Net Zero Strategy

Parkes Shire Council

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CIRCULR

Net Zero Strategy

Parkes Shire Council

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Abbreviations

CCRA – Climate Change Risk Assessment

CE – Circular Economy

CFI – Carbon Farming Initiative

COP21 – 21st Conference of the Parties

DPIE – Department of Planning, Industry and Environment

EU – European Union

FOGO – Food Organics Garden Organics

IPCC – Intergovernmental Panel on Climate Change

GHG – Greenhouse Gases

MRF – Materials Recovery Facility (MRF)

NGER - National Greenhouse and Energy Reporting

NSW – New South Wales

NZ – Net Zero

PSC – Parkes Shire Council

SAP – Special Activation Precinct

SDG - Sustainable Development Goals

UN – United Nations

UNFCCC – United Nations Framework Convention on Climate Change

1 Introduction

1.1 Background

In July 2018, the New South Wales (NSW) Government announced its 20-year economic vision for Regional NSW. It is making a major contribution towards the construction and development of infrastructure which includes Special Activation Precincts (SAPs) funded by the $4.2 billion Snowy Hydro Legacy Fund.

Parkes Shire Council (PSC) was announced to host the first SAP and takes advantage of business development opportunities and employment growth offered by the east-west rail line and the Inland Rail project. The ambition of the Parkes SAP is not only to become Australia's largest inland freight and logistics hub but to be a leader in sustainable regional enterprise areas. Circulr was engaged to deliver the Parkes SAP Circular Economy (CE) Strategy, which outlined an action plan for a circular economy Eco-Industrial Park. A workshop with Parkes councillors and operations team was also held to provide an overview of the strategy and introduce the guiding principles of Eco-Industrial Parks and the Circular Economy. The sustainable management and delivery of the SAP are within the control of the NSW State Government; therefore, PSC insisted to push forward their sustainability agenda. As a result of the Strategy and Workshop, points were raised on how to implement circular economy principles within Council.

Parkes Shire Council (PSC) is a progressive thinking council which is committed to climate change adaptation, mitigation, and circular economy objectives. To ensure this commitment is upheld and provides a duty of care to future generations, a high-level Net-Zero (NZ) Strategy has been produced as a result of research and workshop discussions with the Council. This strategy will be part of an overall movement towards PSC becoming more sustainable.

This document summarises the desk-top study on the options available for developing a NZ Strategy for PSC, the methods for carbon footprints, and identifies key steps that PSC needs to take to become a NZ council.

1.2 Purpose of the Net Zero Strategy

This document provides a high-level strategic framework to assist Parkes Shire Council (PSC) on its journey to becoming a NZ council. It proposes measures PSC as an organisation can take to start their carbon neutrality journey which will subsequently influence residents and community groups within the entire Shire. This Strategy will align itself with an overarching CE Strategy which will provide a sustainable future for the Parkes' region.

The Strategy has been developed in consultation with key Council and community stakeholders to help mitigate and adapt to climate change and embedding principles of CE.

This is a living document that will evolve over time through an ongoing planning, communication, consultation, and review process.

1.3 Approach

The approach of the project has been divided into the following phases summarised in ***Figure 1*** below:

1. A **desktop review** of Australian NZ Strategies and best practices which included background research, interviews with key NZ professionals. A desktop study on the options available for developing a NZ Strategy for PSC. The purpose of this task was to learn from previous NZ strategies in Australia and other similar jurisdictions and determine what options were feasible, appropriate, and relevant for PSC. Circulr will bring significant added value to this task given our recent work on the CE strategy.

2. A NZ **Workshop** was organised and facilitated via Teams with key operational members of PSC. Findings of the NZ research and carbon footprint measures were presented.

3. Development of a **NZ Strategy** which will outline the method chosen and key steps which PSC need to take in order to become a NZ council. The strategy focused on climate change mitigation and adaptation and will reflect the preferences as documented in the workshop in Step 2.

Different stakeholders contributed to the report via interviews, data and information provided.

Figure 1 Method

1.4 The Net Zero Journey

1.4.1 What is Net Zero?

Net Zero is a key sustainability trend to have risen up the agenda in 2019. 'NZ emissions' refers to achieving an overall balance between GHG emissions produced and GHG emissions taken out of the atmosphere. Reaching NZ signifies that producing emissions can still occur only if they are offset by processes that reduce GHGs already in the atmosphere. However, to meet the NZ goal, new emissions of GHGs must be as low as possible. This means that fossil fuels – coal, oil and gas – need to be phased out to achieve the transition to renewable energy[1].

[1] Climate Council, 2020, Resources, What Does NZ Emissions Mean? Available at: https://www.climatecouncil.org.au/resources/what-does-net-zero-emissions-mean/

1.4.2 What is climate change adaptation and mitigation?

Adapting to climate change consists of preparing for and adjusting to both the current effects of climate change and the predicted impacts in the future[2].

Climate change adaptation supports individuals, communities, organisations, and natural systems in dealing with the consequences of climate change that cannot be avoided. Adaptation involves taking practical actions to manage risks from climate impacts, protect communities and strengthen the economy's resilience. Adaptation can involve gradual transformation with many small steps over time, or major transformation with rapid change[3].

Adaptation is a shared responsibility. Governments at all levels, businesses and households, each have complementary roles to play. Individuals and businesses will often be best placed to make adaptation decisions that reduce climate risks to their assets and livelihoods.

Climate change mitigation refers to efforts to reduce or prevent the emission of GHGs. Mitigation consists of using new technologies and renewable energies. Additionally, it can also consist of changing management practices or consumer behaviour. It can be as complex as a plan for a new city or as a simple as improvements to a cook stove design. Efforts underway around the world range from high-tech subway systems to bicycling paths and walkways[4]. The goal of mitigation is to avoid significant human interference with the climate system, and "stabilise GHG levels in a timeframe sufficient to allow ecosystems to adapt naturally to climate change, ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner" (from the 2014 report on Mitigation of Climate Change from the United Nations Intergovernmental Panel on Climate Change, page 4)[5].

