Energy Sustainability Plan

A plan for an efficient, economic and resilient future

Lachlan Shire Council

Prepared by:

Revision	Date	Prepared By	Reviewed By	Approved By
Draft 0.1	09/06/2020	Department of Environment, Planning and Industry (DPIE)	Rowan Bentick	Jon Shillito
Draft 0.2	06/07/2020	Rowan Bentick	Jon Shillito	Jon Shillito
Draft 0.3	08/08/2020	Rowan Bentick	Jon Shillito	Jon Shillito

Contents

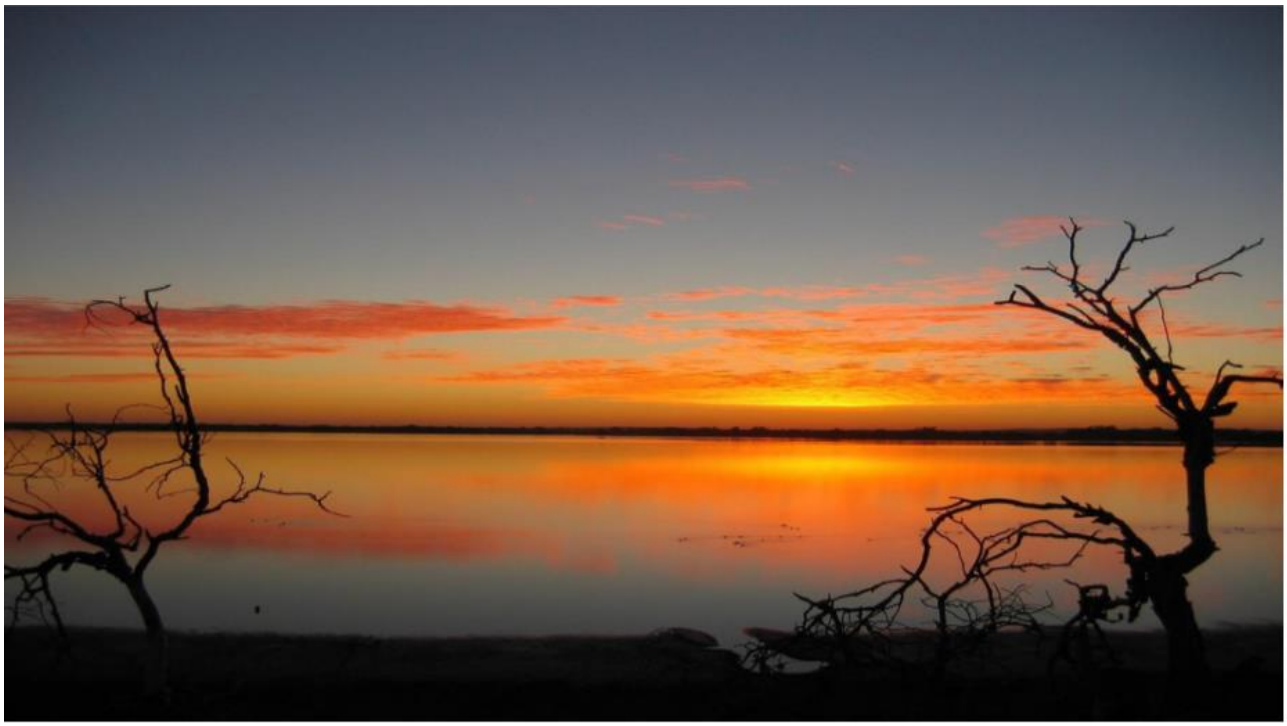
1 Forward from the Mayor

The Lachlan Shire Council Energy Sustainability Plan outlines a vision that will guide Council towards a resilient and carbon neutral future. This plan outlines the key areas for our region to reduce its energy consumption and operational cost whilst continuing to meet the needs of the community and local industry.

We are already experiencing the impacts of climate change on a local and global scale. This plan outlines targets and action plans for Lachlan Shire Council to undertake to reducing operational cost and greenhouse gas emissions through planning and controlling our energy usage.

To achieve our vision in relation to energy sustainability, we must overcome a number of complex environmental, social, and economical issues and challenges. As a community our challenge is to actively address issues identified in the Energy Sustainability Plan, to ensure Council and the community obtains the best possible outcome to grow and prosper.

Councillor John Medcalf OAM - Mayor



2 About this Document

2.1 Purpose

Local Governments have the ability to affect change through policy and legislation. Lachlan Shire Council chooses to be proactive in implementing strategies to reduce its impact on the environment and operational cost by implementing efficient energy management as a key tool to reduce overall Carbon dioxide (CO_2) emissions, decrease associated energy costs and improve Council's resilience and that of the community.

This document outlines the vision, strategies and timelines Lachlan Shire Council will implement to drive change and achieve sustainability goals. The elements outlined in this document will influence decision making and policies of Council moving into a sustainable future.

The key benefits to Council are reduced operational costs, and the social and economic benefits that are expected as a result of Council having additional funds for additional projects that benefit the local community.

2.2 Cost Reduction

Efficient energy management can significantly reduce community and Council costs. This document analyses the current energy requirements and costs to Council.

The plan outlines methods for producing and storing Councils own energy through renewable generation and reducing energy consumption through energy efficiency. This plan reviews and categorises Council's energy usage into lighting, heating/cooling, pumping and transport and outlines strategies to address each section.

2.3 Sustainability

Sustainability is the preservation of economic, social and environmental factors. Council actively addresses its responsibility to the community by providing frameworks and infrastructure that are both environmentally and economically viable. Through leadership, development decisions and community engagement in sustainable energy management, Lachlan Shire Council can shape a sustainable future for the local community.

The benefits of this Energy Sustainability Plan can only be realised when Council changes its approach away from the "business as usual" model. Viewed from a financial position alone Council cannot sustain the business as usual approach without significant financial cost over the coming decades.

The steps addressed by this plan and the projects carried out under it, must be affordable and Council has established a criteria by which the projects are measured. The criteria considers the environmental, social, financial and operational benefits of each project and will also include a risk analysis. Council recognises that this plan will help realise short-term, medium-term and long-term benefits as it works towards developing a sustainable future.

