social and environmentally responsible manner.
	Water Sharing Plan for the Macleay Unregulated and	Provides for healthy and enhanced water sources and water-dependent ecosystems and for equitable water sharing among users in these water sources. Identifies the water requirements for basic landholder rights and the sets the rules for water extraction limits for several purposes including stock and domestic,

Jurisdiction	Legislation / Policy	Description
	Alluvial Water Sources 2016	local water utility (i.e., town supply), Aboriginal community and cultural uses, and other licence holder uses including agriculture and industry. Governs water releases and outflows from storage dams and includes water quality maintenance requirements with relation to water supply and development. Relevant ARC water catchments sit within this WSP area.
	Natural Resources Access Regulator Act 2017	Responsible for enforcing natural resources management legislation, which currently includes the Natural Resources Access Regulator Act 2017, the Water Management Act 2000, the Water Act 1912, and associated regulations.
	Public Health Act 2010 & Regulation 2012	Local government has responsibilities to protect public health, including ensuring that water supplied for human use is safe. They have compliance responsibilities including providing authorised offices to check that users of the water source such as water supply contractors, water carters, public swimming pools, and others that are taking and using water within the Act (NSW Government, 2010).
	Protection of the Environment Operations Act 1997	Sets out to protect, restore and enhance the quality of the environment in NSW through regulating ecologically sustainable development, reducing risks to human health and preventing degradation to the environment. Under this Act the EPA governs water pollution through implementing environmental licensing for pollution sources. Relevant to this Catchment Strategy are practices involved with food processing, lot feeding and other intensive farming business, sewage treatment, and waste disposal. The licensing process may consider practical measures that could be used to reduce pollution especially in relation to the environmental value of water that may be affected.
	Fisheries Management Act 1994 & General Regulation 2010	The Fisheries Management Act aims to develop and share fisheries resources of the state for the benefit of present and future generations. It intends to promote ecologically sustainable development and conserve biological diversity. Whilst there are no directives under the Act to manage water quality, fish population management remains intrinsically linked with water quality management and this Strategy needs to include water quality factors that will benefit both human consumption and fish population health.
	Local Government Act 1993 and (General) Regulation 2021	Sets out the responsibilities and powers of councils, councillors and others that are within the local government system. Under this act, councils need to contribute to: • protection of biodiversity and ecological values of watercourses/wetlands, particularly relating to water quality and water flows • management of watercourses/wetlands, protecting the riparian environment particularly, riparian vegetation, habitats, and bank stability. • restoration of degraded watercourse/wetlands

Jurisdiction	Legislation / Policy	Description
		• promotion and community education and provision of community access to and use of the watercourse/wetlands, without comprising other core objectives.
Local	Armidale Dumaresq Local Environmental Plan 2012	Guides orderly management, development, and conservation of resources by protecting, enhancing, and conserving a range of land zones and the resources within. The LEP aims to enhance and conserve our water sources alongside other natural resources (NSW Government, 2012). This includes consideration of developments that have the potential for adverse impacts to an area in proximity to any waterway, drinking water catchment or environmentally sensitive area (NSW Government, 2012).
	Draft North Coast Regional Water Strategy	Under the NSW Water Strategy (2021), the NSW Government is preparing comprehensive regional water strategies that will bring together the best and latest climate evidence with a wide range of tools and solutions to plan and manage each region's water needs over the next 20 to 40 years (NSW DPIE, 2021). A key objective of regional water strategies is to improve water security, water quality and flood management for regional towns and communities using the latest data from climate change modelling.
	New England North West Regional Plan 2036	Sets out a strategy for guiding land-use planning decisions for the New England North West. The plan acknowledges that water quality supports the agriculture sector, industry, urban areas, and the environment itself. The plan calls for a holistic management approach to maximise capacity while preserving our catchment and attached environmental values.
	ARC Community Strategic Plan 2017-2027	Consists of four Strategic Directions which each have Community Outcomes, designed to help Council achieve its overarching Vision.
	ARC Local Strategic Planning Statement: A plan for 2040	Aims to meet our community's future social, economic, and environmental needs by addressing important strategic land use planning and development issues, including a healthy environment with pristine waterways through an integrated approach to water cycle management considering regional climate change, water security, sustainable demand and growth and the natural environment.
	ARC Drought Management Plan 2020 (Town Water)	Guides the ARC as a Local Water Utility to supply treated water to residence and businesses in Guyra and Armidale when managing drought events, informs community of issues associated with drought management, and optimises water security for residents and businesses and determines how Council will maintain customers with water if operationally possible while maintaining water standards to ADWG.
	Armidale Region Economic Development Strategy, 2017-2025	Provides a charter, plan of action and priorities for ARCs economic development under 4 themes: 1. A region of choice for smart and sustainable agri-business 2. A globally connected 'knowledge region' 3. A skilled workforce and dynamic regional business sector 4. A premium regional visitor destination for tourism and events.

Jurisdiction	Legislation / Policy	Description
	Northern Tablelands Local Land Services Natural Resource Management Plan (currently under development)	ARC sits within the Northern Tablelands Local Land Services (LLS) region. Northern Tablelands LLS is currently developing their regional Natural Resource Management Plan. The NRM Plan will guide investment in natural resource improvements including in riparian zones. Whilst the new NRM Plan is due for completion within the timeframes of this project, we have included the current Investment Plan (2025) goals as an interim: The Investment Plan (2025) includes a target to manage native vegetation for improved connectivity and ecosystem services, through managing the landscape for improved water quality and riparian stability.
	Natural Resource Commission targets (NSW DPI 2016).	The Natural Resource Commission (NRC) was established in 2003 to provide the NSW Government with independent advice on natural resource management issues. The NRC Standard requires the use of the best available knowledge, appropriate information management systems, delivery of integrated outcomes, engagement of the community and regular monitoring, measuring, evaluation and reporting to specify how delivery of the targets are progressing. The NRC also carries a responsibility to review WSPs (Water Sharing Plans) against this standard and its associated targets.

03 VISION

The intent of the CWQ Strategic Plan is to identify ways for ARC to work with community and identified stakeholders to improve catchment water quality for all users. In-line with the Rural Water Quality Strategy (Commonwealth of Australia, 2000) the Strategic Plan prioritises a range of options to ensure that:

- high water quality is provided for humans and animals
- adequate water of appropriate quality is available for both agricultural and industrial use
- ecological values are protected and enhanced
- public health values are not compromised
- community need for water-based recreation and related amenities are met.

A Vision for the CWQ Strategic Plan has been developed through review of required legislation and consultation with community and stakeholders. The Vision Statement for this strategy is:

"Healthy water quality for people, communities and their natural environment"

04 GOALS

A risk-based approach was used to develop and prioritise the goals and actions for this CWQ Strategic Plan. Firstly, risks to catchment water quality were identified and assessed using a risk matrix (**Appendix B**). The risk assessment results were used in a series of consultation events to elicit community expectations and priorities. The assessment also includes risks identified in a separate process for both Armidale (ATOM Consulting, 2019) and Guyra drinking water supplies (VIRIDIS Consulting, 2021).

Identified key risks to water quality include:

1. More frequent algal blooms.
2. Water toxicity and taint and associated costs of treating water for drinking
3. Increased diffuse source pollution from farms: poorly managed dams and waterways, poor irrigation management and retention of runoff, poor groundcover management, poor chemical and fertiliser management, and overspray of waterways.
4. Water in storage not within ANZECC drinking guidelines.
5. Reduction in available water due to quality issues.
6. Loss of amenity and resulting loss to tourism, new people arriving in town, new industry due to water quality and availability - being known as the town with bad tasting water.
7. Agricultural losses due to water quality - changes to use classes, lost productivity due to poor water quality.
8. Losses to agricultural land productivity and value due to loss of soil
9. Increased point source pollution due to inappropriate or poorly managed development (industry, farm septics and grease traps, poor chemical disposal, people dumping garden/industrial waste in waterways).
10. Storm water management in Guyra Township adding to diffuse and point source pollution.
11. Over clearing of terrestrial and riparian vegetation and stock having direct access to waterways
12. Financial and land use pressures on farmers and communities to resort to inappropriate land and poorly match land use - land capability (e.g., diffuse soils being irrigated).
13. Natural leaching from rocks, soils, and mineral deposits in water source.
14. Biological processes and growth of cyanobacteria and algae in water delivery infrastructure.

Based on the combination of our risk assessment and consultation the short-term (10-year) goals of the CWQ Strategic Plan are:

By 2032:

- a minimum of 90% groundcover will be maintained across the Gara and Commissioner's Waters catchments
- direct stock access to waterways, wetlands and supply dams will be reduced
- native riparian vegetation extent and areas of natural regeneration on farms and around supply dams will be increased through protection and new plantings
- the community is more informed and actively involved in catchment management through citizen science and education programs
- impacts from erosion areas are reduced
- point source pollution from industry is reduced
- rubbish dumping in waterways and gullies is reduced
- leakage from onsite effluent management infrastructure is minimised
- landholder and community knowledge of appropriate fertiliser use, and agrichemical use is improved
- public access areas to supply dams are rehabilitated

Table 04-1 summarises a list of overarching goals and actions and describes their purpose.

Table 04-1 CWQ Strategic Plan Goals, purpose, and actions

Goal	Why is this important?	Actions to achieve this goal
By 2032, a minimum of 90% groundcover will be maintained across the Gara and Commissioner's Waters catchments	• Reduce diffuse source pollution and sedimentation of waterways through runoff from overgrazed paddocks. • Builds soil organic matter that assists with water infiltration and slowing sedimentation of waterways. **Risks Addressed: 1 - 7, 10,12**	• Undertake priority area assessment and target areas of consistent bare ground for remediation • Rehabilitate old quarries and water crossings that contribute to sedimentation • Identify farm(s) that are managing this well and negotiate demonstration sites to help encourage other farmers to adopt best practice • Ensure land is being used within its inherent land use capability - i.e., avoiding cropping on slopes and light soils that are better suited to careful grazing
By 2032, stock access to waterways, wetlands and supply dams will be reduced	• Stock are a major pollutant for waterways, keeping them out stops the sedimentation through trampling, overgrazing of water edge and defecation in water way **Risks Addressed: 5, 6, 7, 11, 12**	• Identify priority areas • Work with Landcare and LLS and with landholders to encourage and create projects to change management of stock in riparian zone including fencing riparian areas and providing offset watering options • Look at runoff diversion options for stock yards or drought feeding areas.
By 2032, native riparian vegetation extent and areas of natural regeneration on farms and around supply dams will be increased through protection and new plantings	• Vegetation in the riparian zone provides a filter to water running into waterways through slowing flow and allowing trapped sediments to settle. • Overhanging vegetation will also shade the water and reduce evaporation and concentration of pollutants and allow for natural processes for filtering water. • Also provides important habitat for native birds and animals that assist with carbon cycling and ecosystem balance. **Risks Addressed: 1 - 7, 10, 11, 12**	• Identify priority areas • Work with Landcare, other community groups and LLS and with landholders to encourage and create projects to fence riparian areas, allow for Large Woody Debris (LWD) to accumulate and to encourage natural regeneration

Goal	Why is this important?	Actions to achieve this goal
By 2032, the community is more informed and actively involved in catchment management through citizen science and education programs	• By involving community in citizen science water quality testing and management, flora and fauna condition measurement, the community has enhanced opportunities for education, building knowledge and awareness of catchment management and contributing factors to water quality. • Through broad community education campaigns, more people will understand the importance of high-quality water for the town and surrounding businesses and are more likely to take actions • **Risk Addressed: 1 - 12**	• Use a citizen science-based approach to educate community on the importance of catchment management and water quality • Set up a Water-watch style monitoring system or similar citizen science program • Work with birdwatcher, bushwalker groups to engage landholders to build better understanding of ecosystem health and encourage changed management practices. • Broad education campaign implemented via TV or print advertisements and articles, installation of interpretive signs and education events at dams (and on farm demonstration sites if applicable)
By 2032, impacts from erosion areas are reduced	• By locating point sources of pollution, remediation efforts can be prioritised and targeted. **Risks Addressed: 1 - 7, 10, 11**	• Investigate and mitigate contributing erosion areas in catchment • Work with Landcare, LLS, and Malpas Dam Committee to identify and target known erosion areas in the catchment and work with landholders to mitigate the areas. • Provide information, advice, and education about managing erosion by facilitating peer support and demonstration sites for erosion control methods
By 2032, point source pollution from industry is reduced	• Identify contributing polluters to target actions, education, and mitigation activities through partnership projects **Risks Addressed: 1 - 5, 8, 9, 12**	• Investigate contributing businesses including Guyra storm water and roadside pollution in the upper Gara catchment
By 2032, rubbish dumping in waterways and gullies is reduced	• Reduce contributors to poor water quality, improve amenity **Risk Addressed: 2, 3, 5, 8**	• Education campaign and organised drum musters, amnesty opportunities for old tyres etc.
By 2032, leakage from onsite effluent management	• Reduce point source pollution in contributing catchments from non-compliant effluent management systems	• Education campaign

Goal	Why is this important?	Actions to achieve this goal
infrastructure is minimised	**Risk Addressed: 2, 3, 5, 8**	• Assistance with upgrading septic systems that are contributing to poor water quality • Ongoing as part of ARC compliance activities
By 2032, landholder and community knowledge of appropriate fertiliser use, and agrichemical use is improved	• Reduce chemical contamination from organophosphates, biocides, and other toxins **Risk Addressed: 2, 3, 8, 10**	• Provide advice and education about over fertilisation and weed overspray near riparian areas • Support workshops with council weed controllers, education through connecting landholders with chemical certification training courses
By 2023, public access areas to supply dams are rehabilitated	• By containing traffic to controlled areas to minimise continued compaction, bare ground, and erosion around the edges of the dam. **Risks Addressed: 5, 8**	• Control vehicle movements by installation of compliance signs and bollards.

Identified risks not addressed through these goals are:

13: Natural leaching from rocks, soils, and mineral deposits in water source

14: Biological processes and growth of cyanobacteria and algae in water delivery infrastructure

These can each be mitigated and controlled through direct action by ARC in the effective management of town sewerage, water delivery infrastructure hygiene and water monitoring and treatment.

05 PRIORITY PROJECTS

Priority Projects have been identified through community and stakeholder consultation, peer review and research. The Priority Projects include some existing programs that would require ongoing investment throughout the life of this Strategic Plan. The priorities are summarised in the Priority Action Matrix (Table 05-1).

Table 05-1 Priority Action Matrix

Priority	Implementation	Potential Partners	Reference
1. **Targeted awareness and education for whole community**	2022-2032	Dep. Education, UNE, LLS, Landcare, private education providers	Community and MCG consultation
2. **Support water monitoring programs (e.g. EcoHealth)**	2022 and every 3 years in-line with program	UNE, LLS	Community consultation
3. **Identify and map key areas of water quality impactors (e.g., old dumps, leaky septics, erosion areas)**	2022	LLS, Landcare, and UNE	Community consultation
4. **Deliver extension services* including farm hydrology assessment services that will enable land practice change to benefit water quality outcomes**	2022-2032	LLS, Landcare, UNE	Community and MCG consultation
5. **Community rebuilding and reconnection program**	2022-2032	LLS, Landcare	Community consultation
6. **Dam fencing and management**	2022-2032	LLS, Landcare	Community and MCG consultation
7. **Wetland Protection ***	2022-2024	Existing LLS program partnering with Landcare	Community and LLS consultation

*Existing projects include the upland Wetland Project LLS 2022-2025 and the Landcare Groundcover Project 2022-2025

06 STAKEHOLDERS, CO-MANAGEMENT, AND FUNDING OPPORTUNITIES

06.1 Identifying our stakeholders and partners

The effective delivery of the CWQ Strategic Plan requires effective collaboration from several groups to attain its goals. Analysis of the relevant stakeholder groups is summarised in Table 06-1.

Table 06-1 Stakeholder and partner analysis for the CWQ Strategic Plan

Stakeholder	Responsibilities
Armidale Regional Council (waste management, water supply, community liaison and communication etc.)	• Can influence the nature of development and therefore runoff water quality through adherence to applicable acts, regulations, and environmental planning instruments. • Defines specific environmental protection zones that are appropriate around source waters. • Have significant powers to influence development but have had limited guidance on maintenance of water quality in catchments to date.
Department Planning and Environment - Water (DPE-Water)	• The primary regulatory body governing river system health and water sharing between resource use and the environment. • Administer licenses to extract raw water. • Have limited responsibility to determine the appropriateness of many developments or land use practices.
Environmental Protection Agency (EPA)	• Have a regulatory responsibility to control the discharge of pollutants to waters throughout drinking water catchments. • Regulate the use of chemicals and pesticides. • Do not have a planning role for management of diffuse pollution sources in catchments. • Do provide waste management and pollution reduction opportunities for councils and community to access funding for relevant projects.
Department Planning and Environment- Environment, Energy and Science (DPE-EES)	• Work with biodiversity conservation, wildlife management, threatened species, biodiversity offsets, pests, and weeds.
Northern Tablelands Local Land Services (LLS)	• A 5-year Natural Resource Management Plan is being formulated to improve the health of the Northern Tablelands catchments. • ARCs drinking water catchments are a fraction of this, covering an area of the total Northern Tablelands LLS region • Facilitate grants to individuals and organisations working towards NRM targets (such as tree planting, riverbank stabilization). The NRM Plan is not legislated and, although maintenance of water quality will be included in the plan, it will focus on water for ecological processes above water quality for drinking purposes.

Stakeholder	Responsibilities
Department Primary Industry Fisheries	• Manage fish habitat and native fish protection.
Southern New England Landcare and the Malpas Catchment Group	• Memorandum of Understanding with ARC to undertake riparian and foreshore activities where possible and to provide extension services for surrounding landholders. • Their goal is to work with others to repair and restore water catchment to assist with water quality maintenance and improvements.
Malpas Aquatic Association	• Recreational use: continued access and management of recreational uses in Malpas Dam reserve.
Local industry and individual businesses	• Are bound by conditions of consent and state/federal laws to limit pollution. • Have the capacity to significantly influence quality of land under ownership. • Can provide sponsorship opportunities to fund priority projects.
Landholders (rural)	• Have the capacity to significantly influence quality of land under ownership.
Indigenous Community	• As traditional landowners, land and water condition is integral to cultural beliefs.
Township Community	• Interest in water security and quality (taste and amenity).

07 CONSULTATION

Consultation during the development of this plan included direct contact with project stakeholders, two public meeting opportunities and an online survey (**Appendix C**). Ongoing consultation for the CWQ Strategic Plan will be conducted with relevant stakeholders on a regular basis. This will comprise meetings and workshops through the current Malpas Catchment Group Program in partnership with Landcare and through the Malpas Catchment Group coordinator.

In the absence of the Malpas Catchment Group, we recommend that a CWQ Strategic Plan Working Group is formed.

More broadly, ongoing consultation with the entire network of Gara and Commissioners Waters landholders is now possible with the consolidation of contact data including landholder names and addresses, collated as part of this project.

Workshops and other community events held in partnership with stakeholders can be used opportunistically to engage with landholders and community across catchments of the LGA to identify further priority projects. Similarly, maintaining close contact with the LLS and Landcare networks within the region will enable ARC to identify any funding opportunities that arise throughout the life of the plan.

08 MONITORING FRAMEWORK

To evaluate progress against this Strategic Plan's Goals and vision we recommend the following monitoring:

- Making use of data from current water quality testing programs from relevant water sources already in the catchment, e.g., ARC raw water quality monitoring and liaise with LLS and DPE Water for additional sources
- Mapping of on-ground works undertaken as part of strategy e.g., fencing, riparian plantings (work with LLS and Landcare to record these in a central database)
- Photos of erosion works, and plantings undertaken as part of this strategy
- Use remote sensed catchment groundcover assessment for the catchment using a freely accessible platforms such as Sentinel playground (sentinel-hub.com/sentinel-playground/) across successive years to assess groundcover changes over time
- Remote sensed increase in riparian vegetation and cover
- Baseline mapping of identified point source pollution issues
- Monitor progress with education program through regular meetings with Landcare, Malpas Dam Committee, and Northern Tablelands LLS
- Link with any water quality monitoring program within LLS and DPE Water

To report on progress against the goal, an evaluation of all the monitoring data from above should be undertaken each 5 years and at the end of the Strategic Plan's life.

09 REFERENCES

ANZECC & ARMCANZ (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand, Canberra

ATOM Consulting (2019) Armidale Water Supply Scheme Drinking Water Risk Assessment Output Paper, for Armidale Regional Council

Armidale Express 10 October 2019 article: https://www.armidaleexpress.com.au/story/6428173/the-lifeblood-of-guyra-malpas-dam-pipeline-open/

Armidale Regional Council (2017a) Community Strategic Plan 2017 – 2027.

Armidale Regional Council (2017b) FAQ Water Pipeline Project Malpas to Guyra Water Treatment Plant

Armidale Regional Council (2017c) Unleashing our opportunities: Armidale Region Economic Development Strategy, 2017-2025

Armidale Regional Council (2020a) Climate Emergency Working Group: A Framework for Climate Action

Armidale Regional Council (2020b) Local Strategic Planning Statement: A plan for 2040 (Final October 2020)

Armidale Regional Council (2020c) Drought Management Plan 2020 (Town Water)

Armidale Regional Council (2021) Water Usage and Supply. Retrieved on 13/09/2021 from https://www.armidaleregional.nsw.gov.au/environment/water-usage-supply

Australian Government (2021). National Water Reform (2020) Productivity Commission Draft Report. http://www.bom.gov.au/climate/averages/tables/cw_056229.shtml (Accessed 17/11/21)

Bureau of Meteorology http://www.bom.gov.au/jsp/ncc/cdio/weatherData/av?p_nccObsCode=136&p_display_type=dailyDataFile&p_startYear=&p_c=&p_stn_num=056229 (Accessed 22/111/21)

Bossio, D., Geheb, K. and Critchley, W. (2009) Managing water by managing land: addressing land degradation to improve water productivity and rural livelihoods Agricultural Water Management 2009

Commonwealth of Australia (2000) National Water Quality Strategy: Rural Landuses and Water Quality

Hunter H2O (2021) Surface Water Assessment, for Armidale Regional Council

Department of Agriculture, Water, and the Environment (DAWE) (2019). National Water Initiative. Accessed on 16/09/2021 from https://www.agriculture.gov.au/water/policy/nwi

Hydroilex Groundwater Geosciences (2019) Hydrogeological Investigation Guyra Emergency Town Water Supply, a report prepared for ARC

University of New England (UNE) (2016) Ecohealth, a health check for our waterways: Macleay River Catchment Report Card, a report for the Kempsey Shire Council

Maklad, Y. (2014) Quantification and costing of Domestic Electricity Generation for Armidale, NSW, Australia utilising Micro Wind Turbines International Journal of Energy Economics and Policy 4(2):208-2019

NHMRC, NRMMC (2011) Australian Drinking Water Guidelines Paper 6 National Water Quality Management Strategy. National Health and Medical Research Council, National Resource Management Ministerial Council, Commonwealth of Australia, Canberra.

NSW Department of Planning, Industry and Environment (2019) Armidale Regional Council Population Projections https://www.planning.nsw.gov.au/Research-and-Demography/Population-projections/Projections (Accessed 25/10/2021)

NSW Department of Planning, Industry and Environment (2020). Regional Water Strategies Guide. https://www.industry.nsw.gov.au/__data/assets/pdf_file/0006/308994/rws-guide.pdf

NSW Department of Planning, Industry and Environment (2021) Draft Regional Water Strategy- North Coast: Strategy. https://www.industry.nsw.gov.au/__data/assets/pdf_file/0005/354245/nc-strategy.pd f

NSW Department of Planning, Industry and Environment (n.d) Acts & regulations. Retrieved on 16/9/21 from https://www.industry.nsw.gov.au/water/what-we-do/legislation-policies/acts-regulations

NSW Department of Primary Industries (2016a). Water Sharing Plan for the Macleay Unregulated and Alluvial Water Sources.

NSW Department of Primary Industries (2016b). Water Sharing Plan for the Macleay Unregulated and Alluvial Water Sources: Background document

NSW Government (1997). Protection of the Environment Operations Act 1997 No 156. Accessed on 16/09/2021 from https://legislation.nsw.gov.au/view/html/inforce/current/act-1997-156

NSW Government (2010) Public Health Act 2010 No 127. Accessed on 16/09/2021 from https://legislation.nsw.gov.au/view/html/inforce/current/act-2010-127

NSW Government (2012) Armidale Dumaresq Local Environmental Plan 2012. Accessed 16/09/2021 from https://legislation.nsw.gov.au/view/whole/html/2016-01-27/epi-2012-0589

NSW Government (n.d) NRAR's policies and guidelines. Retrieved on 16/09/2021 from https://www.dpie.nsw.gov.au/nrar/about-us/who-we-are/our-policies-and-guidelines

NSW Government (n.d) our role and purpose. Natural Resource Access Regulator. Retrieved on 20/09/2021 from https://www.dpie.nsw.gov.au/nrar/about-us/what-we-do/our-role-and-purpose

NSW National Parks and Wildlife Service (2003) The Bioregions of New South Wales: their biodiversity, conservation and history NSW National Parks and Wildlife Service Hurstville

Virdis Consultants (2021) Guyra Scheme- Risk Assessment Report, Armidale Regional Council

Water Management Act 2000 (NSW). Retrieved from: https://legislation.nsw.gov.au/view/html/inforce/current/act-2000-092

Water Quality Australia (2018) Charter: National Water Quality Management Strategy. Department of Agriculture and Water Resources, Canberra. https://www.waterquality.gov.au/about

Wilcock, R., Nagels, J., Rodda, H, O'Connor, M., Thorrold, B., and Barnett, J. 1999 Water quality of a lowland stream in a New Zealand dairy farming catchment New Zealand Journal of Marine and Freshwater research 33: 683-696

APPENDIX A: SOME RELEVANT WATER QUALITY THRESHOLDS FOR DRINKING AND AGRICULTURAL USES

Water Quality Indicator	Impact	Drinking Water Threshold*	Agricultural use Thresholds
Salinity (Total Dissolved Solids- sum of all the salts dissolved in water including sodium, calcium, magnesium, chloride, sulphate, and carbonate)	Taste Animal and human health impacts if TDS is too high and plant growth is stunted	<600 mg/L good 600-900 mg/L medium >1200 mg/L unacceptable[1]	Cattle and sheep 0-4000 mg/L no adverse impacts Poultry 0-2000 m/L[2]
Acidity pH	No direct impact on human health on its own however can interrupt the ability to disinfect of clarify water and if incorrect can cause corrosion of water mains and pipes in water systems thereby effecting taste, odour, and appearance.[3]	6.5-8.5	Not specified but maintaining a pH between 6.5-8.5 will similarly reduce corrosion of water supply systems.
Total Nitrogen	Adversely affect ecosystem balances; decreased oxygen levels; increased levels of blue-green algae; health risks from toxins.	0.1-0.75 mg/L[4]	Not specified
Total Phosphorus	Adversely affect ecosystem balances; decreased oxygen levels; increased levels of blue-green algae; health risks from toxins.	0.01-0.1 mg/L[5]	Not specified
Pathogens	Diseases in humans, animal, and plants	Not specified but low	
Organic matter (e.g., blue-green algae as measured by Biological	Expansion of bacteria populations leading to oxygen depletion	Less than 20mg/L	Not specified but blue green algae toxins are

[1] https://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/public+health/water+quality/salinity+and+drinki ng+water

[2] https://www.agric.wa.gov.au/livestock-biosecurity/water-quality-livestock

[3] WHO 2007 pH in Drinking-water: Revised background document for development of WHO Guidelines for Drinking-water Quality
[4] NWQMS 2011 Australian Drinking Water Guidelines

[5] NWQMS 2011 Australian Drinking Water Guidelines

Water Quality Indicator	Impact	Drinking Water Threshold*	Agricultural use Thresholds
Oxygen Depletion BOM05)			detrimental to animal health
Toxic substances (e.g., heavy metals, pesticides, organic toxicants, and biocides)	Inhibits important biological processes and sometimes results in bioaccumulation in food chains	Close to zero	
Litter	Health and safety risks, reduction in aesthetic values in waterway	NA	NA
Turbidity and sediment	Reduction in light availability to life, plants, fish, and invertebrates, in water. smothering of stream beds.	5 NTU** for untreated water and less than 1NTU for treated water	Cattle and sheep have a higher tolerance turbidity than humans, however, there is an inverse relationship between turbidity and productivity
Radiological	There is evidence from both human and animal studies that radiation exposure at low to moderate doses may increase the long-term incidence of cancer. There is also evidence from animal studies that the rate of genetic disorders may be increased by radiation exposure.	Guideline dose of 1 mSv per year should be applied for radioactivity in drinking water[6]	Not specified

*Thresholds are a general guide for water quality yet are heavily dependent on inherent water quality in a water course and should be subject to research within any watercourse to adjust to natural conditions.

** Nephelometric turbidity units carries a responsibility to review WSPs against this standard and its associated targets.

[6] NWQMS 2011 Australian Drinking Water Guidelines

APPENDIX B: RISK ASSESSMENT

A risk-based approach was adopted to identify and prioritise goals. We identified risks by using recommendations from Viridis 2021 and HunterH20 2021 and then assessed each risk using the Risk Matrix below.