Figure 2 below represents some examples of climate change adaptation and mitigation.

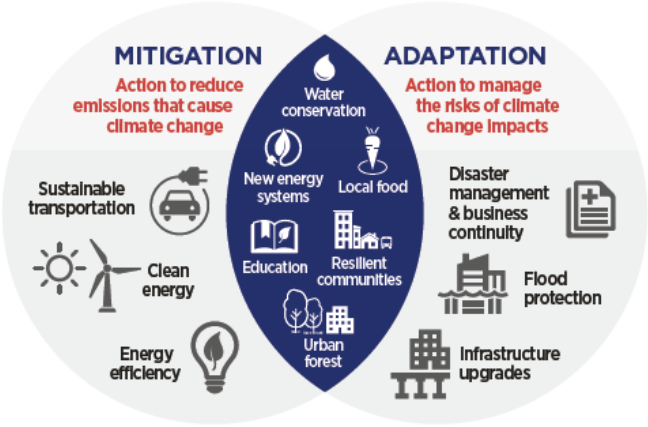

Figure 2 Examples of climate change adaptation and mitigation[6]

[2] European Commission, EU Action, Adaptation to climate change. Available at: https://ec.europa.eu/clima/policies/adaptation_en
[3] Department of Agriculture, Water and the Environment, Topics, Adapting to climate change. Available at: https://www.environment.gov.au/climate-change/adaptation
[4] United Nations Environment Programme, Mitigation. Available at: https://www.unep.org/explore-topics/climate-action/what-we-do/mitigation
[5] Nasa, Global Climate Change, Responding to Climate Change. Available at: https://climate.nasa.gov/solutions/adaptation-mitigation/
[6] DPIE (2021), Climate Change Risk Ready Guide https://climatechange.environment.nsw.gov.au/Adapting-to-climate-change/Climate-Risk-Ready-NSW

2 Context

2.1 International

Humans have an undisputed responsibility in accelerating the changing climate which has been confirmed by the United Nations (UN) 2021 Intergovernmental Panel on Climate Change (IPCC) report[7]. Human influence has seen an unprecedented rate of warming, accelerated sea level rise and the results of these changes are already apparent. The climate is experiencing increases in the length and intensity of heat waves, and an increase in the intensity of weather events such as the recent floods in Europe and bushfires in Australia.

Climate change is contributing to conflicts and mass migrations as competition for food and water increases. If this warming trend continues, an increase of greater than 2˚C in average global temperatures is expected to cause dramatic and long-term changes, such as accelerated thawing of ice sheets and associated sea level rises. This has the potential to raise sea levels sufficiently to flood major cities and the river deltas where much of the world's food is grown.

In September 2015, the 2030 Agenda for Sustainable Development was adopted by all UN Member States, which provides a global pact to achieve peace and prosperity for people and the planet. These include 17 Sustainable Development Goals (SDGs), which outline targets for the international community[8]. The health of the environment is critical to attaining all these goals bringing social and economic benefits.[9]

In December 2015, the international community unanimously adopted the Paris Agreement, an ambitious agreement to decarbonise the global economy and to limit the impact of climate change. At the United Nations Framework Convention on Climate Change (UNFCCC) 21ST Conference of Parties (COP), 195 nations agreed to hold the increase in global average temperature to "well below" 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

2.2 National

Climate change has seen the mean Australian annual temperature increase. This has resulted in climate events including but not limited to the increased intensity and frequency of heatwaves and bushfires, heavy rainfall and flooding, the destruction of mangrove forests and marine kelp forests and the bleaching of the Great Barrier Reef.

Australian children and teenagers are the most vulnerable to these changes in the future. In a historical judgment, the Federal Court found the Environment Minister owing them a duty of care due to the impacts they will face in the future. Impacts include but are not limited to one million children being expected to be hospitalised because of a heat-stress episode and substantial economic loss[10].

The Australian Federal Government became a member of the Kyoto Protocol in 2008 and has a current commitment to reduce the nation's emissions by 26-28 percent on 2005 levels by 2030.

2.3 New South Wales Government

The impacts associated with human-induced climate change pose a significant threat to rural NSW, which already experiences many disadvantages compared to urban regions. Climate change threatens to exacerbate

[7] AR6 Climate Change 2021: The Physical Science Basis https://www.ipcc.ch/report/ar6/wg1/
[8] UN, Department of Economic and Social Affairs, The 17 goals. Available at: https://sdgs.un.org/goals
[9] UN Environmental Programme, Sustainable Development Goals. Available at: https://www.unep.org/about-un-environment/evaluation-office/our-evaluation-approach/sustainable-development-goals
[10] Laura Schuijers, The Conversation, Article. Available at: https://theconversation.com/in-a-landmark-judgment-the-federal-court-found-the-environment-minister-has-a-duty-of-care-to-young-people-161650

these disadvantages, which is a significant risk to the health and security of environmental assets. Rural regions are particularly vulnerable to increased droughts, water availability, bushfires, and heatwaves.[11]

The State Government acknowledges the urgency to take action and has released a number of policies which aim to prevent and minimise these risks to the State including but not limited to:

- NSW Net Nero Plan 2020-2030
- NSW Climate Change Policy Framework
- NSW Circular Economy Policy 2019
- NSW Government resource Efficiency Policy (G-REP)

2.4 Parkes Shire Council

The flow-on environmental and social effects of climate changes to the Parkes region could include frequent droughts, damage to food crops, challenging growing conditions, habitat disturbance and loss of biodiversity. Furthermore, it could result in key infrastructure being damaged, electricity outages, negative impacts on tourism and businesses, and an economic burden on Council and community as a result of costs of damage, repairs, insurance and rehabilitation.