2.4 Government Initiatives

Federal Government

> *"The Australian Government is developing a national Technology Investment Roadmap that will drive investment in low emissions technologies to strengthen the economy and support jobs and businesses. This is a key priority of the Federal Government recovering from COVID-19.*
>
> *The release of the Technology Investment Roadmap Discussion Paper is the next step in the government's 'technology not taxes' approach to reducing emissions.*
>
> *This roadmap will prioritise Australian Government investments in new and developing technologies. Deploying the right technology when and where it is needed will allow Australian industry to capture new opportunities."*
>
> *Australian Government Department of Industry, Science, Energy and Resources, 2020, Technology Investment Roadmap to low emissions, https://www.energy.gov.au/news-media/news/technology-investment-roadmap-low-emissions*

Whilst it is yet to commit to a renewable energy target, the Federal Government is consulting with industry in the application of new technology ahead of continued investment in this area through agencies such as Australian Renewable Energy Agency (ARENA).

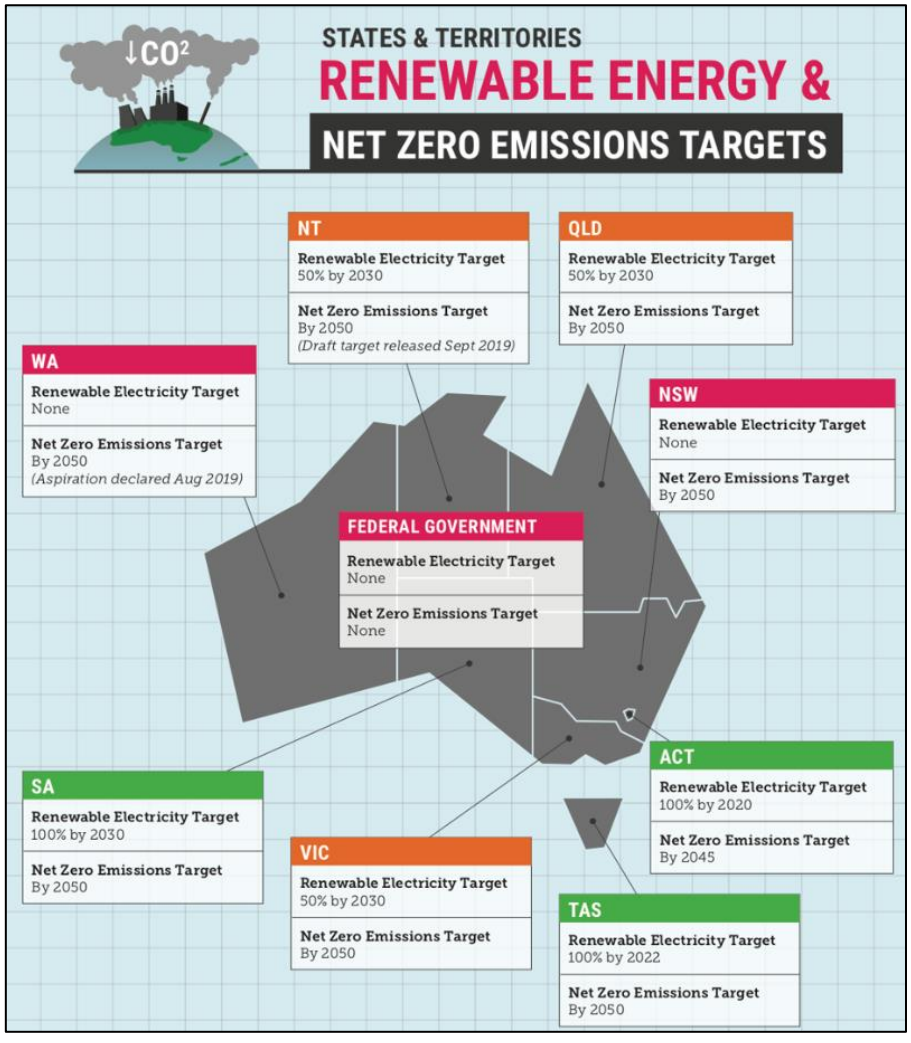


Figure 1: State and Territories Renewable energy and Net Zero Emissions Targets

Climate Council, 2019, State of Play: Renewable Energy Leaders and Losers, https://www.climatecouncil.org.au/resources/states-renewables-2019/

State Government

The New South Wales Government is implementing "The Net Zero Plan Stage 1: 2020-2030". This is the foundation for NSW's action on climate change and goal to reach net zero emissions by 2050. The Net Zero Plan outlines the NSW Government's plan to grow the economy, create jobs and reduce emissions over the next decade.

The plan aims to enhance the prosperity and quality of life of the people of NSW, while helping the state to deliver a 35% cut in emissions by 2030 compared to 2005 levels. The plan will support a range of initiatives targeting electricity and energy efficiency, electric vehicles, hydrogen, primary industries, coal innovation, organic waste and carbon financing.

The implementation of the Net Zero Plan, together with the NSW Electricity Strategy, will result in more than $11.6 billion of new investment for NSW, including $7 billion in regional NSW.

NSW Department of Planning, Industry and Environment, 2020, Net Zero Plan Stage 1: 2020-2030, https://www.environment.nsw.gov.au/topics/climate-change/net-zero-plan

It is anticipated various grant funding opportunities will become available as a result of this policy.

The Sustainable Councils & Community program (SCC) program supports twenty (20) resource-constrained councils across NSW in realising the economic, social and environmental benefits of energy efficiency and renewable in their Local Government Area.

The first 1-2 years of the program is focused on supporting each individual Council to define and deliver a range of energy efficiency & renewables projects. In many cases, Councils have taken an extra step to integrate energy into their strategic operations, integrated into asset management and produce sustainability plans. This Energy Sustainability Plan originates from a template developed under the SCC program funded by the NSW government.

2.5 Resilience

Lachlan Shire Council relies heavily on the import of fuel and electricity. The money spent on this energy leaves the region. Producing energy reduces this importation, creates additional wealth for the region and leads to a more resilient community.