Likelihood \ Impact	Negligible	Minor	Moderate	Significant	Severe
Very Likely	Low Med	Medium	Med Hi	High	High
Likely	Low	Low Med	Medium	Med Hi	High
Possible	Low	Low Med	Medium	Med Hi	Med Hi
Unlikely	Low	Low Med	Low Med	Medium	Med Hi
Very Unlikely	Low	Low	Low Med	Medium	Medium

Risks to water quality in ARC water supply catchments and infrastructure

Risk #	Risk	Likelihood	Impact	Risk rating	Remediation	Adjusted Risk Rating
1	More frequent algal blooms	Very Likely	Significant	High	Diffuse source pollution reduced	Medium High
2	Water toxicity and taint and associated costs of treating water for drinking	Very Likely	Significant	High	Diffuse source pollution reduced	Medium High
3	Increased diffuse source pollution from farms: poorly managed dams and waterways, poor irrigation management and retention of runoff, poor groundcover management, poor chemical and fertiliser management, and overspray of waterways	Very Likely	Significant	High	Diffuse and point source pollution reduced through riparian management change, revegetation, groundcover improvement, changes to stock water supply	Medium
4	Water in storage not within ANZECC drinking guidelines	Possible	Significant	Medium High	Diffuse and point source pollution reduced	Medium
5	Reduction in available water due to quality issues	Possible	Significant	Medium High	Diffuse and point source pollution reduced	Low
6	Loss of amenity and resulting loss to tourism, new people arriving in town, new industry due to water quality and availability- being known as the town with bad tasting water	Possible	Significant	Medium High	Diffuse and point source pollution reduced	Low
7	Agricultural losses due to water quality- changes to use classes, lost productivity due to poor water quality	Possible	Significant	Medium High	Diffuse and point source pollution reduced	Low Medium

Risk #	Risk	Likelihood	Impact	Risk rating	Remediation	Adjusted Risk Rating
8	Losses to agricultural land productivity and value due to loss of soil	Possible	Significant	Medium High	Diffuse and point source pollution reduced	Low Medium
9	Increased point source pollution due to inappropriate or poorly managed development (industry, farm septics and grease traps, poor chemical disposal, people dumping garden/industrial waste in waterways	Possible	Significant	Medium High	Diffuse and point source pollution reduced	Low
10	Storm water management in Guyra township adding to diffuse and point source pollution	Possible	Significant	Medium High	Diffuse and point source pollution reduced	Low
11	Over clearing of terrestrial and riparian vegetation and stock having direct access to waterways	Likely	Significant	Medium High	Education and awareness and implementation of on ground works (planting, fencing etc)	Low Medium
12	Financial and land use pressures on farmers and communities to resort to inappropriate land and poorly match land use- land capability (e.g., diffuse soils being irrigated)	Possible	Significant	Medium High	Effective implementation of LEP	Low Medium
13	Natural leaching from rocks, soils, and mineral deposits in water source	Unlikely	Significant	Medium	Testing, reporting and treatment	Low
14	Biological processes and growth of cyanobacteria and algae in water delivery infrastructure	Possible	Significant	Medium High	Regular maintenance etc	Low Medium

APPENDIX C: CONSULTATION SUMMARY

Community Meeting Guyra Bowling Club 16th December 2021,

- Malpas Catchment Group Meeting Wednesday 8th December 2021
- Meetings and phone calls with Local Land Services and SNELandcare in October 2021-May 2022
- A targeted online survey sent to 910 community members of the Gara, and Commissioners Waters catchments conduced in April/May 2022
- A Summit Consultation with community on Tuesday 10th May 2022

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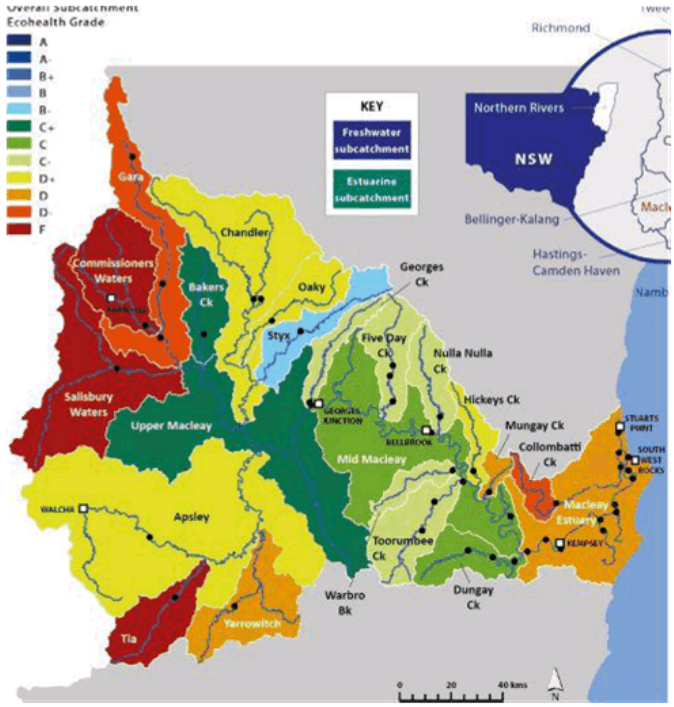
New England Greens submission to ARC's Catchment Water Quality Strategic Plan 2022-2032

New England Greens (NEG) appreciates the opportunity to comment on Armidale Regional Council's Catchment Water Quality Strategic Plan 2022-2032 currently on exhibition. The Plan's presentation is clear and accessible and the opportunities for community input and participation is welcome as are the goals of:

- *a minimum of 90% groundcover will be maintained across the Gara and Commissioner's Waters catchments*
- *stock access to waterways, wetlands and supply dams will be reduced*
- *native riparian vegetation extent and areas of natural regeneration on farms and around supply dams will be increased through protection and new plantings*
- *landholder and community knowledge of appropriate fertiliser use, and agrichemical use is improved*
- *impacts from erosion areas are reduced*
- *point source pollution from industry is reduced*
- *rubbish dumping in waterways and gullies is reduced*
- *leakage from onsite effluent management infrastructure is minimised*
- *the community is more informed and actively involved in catchment management through citizen science and education programs*
- *public access areas to supply dams are rehabilitated.*

The suggestion that the Plan could *provide the framework that can be used to improve water quality in other water catchments across the Armidale Region* is supported.

The map below, from Macleay Ecohealth Project 2015-2016 (full report here) graphically illustrates the poor state of much of the Macleay headwaters including the Gara and Commissioners Waters catchments. NEGAT urges that ARC bears in mind the consequences for the whole catchment of increasing ARC's water take for Guyra and Armidale.



The importance of preserving The Styx River as a source feeding clear water into the Macleay, rather than feeding into the water-take for local communities, is evident

1

New England Greens submission to ARC's Catchment Water Quality Strategic Plan 2022-2032

Remediation of Malpas Dam:

A strategy to improve water quality which would minimise the need for expensive infrastructure and increased water-take from the catchment which appears to have been overlooked is the remediation of Malpas Dam to ensure that, in a future drought, more water held in the dam is suitable for treatment and use in the water supplies of Guyra and Armidale .

Elizabeth O'Hara

For New England Greens

CONSTRUCTIVE
ENERGY

Armidale Regional Council
Renewable Energy Action Plan

Completed by Constructive Energy Pty Ltd

June 2022

Contents

Disclaimer

This report documents the results of preliminary observations and analysis of material provided to Constructive Energy Pty Ltd. In preparing the report, we have relied upon information provided by Armidale Regional Council, retailers and Azility Energy Management through referral to form our conclusions. Whilst we have reviewed this information to assess its reasonableness and internal consistency, we are not able to consider specific and/or abnormal circumstances that may impact your energy use.

The findings, conclusions and recommendations and all written material contained in the report represents our best professional judgement based on estimated and generic data and visual inspection where appropriate. Recommendations have assumed average conditions and historical usage.

Executive Summary

Armidale Regional Council (ARC) is taking a proactive stance in relation to climate change, seeking to address emissions both within the organisation and through leadership within and support of the community. Constructive Energy (CE) have been engaged to identify opportunities in relation to renewable energy and consistent with the objectives of Project Zero30. Outcomes of the study are captured in this Renewable Energy Action Plan (REAP).

Constructive Energy completed a review of strategic documents including the Armidale City Activation Plan, the ARC Local Strategic Planning Statement 2020, and 2020 Climate Emergency Working Group Report. ARC has an ambition to adopt Renewable Energy and a clear pathway towards a carbon-neutral future.

The NSW Government announced the Electricity Infrastructure Roadmap setting out a plan to deliver 5 Renewable Energy Zones (REZs) delivering affordable, reliable energy to replace the NSW's existing carbon intensive generators as they retire.

The New England REZ encompasses the Armidale Local Government Area and surrounding councils. The region has been identified as one of the leading locations for Renewable Energy resources (wind and solar) receiving State Government support and private investment for the development of large-scale solar PV and wind farms. The region also has the possibility for other RE options including pumped hydro storage and biomass generation.

As the renewable energy market evolves new energy storage options are emerging at competitive cost – these include large scale battery banks and hydrogen. Council has an overarching objective to drive operations to 100% renewable energy by 2030. This goal necessitates examining building and facility energy consumption (both electricity and gas) and vehicles, plant and equipment.

It is already possible for Council to become 100% renewable through selective energy procurement and being in the REZ is likely to see Council well positioned to bargain for good pricing with local generators via an energy retailer. However, this approach does not form the bulk of this report which instead examines how Council may benefit from participating directly in the ownership and/or management of renewable energy technology.

While a full range of renewable energy technologies are explored, CE finds the most obvious opportunity in solar PV, following essentially one of two pathways; Behind the Meter (BtM) distributed energy or Distributed Energy installations across a number of Council and possibly partner assets. These options are discussed in detail throughout the Plan.

Energy Storage should be considered as part of the evaluation for every project for its ability to provide flexibility and adaptability in energy management in the future. This is particularly true if Council elects to follow the distributed energy route.

The retailing sector is changing dramatically, and ARC is well positioned to take advantage of emerging models in valuing and sharing renewable energy. Capacity now exists for ARC to effectively operate as a 'generator-retailer' and to use excess energy to underpin services or affordable energy to local business and industry.

Energy efficiency measures should not be forgotten as this both reduces the CAPEX required to achieve 100% renewable and, if the right generator-retail deal is brokered, will result in additional value for Council.

Vehicles, plant, and equipment represent a challenge which can be managed basically through offsetting or substitution depending on financial factors, the appetite of Council for innovation/leadership and the practicality of developing alternative fuels in Armidale.

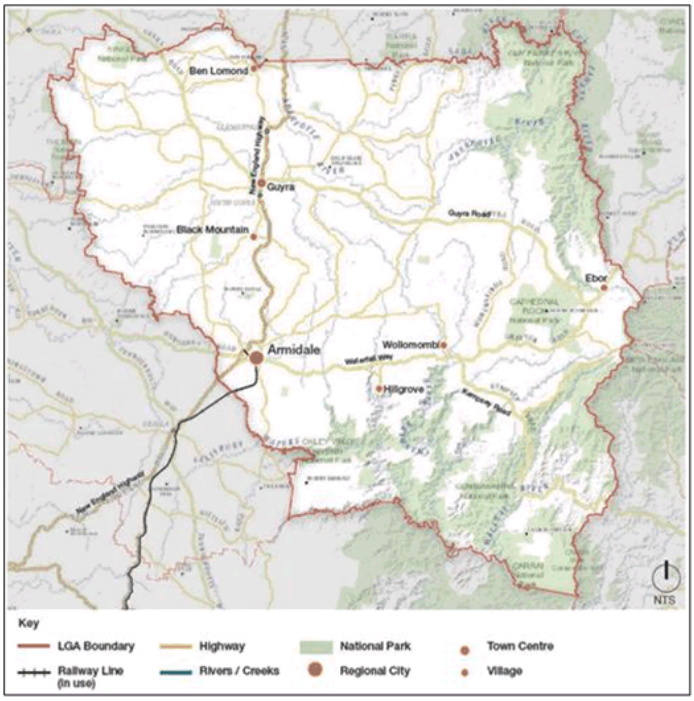
Constructive Energy are of the opinion that becoming 100% renewable is not only achievable, but also makes economic sense and to do so and will improve the fitness of council for the future on multiple levels. We recommend that Armidale Regional Council adopt this Renewable Energy Action Plan, use it to gain or leverage government and private investment, and start soon to meet Council's 2030 target.

Constructive Energy is passionate and dedicated to the integration of renewable energy in Regional Australia for the advantage of local communities. As such, we are available as a 'critical friend' to Council on an ongoing basis at no charge. Constructive Energy can assist in grant submission, business case development and project delivery that ARC may require.

1.1 Armidale Regional Council (ARC)

Armidale Regional Council (ARC) located in the New England region of NSW. The Armidale region has a population of around 30,000 and just over 12,000 dwellings (Australian Bureau of Statistics, 2016 Census).

The Local Government Area covers approximately 8,621sqkm and is located within the Essential Energy distribution network.



Map 1. Armidale Regional Council boundary (Map Source: Local Strategic Planning Statement A Plan for 2040 (Final October 2020))

1.2 Purpose Statement

ARC declared a Climate Emergency in 2019 and this has provided the imprimatur for further engagement and planning aimed at both netting out emissions and building adaptive capacity. This applies to both council as an organisation and to the entire LGA.

Council has an active role in collaborative initiatives including Project Zero30, a partnership between ARC, UNE and the community which has set goals in relation to making the LGA net zero for carbon emissions by 2030.

Council's approach is wholistic, embracing the Planetary Boundaries Framework developed by the Stockholm Resilience Centre and developing leadership capacity within the organisation and Councillors.

The Renewable Energy Action Plan reflects Armidale Regional Council's desire to engage with renewable energy and identify options for projects that benefit Council and the Armidale community.

ARC supports innovation in energy use and delivery for the purpose of supporting Project Zero30 goals, improving cost control, demonstrating leadership within the community and preparing for any future carbon price. Specifically in relation to renewable energy, Council is supporting the following goals:

- Be a net renewable energy exporter and have 50% of its industry and homes exporting solar energy to the grid
- Generate power using biochar power generation technologies
- Be a model for carbon transitions and adaptation
- Winter air quality levels below the Department of Health's guidelines

(Source Project Zero30)

The previously developed Armidale City Activation Plan also points to areas of focus related to this REAP.

- **Green** Active Transport Network
- **Attract startups** with low-cost energy
- Celebrate **Sustainability**
- **S.E.A –** New England's energy centre – exporting to state
- **Smart Regional Cities Project** – Power for data centre – IT Hub
- **HEX NE** – New England Horticulture Centre of Excellence – power for greenhouses and water pumps
- **Sun Train** – Energy conservation

(Source Armidale City Activation Plan 2018)

In context of the above, the purpose of this Plan is to provide strategic direction into the specific opportunities and pathways for Council to become 100% Renewable by 2030 and to support the entire region in achieving the same.

Of note is the alignment of this Plan with the UN Development Global Goals, specifically; 7 Affordable and Clean Energy, 9 Industry, innovation, and infrastructure, 11 Sustainable cities and communities, 13 Climate Action and 15 Life on Land.

1.3 Armidale Regional Council Objectives

Armidale Regional Council has developed this Renewable Energy Action Plan with the following objectives:

- To play its part in mitigation for, and adaptation to, climate change.
- "Increase use and innovation of renewable resources and decrease the use of nonrenewable resources" (source, ARC, sustainability strategy 2018-2023)
- To reduce the cost and uncertainty of future energy supply to Council infrastructure and transport.
- To attract and retain people and businesses to Armidale Regional Council.
- To support residents and local businesses suffering financial stress or discomfort due to energy affordability.

1.4 Decision Making Framework

The following framework was developed in consultation with Armidale Regional Council staff and Councillors to assist in evaluating the relative importance of projects identified through the Renewable Energy Action Plan:

- Carbon reduction – does the project contribute to Project Zero30
- Benefit/Cost – does the project have positive financial impact?
- Community benefit – how does the wider community benefit from this project?
- Logic – is the project practical, defensible, sound, ethical, enduring?
- Leadership – will the project stimulate positive change in others?

1.5 Desktop Analysis

Given that Council intends to power the entire organisation operations using 100% renewable forms of energy, we start by quantifying where energy is consumed, how much and in what form.

Electricity

The first task in developing this action plan was to complete a desktop analysis of all metered sites to create a general profile of how ARC uses electricity. Then further, to understand how contracts and energy supply arrangements are structured with various energy retailers and the network provider.

Armidale Regional Council engages E21 to provide a bill validation service and this portal was used to collect and verify site data.

The analysis was for a 12-month period for all sites was the up until May '22. Both negotiated 'Contract' sites and general 'Tariff' sites were analysed. In NSW consumers are entitled to negotiate or 'contest' a cheaper electricity retail charge if they consume more than 100,000 kWh per annum (100 MWh p.a.).

Only limited, bulk consumption data has been available for Council's tariff sites. E21 and the Energy retailers were contacted to obtain interval data where possible but most sites do not have this capacity. Raw data tables and analysis are not included in this report however further analysis follows in the appendixes.

Table 1. Contract site VS Tariff site summary

	No. of Sites	kWh	MWh	% usage	Cost $	% cost	c/kWh	GHG (tonnes)
Contract	12	2,913,558	2,914	82%	$ 642,112.95	76%	$ 0.22	2360
Tariff	102	648,907	649	18%	$ 200,823.52	24%	$ 0.31	526
Total	114	3,562,465	3,562		$ 842,936.47			2886

In the 12-months, the 12 Contract sites consumed 2,913 MWh of electricity compared to 650 MWh consumed by the 102 tariff sites as is shown in the Table 1.

While the major contract sites represent 82% of energy usage, they represent 76% of the overall energy costs. This reflects the marginally lower electricity c/kWh rates available for higher demand sites and is within the band of charges anticipated.

Scope 2 greenhouse gas emissions have been calculated referencing the National Greenhouse Accounts 2021 and show that Council emitted approximately 2886 tonnes via indirect emissions from consumption of purchased electricity.

Vehicles, plant and equipment

ARC own and operate a significant register of machines required to execute the various operations of Council. Ignoring workshop and landscaping tools, there are approximately ~56 pieces of minor plant/special equipment, a further 27 items of heavy plant and just under 60 vehicles.

The vast bulk of fuel consumed is diesel and petrol. It has been difficult to establish an average year for calculating consumption estimates but ARC appears to consume around 220 to 250,000 L of liquid fuel each year. Based on the split of diesel and petrol this equates to approximately 2,240,000 kWh of energy and leads to associated emissions in the order of 600 tonnes per annum. See Table 2 below.

Table 2. Annual fleet and plant fuel and energy demand with emissions.

Financial year	Approximate Litres consumed p.a.	Approximate kWh p.a	Approximate kWh p.m	Total Scope 1 GHG emissions (tonnes)
FY20	212,174	2,239,614	186,634.46	577.4
FY19	244,628	2,582,185	215,182.12	665.7
FY18	248,800	2,626,222	218,851.85	677.1
Average	**235,201**	**2,482,674**		

These figures become the working numbers for planning how to reach 100% renewable for vehicles, plant and equipment. The theoretical conversion of embodied energy in liquid fuels to kWh is useful to approximately indicate the quantum of energy required to move plant and people around for a year. That is, about 2.4 GWh compared to the 3.7 GWh required to power buildings and facilities.

However, there is wide variation in the efficiency of converting energy into 'work', or motion, between Internal Combustion Engine vehicles, Battery Electric Vehicles, Hybrid vehicles and Hydrogen Fuel Cell vehicles. For example, Battery Electric Vehicles (BEV's) make more efficient use of energy than Internal Combustion Vehicles (ICE) cars. (Around 90% conversion of energy to motion for BEVs compared to around 40% for ICE). Hydrogen varies again depending on the use of energy required to create hydrogen but is shaping up as a suitable fuel, particularly for heavy vehicles and plant. (It takes ~54kWh of electricity to make 1 kg of hydrogen which can then deliver ~33kWh of electrical energy)

A detailed mobile energy plan is beyond the scope of this report however we raise these figures because they are important in the context of Council becoming 100% renewable across all operations. A key implication of electrifying fleet and plant is that the energy to operate them can be produced locally. If Council chooses to invest in self-generation to meet carbon/energy targets, then consideration should be given to future electrification of fleet and plant and the capacity to create up to 2.4GWh locally from renewable energy. Section 4.7 below provide more dialogue around this.

Gas

In terms of reduced carbon emissions and increasing expense, ARC is in the fortunate position of having virtually no reliance on gas for heating or transport. While Armidale produced its own town gas up until late last century, it is not connected to a national or regional distribution network.

The absence of town gas, a legacy of poorly insulated homes and the rising cost of electricity has resulted in the proliferation of wood combustion heaters in many homes. Given that the city is situated in a valley and conditions are often calm, this results in significant air pollution.

There is growing interest and examples internationally of biogas being generated for municipal supply. While not core to recommendations in the REAP, Council may do well to 'keep a look out' for developments in this space. Being a region of primary production, it may be feasible to establish a biogas plant as a source of renewable gas for residential heating via distribution within the existing decommissioned infrastructure.

Energy Approaches

Constructive Energy has examined the entirety of Council's assets and operations with the view to becoming 100% renewable. We have considered the following broad approaches.

Stationary Energy

1. **Seek 100% renewable energy from suppliers.**

   Simply seek renewable electricity suppliers. Proximity with the New England Renewable Energy Zone (NE REZ) may be advantageous for this approach.

2. **Make your own energy.**

   Establish Council with sufficient renewable energy generation capacity to meet demand. This could occur in a literal sense with storage to dispatch energy as needed 24/7, or as an offset mechanism utilising the National Energy Network to absorb excess energy when ARC doesn't need it and provide energy when it does.

Mobile Energy

1. **Find alternative fuels and technologies**

   Electrify where possible and supply 'green' energy, seek biofuels for older heavy plant and move to hydrogen fuel cells over time.

2. **Offset energy use and emissions.**

   Quantify and offset fleet and plant emissions. Transition to alternative low-carbon technologies over time.

It should be noted that the NEREZ could ultimately supply around 1/3 of the energy needs for all of NSW, meaning that any smaller local loads, such as the city of Armidale, are effectively supplied with 100% renewable energy. Despite this reality, the National Energy Market does not distinguish between parts of the grid that are more or less renewably powered.

With the various REZs and other renewable energy projects in the pipeline, the Australian Energy Market Operator and many industry commentators expect the national grid to be 50% renewably powered by 2025 and 90% renewable around 2030. It is currently about 20% on a national scale but much higher in South Australia and Tasmania.

In effect, if carbon neutrality is the key driver, this results in Council having a legitimate 'do nothing' approach – simply purchase 'green' electricity for buildings and facilities and purchase offsets for the non-renewable energy associated with liquid fossil fuels.

This strategy however renders ARC as a 'price taker' only. This report examines opportunities for Council to become investors and long-term financial beneficiaries of energy infrastructure in the process of becoming 100% renewable.

ARC has already invested in on-site solar for several facilities and has other projects 'in the pipeline'. Constructive Energy did not seek to replicate this work, rather to aggregate and examine the overall energy consumption story for contract and tariff sites.

1.0 Contract Site Analysis

All contract sites were analysed in detail and summary findings are included in Appendix 1 of this report.

2.1 Contract Site Overview

The following table lists all contract sites with their usage and annual cost per kilowatt hour (c/kWh), to help identify which sites might be the most important to focus on. The summary table represents the rolled-up costs (i.e., supply and consumption) and will change between bills and years, however it does help identify expensive sites and sub-optimal contract terms.

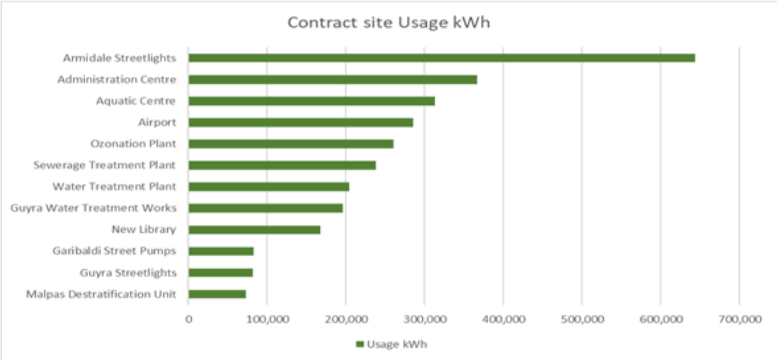
Table 3. Armidale Regional Council usage and costs for Contract sites

Site Name	Usage kWh	GHG tonnes	Cost $	c/kWh
Malpas Destratification Unit	73,247	59	$ 14,001	$ 0.1912
Guyra Streetlights	81,838	66	$ 16,391	$ 0.2003
Garibaldi Street Pumps	82,840	67	$ 15,388	$ 0.1858
New Library	167,508	136	$ 34,308	$ 0.2048
Guyra Water Treatment Works	196,499	159	$ 62,867	$ 0.3199
Water Treatment Plant	204,426	166	$ 48,133	$ 0.2355
Sewerage Treatment Plant	238,085	193	$ 55,589	$ 0.2335
Ozonation Plant	260,779	211	$ 64,907	$ 0.2489
Airport	285,181	231	$ 65,726	$ 0.2305
Aquatic Centre	312,622	253	$ 61,254	$ 0.1959
Administration Centre	367,004	297	$ 74,271	$ 0.2024
Armidale Streetlights	643,529	521	$ 129,277	$ 0.2009
	2,913,558	**2,360**	**$ 642,113**	$ 0.2208

On the face of this information, one might focus on sites with the highest c/kWh rate or those with the highest consumption however, more detailed analysis can often move the priority elsewhere.

The following Chart 1 relates to the same data but provides a clear visual indication of which sites consume the most electricity.

Chart 1. Contract site usage



The two largest consumers of energy were the streetlighting and the Administration Centre. While Chart 1 reveals the relative total consumption, hidden within these figures are existing behind the meter solar installations and variable daily and seasonal usage profiles. These profiles provide important insights into optimising management, technology interventions and retail arrangements for each site.

2.2 Billing Structure

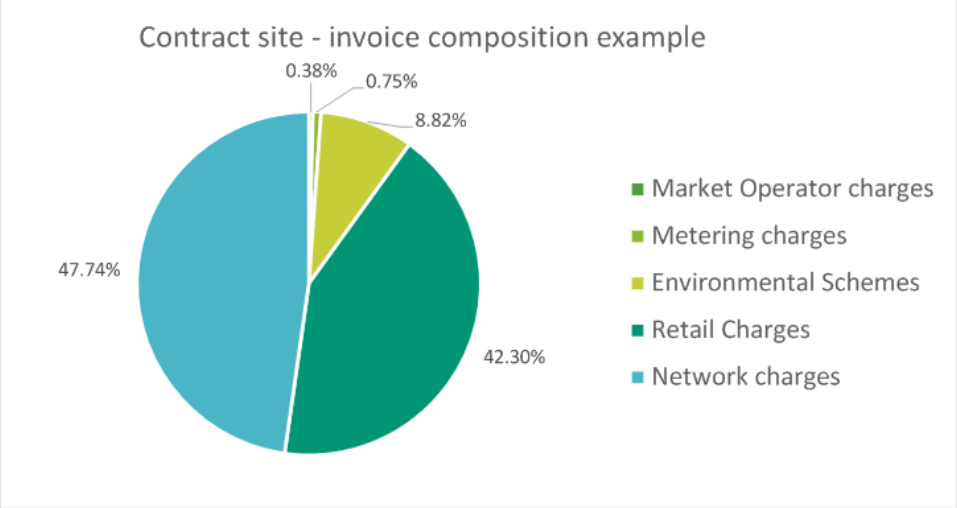
The billing structure becomes important when considering the potential of on-site renewable energy to reduce costs and drive operational changes. The following table is an excerpt of a bill for the Armidale Regional Council Administration Centre and provides a detailed breakdown of the charges for electricity supply to this site.

Example Invoice for Administration Centre

Energy Charges	**Consumption**		**Unit cost c**	**Total charge**
Peak Energy	5,736.30	c/kWh	9.421	$540.42
Shoulder Energy	12,174.20	c/kWh	9.421	$1,146.93
Off Peak Energy	18,735.00	c/kWh	6.583	$1,233.33
Losses {DLF =6.640; TLF = -3.29; Rate = %}		%	3.1315	$91.46
Sub-Total				$3,012.14
Market Charges				
Ancillary Services Charge	39,078.00	c/kWh	0.0327	$12.78
ESC	39,078.00	c/kWh	0.1876	$73.31
LRET	39,078.00	c/kWh	0.2966	$115.92
SRES	39,078.00	c/kWh	1.1233	$438.95
NEM Fee	39,078.00	c/kWh	0.0368	$14.38
AEMO FRC Operations	31	c/day	0.3643	$0.11
Sub-Total				$655.45
Network Charges				
Network Peak Energy	3,134.00	c/kWh	4.2784	$134.09
Network Shoulder Energy	14,776.60	c/kWh	3.7133	$548.70
Network Off Peak Energy	18,735.00	c/kWh	2.4364	$456.46
Peak Demand	77.2	$/kVA	9.9526	$768.34
Shoulder Demand	94.6	$/kVA	9.0047	$851.84
Off Peak Demand	80.4	$/kVA	2.1848	$175.66
Fixed Charges - Daily Rate	31	$/meter/d	14.9752	$464.23
Sub-Total				$3,399.32
Associated Charges / Adjustments				
Metering Provision	31	$/meter/d	1.6667	$ 51.67
Value Added Service	31	$/day	0.0656	$ 2.03
Sub-Total				$ 53.70
			Total (inc GST of $712.06)	**$ 7,832.67**

For ease of analysis the charges can be grouped and represented visually as per the chart 2 below.

Chart 2. Contracted sites bill comparison (May 2021)



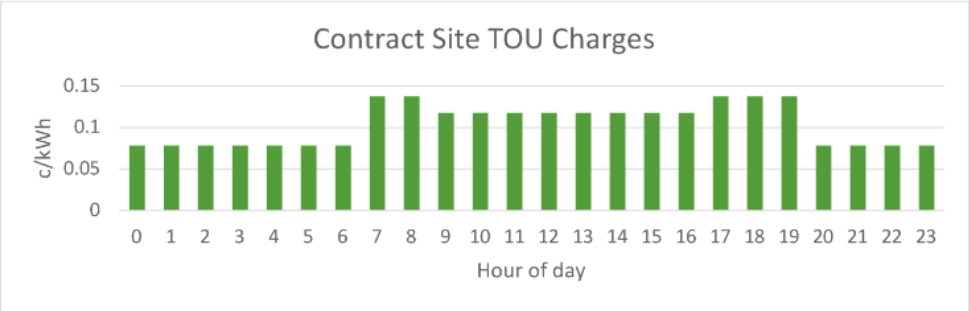
There are important insights to be made from this information.

- Consumers have no bargaining power over the Network, Market, Metering or Environmental charges. The only way to avoid these is to not buy electricity.
- 42.3% of the bill is open to negotiation (retail charges). If, for example, one could halve the retail charge rate, the overall bill saving would be 21.15%, or, in the above example $6,332 vs $7,823.
- The reason that 'behind the meter' (BTM) projects are attractive is because they reduce all elements of the bill through reducing the full purchase of electricity.
- Embedded networks and Microgrids the include generation can also reduce network charges.

Being aware of the charge structure can also lead to simple 'wins' through load shifting. The below chart shows the current retail charge structure for Armidale Regional Council's large usage sites.

The most cost-effective time of day to consume electricity is in the Off-peak period from 8pm to 7am. Shoulder times (9am-5pm) and Peak times (7-9am and 5-8pm) are charged at higher rates.

Chart 3. Contract Sites - Time of Use retail charges



The differential between peak and off-peak charges can provide the economic rationale for battery storage and/or behind the meter load shifting. Most obviously, energy can energy be purchased at the least expensive off-peak times, stored and then consumed behind-the-meter in the most expensive periods. At the time of writing battery costs remain too high for this approach to be cost-effective however, paired with on-site solar, a battery can make sense to reduce exposure to peak tariffs.

Often there is a more immediate opportunity in load shifting through demand control. A range of technologies now exists to automate devices, from simple timing switches to more complex sensor driven controllers. This already occurs to some extent at ARC where, for example, plant operators seek to lock-out pumps from running during peak times.

2.3 100% Renewable

Combined with low-carbon drivers, understanding the composition of electricity fees and charges can lead to the ideal of going "off grid", however, other than for new installations, this will generally push out a pay-back period compared to a grid-connected solution due to the inability to sell excess energy.

It would be impossible to achieve 100% renewable capacity at each of these sites with on-site solar only, not least because of limited site space and grid connection constraints. An on-site battery can be sized to accommodate the full demand however to effectively 'off grid' the facility requires significant investment.