Parkes is committed to urgently taking action to prevent these risks and becoming a leader in climate leadership by aligning itself with State government policies and taking further action above and beyond these policies. Located at the crossroads of the Nation, Parkes will connect Brisbane and Melbourne with Inland rail and currently links the eastern seaboard to Perth (refer to ***Figure 3***). Parkes will also be home to Australia's first circular eco-industrial park. It has committed to sustainable development for many of its infrastructure projects as well as undertaking a Climate Change Risk Assessment (CCRA) for various assets, including the recycled water rising main project in March 2019.[12]

Figure 3 Location of Parkes[13]

[11] Climate Council, On the frontline: climate change & rural communities. Available at: https://www.climatecouncil.org.au/uploads/564abfd96ebac5cbc6cf45de2f17e12d.pdf
[12] PSC, Environment, Infrastructure Sustainability. Available at: https://www.parkes.nsw.gov.au/environment/sustainable-living/environmental-programs-3/
[13] PSC, Parkes National Logistics Hub. Available at: https://www.parkes.nsw.gov.au/business-investment/national-logistics-hub/parkes-national-logistics-hub/

3 Case Study Review

Best practice case studies have been reviewed in Australia and the rest of the world. Within the Australian context, the following observations were made:

- Circular Economy is mentioned in a number of NZ/climate strategies, including the Byron Shire[14] and Mount Alexander[15] strategies. Nevertheless, CE does not seem to be a pivotal driver of the strategies reviewed, rather the opportunities for CE within the Councils' actions towards their NZ emissions goals are identified.
- Landfills are the largest source of GHG emissions under Scope 1 for most of the Councils reviewed, representing between 33% - 56% of their footprint. It was identified that Councils intend to develop waste strategies and policies, set relevant targets, and aim for circular economy as the ultimate goal.
- Strategies across the Councils are labelled differently. Titles include Climate Action Strategy, NZ Emissions Strategies or Road Map to Carbon Neutrality. Although the strategies have different names, they all aim to reduce emissions towards reaching carbon neutrality in a certain year.
- All strategies include the calculation of a carbon footprint. This is a key undertaking as understanding the quantities and sources of GHG emissions are critical for the NZ Strategy.

Within the European context, there exist synergies between carbon reduction and CE. A number of councils have integrated CE into their NZ strategies. The following observations were made from researching the international carbon reduction efforts:

- A recent study by Sitra concluded that the CE could make deep cuts to emissions from heavy industry. Improving the use of materials that already exist in the economy can take the EU industries of steel, plastics, aluminium, and cement halfway towards net-zero emissions (Sitra, 2018)[16].
- Net-Zero emissions goals are aligned with CE strategies and waste management since CE principles and practices can significantly reduce greenhouse gas emissions.
- Circular Economy being essential for achieving NZ is a central tenant within the strategies.

Recommendations

PSC is committed to implementing a mitigation plan as well as an adaptation plan. On the basis of the research undertaken in this report, no strategies have been identified that incorporate both climate change mitigation and adaptation. Therefore, PSC may be one of the first councils to link their NZ Strategy to circular economy principles.

[14] Byron Shire Council, 2019, To Zero Together, NZ Emissions Strategy for Council Operations 2025
[15] Mount Alexander Shire Council, Roadmap to Carbon Neutrality 2020-2025
[16] Sitra, 2018, Publications, The circular economy – a powerful force for climate mitigation. Available at: https://www.sitra.fi/en/publications/circular-economy-powerful-force-climate-mitigation/

4 Road Map

This road map has been designed based on the research undertaken, people interviewed and outcomes from the workshop undertaken on the 29th of July 2021. Parkes Shire Councillors and the operations team attended and provided feedback on the NZ research and findings.

This road map is set to achieve PSC's goals for NZ. Parkes Shire Council is adopting a flexible approach to allow for changes dependant on understanding Council's baseline as well as additional changes which might occur in the future. For instance, the possibility of new technologies becoming available or more financially viable in the coming years and innovations which may be developed in carbon farming.

Given this dynamic state of play, a detailed implementation plan would be premature at this initial stage. The following 6 step roadmap will guide Council towards NZ emissions.

- **Step one** – Understanding the baseline
  - ➔ Calculating PSC's carbon footprint
  - ➔ Climate change adaptation
- **Step two** – Understanding key focus areas and priorities
- **Step three** – Investigate carbon farming
- **Step four** – Research potential funding opportunities
- **Step five** – Develop communication plans
- **Step six** – Monitor emissions

4.1 Step 1: Understand the baseline

Understanding PSC's baseline is critical to take effective steps towards becoming a climate-conscious NZ Council. Two steps are proposed to be taken in conjunction to support this. The first step will be choosing a method to develop a carbon footprint that will enable PSC to measure and reduce its GHG emissions. The second step will be to incorporate climate change adaptation and monitoring through engaging with DPIE's Health Check Tool.

4.1.1 Calculating PSC's carbon footprint

All workshop attendees agreed that understanding the PSC's baseline GHG emissions is the starting point to reducing them. Choosing a carbon calculation method will enable PSC to identify and measure GHG emissions. ***Table 1*** demonstrates what benefits each method could achieve.

Table 1 Method differences

	NGER scheme	Climate Active
Scope 1 emissions	☀	☀
Scope 2 emissions	☀	☀
Scope 3 emissions	⛔	☀
Mandatory * Mandatory for large emitters	* ☀	⛔
Certifiable - Carbon neutrality	⛔	☀
Carbon offset visibility (i.e. does the method consider the offsetting actions that organisations use to achieve carbon neutrality?)	⛔	☀

The more detailed and robust nature of Climate Active is the preferred method among most councils as it gives options to reduce GHGs. The NGERS method is still a viable option if PSC chooses to do a carbon footprint however is not certifiable, does not present carbon offset visibility, and does not include Scope 3 emissions which are key for CE considerations. Emissions Scopes are represented in ***Figure 4*** below.