Resilience within a region is especially significant when external factors may hinder our traditional industries and provides an alternative source of value creation. Resilience takes two forms.

1. The functional requirement for a stable, reliable energy supply.
2. Reduction of costs and dependence on the purchase of energy from the market.

This energy sustainability plan aims to address both elements of resilience.

2.6 Approach

Lachlan Shire Council will use an energy management hierarchy approach in its implementation of a more sustainable energy use profile. An energy management hierarchy identifies and prioritises energy management options in order to progress towards a more sustainable energy system in the most efficient way. Council will prioritise preventing unnecessary energy use, for example, by switching off air conditioning and lighting when not in use.

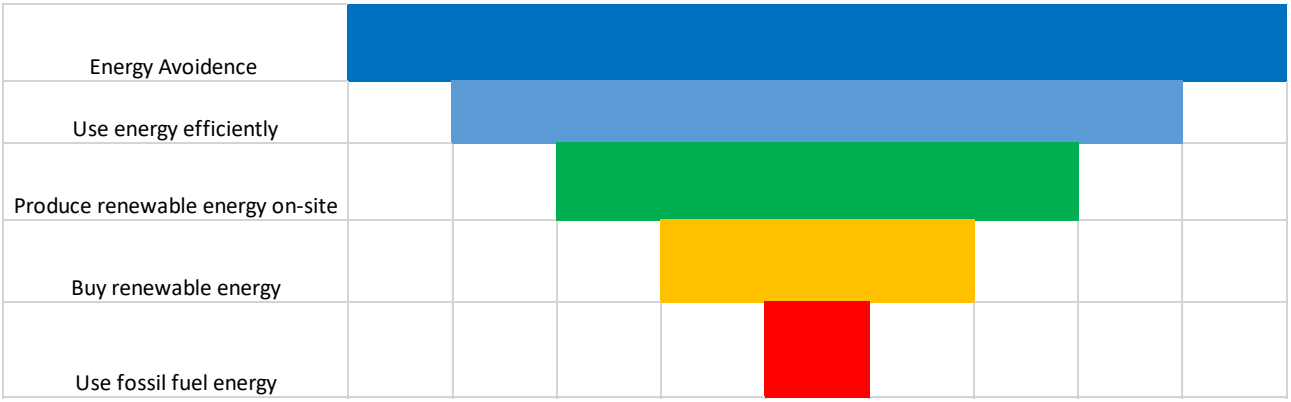


Figure 2 Energy Management Hierarchy

Improving energy efficiency is the next highest in the hierarchy, energy efficiency is using less energy to provide the same service. Reducing the total amount of energy consumed by implementing energy efficiency actions will reduce the overall amount of renewable energy Council is required to install at its facilities or purchase to meet its renewable targets.

The focus of this plan is the replacement of fossil fuel-sourced electricity with electricity produced from renewable sources. The plan makes recommendations for further investigations to be undertaken to provide a transition pathway from liquid fossil fuels to renewable energy sources.

Detailed action plans for liquid fossil fuels have not been included in this plan as Council did not want to delay the release of the plan while these investigations were being undertaken and advancements in technologies are developing.

3 Council Background

3.1 Where are we now

Lachlan Shire Council is geographically the Heart of NSW, with the Lachlan River running through it. The Shire Covers an area of 14,970 square kilometres and has a population of 6,200 with the mains towns and villages being: Condobolin, Lake Cargelligo, Tottenham, Tullibigeal, Burcher, Derriwong, Albert and Fifield. The Aboriginal Community Murrin Bridge is a recent addition to the LGA.

Council, as a water and sewer authority and community service provider, uses a large amount of energy. In 2019 Council used 3,659 MWh of electrical energy across 117 sites.

The majority of energy is derived from grid sourced electricity and liquid fossil fuels. The chart below outlines the electricity component only and identifies that the largest sector for energy usage is pumping services related to sewerage and drinking water. Another significant portion is related to recreation and community, in particular lighting for sports and recreation facilities.

