Central Coast Council Climate Change Strategy

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A Message from the Mayor and General Manager

If we are to respond effectively to climate change, we have to keep it in the front of our minds, on a daily basis.

We need to question everything, and work out how we can do things better:

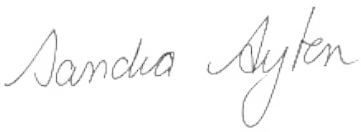
- Where can we save energy?
- Where can we reduce waste?
- How can we prepare for and minimise the impacts of heatwaves, droughts and flash floods?

Doing what needs to be done will require everyone's help. The benefits of making wise decisions and implementing them will be many and varied.

This Strategy and Action Plan is about the Council doing its part. It outlines how the Council will reduce its greenhouse gas emissions and move towards becoming carbon neutral, while adapting its operations to the projected weather conditions ahead. The Strategy will therefore enable the Council to keep its eye on emerging trends, responses and opportunities.

We invite you to hold the Council accountable for the actions in this Plan, and to develop a similar climate change action plan for your own household, workplace or community group. We are all challenged to implement the changes necessary to halt and respond to a warming climate, knowing that the benefits of wise action will flow, for us and for future generations

Cr Jan Bonde
MAYOR



Sandra Ayton
GENERAL MANAGER

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1 Introduction

1.1 Global Issue, Local Impact

The reality of climate change is indisputable. The impacts are already manifesting in many parts of the world through increases in extreme events, population displacement, damage to infrastructure, species shifts, regulatory changes and challenges to insurance availability and affordability.

The latest scientific projections see the world heading towards a global average 4°C increase by 2100, compared to preindustrial times. Although there is an imperative to reduce the global carbon footprint to avoid the unmanageable, there is also a critical need to adapt to the changing climate that is unavoidable.

Local governments should not think of climate change adaptation solely as an environmental issue that requires an environmental response. In fact, the most likely impacts of climate change to be felt by local councils will arrive from issues associated with litigation, regulatory compliance, asset depreciation, land use planning and financial management. For communities the impacts will predominantly materialise in economic loss and social dislocation. Importantly the degree of impacts is likely to be, in part, determined by how local governments respond to the issue.

Central Coast Council is exposed to a number of natural hazards, including landslip, coastal erosion, storm surge, bushfire and riverine flooding. Recently Council experienced considerable damage from extreme coastal and flooding events (see Figure 1).

Figure 1. Flood damage to Council bridge at Taylors Flat (2016)

1.1.1 IPCC Assessment Report 5 (AR5)

Much of the information that drives a policy response at all levels of government stem from assessment reports created by The Intergovernmental Panel on Climate Change (IPCC), which is an intergovernmental body of the United Nations. The most recent IPCC Assessment Report (AR5) paints a stark picture of a world with climate change.

The IPCC's AR5 was written by over 830 lead authors and peer reviewed by thousands of experts. Some of the key findings taken directly from the summary report include:

- Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia.
- In recent decades, changes in climate have caused impacts on natural and human systems on all continents and across the oceans. Impacts are due to observed climate change, irrespective of its cause, indicating the sensitivity of natural and human systems to changing climate.
- Changes in many extreme weather and climate events have been observed since about 1950.
- Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems.
- Surface temperature is projected to rise over the 21st century under all assessed emission scenarios. It is very likely that heat waves will occur more often and last longer, and that extreme precipitation events will become more intense and frequent in many regions. The ocean will continue to warm and acidify, and global mean sea level to rise.
- The upper bounds of global average sea level rise by 2100 is 52cm-98cm (compared to the 1986-2005 average).

1.1.2 IPCC Special Report on 'Global Warming of 1.5°C'

> *Every extra bit of warming matters, especially since warming of 1.5°C or higher increases the risk associated with long-lasting or irreversible changes, such as the loss of some ecosystems* (Pörtner 2018).

In 2018 the Intergovernmental Panel on Climate Change (IPCC) published a special report on 'Global Warming of 1.5°C' (SR15)[1] which is the first report to be written by all IPCC Working Groups. It builds on previous IPCC publications, with the most recent being the Fifth Assessment Report (AR5) released in 2013-2014.