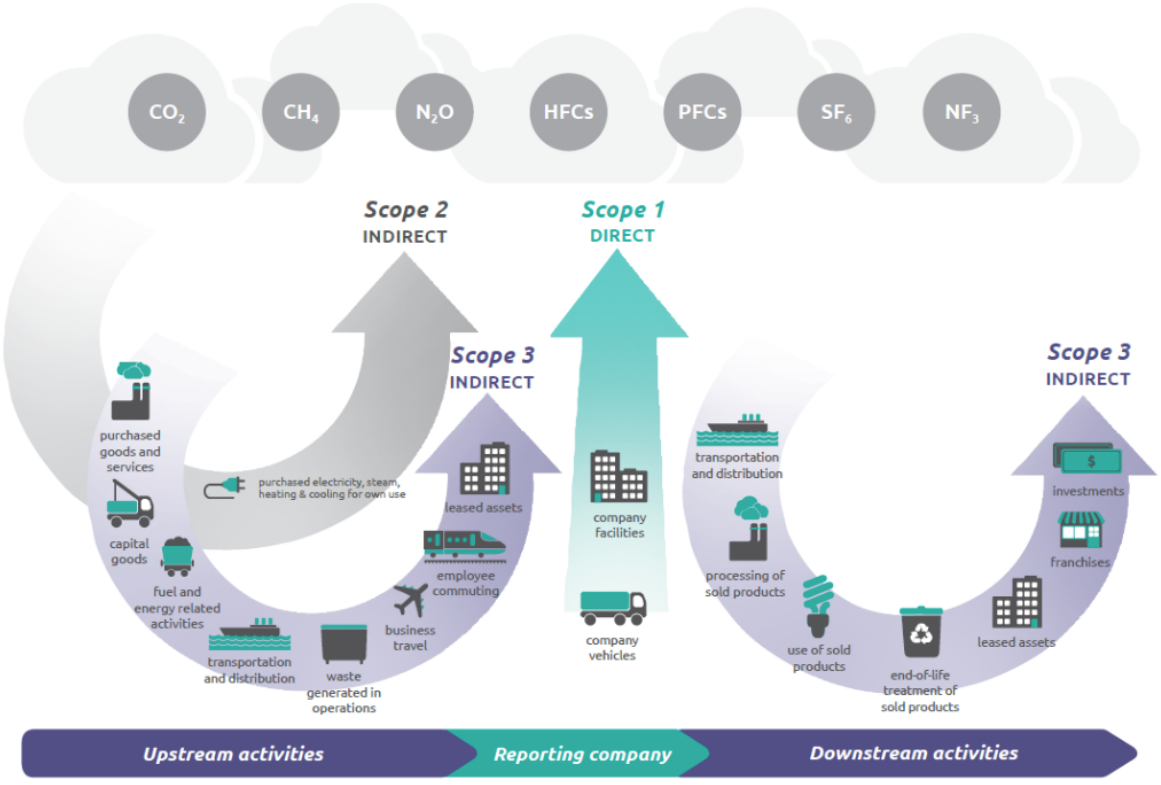

Figure 4 Emissions Scopes[17]

[17]100% renewables, Article https://100percentrenewables.com.au/new-climate-active-electricity-carbon-accounting-rules/

Two carbon footprint methods were identified during the research to choose from below:

The National Greenhouse and Energy Reporting (NGER) scheme

The NGER scheme, established by the National Greenhouse and Energy Reporting Act (NGERS Act), is a single national framework for reporting and disseminating company information about GHG emissions, energy production, energy consumption and other information specified under NGER legislation[18].

Most of the national case studies used the NGER methodology, to calculate emissions across Council's sectors. ***Figure 5*** is a representation of the emissions within Noosa Shire Council.

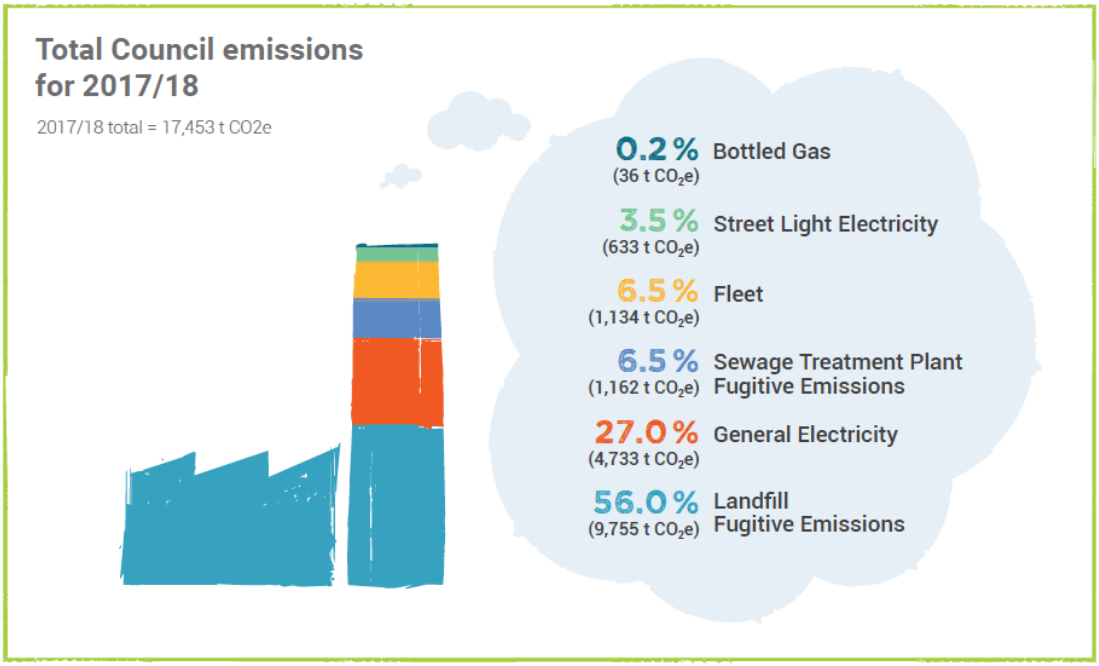

Figure 5 Noosa Shire Council carbon footprint[19]

The Climate Active Carbon Neutral Standard for Organisations (Organisation Standard)

This is a voluntary standard to manage GHG emissions and achieve carbon neutrality. It provides best-practice guidance on how to measure, reduce, offset, validate, and report emissions that occur as a result of the operations of an organisation.