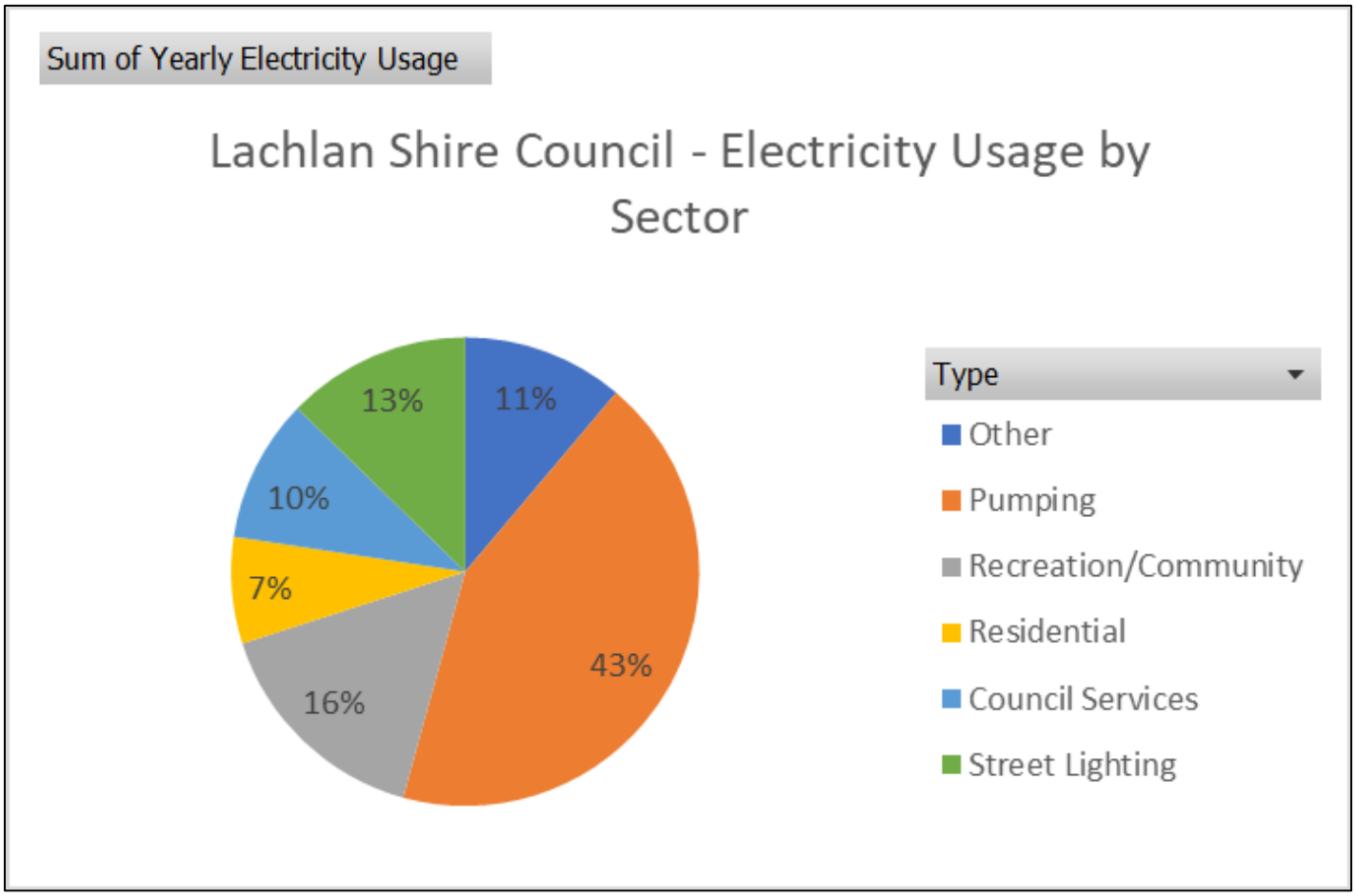


Figure 3 Council's Energy Usage by Sector, Refer to Appendix 1 of list of sites within each sector.

It is important for Council to take ownership of these numbers and set targets to demonstrate leadership in reducing energy consumption, emissions, replacing with renewable energy and communicating to stakeholders the benefits of energy sustainability.

3.2 Actions we have initiated or are considering

Lachlan Shire Council is already committed to the principles outlined in this document, having identified nearly $960,000 of total potential savings by 2022, of which $590,000 of total savings have already been initiated.

Achieved Initiatives
Since the end of 2019, Council has implemented the following sustainability activities:

- Negotiated a new energy contract resulting in savings of:
    - $ 88,322 in the 2020 calendar year
    - $ 142,701 in the 2021 calendar year
    - $ 158,943 in the 2022 calendar year
- Initiated 1 solar + battery project at the Condobolin Waste Transfer Station with estimated annual savings of approximately $6,000 and 45 MWh p.a. of renewable energy.

- Implemented tariff changes at nine (9) sites resulting in an annual saving of approximately $46,073.
- Initiated a lighting overhaul. This has involved the conversion from fluorescent tubes to LED energy efficient lighting at Council's Condobolin Administration building, resulting in an annual saving of approximately $14,793 and reduction of 40MWh.

Identified Initiatives

- Ten (10) additional solar energy projects have been identified, which could result in savings of approximately $82,000 p.a. and a reduction of 670MWh p.a. These projects are dependent on obtaining suitable funding.
- A lighting upgrade to LED lights at the all grounds and sports fields within Council, with the potential savings of approximately $5,131.85 p.a and a reduction of 34 MWh p.a. These projects are dependent on obtaining suitable funding.

Site	Number of Fittings	Average Weekly Running Hours	Existing Luminaire *(Connected load)*	Replacement Option (Connected Load)	Total Yearly Energy Saving (kWh)
Condo SRA Show ring	32	6	2000W HID Floods *(2200W)*	LED Flood *(1200W)*	9,984
Condobolin and Lake Cargelligo Netball Courts	8	6	1200W HID Floods *(1350W)*	LED Flood *(600W)*	- 2,621
Tennis Courts – Council Total	32	6	~ *(1100W)*	LED *(588W)*	5,112
Lake Cargelligo Recreation Ground	24	6	~ *(2200W)*	LED Flood *(1200W)*	7,488
Tullibigeal Netball	2	3	1200W HID Floods *(1350W)*	LED Flood *(1200W)*	-328
Tottenham Recreation Ground	4	0	~ *(2200W)*	LED Flood *(1200W)*	0
Tullibigeal Recreation Ground	3	3	~ *(2200W)*	LED Flood *(1200W)*	468
TOTAL	105	30			**20,103**

Table 1: Lighting opportunities on sport grounds within Lachlan Shire

Lachlan Shire Council is committed to a sustainable future for the community. Council's approach to sustainability means that planning, decisions and actions aim to optimise the use of resources to maintain organisational viability, improve the environment and enhance social values and community engagement.

Council aims to reduce its operational costs, economic impacts, ecological/carbon footprint, impact on the environment and will also strive to lead by example by implementing projects that supports sustainability within the Shire.

4 Council Vision

4.1 What targets have other Councils set?

New South Wales Councils have made renewable energy or carbon emissions reduction commitments. Table two (2) outlines targets and commitments from Councils within NSW.

Local Government	Renewable Energy commitment	Carbon Commitment
Bayside Council		Carbon neutral by 2020
Blacktown City Council		Zero-net emissions from operational electricity, fuel and gad by 2030; Zero net community emissions by 2020.
Bathurst Regional Council	Renewable Target 1 - 25% of Council's electricity consumption to be from renewable sources by 2023 Renewable Target 2 - 50% of Council's electricity consumption to be from renewable sources by 2025	
Blayney Shire Council	Renewable energy plan with no specific target	
Broken Hill Council	100% renewable energy status by 2030	
Blue Mountains City Council		Carbon neutral by 2025
Byron Bay Council	100% renewable electricity from 2027	Net zero by 2025
City of Newcastle	100% renewable electricity from 2020	
City of Sydney	100% renewable electricity from 2021	Council operations by 2021 Carbon neutral from 2008
Coffs Harbour City Council	100% renewable electricity from 2030	
Eurobodalla Shire Council	100% renewable electricity from 2030	
Inner West Council	100% renewable electricity from 2025	Carbon neutral by 2025, 100% divestment from fossil fuel
Ku-ring-gai Council	100% renewable electricity from 2025	Reduce greenhouse gas emissions to achieve net zero emissions by 2045 or earlier
Kyogle Council	25% electricity from on-site solar by 2025, 50% renewable electricity by 2025, 100% renewable electricity by 2030	
Lismore City Council	Self – generate all electricity needs from renewable sources by 2023	
Nambucca Council		Zero net carbon emissions within the 2030 to 2050 period