[1] The report's full name is 'Global warming of 1.5°C, an IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty'.

According to the IPCC, the report is "an assessment of the relevant state of knowledge, based on the scientific and technical literature available and accepted for publication up to 15 May 2018" (IPCC 2018c).

As the SR15 is a considerably large body of work (492 pages) it is not feasible or relevant to summarise all of the key findings for this report. However, it is worth noting that some of the 'Headline Statements' that have been associated with *high confidence* in the SR15 include:

- "Human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C. Global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate.
- On land, impacts on biodiversity and ecosystems, including species loss and extinction, are projected to be lower at 1.5°C of global warming compared to 2°C. Limiting global warming to 1.5°C compared to 2°C is projected to lower the impacts on terrestrial, freshwater and coastal ecosystems and to retain more of their services to humans.
- Limiting global warming to 1.5°C compared to 2°C is projected to reduce increases in ocean temperature as well as associated increases in ocean acidity and decreases in ocean oxygen levels (high confidence). Consequently, limiting global warming to 1.5°C is projected to reduce risks to marine biodiversity, fisheries, and ecosystems, and their functions and services to humans, as illustrated by recent changes to Arctic sea ice and warm-water coral reef ecosystems.
- Most adaptation needs will be lower for global warming of 1.5°C compared to 2°C.
- There are a wide range of adaptation options that can reduce the risks of climate change.
- Adaptation options specific to national contexts, if carefully selected together with enabling conditions, will have benefits for sustainable development and poverty reduction with global warming of 1.5°C, although trade-offs are possible.
- Strengthening the capacities for climate action of national and sub-national authorities, civil society, the private sector, indigenous peoples and local communities can support the implementation of ambitious actions implied by limiting global warming to 1.5°C. International cooperation can provide an enabling environment for this to be achieved in all countries and for all people, in the context of sustainable development. International cooperation is a critical enabler for developing countries and vulnerable regions." (IPCC 2018b)

Another key UN report of note, the 'Global Assessment Report on Biodiversity and Ecosystem Services' shows that climate change is a contributor to the decline in global biodiversity.

1.2 Climate Change Projections

Climate Change projections for Central Coast Council municipal area are similar to much of Tasmania. Over the past few decades the Central Coast Council municipal area-has experienced a general decrease in annual average rainfall (by up to 50mm) and an increase in average and extreme temperatures. The following climate change projections come from the Tasmanian Government funded downscaled data, which was generated by the Antarctic Climate & Ecosystems Cooperative Research Centre (ACE CRC) in 2010 (Tasmanian Government and ACE CRC 2010, pp. 2-5). Whilst the information is almost a decade old it is the only publicly available localised downscaled data that has been generated for the local government scale.

1.2.1 Changes to Rainfall

- Up to 9 fewer days with >1 mm rain per year on average, but significantly more rain per rain day (a 15% increase or more).
- Around 2 more very wet days each year (where rainfall exceeds the baseline 95th percentile), and the possibility of 2 more days per year that exceed 20 mm.
- An increase in the maximum instantaneous rainfall rate of over 30% in some seasons, and an increase of 8 mm of rainfall on the wettest day of the year (a 20% increase).
- Rainfall brought by rare extreme events increases: a 200-year average recurrence interval (ARI) event for daily rainfall at is projected to increase by more than 30 mm (a 35% increase).
- More common ARI events (ARI-10, ARI-50) are projected to increase by a similar proportion.

1.2.2 Temperature

The projected change in average temperatures is similar to the rest of Tasmania (2.6 to 3.3°C). Other temperature-related changes include:

- The number of Summer Days (>25 °C) increases from around 10 days per year, to more than 35 days per year, with night time minimum temperatures over 20 °C occurring a few times every year.
- The temperature of very hot days increases more than the change in average temperature (by 3-4 °C in some locations in some seasons).
- A reduction in frost-risk days at the coast from up around 6 per year to around 1 per year, and in the inland area from up to 50 days per year to less than 25 days per year.
- Warm spells (days in a row where temperatures are in the top 5% of baseline levels) currently last around 7 days, are projected to last up to 14 days longer.