The Organisation Standard has been designed to accommodate a wide variety of organisations with operations in Australia. From large-scale organisations with thousands of employees to local businesses, it can be used to achieve carbon neutrality and showcase climate leadership.

The Standard can be used to understand and manage carbon emissions, to credibly claim carbon neutrality and to seek carbon neutral certification. It has been developed and administered by the Australian Government Department of Industry, Science, Energy and Resources[20].

The certification fees depend on the type of carbon neutral certification (organisation, product, service, event etc.), the size or complexity of the organisation or service, and the carbon footprint. For example, the cost would range from $820 for a small organisation (<1,000 t CO_2-e), to $13,238 for a large organisation whose emissions

[18] Clean Energy Regulator, National Greenhouse and Energy Reporting, About the National Greenhouse and Energy Reporting scheme http://www.cleanenergyregulator.gov.au/NGER/About-the-National-Greenhouse-and-Energy-Reporting-scheme
[19] Noosa Council, 2016, Zero Emissions Organisational Strategy 2016-2026, Available at: https://www.noosa.qld.gov.au/downloads/file/1414/zero-emissions-organisational-strategy
[20] Climate Active https://www.climateactive.org.au

are less than 80,000 t CO_2-e [21]. The complete list of certification fees is available on page 86 of the Climate Active Technical Guidance Manual also in Appendix A. [22]

Climate Active Councils

A number of Australian Councils have achieved a carbon neutral status for their operations in accordance with this Standard, such as Brisbane City, Melbourne City, City of Sydney, City of Yarra, and City of Subiaco. The former represented in ***Figure 6*** below was noted by appearance as having a similar divide in carbon emissions as PSC.

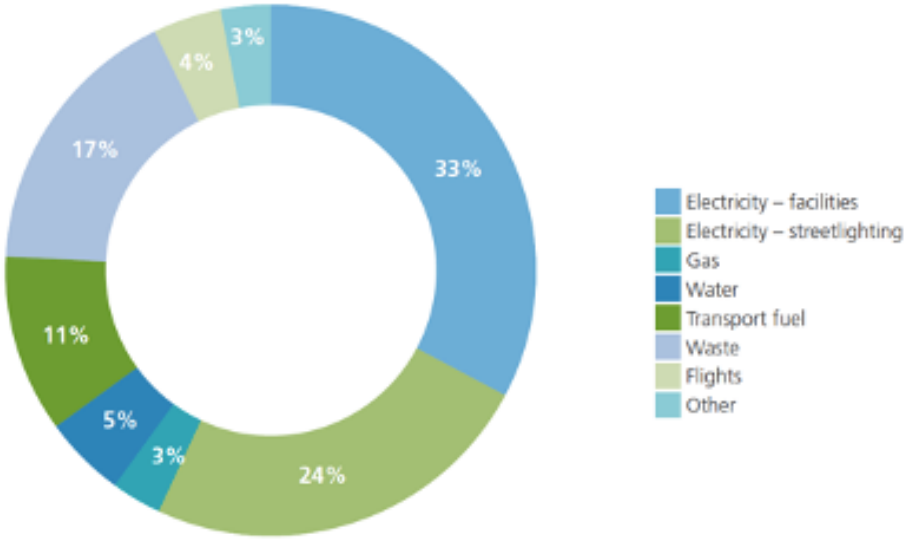

Figure 6 City of Subiaco (WA) carbon footprint

Recommendations

Attendees of the workshop noted more research is necessary to understand the cost and resources needed to undertake each method to determine feasibility. Further research is still needed in this area.

4.1.2 Climate change adaptation

In line with PSC's duty of care to future generations, including climate change adaptation in the strategy will have complementary benefits to carbon reduction activities. Parkes Shire Council is aware that climate risks will occur regardless of mitigation measures and that understanding risks will help drive action. Having adaptation measures in place will also be good timing with the release of a climate change toolkit being released by NSW DPIE in September 2021. By including adaptation, there PSC could also benefit from future adaptation funding. The toolkit will enable all councils to benefit from it no matter where they sit on their carbon neutrality journey.

Parkes Shire Council has commenced its adaptation journey with the production of CCRAs on major assets, including the Water Treatment Plant and the Sewage Treatment Plant. The workshop noted that there is data around the CCRAs.

[21] Rob Anderson, 2021, Climate Active.
[22] Climate Active, Technical Guidance Manual. Available at: https://www.industry.gov.au/sites/default/files/2020-09/climate-active-technical-guidance-manual.pdf

Recommendations

In addition to the work done on adaptation for urban infrastructure, developing a CCRA for the whole Shire was recommended and favoured in the workshop. This will allow a better understanding of how climate change will impact industries within the region, such as agriculture. Understanding what the risks and opportunities are in different industries will be identified.

Engaging with readily available tools developed by DPIE will be critical to understanding the maturity of PSC in adaptation. The Health Check Tool is designed to help organisations in the NSW Government sector to understand the current climate risk management maturity of the organisation and assess their level of adaptative capacity. It includes both adaptation and mitigation. The tool can be accessed on the AdaptNSW website and is aligned to the NSW Treasury Risk Maturity Assessment Tool where a screenshot is available in Appendix B.[23]

Engaging with this tool will give PSC an idea of focus areas and can be used as part of quarterly and yearly monitoring and evaluation against targets.