Parramatta Council		Carbon neutral 2022
Port Macquarie-Hastings Council	100% renewable energy by 2027	
Randwick Council	100% renewable by 2030 for stationary and transport energy	Zero emissions by 2030
Tweed Shire Council	50% renewable energy by 2025	
Willoughby City Council		By 2028 emit 50% less GHG emissions from operations compared with 2008/09, Achieve net zero emissions by 2050
Wollongong City		Net zero emissions by 2030 for its own operations, net zero emissions by 2050 for the city as whole.

Table 2: NSW Council targets

Dubbo Regional, Temora Shire and Cowra Shire Councils have Renewable Energy Plans and Renewable Action Plans in development at the moment.

4.2 What are Lachlan Shire Councils targets

Council aims for its electricity consumption to be carbon neutral by 2050, reduce electricity import by 12% by 2022, increase renewable energy proportion by 25% by 2025 and reduce carbon dioxide emissions by 385 tonnes by 2025.

These targets are to be achieved through investment in renewable energy and energy efficiency in several phases of Council's projects and community engagement.

- Phase one, involves short-term focus (2020 – 2022). This will include:
    - Development of a sustainability team within Council.
    - Securing additional funding for lighting upgrades and completing identified projects.
    - Securing additional funding for solar PV and completing up to eleven (11) projects across Council.
    - Implement a dashboard to review data supplied by the E21 subscription and interpret data to monitor project success.
    - Establishing a revolving energy fund. What this means is that the savings generated by the fund are put back into other energy saving projects.
    - Implement sustainability school grants.
- Phase two, involves medium-term opportunities that require planning and investment to achieve the reduction in emissions and increase cost savings (2023-2025). This will include:
    - Development of a sustainability committee including:
        - The Council sustainability team.
        - An elected Councillor.
        - Other outside influencers in the community.
    - Introducing energy efficiency metrics in lighting and pumping projects.

- Incorporate Solar Power Purchasing Agreement (PPA) in electricity contract in 2023.
- Review completed projects (of the 11 identified sites) and identify new projects.
- Bulk Buy opportunities.

- Phase three, involves long term methods that requires significant developments in technology combined with community uptake (2025 – onwards). This will include:
  - Rebates and incentives.
  - Combined Central NSW Joint Organisation Programs/Projects.
  - Sustainable building – Sustainable lifestyle for commercial and residential buildings.
  - Inclusion of energy sustainability within the Community Strategic Plan.
  - Energy storage.
  - Solar farms.
  - Purchasing electric vehicles in the light fleet

4.3 Self Sufficiency and Sustainability

Council currently imports 3,659 MWh of electricity into the region annually at a cost of $1,049,000 in 2019.

Council's goals are to:

- Reduce Council's electricity import by 12% over the next two (2) years.
- Increase Council's renewable energy proportion by 25% over the next five (5) years.
- Reduce Council's Carbon (CO_2) emissions by 385 Tonnes over the next five (5) years.

Project	Detail	Estimated annual reduction in electricity from grid MWh	Funding Source
Council Administration Building	Lighting upgrade	40	Operation Plan 2020/21
LSC Grounds & Sport Fields	Lighting upgrade to LED	34	Energy Reserve Fund / Operation Plan 2021-2022
Fluorescent T5 to LED panel	1000 lights across multiple facilities	127	NSW renewable energy certificates / Energy Fund / Operational Plan 2020-2022
Streetlight Upgrade	Upgrade to LED Streetlights	242	Central NSW Joint Organisation Program

Table 3: Identified energy reduction projects

Site	Solar PV Size	Cost	Estimated Annual Saving	Estimated Payback
Condobolin Waste Transfer Station	3.6KW + Battery	$20,000	$6,000	3.3 years
Caravan Park, Condobolin	30KW	$33,000	$6,718	4.9 years
Council Works Depot, Condobolin	30KW	$33,000	$6,718	4.9 years
Council's Administration Building, Condobolin	45KW	$49,000	$9,688 (potential for $24,430)	5.1 years
Caravan Park, Lake Cargelligo	30KW	$33,000	$6,478	5.1 years
Goobang Street Water Pump Station, Condobolin	43KW	$70,000	$12,307	5.7 years
Water Treatment Plant Lake Cargelligo (small Scale) **Large Scale**	87KW 260KW +Large Battery	$138,000 $554,000	$21,309 $54,600, Net Zero Carbon and 12% reduction in total LGA footprint	6.5 years 10 years
Sewage Treatment Plant, Condobolin	22KW	$35,000	$4,750	7.4 years
Sewage Treatment Plant, Lake Cargelligo	22KW	$35,000	$4,750	7.4 years
Swimming Pool , Condobolin	40KW	$35,000	$4,750	7.4 years
Merri Abba Bora	87KW	$138,000	$13,405	10.3 years

Table 4: Identified renewable energy projects

The vulnerability, associated with relying on importing and purchasing electricity, is a key area in this energy management plan that Council aims to address, to become more resilient and retain wealth in the region.

5 Monitoring and Reporting

5.1 Methods of Monitoring

Council will implement a monitoring system for assessing electricity consumption and costs, known as a dashboard. This energy strategy identifies that monitoring this information will facilitate reporting with reference to the energy targets of this plan. Key data may be monitored by a third-party to review performance and facilitate reporting.

Council will develop a dashboard that allows this data to be reported through an appropriate system that will inform Council and the community of the effectiveness of the activities undertaken.