1.2.3 Sea Level Rise

A recent report by McKinnes et al. (2016) shows that the sea level rise for the Central Coast Council area ranges from 47cm – 94cm by 2100, compared to 2010. The State sea level rise allowance for planning for the Central Coast area has been derived from this report and is 22cm for 2050 and 82cm for 2100.

1.3 Assets at Risk from Climate Change

There are a number of Council, community and environmental assets that are exposed to current extremes and/or the effects of climate change. In 2018, Climate Planning conducted a scoping spatial analysis of the building types exposed to a range of hazards, with the results presented below.

1.4 Asset Exposure for all Buildings

Bushfire presents the most significant risk to human settlement in the Central Coast region, with around 2,788 buildings (31.3%) located in a bushfire prone area. Most of this exposure is to residential properties (94.3%, 2,620 buildings) however there are also 97 community buildings, 24 commercial properties and 37 industrial buildings affected (see Figure 2). The bushfire risk in area is likely to increase in the future due to increased average and extreme temperatures and the potential for longer days between rainfall.

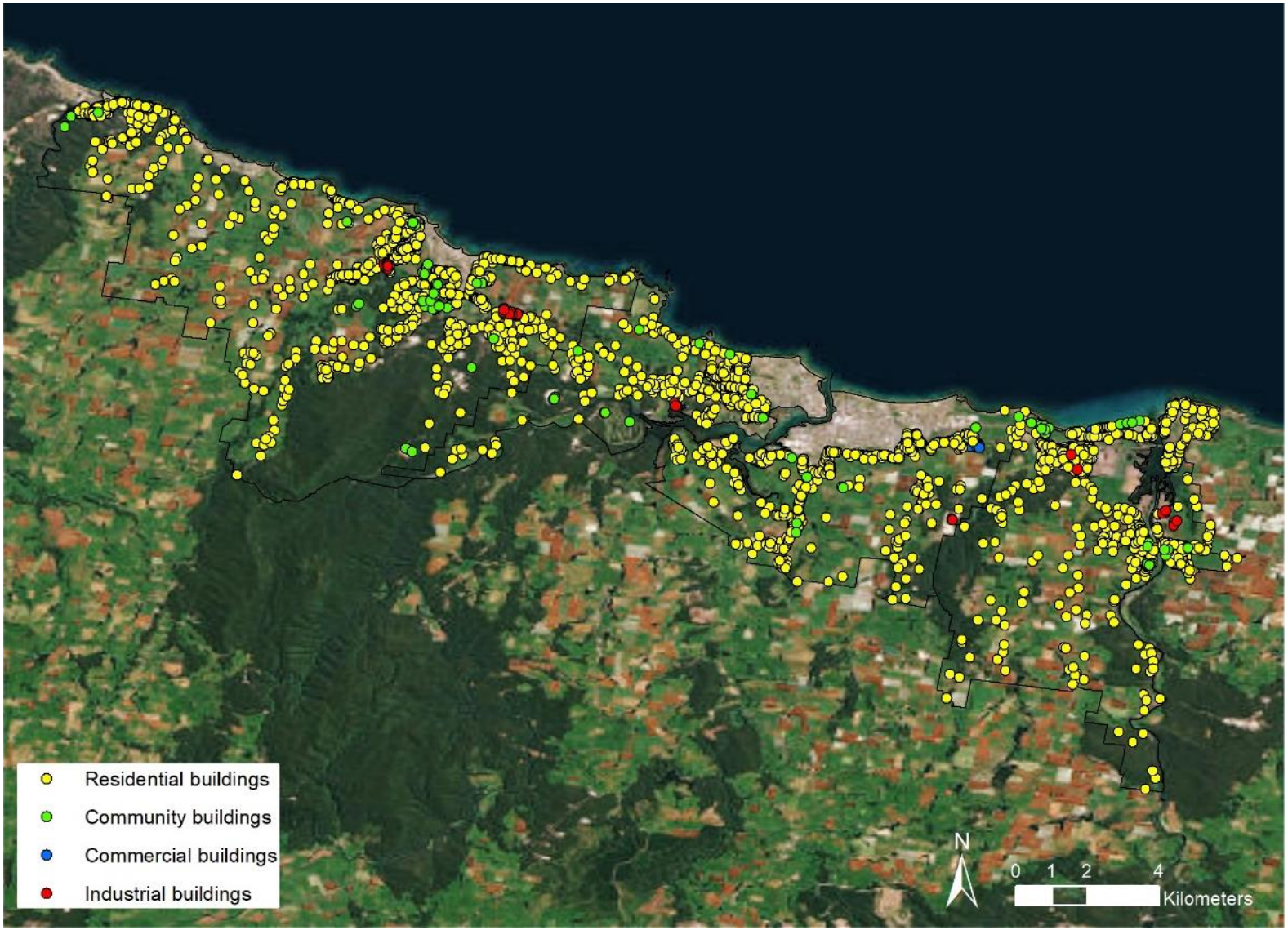

Figure 2: Building types located in a bushfire prone area

Low coastal inundation hazard also ranked highly, with the results showing that 329 buildings are vulnerable to coastal recession by 2100. There are 247 buildings which are exposed to a medium landslide hazard, which means the area has known landslide features and may be within a landslide susceptibility zone. Modelling of the flood extent in 2016 shows that 61 buildings are potentially exposed to current riverine flooding.

1.5 Asset Exposure by Building Type

In this analysis residential buildings represent a large proportion (90.5%) of the building composition, with only a small number of buildings identified for community, commercial and industrial purposes. The highest exposure of these minority building types was for the bushfire prone area which recorded 97 community buildings, 37 industrial buildings and 24 commercial buildings (see Figure 3

Figure 2). Furthermore, the results show the community buildings have a considerable risk under both a medium coastal erosion hazard and a medium inundation hazard. There are also 24 commercial buildings and six community buildings which are vulnerable to a 1% AEP storm event in 2100.