DPIE has extended and invited PSC to join in a 'beta testing' phase for the Local Government Toolkit that they have been developing. The toolkit is currently an MS Excel Repository of tools and templates to support a council embarking on mitigation and/or adaptation action for their council. The toolkit has been designed in a way that allows each user to access useful tools to help support them along the way, whether they are new to the space or quite advanced. This would be able to support PSC on their NZ roadmap and a good way to monitor ongoing progress by using tools like the 'HealthCheck Tool' and the 'Climate Change Risk Assessment'.

Beta testing will occur in September to test and give feedback over a 4-week window.

4.2 Step 2: Understand key focus areas and priorities

The key focus areas and priorities will include the listing of activities within PSC which require further work in terms of adaptation and mitigation. They consist of industries that have the largest emissions and those which encourage more action to be taken such as education. These areas will be flexible and dependent on different factors, such as the calculated carbon footprint and the results of the Health Check Tool discussed above. At this stage, based on researched case study examples and discussions during the workshop, the following areas have been agreed on to be analysed in more detail:

- **Electricity use** – there is high electricity usage in PSC due to the reliance of pumping to obtain raw water from Forbes. It was noted that there is data available on the electricity consumption tracked online by a third party. These exist through an online database to run reports. Furthermore, it was noted that smaller towns in the shire need to see tangible outcomes to be encouraged to "go green", such as the installation of solar panels.

- **Water consumption** – there was agreement that water would be a priority within the council due to the rates of consumption. Detailed collection data around water consumption was noted since PSC have installed smart meters which provide user data on their daily usage. This will be a good initiative to measure consumer habits.

- **Fuel usage** – there was an acknowledgement that this will be a focus due to the kilometres travelled within the Shire as well as the increase of logistics with the SAP. Electric vehicles are being trailed currently and it was noted that this is an area which needs further development. Furthermore, air and waste miles are currently frequent and are set to increase due to people travelling to and from the SAP. Questions were asked around who is measuring and accounting for these.

[23] NSW Government, Adapting to Climate Change https://climatechange.environment.nsw.gov.au/Adapting-to-climate-change/Climate-Risk-Ready-NSW

- **Landfill** – it was noted that more work is required to be done in this area due to more than 6 landfills present within the Shire. Data is available for kerbside pickup volumes as well as annual audits undertaken on facility and grate sample audits. Recycling has data and is centralised in the Materials Recovery Facility (MRF) in Orange. Data on Food Organics and Garden Organics (FOGO) will need to be further investigated.

- **Education** – it was noted that more work needs to be done on sustainability education within the Shire to give the community confidence that action is being taken. The request to produce educational collateral on measures was noted. This included education in schools and within the community who can undertake simple activities such as planting trees and installing solar. It was noted that the population of PSC has divergent opinions on this topic; therefore, showcasing tangible solutions and benefits would encourage strong commitment and values to sustainability.

4.3 Step 3: Investigate carbon farming

Carbon farming is the process of modifying agricultural techniques or land use to increase the amount of carbon stored in soil and vegetation (also known as carbon sequestration) and minimise GHG emissions from livestock, soil, or plants.

The Carbon Farming Initiative (CFI) is a programme for voluntary carbon offsets. It enables land managers to earn carbon credits by modifying land use or management techniques to store carbon or reduce GHG emissions[24]. Natural Carbon develops carbon farming projects in Australia. They collaborate with indigenous people, farmers, and other land managers to create long-term economic and environmental advantages for their communities[25].

Carbon farming could be an option that leads to a source of revenue for PSC farmers. It was highlighted as a measure which could make a significant difference locally and globally. It will be important to remember that offsetting is the last measure to take in a carbon-neutral panorama; however, PSC could integrate this as a step towards neutrality.

Potential setbacks were noted during the workshop regarding this measure including, the effects that droughts will have in sequestering carbon in the soils. An audit system would need to be put in place to cover this.

Recommendations

Additional research is required in order to understand the suitability of PSC's soils for carbon farming requirements as well as understanding the feasibility to achieving low carbon soils.

Although it was noted that financial support is available through the state, further research could be to done to investigate the cost and resources of rolling out carbon farming. If it is easy for farmers to apply, then it will be feasible and readily taken up.

Further research could also be undertaken to understand if there is the potential for a local hub to trade carbon credits. These tasks could be delegated to the climate committee.

4.4 Step 4: Research potential funding opportunities

Additional sources of funding outside of Council operations should be explored to help support the implementation of the Strategy.

These options include but are not limited to:

- NSW State Government funding
- Federal Government grants

[24] Department of Agriculture, Water and the Environment https://www.agriculture.gov.au/water/policy/carbon-farming-initiative
[25] Natural Carbon https://naturalcarbon.com.au/about-us/

- University Partnerships
- Clean Energy Finance Corporation
- Revolving Energy Fund
- Power Purchase Agreements
- and Community funding opportunities.

Since 2018 the Australian Government has transferred all its grant management to two dedicated service hubs. Payments are not made out of individual departments anymore. Interested parties can subscribe to Community Grants Hub - www.communitygrants.gov.au.

4.5 Step 5: Develop communication plans and engagement

Parkes Shire Council should develop educational collateral and implement it in order to guide ongoing communication between Council and the community regarding progress towards NZ goals. This engagement strategy can include timelines and could set out PSC's aims, objectives, and key messages relating to NZ and CE. The material should be updated every 1-3 years with additional progress updates between initiatives when PSC achieves set milestones and overcomes challenges.

Parkes Shire Council should investigate community consultation avenues to promote GHG mitigation and adaptation initiatives.

4.6 Step 6: Monitor and report annually on emissions and emissions reduction measures

Once the carbon footprint baseline has been established, PSC should commence and continue to monitor and report on its emissions profile and the progress of emissions reduction measures. As noted in section 4.1.2, the Health Check Tool and engagement with DPIE will be useful at assisting Council with monitoring.