5.2 Frequency of Reporting

This plan sets out regular reporting and communication necessary to ensure Council is meeting its targets. To assist Council the following is proposed:

- Appoint appropriate Council staff to work on projects that will facilitate the activities required to reach of these targets.
- Establish a Council Sustainability Working Team to represent sustainability across all departments and also work with the community to promote sustainability.
- Quarterly reporting at Council meetings, Operational Management Team (OMT) meetings specifically an agenda item to report on the sustainability plan progress, an update to Council of actions implemented, and summary of any immediate/ongoing cost savings realised.
- Annual report to be issued to council and community stating how the energy strategy is progressing.
- Team review of how successful the strategies are and an opportunity to update and review targets. These milestones are needed to identify if strategies need to be fast tracked or financial planning is required to reach targets.

5.3 Measures of Success

The reporting outlined above is necessary to monitor progress in relation to targets. The key measures are:

- Carbon (CO_2) emissions and energy usage by source and end-use category.
- Import and export of energy into and out of the region.
- Actual cost savings.
- Community engagement and involvement.

6 Financial Model

6.1 Finance Mixing

This sustainability plan requires financial investment by Council in renewable energy generation and energy efficient infrastructure.

We propose to utilise financial funding models from internal and external sources including:

1. Internal sustainability allocation through Council project budgeting and re-investing savings through an internal revolving energy fund (i.e. some of the generated savings are used to fund further saving activities).
2. Grant funding from existing and proposed State and Federal Government initiatives
3. Partnerships with industry, vendors and financiers

6.2 Revolving Energy Fund

Council proposes to have a Revolving Energy Fund to continually invest realised savings into sustainability projects.

Significant cost savings will be realised by investing in projects. A sustainability fund is to be created for energy projects by allocating 100% of energy savings, compared to the baseline which have been a result of this energy sustainability plan. This fund will be an important reserve to replace renewable infrastructure as it approaches its end of life.

7 Implementation Plan

7.1 Networking

Council proposes to build on the existing partnership with Penrith City Council and utilise the Sustainable Councils and Communities (SCC) initiative offered by the Department of Planning, Industry and Environment to assist in the implementation of projects.

7.2 Sustainability Committee

Council intends to create a sustainability committee to direct and monitor the success of this plan.

This committee will include members of Council's sustainability team, an elected Councillor, and other identified influencers in the community.

7.3 Lighting

Lighting upgrades provide significant potential for Council to reduce operating costs and reduce Councils carbon footprint. Lighting upgrades generate energy savings of at least 50% when light

emitting diode (LED) technology is used instead of legacy technologies such as incandescent, halogen, fluorescent, mercury vapour, metal halide and sodium.

Council is in the process of implementing a lighting upgrade at the Condobolin Administration Building and has investigated the ground and sporting field lighting, outlined in Table 1.

The upgrades of lighting at the sports fields have an identified cost of $380,000 which Council will specifically target for grant funding.

The energy and CO_2 emission reduction is identified as 74 MWh per annum which equates to 62 Tonnes of CO_2 per annum. This corresponds to $19,924 in energy savings per annum that can be fed back into other sustainability projects and Council general revenue.

Council is committed to auditing all of our sites over the next two (2) years to ensure it can reach the target of reducing lighting consumption by 50%.

7.4 Solar PV

Throughout 2019, Council consumed approximately 3659 MWh of energy with an associated carbon footprint of 3,037 tonnes of CO_2 (excluding petrol and diesel fuel consumption). A significant proportion of this energy use can be directly supplied by solar PV.

The target is to implement eleven (11) identified solar PV projects by 2022, and the entire electricity consumption utilising renewable energy sources from 2050 (including Power Purchasing as discussed below).

These upgrades have an identified cost of $629,000 which Council will specifically target for grant funding. The simple payback of these projects is also approximately 6.4 years.

This corresponds to as much as $98,218 in energy savings per annum that can be fed back into other sustainability projects or Council's general revenue.

7.5 Power Purchasing Agreements

Council has the option of participating in power purchasing agreements (PPAs) with energy suppliers to significantly decrease energy costs and associated carbon footprint.

This requires Council's plan to include in its next energy contract renewal, an element of renewable power purchasing. For example, SSROC Councils have negotiated 23% of their energy procurement as a PPA from Origin Energy at a rate approximately 12% lower than grid energy.

Currently Council purchases 100% of its energy from the grid. Due to the structure of the revised energy contract the application of Solar PPA's are prohibited until the end of 2022.

The assessment of the value of Solar PPA's should be commenced by Council through Early 2021 so that directions can be considered and established.

It is estimated after the significant cost reductions offered on the new contract, a solar PPA could reduce total electricity costs by a further 13.6% or approximately $188,000 per annum.

Council aims to target at least 50% renewable PPA from 2023 and 100% PPA from 2030. These savings are subject to participation with Joint Organisation of Council to facilitate this contract negotiation.

7.6 Energy Storage

Energy storage via batteries is a way to reduce peak demand and provide greater resilience to sites by increasing the proportion of renewable energy that can be consumed on site without exporting.

Council will not prioritise energy storage until the financial investment is made to renewable energy generation, however, in the next five (5) years we will conduct an economic analysis of Council sites to determine if battery storage is a viable option.

Energy storage is to be explored to manage peak demand by charging with solar or from the grid during off peak times, including participating in virtual power plants to maximise revenue as this market develops.

7.7 Pumping

This plan previously identified pumping as the single largest sector for electricity usage within Council and therefore any optimisation in efficiency will have significant effects on cost and energy savings.

As part of Council's plan, Council will ensure energy efficiency becomes a key element of all future pumping capital works projects. Council will request a cost benefit analysis for energy efficient pumps as part of the construction of new water pumping stations at Condobolin Water Treatment Plant and the Sewerage Treatment Plant.

Council will audit all sites over the next five (5) years to ensure targets meet improved efficiency by 5% in the next five (5) years.

7.8 Bulk Buying

Council can support households and businesses to access high quality and cost-effective solar by facilitating a bulk-buy in partnership with vetted installing contractors or via a third-party.

Aggregating demand as a bulk-purchase can incentivise reputable installers in regional NSW to travel to Lachlan Shire Council and spread the cost across multiple installs, which would otherwise be cost prohibitive for one-off installations.