A third approach would be to integrate a co-generation or hybrid energy plant. Biodiesel cogeneration plants are readily available commercially. Hybrid energy systems with on-site solar and wind generation plus battery and back-up generator are increasingly common for off-grid homes and larger industrial applications.

The key question is 'Is managing these sites in isolation better than a collective approach to the full suite of council assets?'

Considerations include Council capacity/desire to own/operate additional infrastructure with commensurate increase in O&M, insurance, etc.

Recommendation: 1. Improve energy transparency and control at all sites. 2. consider closely the relative merits of creating a situation where a council owned, mid-scale renewable energy generator can be established to, in time, provide energy for contract sites for near zero cost, versus reducing overall consumption with oversized BtM systems and an energy sharing platform.

3.0 Tariff Site Analysis

3.1 Tariff Site Overview

Armidale Regional Council manages 102 facilities with unique connections to the electricity network via a National Meter Identifier (NMI). For this analysis we have grouped these sites into areas of common function as per Table 4 below. As with contract sites, the simple derivative of annual cost divided by consumption gives an indicative c/kWh and provides a metric to prioritise sites that will benefit from a BtM renewable energy installation or efficiency intervention.

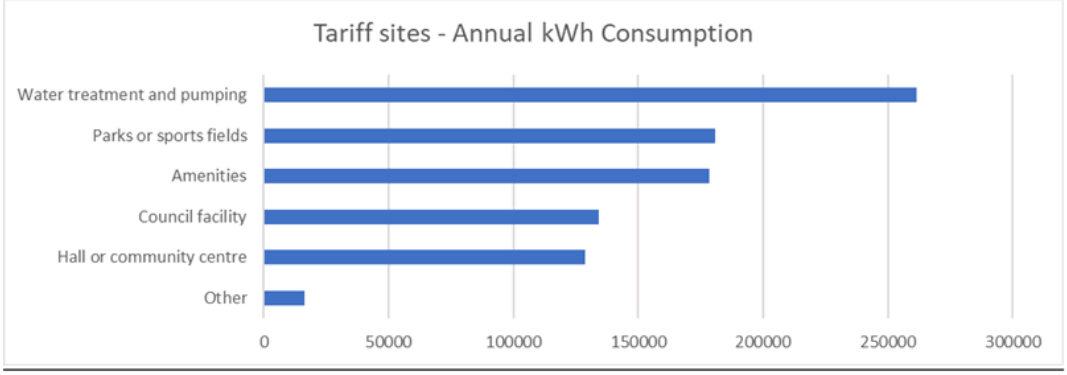
Table 4. Tariff sites cost and usage breakdown

Site group	No. Sites	Annual kWh	GHG tonnes	Annual cost	c/kWh
Amenities: Toilet blocks, lookouts and Mall.	31	178,332	144	$ 54,098.54	30.34
Council Facility: Depots, offices and dog pound.	10	134,147	109	$ 34,328.95	25.59
Community centres: Halls, community centres and libraries.	12	128,772	104	$ 36,247.75	28.15
Other: Any other site that did not fit into the other listed categories.	9	16,286	13	$ 6,931.68	42.56
Parks and fields: Sports facilities, parks and gardens.	23	180,813	146	$ 52,901.05	29.26
Water treatment or pumping: Sewer, septic and water pumps.	17	261,646	212	$ 68,481.04	26.17
	102	899,995	729	$ 252,989.01	30.34

*Indirect emissions from consumption of purchased electricity

Chart 4 below represents the same information in a manner that allows us to see the groupings that draw the most energy. Water treatment and pumping are typically the highest demand group for councils.

Chart 4. Grouped tariff sites annual kWh usage chart



Further insight is gathered by looking into the individual sites that consume the most energy. Table 5, below, displays any sites that consume over 20,000 kWh pear year.

Table 5. Tariff sites cost and usage breakdown

Site Name	Annual kWh	GHG tonnes	Annual cost	c/kWh
Swimming Pool	76,930	62	$ 20,294.45	26.38
Depot Mann St.	53,799	44	$ 13,654.23	25.38
Madgwick Pump Station	31,383	25	$ 8,329.65	26.54
Dog Pound	30,177	24	$ 6,332.01	20.98
Ross St. Reservoir	23,625	19	$ 6,730.08	28.49
Dumaresq Dam	21,767	18	$ 6,035.74	27.73
Traffic Education Centre Mann St	20,432	17	$ 5,851.47	28.64
Kent House	20,009	16	$ 5,539.79	27.69
	278,123	**225**	**$ 72,767.43**	**26.48**

*Indirect emissions from consumption of purchased electricity

Our analysis demonstrated that the ARC swimming pool is eligible for contestable tariff negotiation in the next retail contract period. However continual tariff review is also likely to remain of value for this group of facilities, and all others on contestable tariffs, particularly with greater understanding and control of the daily usage profile.

Key questions

- Which of these sites is best suited to BtM solar?
- Which sites can change their energy use through either behaviour change or technology?
- How can we get interval/operational data for these sites?

3.2 Tariff Site Strategy

The c/kWh column in Table 5 above is a relatively blunt but useful metric. Understandably, the sites that appear most expensive are those with low or intermittent use, raising the relative proportion of the fixed connection charges. The highest of these figures point to potential disconnection of certain sites from the grid and replacement with standalone solar-battery systems. As an example, this approach could be cost-effective for some amenity blocks. Certainly, this approach should be considered for all new facilities where connection costs can be redirected into off-grid CAPEX with little on-going outlay.

Of the larger tariff sites, beyond energy efficiency measures, there are three strategies for reducing costs; behind the meter solar installations, self-consumption of export from other Council sites at a reduced fee (see more on this below), and load shifting to optimise tariff structures. While we know there are some sites that are 'no-brainers' for small roof-top solar, it would be better to make decisions based on data and again, we are limited by the lack of energy consumption interval data at the tariff sites.

Behind the meter renewables

It is likely that rooftop or on-site solar opportunities exist at most of the tariff sites and there may be an argument for behind the meter battery installation at some sites to avoid peak tariff charges and participate in emerging demand response opportunities.

This approach is analysed below in section 4.3.2 Distributed Solar Installation.

Internal energy sharing

Over recent years the capacity has emerged to pool several solar sites, managing them as a Virtual Power Plant (VPP), and/or to specify pathways of energy sharing between customers/sites – known as Peer-to-Peer trading. Examples already exist in Australia and conceptually this could be a useful model for ARC. There is a financial advantage in paying ones-self for energy or, in time, supplying excess from site A to site B for free (although network charges still apply).

The establishment of internal energy trading will necessitate both upgraded metering devices, a cooperative retailer and identifying a hierarchy applied to sites. The hierarchy will be based on factors such as consumption profile, overall load/cost and social benefit. This hierarchy enables Council to optimise the excess summer export from a Council owned and operated 'Virtual Power Plant'.

Later in this report we take this approach to an extreme and investigate the opportunity to consume energy at every ARC site with electricity which has been generated at a single large site. This enables the pay-off of an array to be made with funds already budgeted to operate multiple sites. As is the case for the distributed generation approach, once the single large array is 'paid back' Council can choose to supply to itself for a very low marginal cost.

Load shifting

There are advantages in having the ability to control when and how energy is consumed. Most obviously the ability to avoid peak charge periods and optimise lower fee windows, however there are also emerging markets for Demand Response. This is where network operators (retailers or network providers) make payments to consumers for decreasing load or providing/choking supply in response to issues managing the entire network. An example is asking Council to turn off non-essential loads in heatwaves to avoid overloading the network and causing blackouts.

This capacity is contingent on equipment installed at the switchboard, a software interface with embedded control logic and a participating retailer. There are several suppliers in the market and more emerging with devices ranging from "Super smart meters" which report to retailers and have load control capacity embedded, through to multiple sub-circuit controllers.

As of October 2021, it has become easier for retailers to offer demand response payments and Councils that can aggregate larger amounts of energy to verifiably and easily control, will be well positioned to participate in this new market mechanism.

In time, and as the level of available site data improves, it will be possible to implement and accurately measure energy saving initiatives such as retrofits and behaviour change programs.

Recommendation: Regardless of the direction chosen in regard to strategies for tariff sites, we recommend that all installations of solar and/or electrical upgrades now be accompanied with a smart meter installation, preferably with embedded load control functionality.

4.0 Priority Renewable Energy Options

As with most things in life, it may be that there is no silver bullet solution and in-fact we are looking for 'silver buck-shot' with multiple strategies. For this reason, it is important to be clear on core objectives and the decision-making framework in evaluating alternative options.

In this section of the report Constructive Energy have highlighted the projects we feel stand out given our understanding of ARC objectives.

4.1 Energy Efficiency Measures

Before investigating alternative sources of energy, maximising energy efficiency should be a primary objective. To reinforce this the following measures are recommended (and to some extent already evident at ARC):

- **Monitor consumption**: Engineering and/or Finance are responsible for reviewing energy usage at all sites and of key equipment/assets.
- **Reporting and performance**: Energy use for sites/assets is reported in regular section meetings and efficiency forms a component of staff Position Descriptions and Performance Reviews.
- **Procurement policy**: Energy consumption rates are considered in the procurement of any new equipment or servicing and maintenance of existing items. This includes new buildings and vehicles.
- **Retrofit strategy:** Building modifications will be carried out at least in part for the purpose of reducing energy consumption.
- **Education**: Armidale Regional Council makes it easy for staff and constituents to reduce energy consumption through promotion of strategies and materials that facilitate energy efficiency.

- **Planning**: Armidale Regional Council promotes energy efficiency in design through the planning phase where applicants are encouraged to adopt Guidelines for factors including – insulation, glazing, orientation, primary equipment, water use, etc.
- **Product broker**: Armidale Regional Council applies knowledge and purchasing power to support residents and businesses with products that reduce their energy consumption.
- **Street lighting**: Armidale Regional Council continues to work with other councils/programs to replace existing lights with efficient alternatives.
-

Recommendation: That ARC integrate the above strategies into ordinary operations.

4.2 Smart metering and load control

Australia is in transition from a centralised, 'dumb', monopolistic grid with fixed central generation and regional distribution, to a dynamic, integrated and distributed network of coordinated generation and load at varying scales. With the privatisation and corporatisation of generation and transmission assets, and the opening of retail markets in NSW to competition, the sector is experiencing unprecedented growth in the number and type of generation assets and innovation in technology and retail mechanisms. The days of simply looking for the best kWh price from a limited pool of options, and then forgetting about it, are over.

In this context, data is increasingly important along with the old adage, "*what we inspect we improve, what we measure we manage*".

Retailers are now reluctant to send people into the field to read meters when the automated alternative, digital meter, is less costly and more accurate. So called "Smart Meters" can measure consumption in intervals, usually of 30 or 5 minutes, and these can be used to create a usage profile, as has been completed for this report, but also to enable billing on a cost-reflective basis. Beyond this functionality, a new range of 'super smart' meters are also able to control a number of devices by sending signals to relays on the basis of pre-defined logic. These meters can report to a portal or mobile device for instantaneous reading of energy consumption.

Load monitoring and controlling devices may or may not also be equipped with appropriate approvals to act as the network meter. In other words, there is a choice to either seek a meter that does everything, or to separate the network meter for billing, and the monitor and control device that provides operational intelligence and control. Both devices usually exist at the switchboard. It is critical that the metering

Recommendation: ARC invest in the roll-out of meters with monitoring and control capacity across all assets with both significant consumption and, ideally, the potential to move or modify loads without adversely effecting operations. It may even be possible to leverage retailer relationships so that the cost is borne, or at least shared, as part of the energy supply contract. Although all sites could be monitored, we suggest that there are about 40 priority sites which would benefit from smart meters.

platform can be used to provide close to real-time data through an accessible dashboard which may also eliminate the need for bill-validation platforms.

4.3 Solar

Solar Photo-Voltaic (PV) cells are a proven technology capable of delivering on-site electricity for immediate consumption and/or export. While panel efficiency has improved in recent years, the major factor driving an increase in solar installations has been dramatic reductions in panel costs, combined with government subsidies. The subsidies for systems less than 100kW (Small Technology Certificates or STCs) are reducing year on year until being completely phased out by 2030. Subsidies for systems larger than 100kW exist in a market mechanism (Large Generation Certificates or LGCs) that has been volatile and oversubscribed to date resulting in uncertain and low values, also declining to zero by 2030.

Currently the greatest economic impact from solar is to consume locally and avoid purchasing from the grid – known as Behind the Meter (BtM). This works particularly well when the demand pattern of solar use closely matches the intensity of the sun.

In the context of becoming 100% renewable, these circumstances lead to 2 principal approaches; several sub-100kW systems distributed over multiple sites and larger mid-scale single site systems in the order of 500kW to 5 MW. These two approaches are detailed below.

4.3.1 Medium Scale Solar Arrays

The reasons to consider investing in a mid-scale generation asset include:

- Reduced complexity in number of installations to install and maintain
- Capacity to reach 100% renewable energy target
- Acceptable financial performance
- Leadership and useful practical experience

And in the context of the REZ

- Potential for financial or material assistance from REZ suppliers and stakeholders

When identifying a potential location for standalone medium scale renewable energy installations, it is important to consider proximity to suitable power lines, transformers and electricity substations; close range of a substation or appropriate 'feeder' can lead to more cost-effective grid connection for larger arrays.

Larger solar installations require more research and modelling than those installations below 5 MW because they can have a disruptive and damaging impact on the network. Facilities under 5MW require an intermediary licenced market participant to sell into the National Energy Market but currently avoid extensive Australian Energy Market Operator (AEMO) reporting requirements. Once the 5MW threshold is broken, these additional costs, along with increased implementation costs such as network fault protection works, typically result in systems of around 8MW or more to stack up financially. It is likely that the 5MW threshold will change in time as the Market Operator recognises the value in increased mid-scale generation across the network.

There is another threshold within the Essential Energy distribution network at 1MW, below which the potential network impact, and hence approval process, is usually significantly easier and less costly. Solar

installations below 1MW may not be regarded as High Voltage customers whereas arrays over 1MW require Connection Investigation Services Agreements that will incur fees in the order of $25,000 to $250,000, not including detailed engineering and High Voltage design.

In the Armidale Regional Council LGA there is an obvious opportunity for mid-scale solar adjacent to the Sewerage Treatment Plant. Our understanding is that land to the east and south of the facility is Council owned. In the image below we have marked a ~6 ha area that would readily accommodate a 5 MW solar array and which has the advantage of advantageous topography and relative seclusion from view. Sites near STPs have the added advantage of being situated on land that is otherwise 'sterile' from a development perspective.

Also positive for this location is proximity to the regional zone substation (directly south over the highway) which typically results in easier and less expensive network connection and augmentation costs.

Map 2. Potential mid-scale solar site (Six Maps, June 2022)

There will be other suitable sites available within the distribution network within the LGA which may support smaller arrays than those over the 1MW threshold and which, depending on strategy, would be required for Armidale Regional Council to become 100% renewably powered and to offset carbon emissions. Ideally Council would own land or assets for solar and battery installations, however this is not critical as, for example, site lease costs can be integrated into the business plan.

Financial considerations

The commercial development appetite for medium to large solar arrays has varied over time in response to government policy uncertainty and trends in the daytime market price. Despite the surge in wholesale market pricing at the time of writing, there are now periods where solar supply exceeds market demand and this is pushing the pool price down, resulting in the so-called 'duck curve' already evident in some parts of the NEM (National Energy Market) particularly during Spring and autumn months. In the past, the market price average was reliably above the cost of production and may well remain there for some time making solar projects profitable, but there remains a risk of a revenue shortfall. This issue has been exacerbated by network constraints resulting in Market Operator curtailment of export from large solar

farms. In our view this reinforces the case for more, smaller, solar arrays within the Distribution network – provided that there is a customer 'locked in' at an appropriate rate.

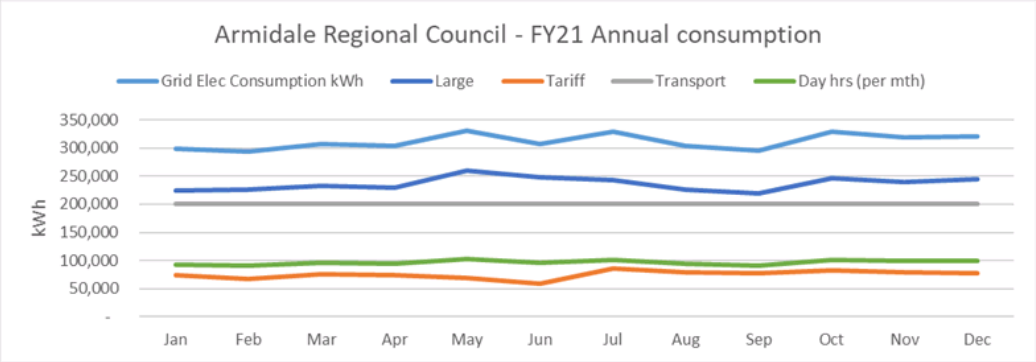
Developers usually seek to secure revenue by locking in customers with a fixed price Power Purchase Agreement, however for Councils the opportunity exists to create alternative models that value self-generation matched to self-consumption – effectively being your own customer. There are 2 broad retail mechanisms to achieve this: a floating wholesale market process and a hedged offtake agreement.

With supply matched to demand and a floating market price, the Council is less concerned with what the energy price is at any point in time and more concerned about the transactional cost. That is; if the NEM price is high then increased costs of consumption are offset by increased revenue for the array. Equally, low prices reduce revenue to the array but save on expenditure at Council sites. To avoid excess export at low value it is important to match the solar array size to demand, noting that the opportunity exists to increase the pool of customers by signing up local Commercial and Industrial facilities. Of course, once the array is paid off, Council has access to electricity at negligible cost (refer to the section "Council as energy retailer" below).

Understanding this model is critical to the decision for Council to invest in a mid-scale array as without it, CE would not currently advise Council to proceed with a mid-scale solar project. Indeed, it will be difficult to secure finance if a project is totally exposed to market or merchant risk. See more about this in section 4.4 Council as Energy Generator/Retailer.

Modelling was completed to examine what the options might be for ARC to progress a mid-scale array. Local climate data was used to project solar generation and aggregated to monthly figures. These were mapped against actual usage for the 2021 financial year. The following chart represents annual consumption in aggregate and the percentage of usage likely to currently occur in daylight (solar production) hours. It also includes the approximate equivalent electrical demand for substitution of transport fuels.

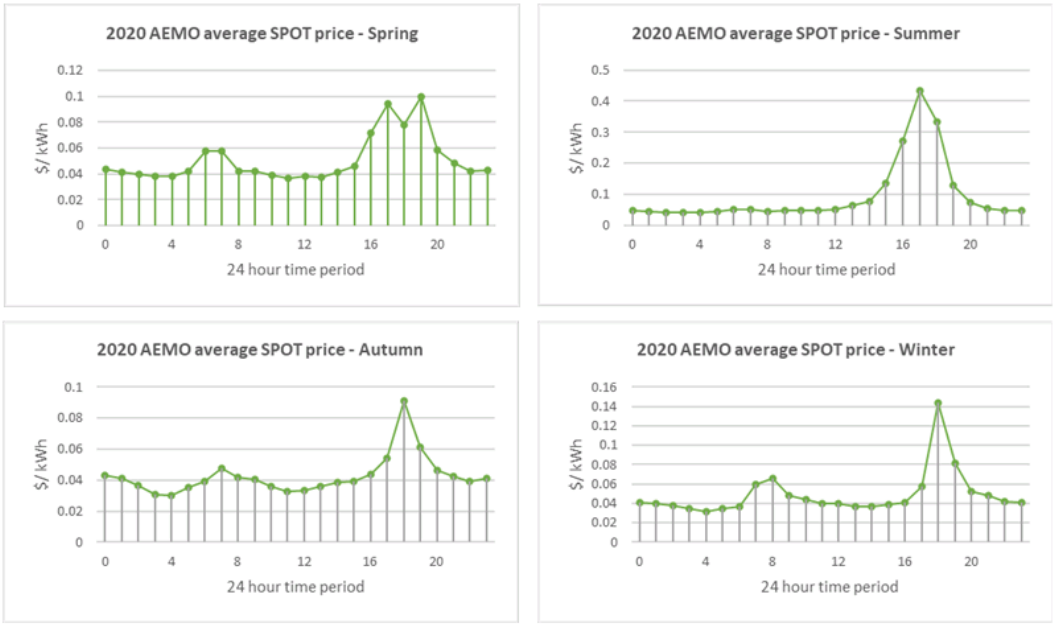
Chart 5. Armidale Regional Council Annual electricity consumption



The profile is interesting as it visually represents two important factors relevant to solar generation; minor peaks for consumption occur over winter and early summer months and consumption during daylight hours is around 1/3 of total consumption.

We now need to understand how this profile interacts with the wholesale or spot price on the National Energy Market. The charts below indicate that, on average, summer is a good time to be selling solar energy into the spot market at the end of the day as the price is relatively high compared to other seasons – particularly in the peak heat of mid-afternoon. However, in winter 2020 the evening spike, while shorter in duration, was higher in value than summer. In shoulder seasons daytime export is of lesser value than the morning and evening peak periods.

Chart 6. Seasonal average AEMO (Australian Energy Market Operator) NEM Spot electricity price charts



Care should be taken in drawing too many market inferences as these curves change from month to month and year to year and future changes in the energy sector are uncertain, particularly over the multi-decade lifespan of a renewable energy generator. For example, what impact will closure of coal fired power plants have? If a carbon price returns, what will this do? As batteries and EVs enter the mainstream, will the evening peaks diminish?

What we can say though is that people are still likely to use more energy at the beginning and end of each day, winter and summer will require more energy for heating and cooling than autumn and spring and retailers will still need to apply a risk margin to offer stable pricing.

As coal-fired plants close down, new generation and storage enters the market, and there is increased electrification of everything, it is very difficult to predict the market. We anticipate that the continuing influx of solar into the market will further depress daytime spot prices at times until the point that storage becomes a 'no-brainer', creating demand for this cheaper energy and thereby pushing the price back up. Similarly, as more and smarter generation and demand control enters the market, it is easy to imagine the price curves flattening out.

Project scale

We now investigate factors that would influence the size of a stand-alone solar array that would enable council to be a 100% NET renewable energy consumer. For the sake of illustration, the scenario assumes that ARC is happy to pay itself 8c/kWh for solar energy which represents a saving of approximately 6c off small site retail and 4c for large sites, and that export is also purchased by a third party for 8c. We have also modelled the array install cost at $1.45 per watt which is inclusive of all project costs.

Our analysis indicates the improved financial case for Council self-consuming the energy vs finding a consumer willing to enter into a Power Purchase Agreement (PPA) for 8c (more likely around 6.5c at present) or relying solely on the energy spot market. Not surprisingly, the key variables for financial return are the install cost and sale/purchase price per kWh.

Table 6. Summary table of generation and revenue (FY21 Consumption figures)

Council consumption								$ 0.08	$ 0.04	$ 0.08
Month	Large	Tariff	Gas	Transport	Combined	Day hrs (per mth)	Export	Int'l rev.	retail saving	Exp. rev.
Jan	223,669.98	74,351.68	-	200,000.00	298,021.66	92,387	452,051	$ 7,391	$ 3,695	$ 36,164
Feb	226,632.65	66,929.00	-	200,000.00	293,561.65	91,004	357,681	$ 7,280	$ 3,640	$ 28,614
Mar	232,421.02	75,351.78	-	200,000.00	307,772.80	95,410	273,832	$ 7,633	$ 3,816	$ 21,907
Apr	229,183.26	74,922.35	-	200,000.00	304,105.62	94,273	173,585	$ 7,542	$ 3,771	$ 13,887
May	260,367.19	69,697.56	-	200,000.00	330,064.76	102,320	91,353	$ 8,186	$ 4,093	$ 7,308
Jun	248,830.22	59,058.31	-	200,000.00	307,888.53	95,445	56,427	$ 7,636	$ 3,818	$ 4,514
Jul	243,342.62	85,157.36	-	200,000.00	328,499.98	101,835	71,409	$ 8,147	$ 4,073	$ 5,713
Aug	225,844.20	78,677.63	-	200,000.00	304,521.83	94,402	138,611	$ 7,552	$ 3,776	$ 11,089
Sep	218,950.55	76,732.30	-	200,000.00	295,682.85	91,662	223,174	$ 7,333	$ 3,666	$ 17,854
Oct	245,687.69	83,111.96	-	200,000.00	328,799.64	101,928	308,688	$ 8,154	$ 4,077	$ 24,695
Nov	240,328.61	78,836.58	-	200,000.00	319,165.19	98,941	352,711	$ 7,915	$ 3,958	$ 28,217
Dec	243,987.78	77,168.28	-	200,000.00	321,156.05	99,558	421,686	$ 7,965	$ 3,982	$ 33,735
Totals	2,839,246	899,995	-	2,400,000	3,739,241	1,159,165	2,921,207	$ 92,733	$ 46,367	$ 233,697

Scenario – 100% Renewable Energy generation offset matched to ARC's stationery energy consumption.

In this scenario, we have matched an array to meet energy consumption on the basis of creating a revenue stream to offset unavoidable usage in non-solar-producing hours and to reach 100% renewable status in terms of carbon abatement. The size of an array to achieve this is approximately 2,500 kWp.

Chart 7. Solar generation matched to consumption

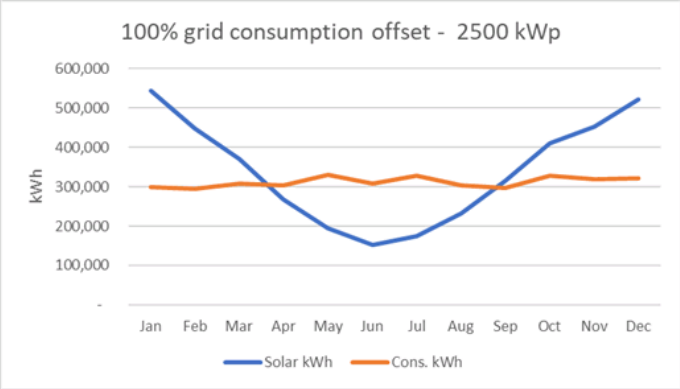


Chart 7 indicates that the bulk of all energy consumed, 24 hours per day, both exceeds and is less than the amount generated depending on the season. In terms of annual volume however the curves are equivalent. The corresponding revenue charts are displayed below.

Chart 8. Intersection of monthly revenue/value curves

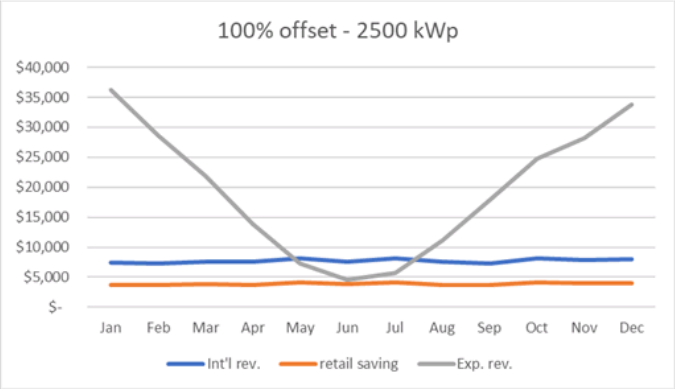
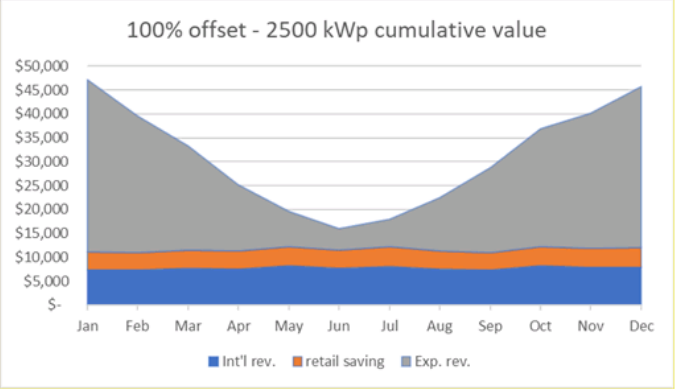


Chart 9. Cumulative value



The above analysis has been undertaken to illustrate concepts, highlight risks and demonstrate the impact of alternative approaches to becoming active in the renewable energy generation space. We have been careful to be realistic and conservative in our analysis however detailed modelling, costing and analysis will be required before investing in a project. For instance, if Council plans to electrify fleet and plant, or expand operations in the future, this demand should be estimated and the array size increased correspondingly.

That said, our analysis reveals that it is possible for an investment in a single site array of around $3.75 million to create annual value of about $373,000, with Council paying off their own solar farm in around 10 years instead of paying a retailer. After this point, council can decide what to do with ~4 GWh of free energy each year.

Clearly there is also value in being able to vary consumption to be within solar producing hours or in least-cost market hours.

Further consideration is required into final sizing of a mid-scale array for Council. Because of a certain level of fixed project costs, it usually makes better financial sense to maximise the 5MW connection threshold to the network. This would result in the array creating an additional 4GWh of energy per year. Council may choose to establish a PPA or find local customers to value this energy, creating a revenue stream.

Given that the minimum effective life of a solar array is the warranty period, i.e., 25 years, and in-fact usually more like 40 years, Council have the capacity to structure finance over a longer term to deliver increased cash flow now, or as-short-a term as possible to pay off quickly and create an effectively free energy supply. Aside from whatever advances in technology are available at that time in the future, including electric vehicles, there are a wide range of social impacts that could be supported with this low-cost energy.

Constructive Energy has completed detailed modelling for other Councils who have elected to proceed with this approach based on favourable economic and social returns. The project will reduce current outgoings for energy in the medium term, pay off an array in just under 10 years, engage local business with lower cost local renewable energy and deliver a financial dividend of ~$9 million over 25 years.

If Armidale Regional Council elects to further investigate this concept CE can facilitate the necessary system design and Network Enquiries and work with Council to develop the detailed business plan.

A final point of note is to consider that there may be city-based local governments that would welcome the opportunity to partner with a 'country cousin' that can generate renewable energy for them, to offset their usage. This could be another way of locking in price certainty and revenue to de-risk the business plan.

4.3.2 Distributed Solar Installation (+ Virtual Net Metering/Virtual Power Plant)

ARC has previously investigated Behind the Meter (BtM) solar for multiple facilities and installed a total of 393kW on 7 out of 11 identified potential sites as shown in the table below. These installations have successfully lowered Council's grid consumption and operational costs.

Table 7. Existing on-site solar installations

Site	Town	Size (kWp)	Comments
Civic Administrative Building	Armidale	0	Not suitable roof structure
Visitor Information Centre	Armidale	4.58	Roof
Airport	Armidale	99.6	Roof
Armidale STW	Armidale	99	Ground Mount
Armidale Mann Street Depot	Armidale	29.9	Export limit 30kWp
Malpas Dam	Armidale	0	Export limits
Streetlights	Armidale	0	Replacement of 724 lights with energy efficient LEDs
Armidale Cycleway	Armidale	0	Solar lighting - installation of 49 new solar lights (funding through the Safer Communities Fund)
Kolora Aged Care Facility	Guyra	99.9	Roof
Guyra Works Depot, Ryanda Street	Guyra	30	Not sure on exact installed amount
Guyra swimming pool	Guyra	30	Swimming pool.
Total		393.0	

Constructive Energy have investigated the potential for additional on-site solar across Council operations in terms of both economic impact and the capacity to reach 100% renewable.