Appendix A Climate Active Fees

CLIMATE ACTIVE CERTIFICATION CRITERIA, FEES & SCHEDULES (CY2020 OR FY2020-21)

				Initial certification		Ongoing certification or recurring event	
Certification type	**Emissions bracket**	**Fee (GST inc)**	**Criteria**	**Technical assessment**	**Third party validation ***	**Technical assessment**	**Third party validation ***
Small organisation	≤ 1,000t CO_2-e	$820	An organisation with: • a carbon footprint < 1,000t CO2-e; • an annual turnover < $10M; • consolidated gross assets < $30M; • less than 30 employees (Full Time Equivalent); • has 80% or more of its total emissions from the small organisation emissions boundary defined in the Climate Active inventory; and • will not be seeking a product or service certification in the future.	Not required	Type 1	Not required	Type 1 required if base year recalculation is required
Medium organisation	≤ 2,000t CO_2-e	$2,627	An organisation with: • a carbon footprint between 1,000t and 25,000t CO2-e; or • a carbon footprint < 1,000t CO2-e; and • an annual turnover ≥ $10M or consolidated gross assets ≥ $30M or ≥ 30 employees (FTE) or less than 80% of its total emissions from the small organisation emissions boundary defined in the Portal	Required	Type 1	Required every 3 years or whenever base year recalculation is required	Type 1 required if base year recalculation is required
	2,000 ≤ 10,000t CO_2-e	$7,985					
	10,000 ≤ 80,000t CO_2-e	$13,238					
Large organisation	10,000 ≤ 80,000t CO_2-e	$13,238	An organisation with a carbon footprint ≥ 25,000t CO2-e	Required	Type 2	Required every 3 years or whenever base year recalculation is required	Type 2 required if base year recalculation is required
	≥ 80,000t CO_2-e	$18,911					
Simple service	≤ 2,000t CO_2-e	$2,627	A service that has **80% or more** of its total emissions from emissions sources available in the Portal.	Required	Type 1	Required every 3 years or whenever base year recalculation is required	Type 1 required if base year recalculation is required
	2,000 ≤ 10,000t CO_2-e	$7,985					
	10,000 ≤ 80,000t CO_2-e	$13,238					
	≥ 80,000t CO_2-e	$18,911					
Complex service	≤ 2,000t CO_2-e	$2,627	A service that has **less than 80%** of its total emissions from emissions sources available in the Portal	Required	Type 3	Required every 3 years or whenever base year recalculation is required	Type 3 required if base year recalculation is required
	2,000 ≤ 10,000t CO_2-e	$7,985					
	10,000 ≤ 80,000t CO_2-e	$13,238					
	≥ 80,000t CO_2-e	$18,911					
Product	≤ 2,000t CO_2-e	$2,627	A tangible (and usually physical) good	Required	Type 3	Required every 3 years or whenever base year recalculation is required	Type 3 required if base year recalculation is required
	2,000 ≤ 10,000t CO_2-e	$7,985					
	10,000 ≤ 80,000t CO_2-e	$13,238					
	≥ 80,000t CO_2-e	$18,911					
Precinct	≤ 2,000t CO_2-e	$2,627	A precinct or district is a discernible area 'more than a building and less than a city' and is primarily defined by its geographic boundaries, which at a minimum, must incorporate public infrastructure beyond a single building.	Required	Type 2	Required every 3 years or whenever base year recalculation is required	Type 2 required if base year recalculation is required
	2,000 ≤ 10,000t CO_2-e	$7,985					
	10,000 ≤ 80,000t CO_2-e	$13,238					
	≥ 80,000t CO_2-e	$18,911					
Small event		$820	An event with: • up to 5,000 attendees; or • up to 10,000 attendees and where the event is one day or less in duration.	Not required	Not required	Not required	Not required
Large event		$1,538	An event with: • more than 10,000 attendees; or • more than 5,000 attendees and where the event is more than one day in duration.	Required	**Pre- event**: Not required **Post event**: Type 1 required or for the first large event in an event portfolio	Every 3 years	Not required

*See page 23 of the Licence Agreement for descriptions of Types 1, 2 and 3.

Appendix B Health Check Tool

NSW Treasury

Risk maturity assessment - current and target maturity state

Agency: [ ] Cluster: [ ] No. of Employees:

Role of Respondent: [Risk manager/ CRO] Year of Assessment: FY2X Year of risk framework set-up: [ ]