Council intends to encourage discounts on behalf of the community by managing a competitive tender for installers to be eligible to participate in the bulk buy. This initiative will help to ensure a higher quality solar PV system as poor performance will result in the expulsion of contractors.

Council intends to engage eligible contractors in the installation of systems for Council to validate performance and further encourage bulk-purchasing discounts.

8 Community Projects

8.1 Baseline

Council aims as part of its energy sustainability strategy to evaluate the adoption of renewable energy within the Local Government Area and the energy literacy of its constituents.

This initiative will serve to set a baseline from which to compare the success of its initiative within the community.

8.2 Education

Council will facilitate workshops for the community to improve energy literacy. This includes how to read your bill, understanding your energy needs and sources and solar workshops. Through regular reporting Council will share the experience and the benefits that have been realised through any energy initiatives implemented as described above.

8.3 Funding

Council intends to act as a facilitator to the community in obtaining and distributing state and federal funding for community projects. Significant investment in the region has been identified as a government priority, and it is the role of Council to ensure that this is made available to our constituents and deployed in a responsible and reliable way.

8.4 Engagement

For the initial period until 2023, under this plan Council will focus on the implementation of the projects and communicate the successes.

From 2023, Council will engage the community as a collative approach to reduce the total energy footprint in the Local Government Area. This will involve a structured community engagement process to identify targets that Council and community can work together to achieve which will set out a clear pathway to success.

9 Key Challenges

The primary challenge for Lachlan Shire Council, in achieving the targets set out in this plan, is Council is resource constrained in;

- The expertise and human resources (time) to deliver on the elements within this plan.
- Constraints of funds to initiate projects.
- Savings from energy efficiency and solar projects being redirected into other projects or cross subsidising Council's General Revenue.
- Part of the success of this Energy Sustainability Plan relies on accessing grant funding.

Council recognises that accessing grant funding requires a considerable amount of time and resources. To obtain grant funding Council must increase its resource capacity within the sustainability area of Council. To overcome such challenges, there are several options we will review:

- Appoint an energy sustainability role internally
- Seek external assistance such as the SCC program to provide these resources.
- Appoint an agent within the wider regional organisations of Councils.

Changed management can also be a challenge in addressing the objectives of this plan. Council must ensure that it communicates the benefits of each activity beyond the outcomes of “business as usual”. This will ensure that all involved, from Council and the community can see the value of the plan and support the projects carried out.

10 Appendix 1 – Energy usage per site (KWh).

Site	Type	Yearly Electricity Usage
14 Federation Street, Albert NSW	Other	514
2 Wiradjuri Way, Condobolin NSW 2877	Other	2202
35 Marsden Street, Condobolin NSW 2877	Other	22450
Canada St, Lake Cargelligo NSW 2672	Other	0
Canada Street, Lake Cargelligo NSW 2672	Other	0
Conapaira St, Lake Cargelligo NSW 2672	Other	3616
Conapaira Street, Lake Cargelligo NSW 2672	Other	228
Condobolin Rd, Fifield NSW 2877	Other	0
Condobolin Road, Lake Cargelligo NSW 2672	Other	77476
Curran St, Burcher NSW 2671	Other	5032
Diggers Ave, Condobolin NSW 2877	Other	6599
Diggers Avenue, Diggers Avenue, Condobolin NSW 2877	Other	22384
Foster Street, Lake Cargelligo NSW 2672	Other	8957
Golf Links Road, Condobolin NSW 2877	Other	78570
Grace Street, Lake Cargelligo NSW 2672	Other	9818
Gumbend Road, Gumbend Road, Condobolin NSW 2877	Other	53273
Johnston Street, Lake Cargelligo NSW 2672	Other	99
Lachlan St, Condobolin NSW 2877	Other	16179
Lachlan Valley Way (A), Lake Cargelligo NSW 2672	Other	52927
Lachlan Valley Way (B), Lake Cargelligo NSW 2672	Other	664
Lake Street, Lake Cargelligo NSW 2672	Other	12552
Melrose St, Condobolin NSW 2877	Other	0
Moulder St, Condobolin NSW 2877	Other	4014
Naradhan Street, Lake Cargelligo NSW 2672	Other	13583
Naradhan Street, Lake Cargelligo NSW 2672	Other	0
Officers Parade, Officers Parade, Condobolin NSW 2877	Other	6386
Slee St, Fifield NSW 2875	Other	10396
Slee Street, Fifield NSW 2877	Other	221
Uabba Street, Lake Cargelligo NSW 2672	Other	442
16 Mile Pump, Condobolin Road, Lake Cargelligo NSW 2672	Pump	0
Albert Booster Pump, Tullamore Road, Tottenham NSW 2873	Pump	875
Burcher Dam, Bena St, Burcher NSW 2671	Pump	16448
Caravan Park Sewer Pump, Tullamore Road, Tottenham NSW 2873	Pump	231