BtM solar arrays obviously generate electricity during daylight hours which, when there is a load on the facility electrical circuits, stops the need to import energy from the grid, thus avoiding power costs charged on a per kWh basis. If the solar is generating more energy than is currently required, this excess energy generation is sold into the network at a negotiated feed-in tariff or shared with other consumers. An ideal site for this type of installation (where a faster return on capital investment can be achieved) should present the following characteristics: -

- High, regular electricity consumption, with most of the usage occurring during the daylight hours.
- Large suitable roof structure, preferably north facing and not shaded, or suitable nearby space for ground/frame mounted solar.

Important Considerations

- Identify project drivers as cost, energy-sharing and carbon offsetting will all lead to different answers
- Size and design individual systems correctly to meet the identified objectives
- The Small-scale Renewable Energy Scheme currently offers significant discounts on solar systems smaller than 100kW. The scheme reduces in value on 31st December each year until it ends in 2030.
- Systems larger than 30kW require additional costs associated with network connection studies and permission from the network provider to connect to the grid.

There are currently new technologies and market-place arrangements being developed that allow peer-to-peer solar energy trading between properties, known as Virtual Net Metering (VNM) and the ability to collectively manage multiple installations, known as a Virtual Power Plant. At a small scale, a household can trade their excess solar generation to a property of their choosing at a negotiated price. This system usually requires both parties in the transaction to be with the same retailer and arrangements can be put in place for one-off transactions or longer-term periods.

Using this concept, it is possible for Armidale Regional Council to develop a Rooftop Solar Virtual Power Plant large enough to power a major portion of Council sites and other businesses and residences in the LGA. This collective approach is consistent with the objectives of Project Zero30 and may see, for example, Council subsidise or facilitate the installation of solar and battery systems at selected third party/community sites. This approach would also require a shared retailer.

Important Considerations

- All properties/customers operating within the network would need to have a supply contract with the same retailer. The retailer would also need to be involved in setting up and operating the system.
- A specific meter/device is required to monitor and acquit energy usage.
- The project may require a significant effort to recruit customers (which could include customers outside of the LGA if desired).

To illustrate this opportunity CE considered the impact of existing/augmented solar systems and new BtM installations as part of a holistic program. The system sizes include actual existing installations and an estimate of what might be practical and/or permissible on some additional sites. The sites would be 'oversized' in terms of optimal financial return for any given site on the basis that Council is seeking to optimise renewable generation for self-consumption.

Table 8. Example distributed solar BtM installations

Site Name	Annual Site cons kWh	BtM System	On site gen /yr	Self cons kWh	Avoided GHG tonnes (Scope 1)
Airport*	323302	100	154,905	80,551	65
Sewerage Treatment Plant*	312364	100	144,553	75,168	61
Water Treatment Plant	205222	100	138,048	71,785	58
New Library	170825	60	92,588	48,146	39
Aquatic Centre	145051	300	414,141	75,427	61
Guyra Swimming Pool*	148712	30	41,413	21,535	17
Depot Mann St.*	87012	30	46,823	24,348	20
Depot Ryanda Street*	56308	30	46,823	24,348	20
Kolora Hostel*	21327	100	136,437	7,296	6
Malpas Dam	12449	30	46,471	6,474	5
Guyra Showground	11878	10	14,593	7,588	6
Visitors Info Centre*	15540	5	7,296	3,794	3
Town Hall	8309	15	20,707	4,321	3
Wicklow Playing Fields	3777	30	46,294	1,964	2
Totals	**1,518,297.80**	**940**	**1,351,092**	**452,742.72**	**367**

*Pre-existing solar installation

CE integrated the capacity for a virtual network and imagined that Armidale Regional Council charged themselves 8c/kWh for energy consumed at other sites. Subtracting a transactional cost of 1c/kWh this leads to an effective 7c feed in tariff. The avoided purchase is valued at 24c/kWh. Table 9 below is a summary of the collective financial impact if these projects were to proceed.

Table 9. Example distributed solar BtM collective financial impact

Council consumption	BtM solar generation		CapEx	Revenue	GHG	Payback and Yield	
Total combined consumption kWh (across all sites)	Daytime consumption (selected BtM sites)	Export kWh	Inst cost *	Tot revenue p.a. (including VNM)	Avoided GHG tonnes	Payback (simple)	Yield
3,739,240.56	452,742.72	898,349.28	$ 1,998,000.00	$ 180,526.20	367	11.07	9.0%

* Inst cost includes CapEx already sunk into existing installs

While these figures are general, it is evident that there is an economic case for roof-top solar when viewed holistically under a virtual network. However, this approach does not account for the complexity of the multiple solar installations at separate locations. Detailed project and financial planning will be required to firm up actual figures for investment readiness.

Each site location would require detailed network applications, structural and electrical assessments, and may be subject to export limitations or unforeseen wiring upgrades, which would financially impact the project. Furthermore, connection limitations make it very difficult to realise the full Council self-sufficiency figure of 3,739,240kWp.

It may be desirable for Council to facilitate the involvement of other organisations and individuals in a Council-wide virtual network and in fact this is the only way it would be possible to generate the additional 2,388,240kWh required to fully offset Council energy use. The Virtual Power Plant approach is further discussed in Section 5.3 Virtual Power Plants below.

Prior to progressing the case for BtM solar installations, it is important for Council to acknowledge that the broadscale implementation of BtM roof-top solar systems potentially cannibalises the case for a mid-sized solar array. Installing multiple BtM solar installations reduces the amount of solar energy that Council can sell to itself in order to secure revenue for the larger project (which may be likely to provide a more significant pay-off in the longer term).

That said, BtM solar is readily achievable and delivers an immediate financial return and it may be that a hybrid of the two approaches is acceptable.

There are essentially three options for progressing BtM installations (further outlined in section6.0 below): -

1. Armidale Regional Council Capital investment – ARC self-funds projects from cash reserves or internal loans and directs savings to reducing operating costs
2. Project finance – ARC secures third-party funding and directs savings into repaying the debt
3. 'Rent to buy' – A third-party installs and operates for a reduced until nominated hand-over

Constructive Energy can provide oversight or facilitation of each of these options if desired.

Recommendation: There is a strategic choice to be made between implementing distributed BtM solar and a mid-scale solar project. If the key project driver is return on investment, then distributed solar is likely to win out, however it is more challenging to deliver 100% renewable status itself by 2030 so ARC may also require a retail agreement to purchase renewable energy from an existing generator to fill the balance of demand.

Distributed Storage

Storage in association with BtM solar can create value through back-up capacity, improved power quality, optimised consumption and export in relation to tariff charges, enhanced demand control capacity and improved monitoring/reporting.

Batteries

Battery technology has now reached the point where there is an economic argument to include them in the hybrid power generation mix. Many commentators contend that the payback for batteries is too long, however when viewed holistically there are many cases where the yield of a combined solar + storage installation is above 10%. Given the high potential Internal Rate of Return (IRR) for distributed solar it would be remiss not to consider the opportunity to incorporate energy storage where advantageous.

Table 10. Example distributed solar + battery collective financial impact

Site Name	Qty Batteries	Battery Capacity kWh per yr	Avoided purchase	VNM kWh	VNM revenue	Tot revenue p.a. (including batteries)	Solar + battery Payback (simple)	Solar + battery Yield	Avoided GHG tonnes
Airport*	4	19,710	$ 4,730	54,644	$ 4,372	$ 28,434	8.16	12.3%	81
Sewerage Treatment Plant*	-	-	$ -	69,385	$ 5,551	$ 23,591	9.75	10.3%	61
Water Treatment Plant	2	9,855	$ 2,365	56,408	$ 4,513	$ 24,106	10.62	9.4%	66
New Library	-	-	$ -	44,442	$ 3,555	$ 15,110	5.96	16.8%	39
Aquatic Centre	2	9,855	$ 2,365	328,859	$ 26,309	$ 46,776	15.31	6.5%	69
Guyra Swimming Pool*	-	-	$ -	19,878	$ 1,590	$ 6,759	7.99	12.5%	17
Depot Mann St.*	1	4,928	$ 1,183	17,548	$ 1,404	$ 8,430	7.95	12.6%	24
Depot Ryanda Street*	-	-	$ -	22,475	$ 1,798	$ 7,642	7.07	14.2%	20
Kolora Hostel*	-	-	$ -	129,141	$ 10,331	$ 12,082	19.04	5.3%	6
Malpas Dam	2	9,855	$ 2,365	30,142	$ 2,411	$ 6,330	15.01	6.7%	13
Guyra Showground	-	-	$ -	7,005	$ 560	$ 2,382	6.30	15.9%	6
Visitors Info Centre*	1	4,928	$ 1,183	-	$ -	$ 1,822	10.43	9.6%	6
Town Hall	1	4,928	$ 1,183	11,459	$ 917	$ 3,136	12.75	7.8%	7
Wicklow Playing Fields	-	-	$ -	44,330	$ 3,546	$ 4,018	17.17	5.8%	2
Totals	**13**	**64,058**	**$ 15,374**	**835,717**	**$ 66,857**	**$ 190,619**	11.37	8.8%	**417**

Our analysis of solar only BtM installations reveals a collective yield on investment around 9%. The table above indicates that the functionality of multiple batteries can be added to the project within similar financial parameters as the 'oversized' solar-only example above. Of note is that while many individual installations achieve 'pay-back' within a standard 10-year warranty period for chemical batteries, several do not. This is probably not a 'show-stopper' as lithium battery life is well beyond 10 years (though diminished in performance) and there are also different batteries which will last 20+ years, such as Vanadium redox flow batteries, hydrogen or flywheel inertia systems.

It is important to know that batteries are not all made equal and different technologies suit different load characteristics. Battery modelling is very complex and relies on assumptions including pricing structure, demand response capability, technical constraints such as depth of discharge and performance at different temperatures, system integration with existing equipment and control interface.

The core objectives of Council are also critical. For example, if leadership is important, it would be useful to trial a range of energy storage technologies on a site-by-site basis through providing detailed site consumption data and running open market Request For Quote RFQs. Knowledge gained can be shared with the community and local suppliers can be upskilled. If carbon emissions are most critical, then simply choose an acceptable financial performance threshold and 'back-fill' as much solar and storage technology as will fit within the parameters.

This analysis is not provided to give an answer to ARC around where to install certain battery capacity, but rather to point out the need for a carefully considered approach. The price of storage is also in rapid decline and the market itself is still immature, increasing the risks of encountering technology that does not deliver as promised and providers who are not around for the long run.

None-the-less, if managed collectively, a number of distributed batteries can not only assist with individual sites, but also enable participation in market and network 'events' for which network operators will pay in order to reduce difficulties in managing the grid. This is the basis behind the Simply Energy Tesla VPP project in South Australia and other examples where management of the battery is given over to the retailer. AGL have a similar offer in the market at the time of writing where low-cost battery and solar are provided to a household in return for a longer-term contract and permission to control the battery.

Another emerging approach is that of community batteries at a block or suburb level. These units are larger than household batteries but allow solar households to 'bank' their export locally to draw down against later in the day. Council may choose to take a leadership or supportive role in the community if there is sufficient interest in establishing a community battery project.

Hydrogen

Advances in on-site production and safe storage of hydrogen see this technology as a reliable and cost-effective way to store energy. Added benefits include the ability to distribute the hydrogen, use it to refill Hydrogen Fuel Cell Electric Vehicles (HFCEV) and consume it in Hydrogen Fuel Cells to power Council facilities. Hydrogen production also creates oxygen through the electrolysis process and this has benefits in water treatment and even in hospitals. Hydrogen technology is worth 'having on the radar' as it becomes increasingly commercialised and demonstrates benefits, particularly in rural/regional contexts.

Recommendation: ARC should consider the case for battery storage in association with any BtM solar installation and especially for sites with energy quality or security requirements. Retailer provided batteries and community battery schemes should also be explored.

4.4 Council as Energy Generator / Retailer

Armidale Regional Council has the land access, load and grid capacity to install and operate a medium scale solar power plant in the order of 3-5 MW. The inevitable question regarding this option is how to consume the generated energy in local assets and how to maximise financial benefit from selling the excess. As a Council owned and controlled asset, a solar PV facility has the potential to generate both energy for self-consumption and a revenue stream to off-set unavoidable consumption costs such as street lighting.

Clearly, if it were not possible to consume renewable energy 'behind the meter' then the next best thing would be to supply the excess energy to other Council sites and other larger consumers such as local industry. As described in 4.3.1 above, Power Purchase Agreements (PPAs) are the most common mechanism for this to occur to date. However, if this is done, it is still necessary to pay for the "poles and wires" either by paying the network owner-operator a fee or through owning the network. It is unclear at this point if discrete rural energy networks will ever be 'for sale', however, an embedded network constructed and owned by Council, such as for a new greenfield development or an industrial estate, already has precedent.

Power Purchase Agreements have been established and tested in the Australian context and are a feasible option for ARC to consume energy from their own solar generation, or any other arrays for that matter, however they do require integration with a 'friendly' retailer and monthly reconciliation of estimated versus actual generated/consumed electricity. For simplicity, it may be possible to find a local large consumer that agrees to purchase all energy generated from an Armidale Regional Council array.

A third option as indicated above would be for Council to effectively operate as a generator-retailer, choosing to purchase energy from its own solar array at an agreed price, but also to purchase energy from the National Energy Market (NEM) and then choose the level of price mark-up on-selling to themselves (see Chart 25 below). While there are benefits in removing the retailer's margin through purchasing wholesale, the risk of this approach is that the pool price may, or will at times, be higher than the relevant standard tariff. Our modelling has shown for previous years that wholesale consumers tend to be better off overall, but this is not guaranteed. To mitigate against this risk, the ability to control loads automatically would limit exposure to any price spikes. In other words, if the price is high outside of solar production periods, then we switch things off! The other key mitigating factor would be integration of battery storage which could be used as an economic tool to arbitrage market prices or to load shift (see below).

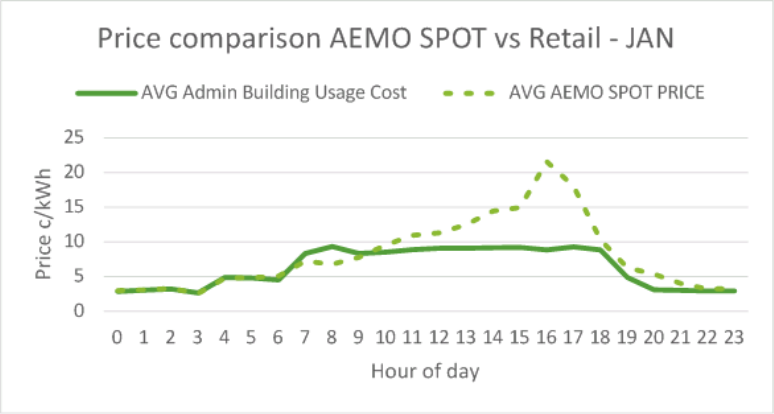
It would be possible for Council to apply for its own licences to be formally recognised as a retailer however this carries cost in establishment and on-going compliance overheads that are, in our view, prohibitive. While the Local Government Act carries the capacity for Councils to supply energy (as per County Councils of last century) in the current competitive and innovative environment it may be smarter to partner with an existing retailer willing to provide the mechanism.

There are several retail organisations currently delivering cost-reflective pricing and facilitating sale of energy into the NEM. Linked to a solar array of course Council would be exposed to purchasing energy from the market for the times outside of solar production hours. (Wind power and energy storage would change this.) The degree to which Council is exposed to the volatility of pricing in these periods versus having the retail partner set a fixed price to 'hedge' the risk depends on the ability to negotiate a deal.

To further illustrate the concept, we have prepared the charts below comparing the amount ARC actually paid to power the Admin Building, a high yet consistent usage tariff site, versus what would have been paid at the market spot price.

Chart 10 displays each 1-hour interval averaged over a month (Jan) and extrapolated over a 24-hour period. We have then overlayed the corresponding electricity SPOT (wholesale) prices from the NEM for the same period. AEMO refers to the Australian Energy Market Operator which is the entity that operates the Network and publishes market data including the instantaneous, or 'spot', pricing.

Chart 10. Comparison of Council Admin Building cost by hour versus equivalent spot market cost Jan-21



Based on this analysis it can be seen that if ARC paid wholesale price for energy during January, this would have been more expensive that paying the pre-agreed retail tariff. In other words, the retailer took a hit in supplying ARC!

Chart 11. Comparison of Council Admin Building cost by hour versus equivalent spot market cost Jun-21

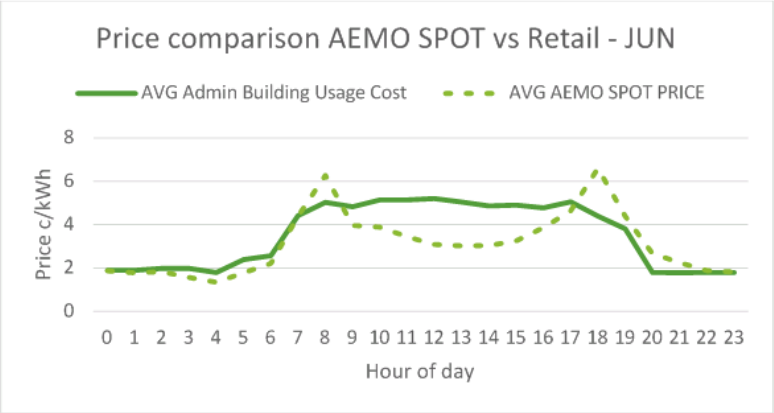


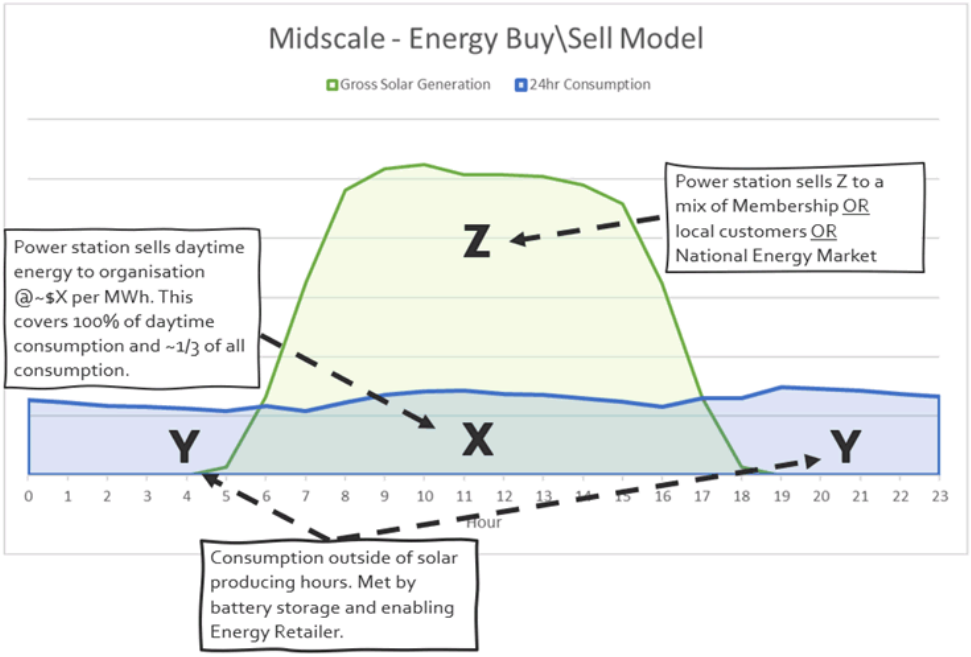
Chart 11 above indicates a period when ARC would have made a saving purchasing energy at wholesale prices, even considering peaks at the beginning and end of the day. This chart also indicates the obvious opportunity in load control and energy storage – maximising energy consumed from 09:00 to 17:00, avoiding consumption in morning and evening peak periods and aiming to sell stored energy into the market at its highest price.

The primary purpose of bringing this to the attention of Armidale Regional Council is to be aware of both the opportunity and consequence of 'stepping into' the generator - retailer space. While there are costs in establishing Councils as generator-retailers the savings and potential revenues are significant. However, even with automation, there will be a requirement for human oversight and this would need to be in the form of internal staff responsibility or outsourced services. Essentially ARC needs someone 'in their corner' to ensure that the generator is performing as expected, the retail structure is delivering value, and that the load controlling logic is optimising self-consumption and minimising external energy purchase.

Part of the role of Constructive Energy is to guide and support Council decision making, in regard to establishing projects, negotiating deals and managing renewable energy assets to optimise benefit. Should ARC wish to follow the generator-retailer pathway, after securing the opportunity to deploy or own energy generation assets, the next step would be to identify suppliers willing to engage in this manner. We have previously received positive responses from Enosi/Energy Locals, Simply Energy, Energy Australia, Origin Energy, Tango and Flow Power.

It is important to note that, as identified in 4.3.1 above, sizing a solar array to 100% meet Council demand inevitably leads to an export 'problem'. This requires ARC to find a market outside itself that values this export. Such a market could be a small number of high-demand industrial users, commercial and retail businesses with daytime usage, and/or local residences. This 'solar power station' model is illustrated below.

Figure 1. What to do with solar excess



In reality it is difficult to establish the exact quantum of 'X' in the figure above and to that extent there is a risk in raising the expectations of the last few customers who may never consume much energy from

the array. In other words, after 'Z' is fully allocated we can guarantee supply for the first customer but not the last!

The likely management of this issue which is to have a certain percentage sold commercially with the remainder exposed to the wholesale market price.

An ideal agreement would incorporate both elements, so Council is able to negotiate 'certainty' and savings with electricity production and consumption, ultimately benefiting the ARC community, and to underpin affordable local energy to the local community. The retailer would provide customer support and billing facilities and in return the Council could assist the retailer with their brand promotion and customer acquisition in their Local Government Area.

Recommendation: If ARC decide to progress the mid-scale 100% offset option, this should be done in concert with identifying and negotiating with a retail partner. ARC will need to come to a position on how to value the export ranging from simple PPAs to sharing with local customers. E.g., Main street shops to assist in providing affordable, local energy.

4.5 Energy Storage

Small scale distributed energy storage has been addressed in section 4.3.2 above. His section refers to larger scale possibilities. In addition to exploring the various large-scale solar installation options available, it is important to consider integration of energy storage options to bring additional value and benefit to a project. Batteries are an increasingly critical part of optimising the economic and environmental benefits of renewable energy generation and are now affordable to the extent that pay-back periods are usually less than 10 years and can be less than 5 with the right price and market settings.

The battery market is currently in price decline as various providers and technologies vie for market share. In addition, the impact of batteries on the grid is in the early stages of implementation in practice so case studies will have important flow-on impact. Energy storage integration presents the following key benefits to a project-

- Load smoothing: battery storage can buffer solar generation peaks and intermittent or variable demand profiles.
- Load sharing: particularly where Microgrids are implemented, battery storage can provide a power sharing and grid stabilising faculty.
- Load shifting: - supporting the economic case for avoiding purchase of high-cost electricity.
- Load export: smart-meter technology can identify when a system should export onto the grid (when demand and price is high) and when to divert to storage. Under a generator/retailer model, integration of battery technology adds an additional advantage to 'playing' the energy markets.

The enduring problem with intermittent renewable energy generation is reliability of supply, a factor which has been improved dramatically at the time of writing by the improving economics around battery

Recommendation: ARC should model energy storage as part of the business plan in both medium scale and/or distributed solar project options. This modelling should compare a single, mid-scale, grid connected storage device (ideally with the solar array) and multiple distributed devices.

storage. The emergence of technologies that can offer utility scale storage at a price point with a 10 year pay-back is significant. It is now technically feasible to operate 'off grid' at scale, however, taking all ARC's sites off the grid is not desirable for a range of reasons and at present would increase the cost of supply. However respected industry energy analysts suggest that price parity for this scenario could occur in the next 5 years and it will be worthwhile for Armidale Regional Council to consider this scenario with their high use and/or remote sites in the next 5-10 years. There are other reasons to integrate batteries, including energy security/resilience, and with increasing climate volatility this may become a more important driver.

4.6 Retail arrangements

Armidale Regional Council has a variety of sites that have large and consistent consumption and this has provided leverage for negotiations in the past which, through well run tendering processes, resulted in sharper competition between each of the energy retailers and hence better pricing.

As discussed above, as Armidale Regional Council implements the recommendations of this REAP it is possible to become a net generator of electricity which is then sold back to other ARC sites, the community and local industry or other councils and market customers. This changes the relationship with retailers who are already being disrupted by the 'prosumer' revolution affordable solar has created. However, we appreciate that ARC may not wish to develop renewable energy projects themselves and if so, negotiating suitable retail contracts remains important.

Proposed changes to network operating rules will see smaller operators such as Councils able to participate in high value demand responses, such as being paid to reduce demand or produce electricity at times where the network is stressed. Any supply agreements should account for this into the future.

Because the sector is rapidly changing it is difficult to provide definitive guidance in respect to retailer contracts. That said, there is also opportunity emerging in this period of significant innovation so it is important for Council to be clear on wants and needs as, chances are, at least one of the retailers will be eager to attract and retain council business.

In section 4.3.1 above relating to mid-scale solar arrays, CE sought to provide background into the function of energy retailers, which is to reduce the variability and volatility of a spot market into a simple pricing structure. In that sense they manage the risk of price blowouts for a customer and pay for this by making a margin in normal market conditions. Retails use a range of market mechanisms to hedge risk including forward purchase and long-term purchase contracts as well as owning their own generation assets.

Retailers also need to acquire customers and the space for this is increasingly competitive with ~160 retail licenses in NSW at present from a base of 4 retailers at the turn of the century. Retailers set a budget for customer acquisition in the range of $80 to $150 per person and accept that there will be an amount of turnover or 'churn'. Councils can attract competitive pricing because they usually bring a larger number of contracts (sites), signup for longer periods, and use a known bulk of energy.

If, as a result of this Plan, Council becomes an active participant the energy space, it is useful to understand the value that they bring and how this can impact negotiations with a retailer. Where council can reduce market risk and increase customer recruitment and retention, this will have value.

Going forward Council should be increasingly wary of simple bulk purchasing contracts for electricity as these approaches can limit the capacity for Council to save or off-set usage (usually a 20% reduction cap before fees apply) and to gain from participating in the new distributed energy economy. We recommend that Council be careful in engaging with any retailer over a long term and ensure the ability to reduce

consumption along with fair exit conditions. Ideally any new retail agreement needs to enable Council to sell excess energy production to the retailer at a market or negotiated price, whilst purchasing electricity consumption at a fixed low price during peak times. The contract should also enable peer-to-peer trading and the operation of a Virtual Power Plant, potentially including distributed storage options.

There is an obvious opportunity for ARC through the New England Renewable Energy Zone. ARC may be able to negotiate supply contracts from 1 or more of the existing or future generators. A retailer will be required to facilitate the transaction and the mechanism may range from a simple retail contract or PPA through to block-chain enabled real-time supply reconciliation contracts.

Recommendation: That ARC does not commit to any long-term retail contracts until Council's own renewable generation strategy is clear.

Council should gain understanding of the selling/retailing strategy of the emerging generators in the REZ and be mindful that retailing energy to Council and/or local customers can be facilitated and negotiated via a participating retailer.

4.7 Transport & plant

4.7.1 Electric Vehicles

Australia lags many other developed nations where electrification of transport is progressing rapidly. With Tesla most prominently spearheading the 'mainstreaming' of fully electric cars, as opposed to hybrid drive trains, all major brands are now developing Electric Vehicles (EVs). Many countries internationally have incentives and targets for EV uptake and China leads the world with development and sales, particularly in the heavy vehicle sector.

As part of the Net Zero Plan, the NSW Government has introduced a NSW Electric Vehicle Strategy "intended to increase EV sales to 52% by 2030-31 and help NSW achieve net-zero emissions by 2050."

Key strategies include:

- $3000 rebates for the first 25,000 EV's purchased under $68,750
- Removal of stamp duty for new EVs and plug in hybrids
- Fleet incentives for local councils and businesses
- Expanded EV charging network
- Fast (T2 and Ts) transit lane access
- Regional EV fast-charger network and 'Tourist Drives'.

The relevance of EVs to this plan is particularly apparent when considering export of surplus generation and the fact that in around a decade, Council will be producing energy for essentially no cost. Even at existing c/kWh prices, the operational savings are clear as illustrated in the table below comparing a basic hatch-back.

Table 11. ICE vehicles Vs BEVs

Internal Combustion Engine (ICE)			Battery Electric Vehicle (BEV)		
Fuel efficiency	7	L/100km	Power efficiency	16	kWh/100km
Fuel cost	$1.80	per L	Electricity cost	$0.30	kWh
Annual km	15,000		Annual km	15,000	
Annual running cost	$1,890		Annual running cost	$720	
			Savings with EV	$1,170	per annum

Accurate granular data on fleet usage was difficult to obtain, however the following generic table is illustrative of the potential positive benefit in electrification of fleet and plant.

Table 12. Electrification of fleet

Description	Total	km per yea	L/100km	L per year	kWh/100	kWh p.a.
Road vehicles	46	15,000	10	69,000	16	110,400
Heavy plant	19	15,000	15	42,750	20	57,000
Minor plant	85			5,000		22,833
				116,750		190,233
			Unit cost	$ 1.80		$ 0.30
			Total cost	$ 210,150		$ 57,070

However, because the fuel costs are marginal in the context of greater CAPEX, even considering reduced servicing costs, at present the financial case for EVs may not be compelling. That said, ARC may value other factors, such as research, leadership, etc and these may outweigh the reduced financial case. With the continued fall in EV costs, increase in petrol/diesel costs, and government incentives, the case for EVs is set to improve.

Aside from fleet cars, there is perhaps a more compelling case to look at electrification of heavy vehicles. The City of Casey in Victoria has commenced garbage collection services with an all-electric truck and many factories already use electric forklifts. Again, the case for these will be made more compelling in years to come if Council has the ability to set its own pricing for the electric 'fuel'.

The most obvious conflict with solar energy and electric powered vehicles is in the time of use – that being the overlap of solar generation and daylight working hours. This can really only be managed through the use of batteries and/or by analysing which vehicles/plant can be charged during the day. There are fleet monitoring companies/devices that can be deployed to monitor vehicle movement and behaviour and this data can then be used to accurately build the case for transition to EVs.

An additional issue with EVs arises in relation to charging capacity; not just where to place them but the engineering behind delivering large amounts of energy quickly. So-called 'superchargers' require large amperage, not always available through the existing grid, and therefore can incur significant costs to establish. This leads to longer charge times and the necessity of charging overnight.

A final impact of EVs, though not for a few years, is the capacity for bi-directional charging. This is where vehicles become mobile batteries, capable of powering buildings to avoid peak consumption for example. In time, council may need to develop a policy for staff who charge their vehicle at work and power their house with it overnight!