		Maturity level															Scoring				Evidence to support maturity level selection
Element	Attribute	Fundamental	Current	Target	Repeatable	Current	Target	Systematic	Current	Target	Embedded	Current	Target	Advanced	Current	Target	Current state score	Target score	Current Maturity Level	Target Maturity Level	Current state
Foundations	Risk culture	There is limited or unclear accountability for risk management and key decisions only consider risk and reward on an ad-hoc basis. There is limited definition of the agency's desired risk culture and behaviours. The Executive are involved only in major issues or concerns relating to risk.			Risk culture is considered and communicated and there is an awareness of risk culture and the required behaviours to manage risks across the agency.			There is a defined approach to consider and manage risk culture across the agency. Risk behaviours that effectively manage risk to agreed tolerances are rewarded and poor behaviours managed. Drivers of the agency's risk culture are understood and reported on. There is "tone from the top" (e.g. Executive and Audit and Risk Committee) support of proactive risk management behaviours.			Executive decisions drive a positive risk culture and have early warning mechanisms in place to identify areas of poor behaviour. Key risks are owned by 1st line management and risk behaviour is directly linked to performance.			Executive management continuously improve culture through the operating model design, key decision making, performance management and effective communication. Collaboration on risk culture best practice occurs inter and intra agency.							[Provide evidence to support the selection of the current maturity state]
	Risk governance	Key elements of risk governance are not defined, formalised, consistent, documented or repeatable. Positive risk outcomes rely solely on well-intended individual efforts. Risk tolerance is considered on an ad-hoc basis and is not consistently applied when assessing risk. There is a documented risk management and risk governance policy and procedures, with basic coverage of roles and responsibilities focussing only on Executive management and the risk function.			Basic building blocks of risk governance are documented and roles and responsibilities for enterprise risk operating model elements are defined and agreed. Risk tolerance is understood for all material risks across the agency. Accountability for risk tolerance decisions and tolerances has been assigned.			Clearly defined risk governance procedures (including standard policies and procedures, roles & responsibilities) exist across the agency and are clearly understood across the agency. Evaluation of risk governance is performed using relevant and appropriate key risk indicators. There is proactive management of risk relative to tolerance by those accountable.			Policies and procedures are consistent across the agency and align to agency objectives. There are defined risk roles and responsibilities embedded in the organisational structures and risk is a core element of decision making and oversight of the agency. Early warning signals and data are monitored to allow changes to risk tolerance over time. Risk governance policies and procedures are regularly reviewed to maintain relevance to the agency's risk profile.			Risk governance practice, policies and procedures are evolved by all those involved in risk management. Management and employees proactively review roles and responsibilities and take ownership for risk management at every level. All levels in the agency consider risk tolerance and dynamically determine risk responses.							
Enablers	Capability & Training	Risk management depends on well-intended actions of individuals with limited 'risk management' capability. Risk roles, responsibilities and accountabilities are poorly defined and there is minimal training in risk management.			Risk specialist function is established and requires risk competency. Some formal risk management training is offered to the wider organisation.			Standardised risk management training is run for all staff (role specific) with deeper training provided for specialists. All staff are expected to have a knowledge of risk management and apply it in their role. Risk management training content sets out all the key components of the risk management framework including policy requirements, risk management methodologies and tools.			The agency is recognised as employing experienced risk personnel with embedded knowledge & expertise in place. Risk training is provided in areas of emerging risk practice and comprehensive risk training is provided to all staff. Risk management training content is reviewed at least annually.			Risk management knowledge and skills are continuously upgraded through ongoing learning and development and benchmarked against leading practice both in the NSW public sector and the corporate sector.							
	Methodologies & Tools	No models / methodologies / tools used to support risk decision-making and heavy reliance upon key people and their instincts.			Simple risk models used for some risk decision making using measurement methods which are specified and documented.			Standardised risk models / methodologies consistently utilised for decision-making with defined measures of performance and process / risk variability. A risk classification library is documented and is used as a basis for risk identification and evaluation across the agency. Evaluation and monitoring of risk management is performed.			Risk management uses reliable and proven models & methodologies for risk decision-making and utilises a range of risk tools to support a predictable and consistent risk management process. Evaluation of the effectiveness of the risk management framework, the management of risk by an agency and the effectiveness of risk tools is performed on a regular basis.			Enterprise-wide risk management methodologies and tools are consistently applied and are considered best in class. The agency is recognised as a leader in the field of risk management methodologies and tools.							
	Data & Information	Data quality is low, inconsistent and with limited confidence. Risk decisions are made with low quality data.			Some data collection is undertaken and is used to evaluate and monitor risk on an ongoing basis. There is a stable set of data and information.			Standard suite of integrated risk data that supports consistent risk analysis across the agency allowing trend analysis and risk-based decision making. Risk management data guidelines are used to prescribe the agency's expectations regarding data quality, completeness, accuracy and availability.			Comprehensive set of data that allows dynamic risk management based on stable and high-quality data sets for all risk classes. The quality data enables agencies to identify lessons learnt and emerging risks and opportunities.			Advanced suite of analytics and data that enables dynamic risk management and monitoring with effective and intuitive dashboards based on a breadth and depth of high-quality data. Continuous development of data and analytics in line with leading practice.							
Integration	Strategy & Business Planning	There is minimal focus on risk when developing or executing strategies or business plans. Where risk is considered it is inconsistently applied across the agency and not actively reviewed in-line with strategy and business plan reviews.			Risk is considered in strategies and business planning but is not consistently applied and is not consolidated across the agency.			Strategy setting and business planning consider risks in a consistent manner and document the responses. Risk review outcomes are documented and reviewed and reported on an annual basis.			Risk is integrated into planning and strategy across all business units and aligns to agency objectives. All key risk classes are considered when developing and implementing strategies and business planning.			Strategy and business planning process is dynamically sensitive to internal and external risk factors. Risk is considered on a consistent basis and aggregated to monitor changes to risk profiles over time.							
	Projects	There is a minimal or ad-hoc consideration of project risks or the impact of projects on the risk profile of the agency.			Project risk accountability is assigned and projects consider risk during project design, evaluation and throughout the project lifecycle.			A consistent and documented approach to risk management is applied to all significant projects. Ownership for project risk is understood and followed through.			Key project risks (e.g. interdependency, benefits realisation and management, staff impact, customer, budget, resourcing) are regularly discussed, evaluated and combined to support risk-based decisions on a project and portfolio basis and support the delivery of agency outcomes. This covers both delivered and delivery risks.			Project portfolio is consistently evaluated for risks and interdependencies. Resourcing and funding are dependent on effective risk management practices that assess all risk classes. There is a clear reference between project risks and the agency's risk profile.							
	Programs & Operational Performance	Program and operational risks are not defined, formalised, consistent, documented or repeatable. Program and operational risk responses are reaction driven, unpredictable and outcome relies solely on well-intended individual efforts.			Critical programs and processes have defined and documented financial and non-financial risk management plans / procedures in place.			Defined, documented and consistent financial and non-financial risk management procedures are included in most programs & processes, including budgeting & resource planning.			Risk management is a critical input to program and operational performance and is considered a core competency. Programs and processes are dynamically risk assessed and developed in response to emerging risks.			Continuous benchmarking and improvement of how financial and non-financial risks are identified and managed is performed enterprise wide for all programs and processes. Proactive redirection of funding and resources occurs based on periodic monitoring of risk profile							