Filter Plant, Canada Street, Lake Cargelligo NSW 2672	Pump	259
Goobang Water Pump Station, Weir St, Condobolin NSW 2877	Pump	171883
Lsc Bore Pump, Mission Rd, Condobolin NSW 2877	Pump	460
Merri Abba Bore 2, DPL 1162020, Lake Cargelligo NSW 2672	Pump	351387
Merri Abba Bore 3, Lachlan Valley Way, Lake Cargelligo NSW 2672	Pump	37314
Merri Abba High Lift Pump Station, Lachlan Valley Way, Lake Cargelligo NSW 2672	Pump	48711
Mine Tank, Moodana Street , Tottenham NSW 2873	Pump	4504
Pump Pretty Valley Lake , Cargelligo Rd, Tullibigeal NSW 2669	Pump	36461
Pump Shed, Tullibigeal Hill, Tullibigeal NSW 2669	Pump	1
Pump Station, Lake Street, Lake Cargelligo NSW 2672	Pump	24878
Pump Station, Loughnan Street, Lake Cargelligo NSW 2672	Pump	2618
Pump Station, Uabba Street, Lake Cargelligo NSW 2672	Pump	1540
Raw Water Pump Station, Lachlan Street, Lake Cargelligo NSW 2877	Pump	57564
Sewer Pump For Industrial Area, Maitland St, Condobolin NSW 2877	Pump	1800
Sewer Pump for Residence Gumbend Road, Gumbend Road, Condobolin NSW 2877	Pump	50
Sewerage Works , Minalong Street, Tottenham NSW 2873	Pump	13402
Tullibigeal Pump , Gubbatta Road, Tullibigeal NSW 2669	Pump	49623
Water Filtration Plant, Bobadah Road, Tottenham NSW 2873	Pump	10100
Water Tower, Uabba St, Lake Cargelligo NSW 2877	Pump	448949
Water Treatment Leg of Mutton Dam, Bobadah Road, Tottenham NSW 2873	Pump	1636
Water Treatment Works, Parkes Road, Condobolin NSW 2877	Pump	296856
Aerodome Lighting, Trundle Rd, Condobolin NSW 2877	Recreation	652
Aerodrome , Euabalong Road, Lake Cargelligo NSW 2672	Recreation	0
Aussi Rules Ground	Recreation	489
Football Field, Minalong Street, Tottenham NSW 2873	Recreation	684
Hacc Centre, 7 Melrose St, Condobolin NSW 2877	Recreation	26250
Library, 132 Bathurst Street, Condobolin NSW 2877	Recreation	26153
Memorial Park, Bena St, Burcher NSW 2671	Recreation	86
Netball Court Lights, Lake Street, Lake Cargelligo NSW 2672	Recreation	639
Oasis Walkway Lightning, 69 Bathurst Street, Condobolin NSW 2877	Recreation	3164
Park, Cargelligo St, Tullibigeal NSW 2669	Recreation	5063
Pony Club Ground, Diggers Ave, Condobolin NSW 2877	Recreation	0
Public Park, Lachlan Street, Condobolin NSW 2877	Recreation	1049
Recreation Ground, Lake Street, Lake Cargelligo NSW 2672	Recreation	3751
Recreation Grounds , Minalong Street, Tottenham NSW 2873	Recreation	2050

Recreation Grounds, , Lake Cargelligo NSW 2672	Recreation	12178
Rodeo Ground, Diggers Ave, Condobolin NSW 2877	Recreation	3289
Sports Ground, Burgooney Rd, Tullibigeal NSW 2669	Recreation	2019
SRA Ground, Diggers Ave, Condobolin NSW 2877	Recreation	112383
Swimming Pool, Conapaira Street, Lake Cargelligo NSW 2672	Recreation	56247
Swimming Pool, Harding Avenue, Condobolin NSW 2877	Recreation	301789
Tottenham Racecource, Racecourse Road, Tottenham NSW 2873	Recreation	7357
Town Park, Lachlan St, Condobolin NSW 2877	Recreation	11731
17 McDonnell St, Condobolin NSW 2877	Residential	1502
2/42 McGregor St, Condobolin NSW 2877	Residential	10536
3 Abattoir House , Kiacatoo Road, Condobolin NSW 2877	Residential	3364
3 Slee Street, Fifield NSW 2875	Residential	189
33 Johnston Street, Lake Cargelligo NSW 2672	Residential	31
Campdraft, Diggers Ave, Condobolin NSW 2877	Residential	0
Caravan Park, Diggers Ave, Condobolin NSW 2877	Residential	109310
Caravan Park, Naradhan Street, Lake Cargelligo NSW 2672	Residential	94179
Caretaker Cottage - during new construction, 111 Umang Street, Tottenham NSW 2873	Residential	2978
Cnr Umang and Bulbodney Street, Cnr Umang and Bulbodney Street, Tottenham NSW 2873	Residential	279
Dog Ring, Diggers Ave, Condobolin NSW 2877	Residential	3371
Gum Bend Lake - Caretaker cottage, Gum Bend Lake, Road Condobolin.	Residential	17952
Happy Valley Caravan Park, Tullamore Road, Tottenham NSW 2873	Residential	20875
Lot 7057 McInnes Street, Lake Cargelligo NSW 2672	Residential	381
Site 2 Naradhan Street, Lake Cargelligo NSW 2672	Residential	3955
127 Bathurst Street, Condobolin NSW 2877	Services	5190
35 Bathurst Street, Condobolin NSW 2877	Services	3540
35A Foster Street, Lake Cargelligo NSW 2672	Services	18047
49 Bathurst Street, Condobolin NSW 2877	Services	22
5 Melrose Street, Condobolin NSW 2877	Services	53350
59 Bathurst Street, Condobolin NSW 2877	Services	5919
6 Bathurst Street, Condobolin NSW 2877	Services	88938
62/64 Molong St, Condobolin NSW 2877	Services	157568
Builders Supply, Resevoir Hill, Condobolin NSW 2877	Services	187
Bush Fire Brigade, Marsden Street, Condobolin NSW 2877	Services	8151
Condobolin Airport, Trundle Road, Condobolin NSW 2877	Services	161
Depot, Mogille Street, Tottenham NSW 2873	Services	6171
Fire Station, Umang Street, Tottenham NSW 2873	Services	19
Rural Fire Service Shed, Comeback Street, Albert NSW 2873	Services	742
Rural Fire Service, Kurrajong St, Burcher NSW 2877	Services	1165
Rural Fire Service, Moodana St, Tottenham NSW 2873	Services	1176
Rural Fire Services Shed, Parkes Rd, Derriwong NSW 2877	Services	830
Saleyards, Maitland St, Condobolin NSW 2877	Services	2

State Emergency Service, Marsden St, Condobolin NSW 2877	Services	7519
Toilet Block, 51 Bathurst Street, Condobolin NSW 2877	Services	1065
Tottenham Reservoir and Depot, Moodana Street , Tottenham NSW 2873	Services	1387
Truck Wash, Maitland Street, Condobolin NSW 2877	Services	368
Tullibigeal Bush Fire Brigade, Dundoo Street, Tullibigeal NSW 2669	Services	440
Carpark Lighting, 69 Bathurst Street, Condobolin NSW 2877	Street	1999
Streetlighting - unmetered, Albert & Tottenham	Street	50006
Streetlighting - unmetered, Condobolin	Street	413482
Grand Total		**3659501**