Recommendation: That ARC participate in the NSW EV Strategy and invest in a small number of electric vehicles to test how they can be best integrated into operational activities. ARC would also benefit from improved tracking of vehicle usage.

4.7.2 Hydrogen powered drive trains

It is important to understand the 4 distinct elements involved in production and utilisation of hydrogen as a fuel.

1. Energy Source. This needs to provide regulated, good quality electricity and be matched to full chain production capacity.
2. Hydrogen Production. Classified as 'green' = produced with renewable energy or 'blue' = produced with fossil fuels. Basically, using energy to either split water or hydrocarbons.
3. Gas storage. From short term (buffering in production) to long term and both stationary (as energy storage) or transportable (like LPG).
4. Energy Conversion. Oxidation of the hydrogen to release water and energy in the form of electricity and heat. Most commonly in fuel cells or turbines.

Based on CE research it is possible to purchase existing small-scale electrolysers and produce hydrogen at around $5 - $6 per kg. This could be done at the site of a solar array to produce a transportable form of renewable energy.

The following table indicates the relative value of the hydrogen fuel in application.

Table 13. vehicle and pump performance and cost comparison

Toyota Mirai		
5.6	kg tank capacity	
0.76	kg per 100km	
737	km per tank	
$5	per kg x 5.6kg	$ 28.00
3.8c	per km	
7	L/100km	petrol car
$1.80	per L	
12.6c	per km.	
Truck FB	Scania/Volvo EV	
200	km range	
80	kWh battery	
2.5	km per kWh	
412.5	Km for 5kg	$25.00
6.1c	per km	
50	L/100.km	diesel truck
90c	per km	
Water pump		
100	kW capacity	
3.03	kg H per hr	$ 15.15
25	L diesel per hr	$ 35.00

It is important to remember that hydrogen vehicles are actually electric vehicles with a hydrogen fuel cell replacing chemical batteries. The advantage of this approach is in energy density and recharge times. A hydrogen powered vehicle can be recharged in a few minutes, just like a standard gas vehicle, and as can be seen in the table above, just 1 kg can move a vehicle >100km.

There is much conjecture about whether EVs or HVs will win the Australian market for renewably powered vehicles however it is the view of CE that each system has strengths and weaknesses. The range and speed of refuelling through existing infrastructure point to an advantage for HVs in regional and remote Australia. Certainly, one Australian company is banking on a solid market - H2X currently plans to produce 20,000 HVs each year by 2025 out of the Illawarra region in NSW.

ARC own and operate a range of plant and equipment for which there are currently no battery-electric or hydrogen-electric powered models available. Caterpillar, Hitachi, New Holland and many more start-up

firms are researching and developing renewable powered alternatives to the full range of heavy plant and equipment. Mining companies at the forefront in much of this development.

The Australian Government is invested in the CSIRO National Hydrogen Roadmap released in 2019 and has leveraged $ billions in private investment to stimulate a hydrogen economy for both internal and export markets. The stated aim in much of this investment is to lower production costs to meet a $2 per kg threshold. Some commentators expect the price to fall from the current $5-6 and reach $3 by 2025.

Recommendation: That ARC position itself as a centre for R&D in the emerging hydrogen economy as part of the REZ. That Council conduct feasibility into a pilot plant and vehicle(s).

4.7.3 Electric devices

Cordless power tools and light plant such as lawnmowers are also the focus of many manufacturers. For example, Makita have ceased all R&D into petrol powered tools and plan to move completely away from internal combustion engines. While these tools and plant use a small amount of energy in comparison to cars for example, there are operational advantages in not having to deal with mixing fuel and small engine maintenance.

Commercial grade brush-cutters and chainsaws are quieter, simpler and deliver instant power with back-pack battery systems that can deliver several hours of continuous operation. They are more expensive to purchase however these prices are falling with increased market share. In time we can expect to see a greater range of electric small plant and equipment as the energy density and affordability of batteries improve.

If ARC seeks to electrify small plant and equipment, we suggest that a decision is made to, as much as possible, stick with one 'family' so that battery packs and chargers can be shared. Thought must also be given into the creation of battery e-waste and the non-sense in discarding perfectly functional equipment which may only have occasional use, simply to remove a small amount of hydrocarbon fuel consumption.

Recommendation: That ARC adjust procurement policy to preference electric plant and equipment for replacement and new purchases.

5.0 Other Renewable Energy Options

5.1 Pumped Hydro

The Armidale Regional Council region contains hills, gorges and disused mining facilities that may be appropriate for pumped hydro schemes as evidenced by the 600MW Oven Mountain proposed project.

Pumped Hydro is emerging as a preferred dispatchable energy source, particularly over longer timeframes (8+ hours), due to its flexibility and low carbon emissions. Using combined pump/turbine plants, water is pumped from lower reservoirs to higher ones at times of plentiful or cheap energy and then released at times of peak demand when the price for electricity is high. Medium scale Pumped Hydro is likely to become an important 'product' in future markets as a buffer or insurance against high power prices and to time-shift large solar production from the middle of the day until night-time.

If Armidale Regional Council elects to proceed with a mid-scale array, then an equivalent scale pumped hydro scheme could be investigated in comparison to other forms of storage. For example, are there opportunities to construct a 'turkeys' nest' dam near Malpas Dam? Regardless of progressing Armidale Regional Council's own solar, it may be that a council-owned pumped hydro facility would be economic on the basis of services to other renewable energy projects in the area.

In the medium term dispatchable energy is becoming increasingly valuable to the National Energy Market, often attracting pricing around twice the value of daytime generation. On a micro scale, with water pumping being a major cost centre for ARC, any new Council upgrades or water security initiatives should also consider energy production as part of their remit, particularly if there are pressure reduction valves in the water distribution network.

Recommendation: Limited action in relation to pumped hydro at this point in time. It may be something to have 'on the radar' in discussion with TransGrid and other organisations looking to develop energy projects in the REZ.

5.2 Wind

Armidale Regional Council is in a valley however the surrounding ranges have a fantastic wind energy resource which was part of the rationale behind selecting the region for a Renewable Energy Zone. Technologies that harness wind energy may present a significant opportunity for ARC to reduce operational costs and meet carbon emissions reduction ambitions, not least of which because they are capable of generating at any hour of the day.

Cases for wind energy include powering:

- Lighting for footpaths and roadways.
- Public amenities - roadside rest areas, toilet blocks, barbeques and shelters.
- Pumping stations.
- Telecommunications towers.
- Telemetry systems such as for water monitoring devices and security systems.

From the energy consumption data, street lighting produces around 17% of Council's emissions which, if wind powered, would meet a significant proportion of Council's emissions reduction goals. Given that around 2/3 of Council total energy use occurs outside daylight hours, wind requires further investigation. The question is, at what scale and how might a Council utilise wind energy?

5.2.1 Small Wind Turbines

Small wind turbines are emerging as a cost-effective renewable energy technology. These systems can be beneficial where there is a desire to provide amenities to the public in locations where grid-connections are cost prohibitive. In many cases, the cost to buy and install these amenities can be significantly less than the grid-connection, with the additional benefits that the operational cost to power the sites is effectively zero, using zero emission technology.

Smaller turbines are common in Europe on public buildings and some councils in Australia have engaged with small-scale turbines as part of hybrid solar-wind-battery remote energy systems. There are several Australian owned companies providing barbecues, shelters and other public amenities furniture with integrated solar, small wind and battery systems.

One Australian start-up Diffuse Energy (https://www.diffuse-energy.com/) has designed and commercialised small wind turbines. Their Hyland 920 turbine has been designed to work side by side with solar and batteries to reliably power telecommunications infrastructure at remote locations. The operating costs for this technology are extremely low, compared to diesel power generation.

To demonstrate how this technology may be applied for ARC, we have produced a conceptual model of a new off-grid public amenity (based on a typical amenity block).

Table 14. Armidale Regional Council Off grid public amenity concept

New amenity	Load	kWh/yr*	kWh/d*
1	New amenity	4168	11.4
	Annual cost	$1,436.00	
	Cost per day	$3.93	
Grid connection			
1	Grid installation CapEx	$30,000.00	
	reduced to daily rate at	10	year Payback
	=	$8.47	per day to finance
	Total cost	**$12.40**	per day
*Usage figures modelled off Mckie Parkway Recreation Area			
smallWind	System size	220	W
1	Daily output	2.1	kWh
	Annual output	766.5	kWh /yr
	Annual cost	$2,433.33	
	Cost per unit per day (installed)	$6.67	
Solar	System size	3	kW
	Daily output	12.8	kWh
	Annual ouput	4,674	kWh / yr
1	Per W installed	$1.35	
	CapEx	$6,000.00	
	=	$1.69	per day (10 years)
Battery	System size	13.5	5kW/13.5kWh
1	Installation cost	$11,700	
	reduced to daily rate at	10	year Payback
	=	$3.21	per day to finance
	Total cost	**$11.57**	per day
	Carbon Offset	3.37608	tonnes p.a.
*Emission factor 2021 (NSW)			

As can be seen from the above figures, if a new grid connection was to cost $30,000 (e.g., connection fees + new pole + undergrounding + consultants) then this can be reduced to a daily cost over a lifetime or depreciation period of $12.40. Applying the same logic to the capex for an off-grid hybrid energy solution leads to a daily cost of $11.57. Of course, the absence of daily supply and consumption charges improves the case for an off-grid solution in this instance too.

5.2.2 Large Wind

There is also the potential for Council to use larger wind energy installations to offset significant amounts of energy usage. Larger installations necessitate more planning requirements with longer implementation timeframes but can provide significant benefits due to long project life and low operating costs. Large turbines typically range from 2MW to 5MW and even at the smaller scale, a single turbine would be readily capable of providing all of the energy consumed by ARC.

Although 'mid-scale' turbines are available from 100kW to 1,000kW, the economics of wind energy and challenge gaining approvals tend to leave out the middle ground, leading to the massive turbines and multiple tower wind farms we see developing. That said, Armidale is somewhat unique in having REZ and there may be opportunities to leverage the work of wind energy developers to the benefit of council. It

may also be worth testing the market for a mid-scale turbine in the vicinity of a possible solar farm on high ground, in proximity to usable network infrastructure, and away from residences.

An ARC backed community project, in a form similar to the Hepburn community wind energy project (https://www.hepburnwind.com.au/) may be achievable. That project delivers around 10 GWh per year - more than double ARC's energy consumption. An innovative business model, where ARC has a power purchase agreement (PPA) and/or part ownership with the community project could provide the necessary incentives to get the project running and attract external investment, while also allowing ARC to meet its goals of becoming net carbon neutral. However, the approvals process for large scale wind turbines can be slow and may not be realistic until at least 2025.

Recommendation: Small-scale wind generators should be considered for any new or existing remote infrastructure. Mid-scale wind generators could be considered as part of a hybrid mid-scale project (which we have not modelled). Local wind farms could be approached to provide renewable energy to Council to fill the shortfall if Council elects to proceed with solar only as the offset strategy.

5.3 Virtual Power Plants

This model has been identified in principle in Section 4.3.2 above. In essence it says that, rather than seek renewable energy from a retailer or large corporate owned generator, seek the equivalent amount through aggregating surplus from a group of smaller installations.

The distributed community model is viable and there are precedents in Australia however this model can become complex and should be thought through carefully. It would be advisable to plan this with the engagement of service/community groups and business groups. It may be that there is significant community interest and that Council's role is welcomed under the following model.

- Council leverages relationships and procurement expertise to identify a trustworthy, reliable solar solution and provider(s)
- Council guarantees to purchase the export from non-council participants
- Council subsidises the 'up-sizing' of arrays to increase export available to purchase
- Council coordinates retailers and provides confidence in a 'good deal'.

In the current environment where large retailers are generally disliked and there is resentment at the looming removal of residential feed in tariffs (in fact the possibility of being charged to export), Council offering to purchase the export may be welcomed.

As can be imagined, this approach would require Council to recruit and facilitate a group of 'partners' with the capacity to install solar that, after whatever self-consumption occurs, resulted in the equivalent of about 2.5 MW capacity. Subtracting the 1.35 MW identified in section 4.3.2 above, this equates to a further 1.15MW. This could potentially be met through oversized systems on about 200 - 300 premises.

CE have previously modelled this for another council and found the $ per kW installation cost significantly more expensive than the mid-scale array option however this could be re-tested. Install cost could be mitigated if an attractive deal can be constructed for participants to part fund the installation themselves. This approach clearly places Council in the realm of community solar projects and as such, council need to be sure they have the appetite internally and confidence in the community to become engaged in such an approach. The approach would require detailed modelling, careful structuring and a recruitment campaign.

Recommendation: ARC decide on the degree to which their 100% renewable target should be pursued with discrete projects they can readily control, versus a community engaged approach with incentives and a VPP structure for Council to claim the entire generation pool.

5.4 Bioenergy

Bioenergy requires organic feedstocks which are digested or gasified in vessels, resulting in a range of simple hydrocarbon gasses (e.g., methane) or liquids (e.g., ethanol). While bioenergy can be applied as a dispatchable energy source, it can also potentially become a renewable fuel source to replace gas and diesel, rather than electrifying diesel plant and equipment.

There are broadly three approaches to converting biomass into energy: direct combustion, gasifying and digestion. Different feedstocks lend themselves to each approach but in all cases, it is important to secure a consistent and reliable supply.

Given the fertile nature of the Armidale region there are potential feedstocks of organic materials or wastes, such as feedlots. Residential and commercial waste transported to the waste treatment centre may provide enough feedstock to match council demand, but this has not been quantified for this report. For example, in simple terms, would there be around 30,000 L per year of waste cooking oil to be converted into biodiesel for running Councils heavy plant and equipment? (Not-withstanding production quality and warranty issues). Could the landfill site generate enough methane which, when scrubbed, would be meet the demand for LPG to provide heat energy?

There are also systems that utilise the high calorific value in human waste. CE has experience in researching a US firm that operates sewerage treatment plants at around the 8ML per day capacity. These 'Nepsus' systems use a digestion process that results in clean water, low volumes of powdered solids, and which runs itself on gas-fired generators. The systems are also smaller than trickle or aerator plants and have reduced Capex and Opex. If and when the Armidale STP is due for upgrade or replacement, CE strongly suggests that ARC investigate 'waste to energy' treatment options.

The Australian Energy Market Operator has identified bioenergy as part of the 'future mix' of energy for Regional Australia and Armidale Regional Council presents as an excellent candidate for the integration

of this technology in a diversified and distributed low-carbon energy future. A specific high-level audit of organic waste streams would be the starting point for investigating bioenergy.

Recommendation: ARC make a strategic decision on how to approach renewable energy for building HVAC gas and diesel plant/vehicles. ARC may seek interest or funding with stakeholders in the REZ to further investigate the potential of bioenergy.

5.5 Microgrids and embedded networks

The term microgrid traditionally applies to a discrete network of interconnected loads and one or more generators independent of a larger network. More recently it applies to sub-sections of the grid with a single point of connection, multiple loads and embedded generation and with the capacity to run independently. These are also called embedded networks and examples are shopping centres and some industrial or housing subdivisions.

Microgrids are going to play a large role in future new greenfield developments in regional Australia. The costs of installing and firming renewables are now competitive and, in some circumstances, much cheaper than installing and maintaining the poles and wires to new remote locations. There are also examples where a number of meters can be consolidated into a single market facing meter and with basic wiring and administrative changes, result in reduced billing due to standing charges.

Interestingly, in the evolution of providing energy as a service to communities, local governments were the original providers to households and businesses through what we would now call Microgrids. Councils operated the generators (usually coal, gas or diesel) and looked after billing. When state governments offered a centralised alternative, it was attractive because it saved hassle for councils. With new enabling technology, good business cases and an agenda to decarbonise energy sources, council owned and operated microgrids may be viable again.

In our view, the most obvious potential is with Industrial microgrids where council can be part of underwriting the development of estates where energy supply is both renewable and affordable. This could be attractive for Commercial and Industrial enterprises seeking to establish in the regions.

Recommendation: For Armidale Regional Council, microgrids should be considered for any development likely to have a few or more meters connected to the network. If Council is the enabler, then it is likely to result in reduced operating costs for sub-metered customers and an on-going revenue stream to Council.

Constructive Energy has the role of Technical Director in a federal government funded study into the application of microgrids in agriculture with Queensland Farmers Federation and others.

5.6 Off-grid facilities and critical infrastructure

Many remote communities and mining operations are currently installing independent generation facilities. A good example of this has occurred in remote farming communities around Esperance WA. In 2015 a large bushfire caused loss of life and property, including large swathes of the local electricity distribution infrastructure. In agreement with the local community the electricity provider (Horizon Energy) has installed a virtual microgrid with each customer having their own solar production and firming capacity (battery). Locals have confirmed that the outcome for them has been stable and reliable power at equivalent cost (source: ABC news Oct 2019)

We recommend that serious consideration is given to installation of solar, battery and backup generation capacity for any new developments planned by Armidale Regional Council where access to the network may be problematic or expensive. Further, this approach can provide energy security for critical infrastructure in the event of natural disasters or other supply interruptions. The emerging hydrogen economy can also offer solutions in this context.

Recommendation: That Armidale Regional Council consider the relative importance of energy security at key sites and factor this into considerations for BtM installations as this may be the factor that weights the business case towards proceeding.

5.7 Ground Source Heating and Cooling

Where major retrofits are being undertaken or new buildings constructed, the possibility of using ground source air conditioning should be considered. Opportunities such as open trenches for other plumbing work could be used to improve the cost-effectiveness of installing buried pipe loops as part of a ground source heat pump solution.

There are examples globally of roads being underpinned with a network of pipes to capture solar-thermal energy which then dramatically reduces heating costs for nearby buildings in winter.

While seemingly left-of-field, using the temperature of the earth to heat and cool can be low-cost, low maintenance renewable energy source, particularly in a setting like Armidale which receives high variance between daytime and night-time temperatures.

Recommendation: Include ground source as a technical solution to investigate in specifying upgrades to building Heating Ventilation Air Conditioning systems.

5.8 Demand Side Participation (DSP)

Demand Side Participation has been referenced elsewhere in the Plan however it does stand on its own as an opportunity for Council to participate and financially benefit from the scheme. The Australian Energy

Market Operator (AEMO) has forecast elevated risk to electricity supply over the next 10 years, and in particular, interruptions to electricity supply during peak summer periods.

A contractual arrangement can be entered into by Council (the participant) with AEMO, in which they agree to the curtailment of non-scheduled energy consumption or provision of non-scheduled generation in response to the demand of electricity.

Examples include industrial facilities that are exposed to the wholesale price and elect to reduce electric load at times of high prices, consumers that agree to let their battery be controlled by a third party or are incentivised to switch off air-conditioners, and small non-scheduled generators that have the ability to produce electricity at these times, offsetting local consumption (source: March 2020 - Demand side participation forecast and methodology).

DSP will become an increasingly prevalent component of energy retailing and network operation and should be included in the consideration of retail contracts.

Recommendation: Council explore opportunities to have control over solar and battery production and key discretionary loads to be enabled during peak periods for financial reward.

6.0 CAPEX Funding and Ownership Models

The strong economic return in renewable energy infrastructure is resulting in a range of potential investment options and there is currently significant investor interest which can be leveraged. The following enabling mechanisms all have relevance and precedent within the local government sphere.

Armidale Regional Council owned and operated on ARC facilities

Delivers ARC the shortest pay-back and maximum return (cash flow) but ARC carries all the risk (after warranty). ARC may choose to invest existing reserves (including grant funding) or take advantage of low borrowing rates to structure projects as cash-positive from day 1. TCorp are highly supportive of local government renewable energy projects and currently offering interest rates around 3%.

Corporate owned

Corporate owned on Armidale Regional Council facilities**:** It is common practice for solar companies to offer installation at no cost and to enter into a Power Purchase Agreement (or equivalent lease-type arrangement) that will slightly reduce and lock in a cost for energy over typically a 7 - 10-year timeframe. In this instance the provider carries the risk and maintenance burden but is able to generate a cash flow and profit after the pay-back period. The asset is often gifted to the host at contractual exit e.g., after a 12-year period.

Community Owned on Armidale Regional Council facilities

There is a strong movement for community ownership of commercial and larger scale solar plants and many models and organisations exist to facilitate this. The arrangements are similar to corporate investment however the financial returns are distributed to community investors, typically at around 6 – 10%. Community owned solar is seen as a way to engage community and to share economic benefits locally and in many parts of the world a set percentage of community ownership is stipulated as a condition of consent – particularly in wind projects.

Armidale Regional Council as provider on/to third parties

Subject to the right agreements and on the strength of business modelling, Armidale Regional Council may choose to invest in solar panels on or near industrial sites in ARC and to benefit from a Power Purchase Agreement while supporting local business through reduced operating costs and energy certainty.

Hybrid funding

For certain larger installations it is possible that a range of funders invest in the project. For example, the host/energy user, the community, Council and a third-party commercial operator may all invest in a set percentage share of a project.

7.0 ARC Renewable Energy Roadmap

7.1 Principles based approach

Recalling the Decision-Making Framework described at the front of this report, the following list may be helpful in prioritising the recommendation made throughout.

- Carbon reduction – does the project contribute to Project Zero30
- Benefit/Cost – does the project have positive financial impact?
- Community benefit – how does the wider community benefit from this project?
- Logic – is the project practical, defensible, sound, ethical, enduring?
- Leadership – will the project stimulate positive change in others?

Specifically related to point 4 'Logic', the following factors are worthy of including in a matrix to determine hierarchy.

- Speed – can this be designed, approved and operational in time?
- Complexity – in terms of both technicality and stakeholders
- Control – is ARC in the driving seat?
- Potential for funding support – grants, REZ proponents, etc.
- ROI – is it financially acceptable or compelling?

As ARC moves towards the energy self-sufficiency, price control and cost savings potential of renewable energy, it is important gain clarity on the relative priority of various project drivers. These will need to be continually reviewed in the context of each project as development brings new insight.

While CE have sought to identify a framework to support decision making it is the process of deciding what is important and how to decide that is most critical. For example, the solution for the same specific opportunity will change depending on the relative importance of, say,

- Local skills and employment
- Carbon reduction
- Project lifetime
- Financial dependencies

CE Strongly recommends embedding the practice of identifying and ranking the drivers associated with any of the projects that arise out of this Plan which will no doubt include drivers specific to the operation of the equipment itself.

7.2 Recommendations

Recommendations made throughout the report were tabled alongside actions required to meet the recommendation. This Recommendations Ranking Table (see Appendices) was used in a meeting with the key ARC staff and Councillors where each line initiative was discussed in the context of the decision-making framework introduced in Section 1.4 above.

As a result of the discussion, the following Summary Table was developed with the intention of clearly listing the ideal outcomes and next steps or activities associated with implementing the recommendations. While a timeframe has been indicated, the 'Responsible' column has been left blank pending internal dialogue at the time of writing.

A table specifically related to Energy Efficiency is also included.

Renewable Energy Action Plan – Summary Table

	Recommendation	Ideal Outcome	Activities	Timeframe	Responsible
1.	Increase energy awareness Improve energy transparency and control at all sites, including generation, storage and key loads.	ARC understands and controls energy usage to optimise productivity	Establish a Council-wide policy to implement smart meter and dynamic load control devices and platforms. Include site energy usage in PDs for relevant asset managers and operational staff. Ensure smart meters are installed in association with any other electrical installation or upgrade works. The meter should have capacity for sub-circuit and device load control.	2022 - Ongoing	
2.	Move towards energy autonomy Create sufficient council-controlled renewable energy generation to supply all of ARCs energy and/or offset emissions.	ARC supplies renewable energy to itself at a known and affordable price	Shortlist sites with sufficient space and potential planning consent, complete necessary network connection enquiries and develop high-level business case(s). Include energy storage in project/business modelling. Make a strategic decision about the application of on-site distributed renewable energy and its capacity to reduce energy consumed by Council. Consider Zero30, carbon and retailer strategies	2022 - 2024	
3.	Engage carefully with Retailers	ARC is serviced by flexible, fair retail arrangements.	Establish what it is that Council would ideally like from a retailer. Identify and develop relationships with innovative retailers.	Contract renewal and powerplant development	

	Recommendation	Ideal Outcome	Activities	Timeframe	Responsible
4.	Electrify vehicles, plant, and equipment	ARC fleet, plant and equipment is low-emission, affordable and effective.	Adapt procurement policies to preference electric plant and equipment for replacement and new purchases. Ask staff to research electric alternatives. Replace as current plant retires. Consider engaging a fleet tracking and optimisation service to identify and prioritise EV opportunities. Work with NSW Government to support charger roll-out and fleet changeover.	2022 - Ongoing	
5.	Lead energy innovation	ARC becomes known as an attractive place for R&D, trials and implementation of new technology	Define the 'things' that ARC can offer to 'players' in the energy sector, specifically around hydrogen, pumped/ hydro energy, alternative fuels and bioenergy. Develop communication materials specifically to position ARC as a centre for innovation in the emerging energy sector, especially as part of the REZ. Monitor industry developments with Hydrogen, liquid fuels and bioenergy.	Ongoing	
6.	Have a stake in energy asset ownership	ARC receives additional revenue streams through the provision of utility services	Consider microgrids when reviewing Planning Policies and/or proposed projects. Microgrids, embedded networks, certain Medium Voltage infrastructure, storage and generation assets should be considered for developments likely to have a few or more meters connected to a network or remote developments.	Ongoing	

	Recommendation	Ideal Outcome	Activities	Timeframe	Responsible
7.	Plan for energy security and climate resilience	ARC assets and communities are robust and resilient to the impact of climate change and other shocks	Investigate drivers of, and funding for, resilience initiatives. Consider the relative importance of energy security at key sites and factor this into considerations for BtM installations.	2022 - 2023	

Renewable Energy Action Plan – recommendations evaluation and ranking

Energy efficiency is presented as a specific subset of the recommendations on the basis that it is important regardless of the REAP and avoiding waste is often the most cost-effective way to improve energy productivity. However, in the context of this REAP, minimising consumption also minimises the extent of renewable generation required which in turn reduces the environmental impacts associates with the creation, use and eventual disposal of generation equipment.

	Recommendation	Action		Lead
1.	**Monitor consumption:** Engineering and/or Finance are responsible for reviewing energy usage at all sites and of key equipment/assets.	Energy consumption incorporated into all relevant Position Descriptions		
2.	**Reporting and performance:** Energy use for sites/assets is reported in regular section meetings and efficiency forms a component of staff position Descriptions and Performance Reviews.	Energy consumption incorporated into meeting/periodic reporting templates		
3.	**Procurement policy:** Energy consumption rates are considered in the procurement of any new equipment or servicing and maintenance of existing items. This includes new buildings and vehicles.	Energy efficiency standards integrated into procurement guidelines		
4.	**Retrofit strategy:** Building modifications will be carried out at least in part for the purpose of reducing energy consumption.	Building modification to trigger audit and/or NatHERS/NABERS rating.		
5.	**Education:** Armidale Regional Council makes it easy for staff and constituents to reduce energy consumption through promotion of strategies and materials that facilitate energy efficiency.	In corporate key message of energy efficiency into communications strategy.		
6.	**Planning**: Armidale Regional Council promotes energy efficiency in design through the planning phase where applicants are encouraged to adopt Guidelines for factors including – insulation, glazing, orientation, primary equipment, water use, etc.	Set minimum NatHERS/NABERS or GBCA star rating standard		
7.	**Product broker**: Armidale Regional Council applies knowledge and purchasing power to support residents and businesses with products that reduce their energy consumption.	Establish community working group		
8.	**Street lighting**: Armidale Regional Council continues to work with other councils/programs to replace existing lights with efficient alternatives.	Optimise uptake and control of efficient and smart lighting		

- NatHERS = National Home Energy Rating Scheme
- NABERS = National Australian Built Environment Rating Scheme
- GBCA = Green Building Council of Australia

7.3 Midscale solar powerplant

During CE's engagement with Council on the REAP, Council has articulated the appetite to pursue further renewable energy generation asset(s) across Council portfolio including a midscale solar powerplant.

The Mayor Cr Copeland and the Energy committee has expressed the desire of Council to have its own Renewable Energy assets that can: -

1. Generate revenue.
2. Reduce operational expenditure across Council facilities.
3. Reduce Council's carbon emissions.

CE recommends that the easiest methodology to achieve these objectives is via, a dispatchable midscale solar power plant (1-5MWp solar and BESS system).

There are three basic tenants required to develop a midscale RE powerplant:

1. Secure a long-term offtake agreement to underwrite the financial viability of the project.
    - Council immediately meets this prerequisite via its own annual energy consumption (3.8GWh p.a.). This volume of energy is enough to justify the business case for a RE powerplant of >2MWp. You are your own best customer.
2. Secure the land tenure via lease or purchase.
    - Council owns multiple sites that are likely suitable for a midscale solar powerplant. The STP seems the most obvious location. A powerplant could be located on the otherwise sterile land provided it is located close to the required electrical infrastructure needed to connect to the Essential Energy network.
3. Secure the necessary approvals (DA and network connection)
    - CE has guided several other organisations (government and private) through these applications. CE recommends staging the project and taking an iterative approach. This requires Council to commit initial finances to proceed the project. However, if Council decides to discontinue the project, during stages 1,2 or 3, some of the initial costs can be recovered via the sale of the project to another project proponent.

A midscale solar powerplant provides intergenerational benefits for ratepayers. Councils are in an ideal position to take a "long view" required for this type of project.

If Council are to embark on a midscale solar, we make several key recommendations and the following expectations need to be set.

- Leverage the ARC location in the New England REZ. Both the state government and leading private developers are likely to lend assistance to Council in development of your own asset. This may come in multiple forms e.g., procurement of solar modules or construction expertise.
- Don't be afraid to oversize the plant. The fixed CapEx on the HV connection is unavoidable and the economics are often more favourable if the LV component of the RE powerplant is scaled.
- Include storage and develop a dispatchable powerplant. Dispatchability provides price certainty for Council and ensures that ARC can provide energy at any time of the day. One thing is for certain, no one can predict future energy market conditions! A battery and\or storage solution is an insurance policy.
- Expect that this project will take 2 years to deliver. Network connection approvals take minimum 1 year to apply, complete studies and to seek approval.

- Don't expect to have the same IRR of rooftop solar. These RE powerplants use different equipment, are very robust and have rated lifetimes of 25-years and beyond. Expect the payback to be between 8-12 years.
- The critical investment for Council is to secure the network connection. As RE technology continues to evolve and develop, the network connection will remain the key component enabling Council to share energy and benefits to the ARC community.

Outlined below in Diagram 1 is the proposed methodology and indicative pricing (inclusive of 3rd party fees) to get a midscale RE power plant project to 'shovel ready'.

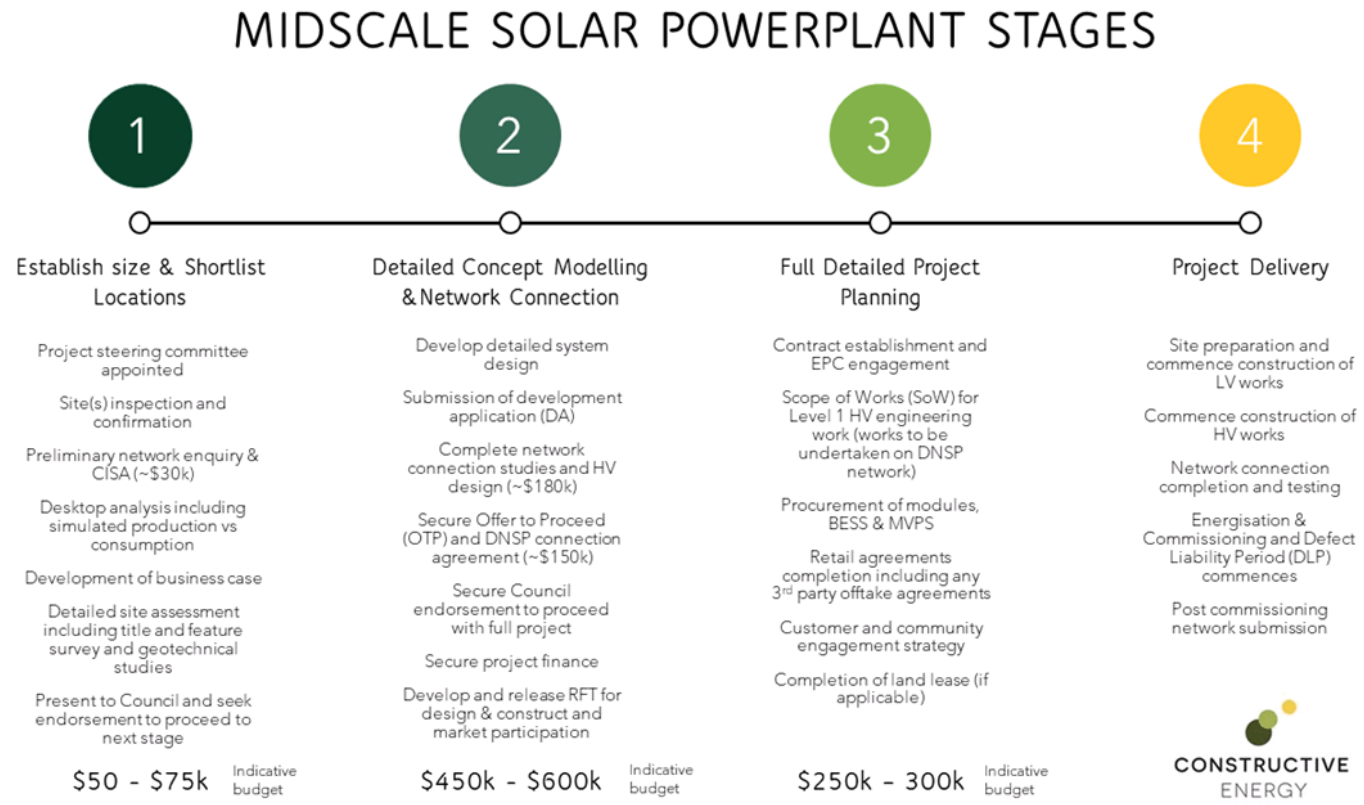


Diagram 1. Midscale solar powerplant roadmap

Appendix

Specific contract site analysis

This section of the report explores a series of charts related to each of the large market facilities managed by Council. Understanding when energy is consumed across time creates an 'energy profile' for each site which becomes important in making decisions about the business case for renewable power, load shifting, energy storage and efficiency.

Administration Centre

Site details

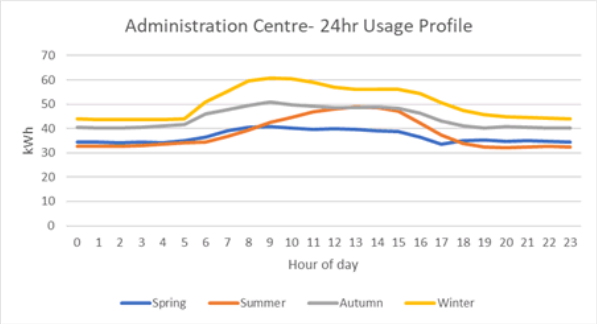
Street Address	135 Rusden St, Armidale NSW 2350
NMI	**NFFFNRKC04**
Roof space	Very limited
Map URL	Administration centre
Description	The administration centre is centrally located in the regional city of Armidale.

Assessment

Chart 12. Administration Centre annual usage profile

As anticipated the Administration centre has a consistent 12-month energy profile. The energy consumption peaks during the winter months.

We commend the operations team for adopting significant energy efficiency measures at the administration centre. These including upgrades to the HVAC systems and halogen lighting replacement for the more energy efficient LED lighting.



The intraday energy profile is consistent with a typical office building profile. The energy consumption follows an energy curve, peaking in the middle of the day followed by a consistent overnight load (7pm-6am) ranging between 30-40kWh resting load.

This administration centre energy intraday profile matches well with a daily solar generation profile; however, the winter peak doesn't align with a reduced solar production over winter months.

Chart 13. Administration Centre 24-hour usage profile

Council has investigated a BtM solar installation for the administration centre, however the roof is unsuitable nor has adequate available space to install any meaningful solar system at this site. We would recommend offsetting the Administration centre's electricity load with a midscale solar and battery renewable energy plant. There are retail mechanisms available for Council to generate excess energy at other suitable RE locations and share the energy with the administration centre. This is covered in detail in section 4.3.1.

Our recommendation for the administration centre is to continue with any additional energy efficiency measures. The ARC facilities manager indicated that the main HVAC system was approaching end-of-life. We recommend that the replacement system be made with energy efficient system and that Council look to any other measures to reduce heat loss from the building.

If Council opt to pursue a midscale renewable energy power plant, a proportion of the annual spend for the administration centre can be used to service the loan repayments and energy can be shared amongst this site and other Council facilities.

We also recommend that Council refrain from locking into any long-term and inflexible retail arrangements for the Administration centre. These contracts will prove a roadblock for Council to pursue a midscale solar opportunity. CE are aware of electricity retailers that will offer c\kWh discounts that appear attractive on face value, however many of these arrangements lock the energy user into minimum monthly volumes for the term of the contract. These contracts also likely penalise the Council for an early contract exit.

Sewerage Treatment Plant

Site details

Street Address	Cafferies Road, Armidale NSW, 2350
NMI	NFFFNRKC02
Roof space	N\A
Map URL	ARC Sewerage Treatment Plant
Description	Located 5km from the centre of town on the Waterfall way.

Assessment

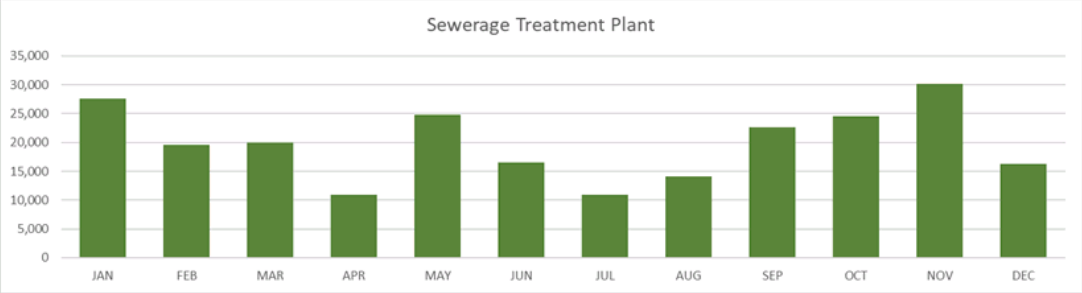
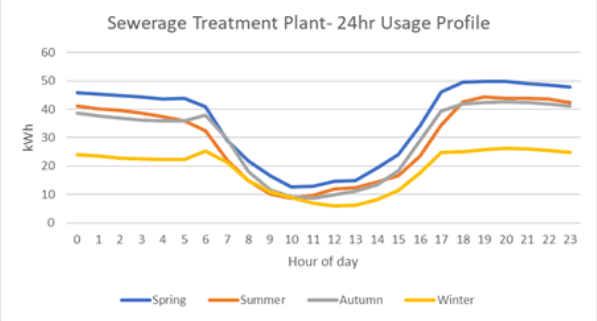


Chart 14. Sewerage Treatment Plant annual usage profile

The STP has a variable annual consumption profile. This likely fluctuates with weather conditions. The STP's 24-hr profile has a huge drop in load in the middle, likely caused by the existing BtM solar installation at the STP. This is likely accentuated with the operational schedule being set to take advantage of off-peak consumption charges.



This site has been identified as an ideal location for midscale solar and storage. It is located <2km as the crow flies from multiple zone substations (Transgrid & Essential Energy).

There is available Council owned land at this site and being a STP, the land is 'sterile' and unsuitable for many other land uses.

We recommend that Council commence a preliminary network enquiry and undertake a detailed feasibility study into midscale solar and storage at this site.

Chart 15. Sewerage Treatment Plant 24-hour usage profile

Our desktop analysis and site inspection identified available land suitable with a north-westerly aspect suitable to install <5MWp. A plant of this size would enable Council to offset 100% of Council's annual grid energy consumption and allow Council to realise its ambition of 100% renewable energy.

Ozonation and Water Treatment Plant

Site details

Street Address	2 Edgar Street. Off Arundel Drive, Armidale NSW 2350
NMI	4001209713 & NFFFNRKC03
Roof space	Not available.
Map URL	Ozonation and water treatment plant
Description	Located on Edgar Street (off Arundel Drive), and approximately 4km from the centre of Armidale.

Assessment

The ozonation and water treatment plant has available land to the North of existing infrastructure. This site may be suitable to install some renewable energy assets. However, this space may be reserved by Council operations for future expansion of the plant.

The area is approximately 6200 m2, which would allow for ~3MW of ground mount solar to be installed. The site does have some established vegetation and is close proximity to residences, which may prove problematic for an installation.

Map 3. ARC Ozonation and water treatment plant (source: Six Maps May2022)

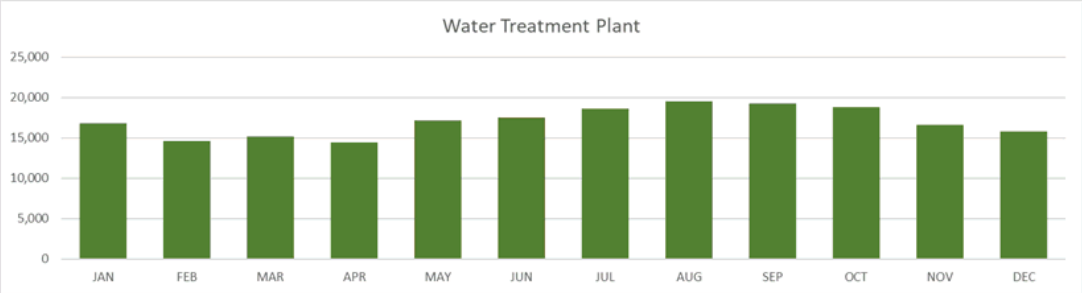


Chart 16. Water Treatment Plant annual usage profile

The usage profile for the water treatment equipment is very consistent across a 12-month period. The ozonation plant has more variance, and as expected uses more during autumn winter (May-September).

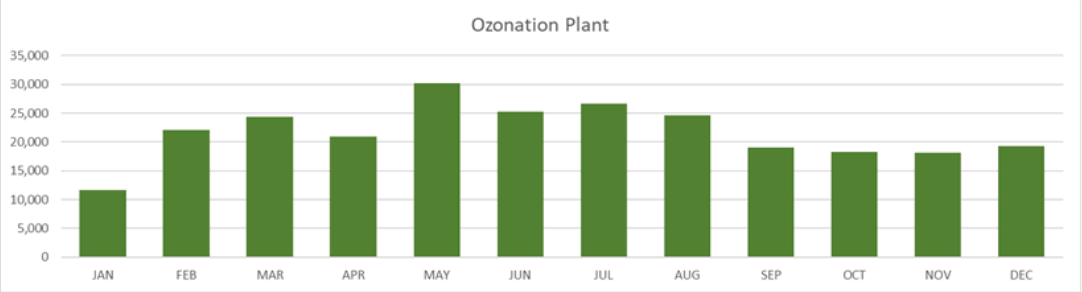
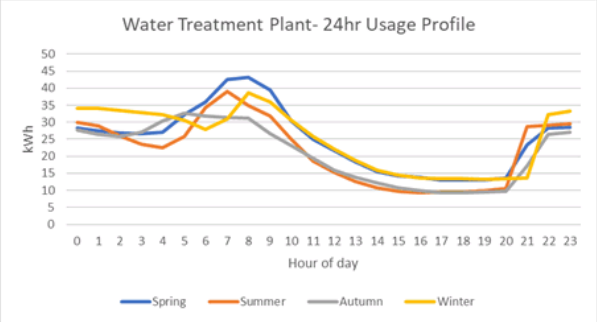


Chart 17. Ozonation Plant annual usage profile

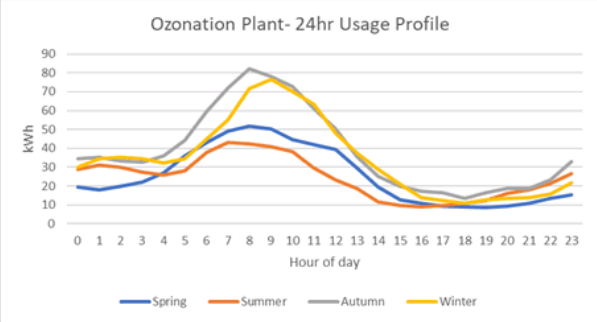


The plant consumes most energy overnight and during off-peak times. It is consistent load overnight from 9pm through to 5am. The load then peaks between 6am and 9am, likely corresponding with town water peak usage.

Similar to the Garibaldi Street pumps. The operations of this plant may not be able to be altered as it provides an essential service.

However, BtM solar and storage would likely be able to time-shift renewable energy to the times of the day when the plant requires it.

Chart 18. Water Treatment Plant 24-hour usage profile



Similarly, the ozonation plant, has a similar usage profile. The plant does use more energy during the day and peaks between 9am-10am.

The profile does match closely to a solar production profile during winter and autumn. However, over spring and summer, it flattens and has a less pronounced daytime curve.

This makes it very difficult to size a solar only system across all 4 seasons.

Chart 19. Ozonation Plant 24-hour usage profile

If a solar system was sized to offset 100% of winter usage, it would result in large amounts of excess energy during spring and summer, when the plant is below its peak consumption. This may not give the best financial performance for the RE installation. Conversely, if an undersized plant were to be installed it may provide better financial performance, however, would not meet the winter peaks and energy would still be required from the electricity grid.

Our recommendation is to do a preliminary investigation for midscale solar and storage installation. We believe this site should be investigated as a potential location along with the Sewerage treatment works.

Airport

Site details

Street Address	9 Peter Monley Drive, Armidale NSW 2350
NMI	NFFFNRK081
Roof space	Yes
Map URL	Airport
Description	Located on the New England Highway. The Council has invested heavily in this location and surrounds to make it into a vibrant commercial hub.

Assessment

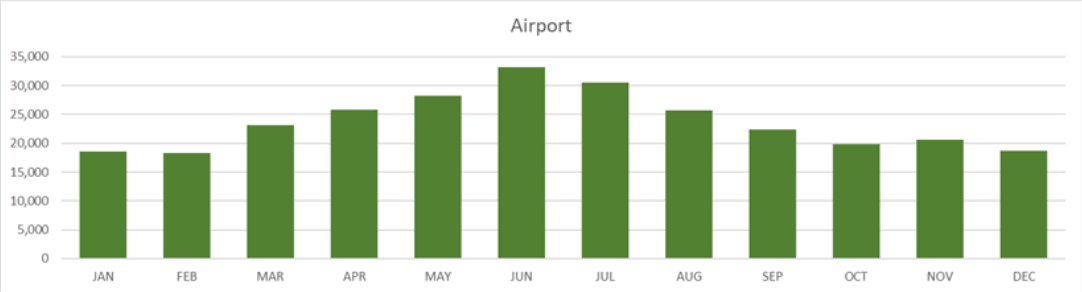
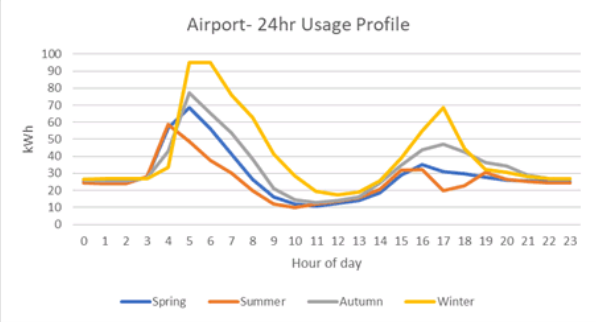


Chart 20. Airport 24-hour usage profile

The ARC has installed a 100kWp BtM solar system at the airport. There's still more available roof space to increase the size of the system, although all the small-scale certificates (rebate) will not be available for any additional solar.



Both the annual and 24hr energy consumption profiles demonstrate the impact of the BtM solar installation. There is evidence of the 'duck curve' where in the middle of the day when the solar system is performing at its peak and the grid consumption falls to its lowest.

The energy profile at this site proves the case for oversizing the BtM solar system and introducing energy storage. However, increasing solar and introducing storage will not achieve Councils ambitions to be 100% RE across all facilities.

Chart 21. Airport annual usage profile

Capping the system at 100kWp has provided a solid IRR. However, it has not been able to provide energy to the site when it needs it the most during the peak periods of 5am-9am and 3pm-7pm. The 100kWp solar system will also use "string inverters" which are more complex and expensive to integrate with storage.

Our recommendation is to perform feasibility on an increasing the BtM solar and introducing storage in parallel with a midscale solar business and feasibility case. Note, that additional solar at this site will 'cannibalise' the financial case for midscale solar and storage at another location.

We also recommend performing the pre-feasibility for EV charging at this location due to its proximity to the New England Highway and the growing commercial precinct.

Guyra Water Treatment Works

Site details

Street Address	7776 Guyra Rd, Guyra NSW 2365
NMI	4407269563
Roof space	N\A
Map URL	Guyra Water Treatment Works
Description	Located off Guyra Road. Approximately 2.6km from the centre of Guyra township.

Assessment

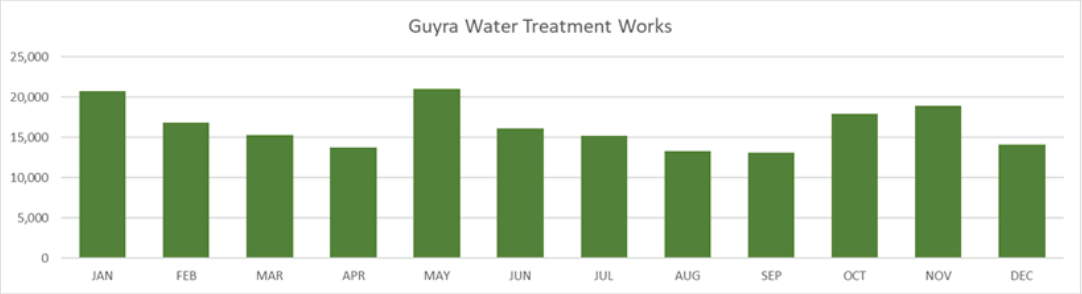


Chart 22. Guyra Water Treatment Works annual usage profile

The Guyra WTW has a consistent annual energy consumption profile, ranging from 15-20 MWh per month. The 24-hr profile aligns well, with a solar production curve, showing usage peaking at 60kwh between 9am-11am across all four seasons.

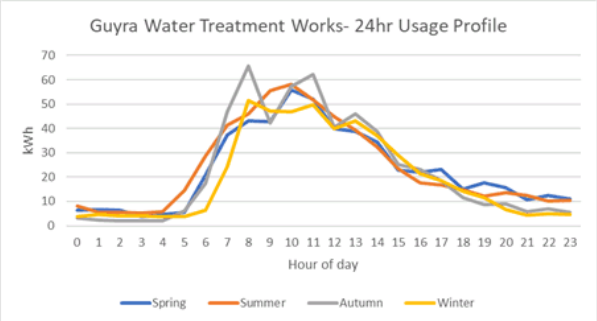


Chart 23. Guyra Water Treatment Works 24-hour usage profile

The annual consumption at this site is substantial and comes in at ~200MWh per annum.

Council has installed up to 40kWp of solar at this site, which should have had a noticeable impact on reducing the daytime grid consumption.

We recommend that Council also investigate the replacement of end-of-life or inefficient equipment. Often replacement with soft-start motors can generate very short IRR and paybacks and in some cases <3 years.

We also recommend review of the operation strategy at this site to see if any gains can be made to maximise the use of onsite solar and reduce any excess solar feed-in.

We would also recommend an investigation in an increase in the BtM solar at this site paired with storage. Although there is a maximum export limit of 30kW at this site, an increase in the solar would still qualify for STCs and help the business case for BtM storage.

Additional solar and storage would likely result in usage below 160MWh p.a. which would allow this site to reduce demand tariffs and charges applied by Essential Energy.

Garibaldi Street Pumps

Site details

Street Address	Garibaldi Street
NMI	NFFFNRKC01
Roof space	N\A
Map URL	Garibaldi Street Pumps
Description	The Garibaldi Street pumps are located ~2km from the centre of Armidale. Their pumps are used to fill town water storage tanks located on site.

Assessment

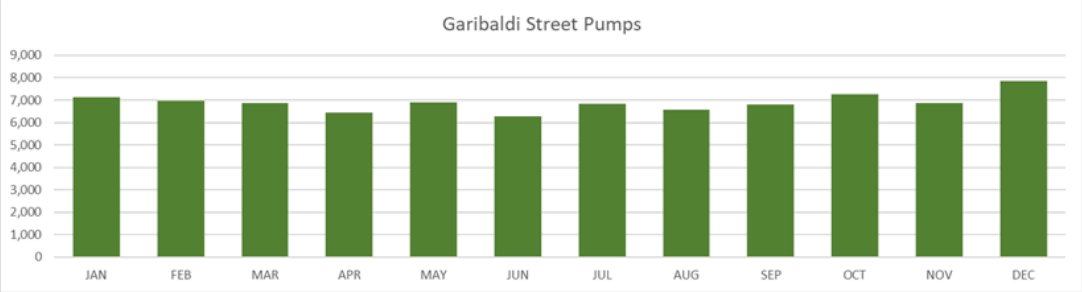
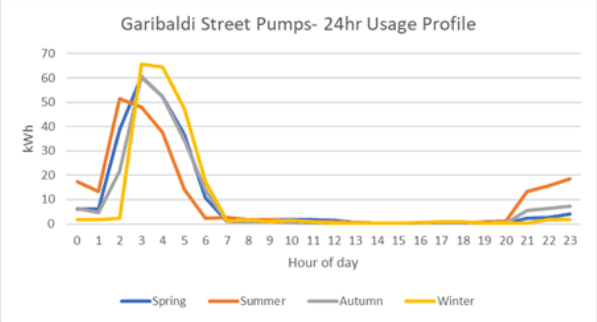


Chart 24. Garibaldi Street Pumps annual usage profile

The Garibaldi Street pumps have an extremely consistent annual profile. They consume ~100 MWh per annum. The site appears to not have sufficient space to install ground mount solar, nor any available roof space.



The 24hr consumption profile shows that the pumps have been programmed to commence at ~2am. The storage tanks likely fill to capacity (or minimum fill requirement) after 2-3 hours of pumping, where they idle back and remain largely dormant until after peak times in the evening from 8pm onwards.

As these provide an essential service to the town it is unlikely that the schedules can be shifted to daytime hours.

Chart 25. Garibaldi Street Pumps 24-hour usage profile

We recommend further investigation with operations staff to determine whether pumping schedules can be moved to the middle of the day or during daytime hours? If so, the energy profile could be matched to the solar profile of some of Council's rooftop solar or potential midscale solar asset. A participating retailer could then share energy with this site, when required. We recommend storage, be included as this would alleviate the times when pumping is required outside scheduled times e.g., during times of drought and\or low water supply.

Aquatic Centre

Site details

Street Address	152 Dumaresq St, Armidale NSW 2350
NMI	NFFFNRKW21
Roof space	Potential for installing a covered carpark and installing rooftop solar.
Map URL	ARC Aquatic centre
Description	The ARC Aquatic centre is located on the corner of Dumaresq Streets and Markham streets.

Assessment

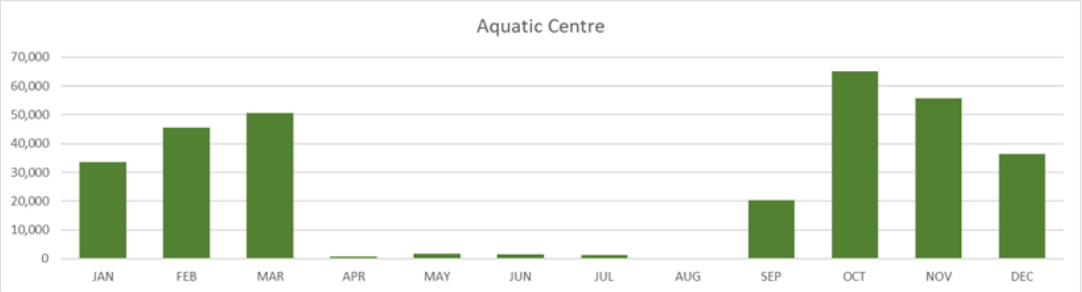
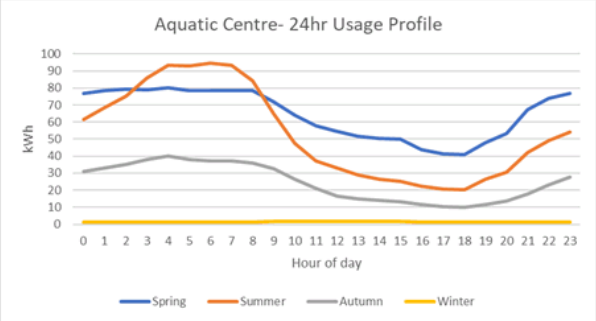


Chart 26. Aquatic Centre annual usage profile

The Aquatic Centre and facilities are open from October through to April. During the offseason there is little activity apart from September when maintenance works commence in preparation for the pool opening in October.



The intraday usage demonstrates that a large overnight and morning usage, likely when pool filtration occurs.

The site inspection revealed that the large carpark could be a suitable location for a solar covered carpark. Essential Energy has pad mount substation located on the corner and infrastructure close to the Aquatic centre.

We recommend that Council perform a preliminary enquiry and feasibility install rooftop solar above the carpark.

Chart 27. Aquatic Centre 24-hour usage profile

The carpark is approximately 2.5ha in area which would allow for minimum of 1MWp of rooftop solar to be installed at this location. Excess daytime solar could be shared via a "Virtual Net Metering" mechanism, with other large consumption sites particularly during winter months when the Aquatic Centre is closed.

We would also recommend that Council investigate carpark solar in parallel with other plans for upgrades for the Aquatic Centre, e.g., Combine Building Better Regional fundings grant application with a solar application at this site.

We also recommend electrification of all equipment on site. For instance, we have seen other regional Councils experience price shock due to sudden rise in East Coast gas prices and the unavoidable consumption by their gas boilers used by their community aquatic centres.

Malpas Dam

Site details

Street Address	Malpas dam road, Black Mountain
NMI	NFFFNRKW20
Roof space	N\A
Map URL	Malpas dam destratification unit
Description	Located approximately halfway between Armidale and Guyra. The dam was constructed in 1968 and is the major water supply for Armidale city and surrounds.

Assessment

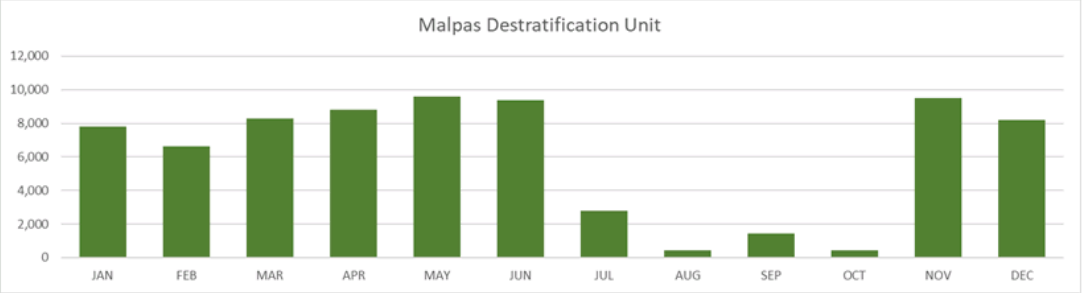
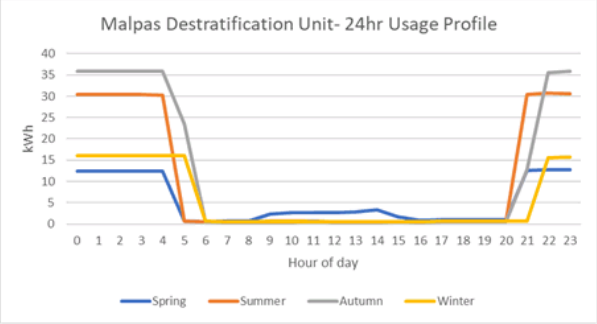


Chart 28. Malpas Destratification Unit annual usage profile

The Malpas destratification unit used the least amount of energy across a 12-month period at 73MWh of all the contract sites. For the 12-month window we assessed, we can see there were four months of little or no activity, which we assume was due to low water demand during July to October period and when equipment is taken offline for maintenance.



The good news for Council is that the 24hr usage profile demonstrates that the plant and equipment have been optimised to take advantage of "off-peak" energy tariffs.

We assessed Malpas Dam as a potential location for an ARC midscale RE plant. Unfortunately, the distance to the nearest zone substation is some kilometres. The electrical infrastructure leading to the dam, appeared unsuitable and would likely require significant investment and upgrades.

Chart 29. Malpas Destratification Unit 24-hour usage profile

If ARC wish to pursue your own midscale solar and battery opportunity (at a more suitable site), we recommend that the schedule for the Malpas plant and equipment, be reprogrammed to operate during daytime when there is an abundance and excess of solar energy. This is also advantageous for Council operations, as it means that the pumping etc, will be operating during daytime hours when operations staff are more available.

New Library

Site details

Street Address	2/182 Rusden St, Armidale NSW 2350
NMI	4001190746
Roof space	Limited
Map URL	Armidale Regional Council library
Description	Located centrally in town. Co-located to other local businesses.

Assessment

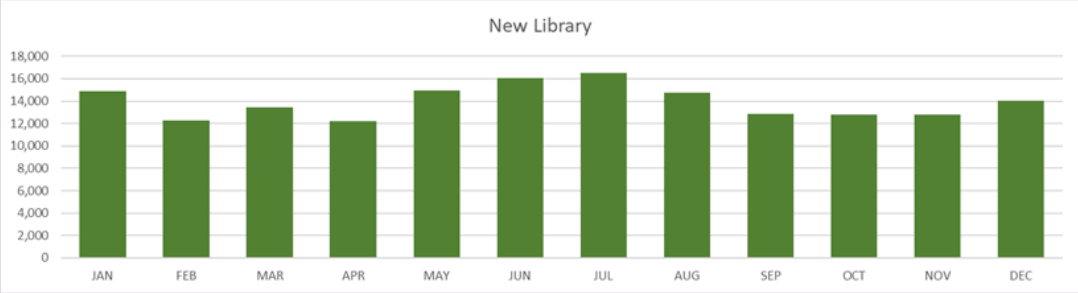


Chart 30. New Library annual usage profile

The New library has a consistent energy profile across a 12-month period. As we would anticipate during winter and summer months there are slight increases in usage likely due to additional load on the HVAC system.

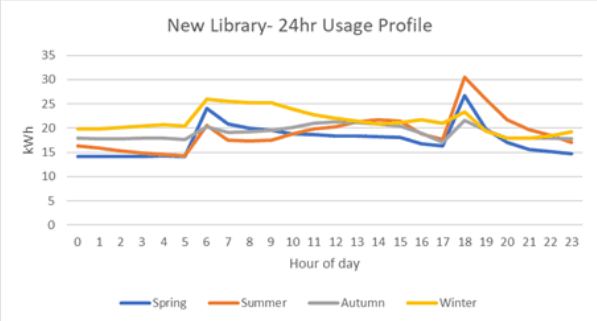


Chart 31 illustrates the average intra-day usage at the ARC library. This is relatively consistent across a 24-hr period, with morning and evening peaks. It also remains very consistent across seasons.

The new library has available roof space for some BtM solar, which could assist with reducing daytime grid consumption. We praise ARC operations for adopting Energy efficiency measures this site, including halogen lighting replacement.

Chart 31. ARC Library 24-hour usage profile

Armidale and Guyra Street Lights

Site details

Street Address	N\A
NMI	44073601885 & 44072694888
Map URL	Armidale streetlights
Description	Armidale Streetlighting

Assessment

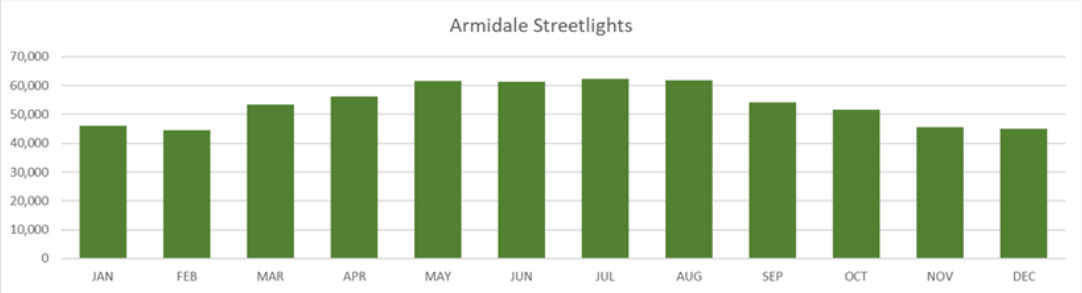
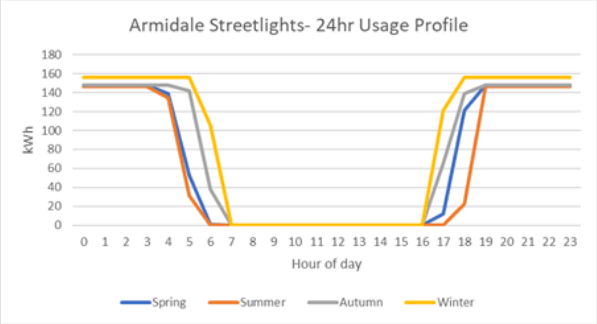


Chart 32. Armidale Streetlights annual usage profile

The ARC Armidale and Guyra streetlighting is as we would expect. A consistent overnight usage, with a slight increase over the winter months when days are shorter. The combined total for both Armidale and Guyra streetlights 725 MWh per annum. The Armidale streetlighting is a factor x10 more than Guyra reflecting the different in population sizes of the city and town.



We commend ARC for being proactive with adopting energy efficiency measures for your streetlighting.

These achievements have included installing solar lighting ~50x new lights on Armidale Cycleway (funded via the Safer Communities Fund).

The ARC has also replaced the inefficient halogen streetlighting with energy efficient LEDs. These solutions are up to 85% more efficient than Halogen lighting.

Chart 33. Armidale Streetlights 24-hour usage profile

Our recommendation for streetlighting, is to pursue 100% LED swap across the entire Guyra and Armidale towns.

To achieve 100% renewable energy for streetlighting we recommend that midscale solar with storage be used to shift daytime usage to night-time use.

For instance, a solar farm has enough excess energy during peak production hours of the day (2-4hrs around midday), to fill a DC connect Life battery solution. The DC connect batteries time-shift that energy and trickle feed it back into the grid during the 10-hrs that streetlights are operational. CE is adopting this approach with several other Regional Councils across the state.

Recommendations Ranking Table

Renewable Energy Action Plan – recommendations evaluation and ranking

	Recommendation	Action	Carbon	$BCA	Comm	Logic	Lead	Rank	Champion	Time
1.	Improve energy transparency and control at all sites, including generation, storage and key loads.	Establish and implement a smart meter and dynamic load control strategy and device roll-out								
2.	Investigate the potential for a council owned, mid-scale renewable energy generator that can supply all of ARCs energy and/or offset all necessary emissions.	Shortlist sites, complete a Preliminary Network Enquiry + high-level business case								
3.	Going forward, ensure smart meters are installed in association with any other electrical installation or upgrade works. The meter should have capacity for sub-circuit and device load control.	Upskill in metering and control options								
4.	Make a strategic decision about the application of on-site distributed renewable energy in the context of a mid-scale opportunity.	Consider Zero30, carbon and retailer strategy								
5.	Consider the case for energy storage in association with any BtM solar installation and especially for sites with energy quality or security requirements. Retailer provided batteries and community battery schemes should also be explored.	Include in scope and budget allocation for any renewable powerplant project								

	Recommendation	Action	Carbon	$BCA	Comm	Logic	Lead	Rank	Champion	
6.	If ARC decide to progress the mid-scale 100% offset option, this should be done in concert with identifying and negotiating with a retail partner. ARC will need to come to a position on how to value the export ranging from simple PPAs to sharing with local customers. E.g., Main street shops to assist in providing affordable, local energy.	Decide on an approach to valuing excess energy from ARC projects								
7.	ARC should model energy storage as part of the business plan for medium scale solar project options. This modelling should compare a single, mid-scale, grid connected storage device (ideally with the solar array) and multiple distributed devices.	Include in scope and budget allocation for any renewable powerplant project								
8.	That ARC does not commit to any long-term retail contracts until Council's own renewable generation strategy is clear. Council should gain understanding of the selling/retailing strategy of the emerging generators in the REZ and be mindful that retailing energy to Council and/or local customers can be facilitated and negotiated via a participating retailer.	Establish what it is that Council would ideally like from a retailer								
9.	That ARC participate in the NSW EV Strategy and invest in a small number of electric vehicles to test how they can be best integrated into operational activities. ARC would also benefit from improved tracking of vehicle usage.	Consider engaging a fleet tracking and optimisation service. Support charger roll-out								

	Recommendation	Action	Carbon	$BCA	Comm	Logic	Lead	Rank	Champion	
10.	That ARC position itself as a centre for R&D in the emerging hydrogen economy as part of the REZ. That Council conduct feasibility into a pilot plant and vehicle(s).	Promote ARC to emerging providers in the H space								
11.	That ARC adapts procurement policy to preference electric plant and equipment for replacement and new purchases.	Ask staff to research electric alternatives. Replace as current plant retires								
12.	Limited action in relation to pumped hydro at this point in time. It may be something to have 'on the radar' in discussion with TransGrid and other organisations looking to develop energy projects in the REZ.	Establish relationships with providers that could link to ARC project(s)								
13.	Small-scale wind generators should be considered for any new or existing remote infrastructure. Mid-scale wind generators could be considered as part of a hybrid mid-scale project (which we have not modelled). Local wind farms could be approached to provide renewable energy to Council to fill the shortfall if Council elects to proceed with solar only as the offset strategy.	Include wind energy as possibility in new projects								
14.	ARC decide on the degree to which their 100% renewable target should be pursued with discrete projects they can readily control, versus a community engaged approach with incentives and a VPP structure for Council to claim the entire generation pool.	Continue community engagement through Project Zero30								

	Recommendation	Action	Carbon	$BCA	Comm	Logic	Lead	Rank	Champion	
15.	ARC make a strategic decision on how to approach renewable energy for building HVAC gas and diesel plant/vehicles. ARC may seek interest or funding with stakeholders in the REZ to further investigate the potential of bioenergy.	Monitor progress with Hydrogen, liquid fuels and biogas.								
16.	For Armidale Regional Council, microgrids should be considered for any development likely to have a few or more meters connected to the network. If Council is the enabler, then it is likely to result in reduced operating costs for sub-metered customers and an on-going revenue stream to Council.	Consider microgrids for incorporation into review of Planning Policies								
17.	That Armidale Regional Council consider the relative importance of energy security at key sites and factor this into considerations for BtM installations as this may be the factor that weights the business case towards proceeding.	Investigate drivers of and funding for resilience initiatives								
18.	Include ground source as a technical solution to investigate in specifying upgrades to building Heating Ventilation Air Conditioning systems.	Add scope to feasibility studies								
19.	Other									

Key: Green represents good alignment with the decision-making factor. Orange indicates a less compelling case.

MINUTES

ARMIDALE REGIONAL ABORIGINAL ADVISORY COMMITTEE

Held on

Thursday, 9 June 2022 at 11am

at

Council Chambers

PRESENT:
Mr Dalliss Ramage (Chair), Mr Adam Spencer, Ms Aliethea Cutmore, Ms Jusinta Collins, Ms Mr Dane Townsend, Mr Jeff Siegel, Cr Debra O'Brien and Mr Cyril Green (Executive Officer)

IN ATTENDANCE: Ms Kirsten Bell (ARC)

WELCOME AND ACKNOWLEDGEMENT OF COUNTRY

1. APOLOGIES
NIL

2. CONFIRMATION OF PREVIOUS MINUTES

CONFIRMATION OF THE MINUTES OF THE ARMIDALE REGIONAL ABORIGINAL ADVISORY COMMITTEE MEETING HELD ON 5 MAY 2022

RECOMMENDATION:

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

3. DECLARATIONS OF INTEREST
NIL

4. BUSINESS ARISING

4.1 Election of Chair *Ref: AINT/2022/32395 (ARC16/0605)*

Dalliss Ramage was elected to the position of Chair unopposed. Cyril Green continued as acting chair for this meeting.

4.2 Aboriginal Community Organisations- Armidale Local Aboriginal Land Council

Ref: AINT/2022/32407 (ARC16/0605)

Aliethea Cutmore spoke to the committee regarding a number of issues around Narwan Village Morris Street Armidale. Out of that discussion a number of recommendations were issued:

2. RECOMMENDATION:

Moved: Aliethea Cutmore **Seconded: Dalliss Ramage**

That Council

a. Assist to establish a Bus Stop at Narwan Village, Morris Street, Armidale

b. Supply recycling bins at Narwan Village, Morris Street, Armidale

c. Update Armidale Local Aboriginal Land Council with the progress of the construction certificate, Homes to Road program at Narwan Village, Morris Street, Armidale. **Note - Council staff have issued the required certificate**.

ACTION – Cyril to speak with relevant operational staff in relation to these recommendations and report back to the Committee at the next meeting

5. CORRESPONDENCE
NIL

6. ADMINISTRATION REPORTS
NIL

7. GENERAL BUSINESS

7.1 NAIDOC Week Activities

- Cyril confirmed street march was organised and going ahead
- Discussed preparation of NAIDOC calendar. NAIDOC week working group was formed to coordinate NAIDOC activities across the week
- Jusinta Collins advised details of her planned event at the Aboriginal Cultural Centre and Keeping Place which is to be supported by library staff who will be taking VR headsets and library information to the event.

ACTION – Cyril to coordinate street march activity on 7 July 2022

ACTION – Cyril to form working group and prepare and distribute NAIDOC week calendar of events.

There being no further business the Chair declared the meeting closed at 12.15pm.

MINUTES

ARMIDALE REGIONAL ABORIGINAL ADVISORY COMMITTEE

Held on

Thursday, 5 May 2022 at 11am

at

Function Room

PRESENT:
Mr Cyril Green (ARC acting Chair), Mr Tom Briggs, Mr Steven Briggs, Ms Jill Ahoy, Ms Aliethea Cutmore, Ms Fiona Lovelock, Mr Jeff Siegel, Mr Bruce Cohen, Cr Debra O'Brien

IN ATTENDANCE: Ms Aimee Hutton (ARC)

WELCOME AND ACKNOWLEDGEMENT OF COUNTRY

1. APOLOGIES
NIL

2. CONFIRMATION OF PREVIOUS MINUTES

CONFIRMATION OF THE MINUTES OF THE ARMIDALE REGIONAL ABORIGINAL ADVISORY COMMITTEE MEETING HELD ON 14 JULY 2021

RECOMMENDATION:

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

3. DECLARATIONS OF INTEREST
NIL

4. BUSINESS ARISING

4.1 Election Of Chair *Ref: AINT/2022/32144 (ARC16/0605)*

This agenda item was put over to the next meeting to allow prospective applicants time to apply.

5. CORRESPONDENCE
NIL

6. ADMINISTRATION REPORTS
NIL

7. GENERAL BUSINESS

7.1 Reconciliation Bridge Walk
NAIDOC Week *Ref: AINT/2022/32134 (ARC16/0605)*

Jeff Siegel spoke to the annual Reconciliation Bridge Walk being planned for 29 May this year, organised again by ANTaR. As usual, everyone will start at Curtis Park and walk across Stephens Bridge, then west along the creek to the foot bridge, and back. It will be followed by a barbecue, entertainment and speeches. Homes North are happy once again to arrange advertising and to supply and cook the barbie.

ANTaR will arrange speakers and entertainment and provide drinks, coffee and tea.

In the past, the Armidale Regional Council has supported the Bridge Walk by waiving fees and providing various requirements for the event. The request of council was to transport the marquee, chairs and other equipment to the venue.

As usual, what we need are a marquee, chairs for the Elders and others, a loud speaker, a table, an urn and an extension cord. We also have to make sure that barbecues are cleaned and working, and that we have the keys for electricity.

The committee also discussed NAIDOC week. Money available for A Day in the Dale and also the Guyra family day. Possible council involvement co-ordinating a street march and flag raising. A meeting will be held in June to make arrangements for NAIDOC Week.

There being no further business the Chair declared the meeting closed at 12.20pm.

AGENDA

ARMIDALE Regional Council

BUSINESS PAPER

SPORTS COUNCIL

To be held on

Wednesday, 8 June 2022
5:30pm

at

Function Room

Members
Councillor J Galletly (Chair)
Mr S McMillan
Mr M Porter
Mr J Campbell
Mr M Fittler
Mr G Parsons
Ms S Sincock
Ms Ella-Rose Carson
Mr Ankur Jain (Armidale Regional Council)

Quorom: 5 Members to be Present

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Item:	**5.1**	**Ref: AINT/2022/20408**
Title:	**Sports Council Priority List**	**Container: ARC16/0330**
Author:	**Ankur Jain, Sport & Recreation Development Officer**	
Attachments:	**Nil**	

1. Purpose

The purpose of the report is to have the Sports Council Committee review the Sports Council's Priority List so it can be amended and projects nominated by the members can be incorporated.

2. OFFICERS' RECOMMENDATION:

That the Committee:

a. Review the Sports Council's Priority List

b. Make amendments to the list as necessary

c. Nominate projects, the Committee recommended to receive Sports Council funding

3. Background

The Sports Council Priority List has been developed and implemented by the Sports Council successfully for a long period of time. The list organises community sporting infrastructure projects in order of priority as deemed by the Sports Council and provides details of funding needed for the project and funding requested from the Sports Council Development Fund. The Development Fund has previously been the revenue collected from Sports Development Player Levies and intermittent funding provided by Council.

4. Discussion

The Sports Council are required to review the priority list during each meeting to ensure the status of projects are still current and that any Development Fund applications that are received between meetings can be assessed for inclusion on the Priority List and prioritised accordingly.

The Sports Council needs to sort out a few more minor and medium cost projects in the Sports Council Priority List.

It also is important that projects are assessed for their suitability for grant funding opportunities as they arise, and that the Sports Council determine who will be responsible for submitting the grant funding applications and managing the projects.

5. Implications

5.1. Strategic and Policy Implications

Reviewing and implementing the Sports Council Priority List links into the ARC Delivery Program 2018-2021 by supporting the characteristics of a strong council including robust community relationships, strong performance and outstanding service provision. The Priority list provides direct community input into the development and implementation of the Community Strategic Plan E3.3 through its contribution to ensuring that recreation facilities meet the on-going needs of the community.

5.2. Risk

There are currently no risks identified for the Sports Council reviewing and amending the Priority List as recommended.

5.3. Sustainability

The Sports Council Priority List model encourages sustainability by promoting more efficent and improved service delivery through collaboration between the sporting community and Council. The Sports Council acts as a direct connection between Council and the broader sporting community and enables Council to be aware of the needs and desires of the Sporting Community in a streamlined and organised fashion. This removes the need for Council to determine the sporting communities priorities based on council staffs assesment alone, and ensures that sporting infrastructure is prioritised and funded in line with community needs.

5.4. Financial

Budget Area:	Nil						
Funding Source:	Nil						
Budget Ref: (PN)	Description	Approved Budget	Actual	Committed	Proposed	Total Forecast Expenditure	Remaining Budget
Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

The budgets for projects on the Sports Council Priority List are often made up of multiple funding sources including grant funding, sporting body contributions and requests for funding from the Sports Development Fund. The financial report included within the agenda will stipulate the funds available for the Sports Council to nominate projects to receive funding

6. Consultation and Communication

The Sports Council Priority List is reviewed internally by Public and Town Spaces staff to ensure there is cohesion between the projects listed on the Priority List and projects within the Public and Town Spaces Forward Works Program and Asset Management Plans. This ensures that the priorities between the Sports Council and the Public and Town Spaces portfolio are aligned and that both council and the sporting community are working towards the same goals.

7. Conclusion

The Sports Council Priority List requires regular review by the Sports Council to ensure that the projects within the list continue to reflect the needs of the sporting community and that funding opportunities are identified for projects where appropriate.

Item:	**5.2**	**Ref: AINT/2022/20436**
Title:	**Update on the Lynches Road Lighting Project Container: ARC16/0330**	
Author:	**Ankur Jain, Sport & Recreation Development Officer**	
Attachments:	**Nil**	

OFFICERS' RECOMMENDATION:

That the Committee note the report

Context

Armidale Regional Council received a grant of $350,000 from the Regional Sport Facility Fund 2020/21 as a contribution towards the installation of lighting at the Lynches Road Netball Courts.

Purpose

Lighting at the Lynches Road Netball Courts will allow user groups to have evening training sessions and organize twilight competitions all year round.

Summary

There has been a delay in commencing work at the Lynches Netball courts. The primary reason for this being a delay in receiving the international shipment of the light fittings. We have received the delivery of the poles and are expecting the work to commence pretty soon.

Also, Council was left with additional funds from the grant and has made a decision of installing solar panels on the clubhouse to cut down on the electricity cost. With the new lights at the netball courts facilitating night games, the additional funds will also be used for installing CCTV cameras at the facility for the safety of the users. So, this will stretch our timeline until March next year for the entire project.

Item:	**5.3**	**Ref: AINT/2022/20447**
Title:	**Update on the Indoor Cricket Cricket Project Container: ARC16/0330**	
Author:	**Ankur Jain, Sport & Recreation Development Officer**	
Attachments:	**Nil**	

OFFICERS' RECOMMENDATION:

That the Committee note the report

Context

Armidale & District Cricket Association received a grant of $89,000 from the Stronger Country and Communities Fund as a contribution towards the extension of the Indoor Cricket Centre at Armidale Sportsground.

Purpose

The Indoor Cricket Centre at Armidale Sportsground will be further extended to include the male and female amenities, change room facilities, an office space, and a kitchenette.

Summary

Armidale & District Cricket Association has received a DA and a Construction Certificate for the extension of the Indoor Cricket Centre at Armidale Sportsground. Council's Building Surveyor will be conducting an inspection of the site before work can commence.

Item:	**5.4**	**Ref: AINT/2022/20454**
Title:	**Naming Rights Sponsorship - Armidale Sportsground**	**Container: ARC16/0330**
Author:	**Ankur Jain, Sport & Recreation Development Officer**	
Attachments:	**Nil**	

OFFICERS' RECOMMENDATION:

That the Committee note the report

Context

Council is looking for a Naming Rights Sponsor for Armidale's premiere sporting ground, Armidale Sportsground.

Purpose

After the termination of the Naming Rights Sponsorship with RAB, Council is on a search for a new Naming Rights Sponsor. The agreement will provide Council with additional funds dedicated entirely for the development of the Sportsground.

Summary

The Sports & Recreation Development Officer has approached a number of businesses with the proposal of being a Naming Rights Sponsor of the Sportsground. However, there has been a relatively low interest amongst the businesses about the same.

Item:	**5.5**	**Ref: AINT/2022/20468**
Title:	**Update on the Sports Council Projects**	**Container: ARC16/0330**
Author:	**Ankur Jain, Sport & Recreation Development Officer**	
Attachments:	**Nil**	

OFFICERS' RECOMMENDATION:

That the Committee note the report

Context

Last year, the Sports Council approved the funding of three projects from the Sports Council budget:

- *Installation of an additional shed at Rologas*
- *Installation of a new scoreboard at Armidale Sportsground*
- *Extension of the clubhouse at Armidale Sportsground*

The Sports Council approved $33,000 out of the Sports Council's budget for these three projects.

Item:	**5.6**	**Ref: AINT/2022/20485**
Title:	**Stronger Country & Community Fund Projects Container: ARC16/0330**	
Author:	**Ankur Jain, Sport & Recreation Development Officer**	
Attachments:	**Nil**	

OFFICERS' RECOMMENDATION:

That the Committee note the report

Context

Some of the Sporting Clubs submitted an application under the Stronger Country and Community Fund for their individual projects:

- *Hillgrove Tennis Courts Upgrade*
- *North Armidale Tennis Courts Upgrade*
- *Guyra Tennis Courts Lighting Upgrade*
- *Armidale Equestrian Centre Amenities Project*

All the grant applications submitted under the SCCF were approved

Summary

Applications for these projects were submitted by the clubs individually. It was also advised that the projects be managed by the clubs as Council did not enough project managers to oversee these projects. However, it is required that clubs keep Council informed about the status of these projects.

Item:	**5.7**	**Ref: AINT/2022/20492**
Title:	**Armidale Sportsgound Carpark**	**Container: ARC16/0330**
Author:	**Ankur Jain, Sport & Recreation Development Officer**	
Attachments:	**Nil**	

OFFICERS' RECOMMENDATION:

That the Committee note the report

Context

The carpark at Armidale Sportsground has been a concern for quite some time. The existing carpark at the facility does not suffice the needs of the users and is inaccessible especially after it rains.

Summary

The plans for the Sportsground Carpark were completed by Mark Wilson and the costing for the project was estimated to be $198,000. It was informed by the Roads and Parks Manager that this project will be funded by Transport's budget and it has been added to their projects for financial year 2022/23.

Item:	**5.8**	**Ref: AINT/2022/20508**
Title:	**Field Closure**	**Container: ARC16/0330**
Author:	**Ankur Jain, Sport & Recreation Development Officer**	
Attachments:	**Nil**	

OFFICERS' RECOMMENDATION:

That the Committee note the report

Context

In the event of precipitation or a storm, Council playing fields are inspected by parks staff to determine the level of risk of third party injury and level of risk of playing surface damage. Council has a duty of care to advise the community about these risks. Clubs, sporting bodies, and local media are notified about field closures accordingly.

Item:	**5.9**	**Ref: AINT/2022/20540**
Title:	**Concept Plan for the Harris Park / Rugby League Park Precinct**	**Container: ARC16/0330**
Author:	**Ankur Jain, Sport & Recreation Development Officer**	
Attachments:	**Nil**	

OFFICERS' RECOMMENDATION:

That the Committee note the report

Context

There was a request from the sporting clubs using Harris Park for the redevelopment of the existing clubhouse at the facility. The new clubhouse is expected to cater the needs of all sporting groups efficiently.

Summary

Council organized a meeting with Armidale & District Cricket Association, City Westside Football Club, and Athletics to understand if the proposed plan would suffice their needs. It was also proposed that the new building should be built on the western side of Harris Park near the fence of the Rugby League Park.

Council's planner suggested that the location proposed for the clubhouse was not suitable as it was prone to flooding.

Armidale Regional Council
Sports Council
Wednesday, 8 June 2022 Page 13

Item:	**5.10**	**Ref: AINT/2022/21028**
Title:	**Sports Council Financial Report to 31 May 2022**	**Container: ARC16/0330**
Author:	**Brad Munns, Financial Accountant**	
Attachments:	Nil	

1. Purpose

The purpose of this report is to provide the Sports Council Financial Report for the period to 31 May 2022.

2. OFFICERS' RECOMMENDATION:

That the committee note the financial report for the period to 31 May 2022.

3. Background

The Sports Council has an operational and capital project budget for revenues and expenditure. This budget is reported against at each meeting of Sports Council in this financial report.

Sports Player and Association levies invoiced and received by Council are accumulated into Council's Trust Account for application to priority capital projects. Three projects are included in the FY2022 Capital budget totalling $33,000 and funds have been remitted from the Reserve Funds to the Sports Council Project Manager for the projects.

4. Discussion

The tables below show the Sports Council Financial report for:

1. FY2020/21 Operational and Capital Budgets and Actual Results (for comparative purposes); and
2. FY2021/22 Operational and Capital Budgets and Actual Results to 31 May 2022.
3. Balance of the Sports Council Capital Priority Projects Reserve at 31 May 2022.

Operating Income **Project No. 240250**	**Budget FY20/21**	**Actual FY20/21**	**Budget FY21/22**	**Actual to 31May2022**
	$	$	$	$
Association & Player Levies	42,000	26,761	42,000	39,191
Total Operating Income	42,000	26,761	42,000	39,191
Note: Actual levies received are transferred into Council's Trust Account Reserve at EOFY for allocation to capital priority projects.				
,Operating Expenditure				
Donations – Small Grants paid	10,000	1,250	-	1,000
Materials - Defibrillators	-	8,000	-	-
Allocation of Levies into Trust bank account Reserve for capital priority projects.			42,000	38,191

Total Operating Expenditure	10,000	9,250	42,000	39,191

Capital Income **Project No. 240386**	**Budget FY20/21**	**Actual FY20/21**	**Budget FY21/22**	**Actual to 31May2022**
	$	$	$	$
Capital Income (Allocation from Reserve)	-	-	33,000	33,000
Total Capital Income	-	-	33,000	33,000
Capital Expenditure				
Priority Projects allocation	-	-	33,000	-
Rologas Cricket Storage Shed	-	-	-	8,000
Armidale Sportsground - replacement of electronic scoreboard	-	-	-	15,000
Armidale Sportsground - extension of Armidale District Cricket Association clubhouse	-	-	-	10,000
Total Capital Expenditure	-	-	33,000	33,000

Balance of Sports Council Capital Priority Projects Reserve at 31 May 2022:

Opening Balance of ARC Trust Account Reserve 30/06/2021	$67,570
Add Newcastle Permanent Bank Account balance (to be transferred to ARC Trust Account)	$885
Less payment to Sports Council Project Manager for 3 x capital priority projects up to 31 May 2022	($33,000)
Current balance at 31 May 2022	**$35,455**
Add FY2022 Levies to be transferred 30 June 2022	$38,191
Forecast Balance at 30 June 2022	$73,646

Commentary:

Operating Income and Expenditure

- Sports registrations have returned to near budget levels after Covid-19 lockdowns impacted on sports and players during FY2020-2021. Levies of $39,191 have been invoiced for the year to date 31 May 2022, as compared to the budget of $42,000.
- Operating expenditure of $1,000 for small grants has been incurred up to 31 May 2022 and the remaining balance of player levies of $38,191 is allocated for transfer into the Reserve account for future priority projects.
- The total expenditure of $39,191 matches the actual revenue received from Levies and compares with the budgeted expenditure of $42,000. This demonstrates the quarantining of player levies into a Trust Account Reserve for allocation towards the Sports Council priority capital projects, in accordance with Council's resolution at the 29 July 2021 Ordinary Council meeting.

Capital Income and Expenditure

- The Sports Council has a list of priority capital projects. Up to 31 May 2022, $33,000 was allocated in the capital budget for Sports Council projects ($8,000 for Rologas Cricket Storage Shed, $15,000 for Armidale Sportsground replacement of electronic scoreboard and $10,000 for Armidale Sportsground extension of the Cricket Association clubhouse).
- The balance of the Reserve at 31 May 2022 is $35,455.
- Up to 30 June 2022, based upon current invoicing and receipt of levies, a forecast balance of $73,646 is expected for the Reserve for allocation to future capital priority projects.
- Other Capital priority projects for FY2021/22 are subject to grant funding opportunities.

5. Implications

5.1. Strategic and Policy Implications

There are no strategic or policy implications from this report.

5.2. Risk

Overall financial management risk is considered to be low.

Identified risks include budgeted sports levies revenues not being achieved for the full year. This is as a result of Covid19 restrictions on sports events.

Capital projects are reviewed and approved as funding becomes available.

5.3. Sustainability

While not directly related to this report, overall Sustainability Implications include:

- Promoting more efficent and improved service delivery through collaboration and innovation
- Demonstrating potential efficiencies to be gained through service delivery

5.4. Financial

Budget Area:	Public & Town Spaces – Sports Council Administration						
Funding Source:	Player and Association Levies, Sports Council Reserve (Trust Account)						
Budget Ref: (PN)	Description	Approved Budget	Actual	Committed	Proposed	Total Forecast Expenditure	Remaining Budget
240250 (Op)	Operational Revenue - Levies	42,000	39,191	Nil	Nil	39,191	2,809
240250 (Op)	Operational Expenditure	42,000	1,000	Nil	38,191	39,191	2,809
240386 (Cap)	Capital Revenue	33,000	33,000	Nil	Nil	33,000	Nil
240386 (Cap)	Capital Expenditure	33,000	33,000	Nil	Nil	33,000	Nil

6. Consultation and Communication

Consultation and Communication occurs between Council and the Sports Council during the year as required.

7. Conclusion

This report is the Sports Council financial report for the period to 31 May 2022.

Item:	**7.1**	**Ref: AINT/2022/20542**
Title:	**Election of a New Chairperson**	**Container: ARC16/0330**
Author:	**Ankur Jain, Sport & Recreation Development Officer**	
Attachments:	**Nil**	

1. OFFICERS' RECOMMENDATION:

That the Committee note the report

Context

In a discussion with the General Manager and Mayor, it was confirmed that the Chairperson of the Sports Council need not be a Councillor. Following this, the present Chairperson has decided to step down from the position. The Committee has to elect a new Chairman for the Sports Council.

MINUTES

SPORTS COUNCIL

Held on

Wednesday, 8 June 2022
5:30pm

at

Function Room

PRESENT:

Councillor J Galletly (Chair), Mr S McMillan, Mr M Porter, Mr M Fittler, Mr G Parsons, Ms S Sincock, Ms E Carson, Mr R Morsley (Armidale Regional Council), Ms K Stidworthy (Armidale Regional Council), Mr B Munns (Armidale Regional Council), Mr A Jain (Armidale Regional Council)

Quorum: 5 Members to be Present

1. APOLOGIES

Mr J Campbell was an apology for the meeting

2. CONFIRMATION OF PREVIOUS MINUTES -

CONFIRMATION OF THE MINUTES OF THE SPORTS COUNCIL MEETING HELD ON 24 MARCH 2022

RECOMMENDATION:

It was decided that the minutes of the previous meeting will be accepted in the next meeting along with the minutes of the meeting held on 8th June 2022.

3. DECLARATIONS OF INTEREST

4. BUSINESS ARISING

5. ADMINISTRATION REPORTS

5.1 Sports Council Priority List *Ref: AINT/2022/20408 (ARC16/0330)*

2. OFFICERS' RECOMMENDATION:

That the Committee:

- **a.** Review the Sports Council's Priority List
- **b.** Make amendments to the list as necessary
- **c.** Nominate projects, the Committee recommended to receive Sports Council funding

It was decided by the Committee that the Priority List will be reviewed in the next meeting. Members were provided with the current list and asked to go through it provide their insights about the existing projects, which projects should be considered more significant, and decide on new projects that could be added to the Priority List in the next meeting.

5.2 Update on the Lynches Road Lighting Project *Ref: AINT/2022/20436 (ARC16/0330)*

OFFICERS' RECOMMENDATION:

That the Committee note the report

The Sports and Recreation Development Officer provided an update of the Netball Courts Lighting Project. The Contractor has provided a new timeline for the project as per which, the project is scheduled to commence by the end of June 2022. The Project Manager submitted a variation to the grant authority which was approved in May 2022.

Since the quote received for the project was well below the funding received, it was decided to use the remaining funds for additional work at the Netball Courts. Apart from the lighting

project, there will be new solar panels and CCTV cameras installed. Also, the old loud speaker system at the Netball Courts will be replaced with a new system. From the information provided by the granting authority, the deadline for completing the lighting project and additional small projects is 31st March 2023.

5.3 Update on the Indoor Cricket Project

Ref: AINT/2022/20447 (ARC16/0330)

OFFICERS' RECOMMENDATION:

That the Committee note the report

Armidale and District Cricket Association has received a DA and a Construction Certificate approved. Council's Building Surveyor has requested to inspect the work site with ADCA to ensure everything is safe. Work for the last stage of the Indoor Cricket Centre is expected to commence soon.

5.4 Naming Rights Sponsorship - Armidale Sportsground

Ref: AINT/2022/20454 (ARC16/0330)

OFFICERS' RECOMMENDATION:

That the Committee note the report

The Sports and Recreation Development Officer, the Parks Coordinator, and the Communications team at Council made numerous attempts to reach out to the businesses and entice them with lucrative deals to become a naming rights sponsor for Armidale Sportsground. However, considering the impact businesses have had due to covid in the past couple of years, it has been hard work trying to get businesses on board.

The Committee suggested another attempt be made towards the end of the year when things are expected to be better from the businesses' point of view. However, it is important to keep an eye on any new opportunities at the same time.

5.5 Update on the Sports Council Projects

Ref: AINT/2022/20468 (ARC16/0330)

OFFICERS' RECOMMENDATION:

That the Committee note the report

According to the latest update provided by ADCA on the Sports Council projects, the shed at Rologas has been installed. ADCA is looking for additional funds to put up a scoreboard at the Sportsground which can be used by cricket as well as soccer.

ADCA is trying to obtain new quotes for the clubhouse extension project. The cost of raw material has gone up significantly. Therefore, the contractor will not be working with the old quote for this project.

5.6 Stronger Country & Community Fund Projects *Ref: AINT/2022/20485 (ARC16/0330)*

OFFICERS' RECOMMENDATION:

That the Committee note the report

The Sports & Recreation Development Officer provided an overview about the status of the projects funded by the Stronger Country and Community Fund. As individual clubs are managing their respective projects, they are required to provide Council with an update at every stage of development.

5.7 Armidale Sportsground Carpark *Ref: AINT/2022/20492 (ARC16/0330)*

OFFICERS' RECOMMENDATION:

That the Committee note the report

Members were informed that the Armidale Sportsground Carpark Project will be funded through the Transport's Budget in FY 2022-23. Members of the Committee also asked the question about the likeliness of the project being undertaken by Council internally in FY22-23.

Cr. Galletly informed that the Committee that he would be looking into it personally and provide them with answers in the next meeting.

5.8 Field Closure *Ref: AINT/2022/20508 (ARC16/0330)*

OFFICERS' RECOMMENDATION:

That the Committee note the report

The Public and Town Spaces Coordinator provided a brief overview about how it is significant for Council to close its fields during wet weather. Field Closures are required to avoid any third party injuries and damage to Council facilities according to the guidelines set out by Statewide Insurance.

Members of the Committee were also informed about how the outdoor staff of the Parks team make a decision of closing the fields. Staff that are responsible for inspecting the fields are also provided with a checklist to record their observations and make a decision.

5.9 Concept Plan for the Harris Park / Rugby League Park Precinct *Ref: AINT/2022/20540 (ARC1*

OFFICERS' RECOMMENDATION:

That the Committee note the report

It was decided by the Committee to discuss this item in the next Sports Council meeting.

5.10 Sports Council Financial Report to 31 May 2022 *Ref: AINT/2022/21028 (ARC16/0330)*

2. OFFICERS' RECOMMENDATION:

That the committee note the financial report for the period to 31 May 2022.

Council's Financial Accountant provided an overview of Sports Council's current financial position. The forecasted balance in the trust is $73,646 out which $885 has to be transferred from the old Newcastle Permanent Bank account. Council's Financial Accountant got two signatories (Steve Mcmillan and Michael Porter) to sign the document to process the transfer and close the old Newcastle Permanent account.

Council's Finance Manager provided reasons for the increase in the Sports Development Levy for 2021-22 season. It was also informed that the Sports Development Levy would go up by 4.17% for juniors and 2.78% seniors for 2022-23 season and that the new Fees and Charges were on public exhibition with the last day being 08/06/2022.

The Committee recommended that Council should do a social media release about this increase so that the sporting community is aware about it.

Moved by: Steve Mcmillan **Seconded by:** Michael Fittler

6. CORRESPONDENCE

7. GENERAL BUSINESS

7.1 Election of a New Chairperson *Ref: AINT/2022/20542 (ARC16/0330)*

1. OFFICERS' RECOMMENDATION:

That the Committee note the report

Cr. Galletly who was chairing the Sports Council meeting decided that he would be stepping down from the position and recommended that Steve Mcmillan be appointed as the new Chairperson for the Sports Council. This decision was unanimously supported by the Committee and Mr. Steve Mcmillan is elected as the Chairperson of the Sports Council.

There being no further business, the Chairman declared the meeting closed at 7:04pm.

ARMIDALE Regional Council

MINUTES

TRAFFIC ADVISORY COMMITTEE

Held on

Tuesday, 2 August 2022
10am

at

Function Room

In attendance

Committee Members:
Cr Susan McMichael (Chair)
Mr Hans Hietbrink (Rep. Member for Northern Tablelands)
Snr Sgt Paul Caldwell (NSW Police)
Ms Mel Jones (TfNSW)

Council Staff:
Mr Graham Earl (ARC Technical Officer)
Ms Belinda Ackling (Minute Taker)
Mr Ian Chetcuti (Ranger)

Others:
Nil

1. Apologies / Leave Of Absence

2. Confirmation of Previous Minutes -

CONFIRMATION OF THE MINUTES OF THE TRAFFIC ADVISORY COMMITTEE MEETING HELD ON 5 JULY 2022

RESOLVED

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 unanimously.

3. Declarations of Interest
Nil

4. Business Arising

4.1 Actions from the previous meeting held 5 July 2022*Ref: AINT/2022/31609 (ARC16/0168-7)*

2. OFFICERS' RECOMMENDATION:

That the Committee note the below actions from the previous meeting:

a. Endorse the road closure of Moore Street from Dangar Street to Faulkner Street as requested for the National Police Memorial Wall to Wall Ride 2022 between the hours of 6am and 8.30am on Wednesday 15th September 2022.

Noted

b. Note that complaints have been made regarding parking on Naughten Avenue and further investigations are to be undertaken and the matter deferred to the August Traffic Advisory Committee meeting.

Complainants advised of outcome and consultation with residents to be undertaken and a further report will be provided to the August meeting.

c. Endorse a No Parking zone and install appropriate signage in the turn-around of the cul-de-sac of Powers Place.

Signs to be installed

d. Note further investigation and report to the July Traffic Advisory Committee meeting is required regarding the size of the bus to be used and available parking space following the termination of a taxi service in Guyra.

Investigations completed report to be further discussed in item 4.2.

4.2 Change of Use of Taxi Zones in Guyra *Ref: AINT/2022/31711 (ARC16/0168-7)*

The Traffic Advisory Committee received a request to change 3 Taxi Zones in Guyra to a Bus Zones, as the taxi service no longer operates. The Community bus has seen a need for a service of some kind an decided to take help fill that need.

Investigation have shown that in one instance parking spaces will need to be removed to accommodate the size of the Community bus.

RESOLVED

That Council:

a. Endorse the change of the Taxi Zone to a Bus Zone in Ollera St and removal of the first 2 angle parking spaces to accommodate the bus zone.

b. Endorse the change of the Taxi Zone in Bradley St to a Bus Zone used for the community bus.

c. Endorse the change of the Taxi Zone in Moore St to a Bus Zone and monitored for use.

The Motion on being put to the vote was CARRIED unanimously.

5. Special Event Reports
Nil

6. Correspondence
Nil

7. General Business

7.1 Parking in Kentucky St, Faulkner St to Dangar St. *Ref: AINT/2022/30973 (ARC16/0168-7)*

The New England Visions 2030 Institute presented to Council their Kentucky St Precinct vision document. Within this document was a number of safety concerns that were discussed with officers and addressed by the Traffic Advisory Committee.

RESOLVED

That Council:

a. Endorse the installation of a No stopping on the northern side of Kentucky Street opposite the Gymnastic Centre.
b. Request TfNSW to investigate improving the intersection of Dangar and Kentucky Street to reduce traffic delays for turning traffic.

The Motion on being put to the vote was CARRIED unanimously.

Officer Action

Council to undertake traffic counts and data to help TfNSW with the requested investigations.

There being no further business the Chairman declared the meeting closed at 10.40am

AGENDA

ARMIDALE Regional Council

BUSINESS PAPER

TRAFFIC ADVISORY COMMITTEE

To be held on

Tuesday, 2 August 2022
10am

at

Via Email

Committee Members:
Cr Susan McMichael (Chair)
Mr Hans Hietbrink (Rep. Member for Northern Tablelands)
Snr Sgt Paul Caldwell (NSW Police)
Ms Wendy Wallace & Mel Jones (TfNSW)

Council Staff:
Mr Graham Earl (ARC Technical Officer)
Ms Belinda Ackling (Minute Taker)
Mr Ian Chetcuti (Ranger)

Others:
Nil

The Armidale Traffic Advisory Committee, has no decision-making powers and is primarily a technical review committee. It only advises the Council on matters for which the Council has delegated authority.

The Committee operates under Roads and Maritime Services 'A guide to the delegation to councils for the regulation of traffic'.

In summary:
Roads and Maritime Services (RMS) has delegated certain aspects of the control of traffic on regional and local roads to Council. A condition of this delegation is that Council must refer all traffic related matters to the Traffic Advisory Committee prior to exercising its delegated functions.

The four voting members on the Traffic Advisory Committee are:

- Council's representative (chair)
- RMS representative
- NSW Police representative for the Local Area Command containing the item.
- State Member of Parliament representative for the electorate containing the item.

The meeting does not need a specific quorum, however any advice can only be returned to the Council if the views of NSW Police and RMS have been obtained.

The Traffic Advisory Committee meeting operates as a closed meeting and attendance to the meeting is via invitation only. At times interested stakeholders may address items referred to the Traffic Committee where their information adds value and does not greatly increase the time spent by the Committee on progressing the item. Interested stakeholders always have the opportunity to attend the Council meeting when the minutes of the Traffic Advisory Committee are discussed / determined.

All formal items referred to the Traffic Advisory Committee typically have been fully investigated, consulted (if needed) and proposed actions identified.

Where the Council decides on an item contrary to the Traffic Advisory Committee recommendation, then Council must immediately advise RMS and NSW Police in writing of its decision. The RMS or NSW Police may then lodge an appeal within 14 days to the Regional Traffic Committee.

The Council must not action any item under appeal until the matter has been determined by the Regional Traffic Committee.

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Item:	**4.1**	**Ref: AINT/2022/31609**
Title:	**Actions from the previous meeting held 5 July 2022**	**Container: ARC16/0168-7**
Author:	**Graham Earl, Engineering Technical Officer**	
Attachments:	**Nil**	

1. Purpose

To note the actions from the previous meeting.

2. OFFICERS' RECOMMENDATION:

That the Committee note the below actions from the previous meeting:

a. Endorse the road closure of Moore Street from Dangar Street to Faulkner Street as requested for the National Police Memorial Wall to Wall Ride 2022 between the hours of 6am and 8.30am on Wednesday 15th September 2022.

Noted

b. Note that complaints have been made regarding parking on Naughten Avenue and further investigations are to be undertaken and the matter has been deferred to the August Traffic Advisory Committee meeting.

Complainants advised of outcome and consultation with residents to be undertaken.

c. Endorse a No Parking zone and install appropriate signage in the turn-around of the cul-de-sac of Powers Place.

Signs to be installed

d. Note further investigation and report to the August Traffic Advisory Committee meeting is required regarding the size of the bus to be used and available parking space following the termination of a taxi service in Guyra.

Investigations completed report prepared.

Item:	**4.2**	**Ref: AINT/2022/31711**
Title:	**Change of Use of Taxi Zones in Guyra**	**Container: ARC16/0168-7**
Author:	**Graham Earl, Engineering Technical Officer**	
Attachments:	**Nil**	

1. Purpose

The purpose of this report is to provide the results of the investigation into the request from Guyra Home Support to have the existing Taxi Zones in Guyra changed to Bus Zones

2. OFFICERS' RECOMMENDATION:

That Council endorse:

a. The change of the Taxi Zone to a Bus Zone in Ollera St and remove the first 2 angle parking spaces to accommodate the bus.

b. The Taxi Zone in Bradley St be removed and the existing Bus Zone used for the community bus.

c. The change of the Taxi Zone in Moore St to a Bus Zone and monitored for use.

3. Background

Prior to the July meeting of the Traffic Advisory Committee a request was received to change the Taxi Zone in Ollera St to a Bus Zone, as the taxi service no longer operates.

This was expanded to change 3 Taxi Zones to Bus Zones and to include operating hours.

The committee requested that further investigation be undertaken to determine the size of the bus that would be used the suitability of the locations to accommodate the bus, and whether any changes to adjacent parking need by be made.

4. Discussion

The three locations identified are; the Taxi Zone in Ollera St, the Taxi Zone in Bradley St and the Taxi Zone in Moore St.

TfNSW requested information of the type and length of bus to determine whether the length of Taxi Zone in Ollera St was long enough to accommodate it.

Council staff measured all of the zones and noted the adjacent parking. The bus is a 28 seater with a length of 7m.

The length of the existing Taxi Zone in Ollera St is 7.7m. To allow the bus to enter and exit the zone a length of 13.3m would be required. This can be achieved by incorporating the first 2 angle parking spaces into the zone.

The Taxi Zone in Bradley St is 15m and has an existing Bus Zone of 29.6m. It is recommended that the Taxi Zone be removed and returned to normal parking and the existing Bus Zone used for the community bus.

The Taxi Zone in Moore St is 11m and is the last parking space prior to Bradley Ln with no obstruction for the departure movement. There is a Disable Parking space prior to the zone. Due to the isolated location of this zone it is recommended that this is monitored for usage for 6 months.

The Guyra Home Support have also advised that the bus would only operate on Monday, 12 noon to 4:00pm, Tuesday and Thursday 9:00am to 5:00pm.

To save any confusion with the times of use it is recommended that the Bus Zones be signed to operate from 9:00am to 500pm Monday to Friday.

5. Implications

5.1. Strategic and Policy Implications

Environment and Infrastructure:

• E4 Transport - The Community has access to transport which enables connectivity both locally and outside of the region. .

• E4.1: Maintain safe and effective traffic facilities on the road network, through appropriate resourcing, including applying for a S

5.2. Risk

- To improve safety in residential areas

5.3. Sustainability

- Promoting more efficient and improved service delivery through collaboration and innovation with the community.

5.4. Financial

Budget Area:	Traffic Facilities						
Funding Source:	Traffic Facilities Block Grant						
Budget Ref: (PN)	Description	Approved Budget	Actual	Committed	Proposed	Total Forecast Expenditure	Remaining Budget
270219	Traffic Facility	$116,000	$2,171.48	$9,085.45	$600	$9,685.45	$104,143.07

The expenditure includes the cost of the purchase and installation of the signs.

6. Consultation and Communication

Consultation to be undertaken prior to the changes with the adjacent businesses.

7. Conclusion

The changes to the parking layout in Ollera St and Bradley St is minimal and should not have a large impact for the adjacent businesses. If the taxi service is restarted the changes can easily be reversed.

Item:	**7.1**	**Ref: AINT/2022/30973**
Title:	**Parking in Kentucky St, Faulkner St to Dangar St. ARC16/0168-7**	**Container:**
Author:	**Graham Earl, Engineering Technical Officer**	
Attachments:	1. Plan - Proposed No Stopping Kentucky St Opposite Gymnasium.	

1. Purpose

The purpose of this report is to highlight traffic issues in Kentucky St, between Faulkner St and Dangar St.

2. OFFICERS' RECOMMENDATION:

That Council:

a. Endorse the installation of a No stopping on the northern side of Kentucky Street opposite the Gymnastic Centre.
b. Request TfNSW to investigate improving the intersection of Dangar and Kentucky Street to reduce traffic delays for turning traffic.

3. Background

The New England Visions 2030 Institute presented to Council their Kentucky St Precinct document. The aim of the document is to take a holistic look at Kentucky St to unify the facilities into a cultural hub.

It puts forward ideas to improve community access and pedestrian safety. The plan for the area is to promote it as a major tourist attraction.

4. Discussion

Council officers met with Maria Hitchcock and Alan Hardaker of the group to discuss some of the issues presented in the paper.

There are a number of concerns around pedestrian access that can be address without too much effort. Some of the issues raised are longer term and are not the concern of the Traffic Advisory Committee.

The major concern is pedestrian safety in the block between Faulkner St and Dangar St. When vehicles are parked on the northern side of the road, pedestrians cross directly from their parked vehicles. The is no dedicated crossing point and adjacent footpath is elevated above the road by approx. 2m and is therefore not accessible from parked vehicles. It is particularly dangerous in morning and afternoon when the sun is low and has an impact on drivers' vision.

The recommendation is to install a full time No Stopping zone along the northern side of the road to reduce the chance of an incident occurring.

The problem of vehicles turning right from Kentucky St into Dangar St was also raised. When vehicles are making this manoeuvre it causes traffic to queue along Kentucky St. This has the potential for drivers to make poor decisions when entering the traffic stream in Dangar St. As Dangar St is a State road and controlled by TfNSW it is recommended that Council contact TfNSW to investigate improvements to the intersection. There have been no report crashes in the 5 year period form 1 July 2016 to 30 June 2021.

5. Implications

5.1. Strategic and Policy Implications

The recommendation aligns with the CSP relation to the effective management of traffic facilities on the road network.

Environment and Infrastructure:

E4 Transport - The Community has access to transport which enables connectivity both locally and outside of the region.

- E4.1: Maintain safe and effective traffic facilities on the road network, through appropriate resourcing, including applying for a Special Rate Variation to maintain and renew roads and bridges to expected service levels.

5.2. Risk

- The vehicles parking on the northern side of the road with pedestrians crossing a busy road that carries a large number of heavy vehicles creates the potential for a serious incident. This is only heightened when the sun is low on the horizon in the morning and afternoon.
- Vehicles delayed wanting to turn into a traffic stream make poor judgements and try to enter traffic flows when they think there is a suitable gap. The can lead to a serious crash.

5.3. Sustainability

- Demonstrating improved safety for pedestrians with the implementation of a full time No Stopping zone.
- Improving traffic flow for delivery vehicles with improved intersection movements.

5.4. Financial

Budget Area:	Traffic Facilities						
Funding Source:	Traffic Facilities Block Grant						
Budget Ref: (PN)	Description	Approved Budget	Actual	Committed	Proposed	Total Forecast Expenditure	Remaining Budget
270219	Traffic Facility	$116,000	$2,171.48	$8,485.45	$600	$9,085.45	$104,743.07

The expenditure includes the cost of the purchase and installation of the signs.

6. Consultation and Communication

Consultation with the New England Visions 2030 Institute continue to update them on progress of their concerns

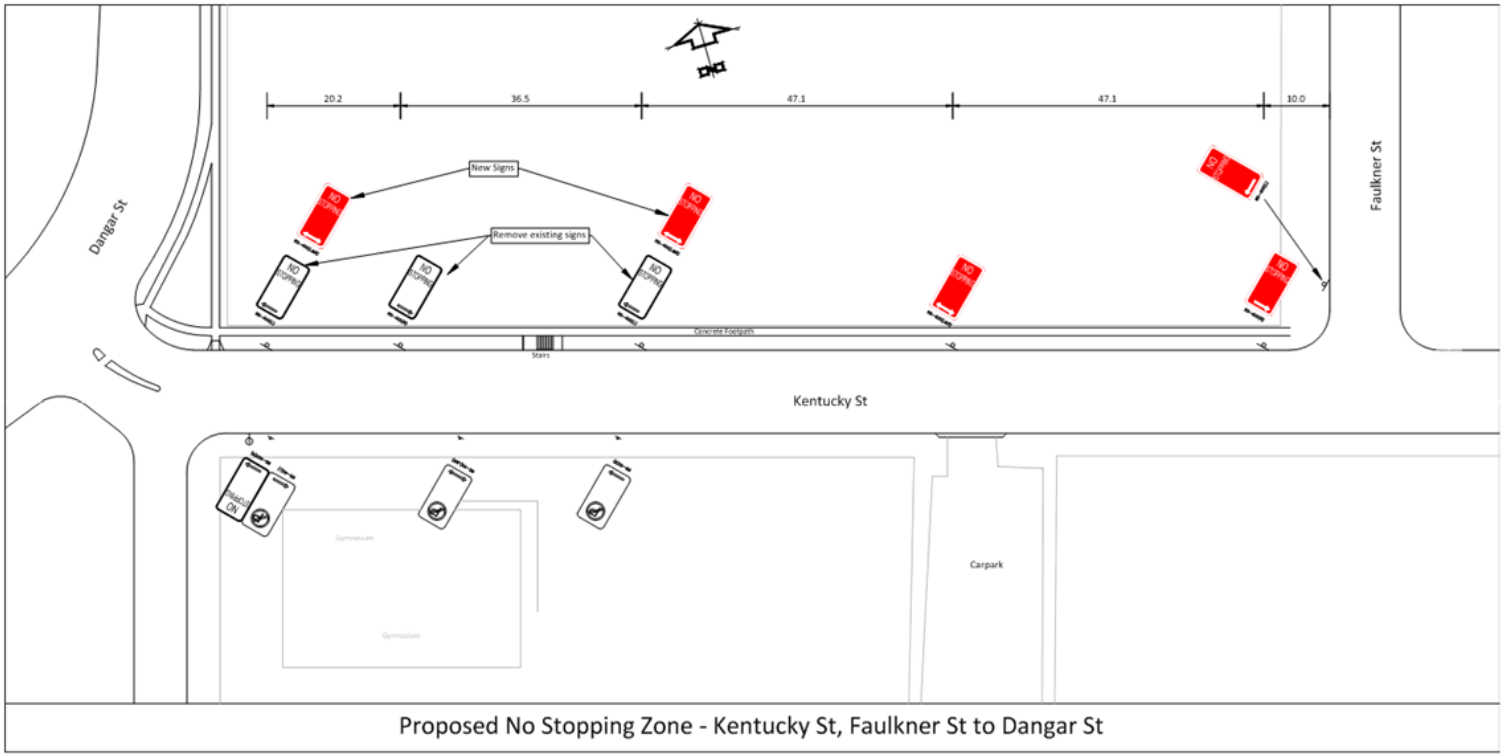
Consultation with the Gymnastics Club of the changes and getting the club to provide information f the change through newsletters and noticeboards.

7. Conclusion

The changes to the parking will improve safety for pedestrians, many of whom are children, and will reduce the chances of a serious incident.

Intersection improvements will improve safety and reduce the chances of a serious incident.

Attachment 1 *Plan - Proposed No Stopping Kentucky St Opposite Gymnasium.*



Ethical Decision Making and Conflicts of Interest

A guiding checklist for Councillors, officers and community committees

Oath or Affirmation of Office

Councillors are reminded of the Oath or Affirmation taken of office, made under section 233A of the *Local Government Act 1993* when elected.

Ethical decision making

- Is the decision or conduct legal?
- Is it consistent with Government policy, Council's objectives and Code of Conduct?
- What will the outcome be for you, your colleagues, the Council, anyone else?
- Does it raise a conflict of interest?
- Do you stand to gain personally at public expense?
- Can the decision be justified in terms of public interest?
- Would it withstand public scrutiny?

Conflict of interest

A conflict of interest is a clash between private interest and public duty. There are two types of conflict:

- ***Pecuniary*** – regulated by the *Local Government Act 1993* and Office of Local Government
- ***Non-pecuniary*** – regulated by Codes of Conduct and policy. ICAC, Ombudsman, Office of Local Government (advice only). If declaring a Non-Pecuniary Conflict of Interest, Councillors can choose to either disclose and vote, disclose and not vote or leave the Chamber.

The test for conflict of interest

- Is it likely I could be influenced by personal interest in carrying out my public duty?
- Would a fair and reasonable person believe I could be so influenced?
- Conflict of interest is closely tied to the layperson's definition of 'corruption' – using public office for private gain.
- Important to consider public perceptions of whether you have a conflict of interest.

Identifying problems

1st Do I have private interests affected by a matter I am officially involved in?
2nd Is my official role one of influence or perceived influence over the matter?
3rd Do my private interests conflict with my official role?

Local Government Act 1993 and Model Code of Conduct

For more detailed definitions refer to the *Local Government Act 1993,* Chapter 14 Honesty and Disclosure of Interest and Model Code of Conduct.

Disclosure of pecuniary interests / non-pecuniary interests

Under the provisions of Section 440AAA(3) of the *Local Government Act 1993* (pecuniary interests) and the Model Code of Conduct it is necessary for you to disclose the nature of the interest when making a disclosure of a pecuniary interest or a non-pecuniary conflict of interest at a meeting.

A Declaration form should be completed and handed to the General Manager as soon as practible once the interest is identified. Declarations are made at Item 3 of the Agenda: Declarations - Pecuniary, Non-Pecuniary and Political Donation Disclosures, and prior to each Item being discussed: The Declaration Form can be downloaded at Disclosures and Declarations of Interest at Meetings.

ARMIDALE Regional Council

MINUTES

KPWG - FUTURE REGION

Held on

Thursday, 16 June 2022
11:00am

at

Zoom

PRESENT: Cr Paul Gaddes, Cr Dorothy Robinson, General Manager Mr James Roncon, Chief Officer Sustainable Development Mr Daniel Boyce & Executive Officer Ms Melissa Hoult

1. APOLOGIES

NIL

2. CONFIRMATION OF PREVIOUS MINUTES

CONFIRMATION OF THE MINUTES OF THE KPWG - FUTURE REGION MEETING HELD ON 2 JUNE 2022

RECOMMENDATION:

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

Moved CR Paul Gaddes **Seconded** Cr Dorothy Robinson

3. DECLARATIONS OF INTEREST

NIL

4. BUSINESS ARISING

- Terms of Reference were finalised.
- What projects will be the focus of this group.

5. ADMINISTRATION REPORTS

NIL

6. GENERAL BUSINESS

- Select Chairperson – deferred to next meeting.

There being no further business the Chairman declared the meeting closed at (12:15pm).

Next Meeting: 21 July 2022, 9:00am.

Actions:	Who	Status	Target Date for Completion	Date Complete
16 June 2022				
➢ *Select a Chairperson*	All	In progress	21/07/2022	
➢ *Each member to provide a list of potential projects.*	All	In progress	21/07/2022	
➢ *Review Zero30 project initiatives*	All	In progress	21/07/2022	

ARMIDALE Regional Council

MINUTES

KPWG - FUTURE REGION

Held on

Thursday, 21 July 2022
9:00am

at

General Manager's Office/Zoom Armidale

PRESENT: Cr Paul Gaddes, Cr Dorothy Robinson, General Manager Mr James Roncon, Chief Officer Sustainable Development Mr Daniel Boyce & Executive Officer Ms Melissa Hoult

1. APOLOGIES

NIL

2. CONFIRMATION OF PREVIOUS MINUTES

CONFIRMATION OF THE MINUTES OF THE KPWG - FUTURE REGION MEETING HELD ON 16 JUNE 2022

RECOMMENDATION:

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

Moved Cr Paul Gaddes **Seconded** Cr Dorothy Robinson

3. DECLARATIONS OF INTEREST

NIL

4. BUSINESS ARISING

- Review Project Zero30 initiatives;
  - EcoAg Tourism Destination (1 vote)
  - Plant 1 million trees to offset carbon usage (3 votes)
  - 90% of riparian zones to be revegetated (1 vote)
  - Winter air quality levels below Department of Health guidelines (2 votes)
  - 25% of buildings carbon certified (2 votes)
  - True circular economy (regional waste strategy) (1 vote)

- Projects agreed upon for this KPWG to work towards;
  - Plant 1 million trees to offset carbon usage (in addition to UNE's same initiative)
  - 90% of riparian zones to be revegetated

5. ADMINISTRATION REPORTS

NIL

6. GENERAL BUSINESS

- Cr Gaddes and Cr Robinson selected as co-chairpersons. Each Councillor will alternate chairperson responsibilities. This meeting was chaired by Cr Gaddes. Cr Robinson to chair next meeting.

Actions:	Who	Status	Target Date for Completion	Date Complete
21 July 2022				
➢ *Develop action items behind the agreed projects*	All	In progress	11/08/2022	
➢ *Develop project scopes*	All	In progress	11/08/2022	
➢ *James to report back to KPWG on meeting with potential international investors*	James	In progress	11/08/2022	

There being no further business the Chairman declared the meeting closed at 9:58am.

Next Meeting: 11 August 2022, 9am.