Figure 3: Number of building types exposed to a range of hazards (excluding residential buildings)

1.6 Asset Exposure by Area of Interest

The results reveal that West Ulverstone has the greatest exposure to coastal inundation with 240 located in a low hazard area and 161 buildings exposed to a medium hazard (see Table 1). Since coastal erosion causes a permeant loss of assets it presents a unique risk to all areas on interest. The findings show that a significant number of buildings in West Ulverstone and Turners Beach – Forth are vulnerable to coastal recession by 2100 (low hazard) and by 2050 (medium hazard). However, there are 22 buildings in Penguin -

Sulphur Creek which are exposed to a high coastal erosion hazard which means they are vulnerable to hazardous erosion now.

In addition, there are a considerable number of buildings located in a bushfire prone area for each area of interest, with Penguin - Sulphur Creek having the highest risk (994 buildings). The exposure to landslides is the most prevalent in Ulverstone and Penguin - Sulphur Creek, with 97 buildings and 82 buildings located in a medium hazard area. Furthermore, the flood extent was found to affect a small number of properties in West Ulverstone (21 buildings), Turners Beach - Forth (19 buildings), and Ulverstone (15 buildings).

Table 1: Number of building in each area of interest exposed to a range of hazards

Hazard	Penguin - Sulphur Creek	Turners Beach - Forth	Ulverstone	West Ulverstone	Total
Bushfire prone area in 2018	994	859	530	395	2778
Low coastal inundation hazard	8	75	6	240	329
Low landslide hazard	126	26	78	55	285
Medium landslide hazard	82	47	97	21	247
Medium coastal inundation hazard		5	3	161	169
Medium coastal erosion hazard	1	37	21	94	153
Low coastal erosion hazard	3	13	2	43	61
Flood extent in 2016		19	15	21	55
High coastal erosion hazard	22		4	12	38

1.7 Current and Past Responses to Climate Change

1.7.1 Governance

Climate Planning undertook a review of Council's core governance documents to ascertain the extent that climate change is mainstreamed into the organisation. The assessment indicates that Central Coast Council is a Tasmanian leader in mainstreaming climate change adaptation. This is evident through the consideration of climate change in the Strategic Plan, Land Use Planning, Asset Management and having a thorough Adaptation Plan (see Figure 4). That said, there are still areas of governance that could benefit from a greater consideration of climate change.

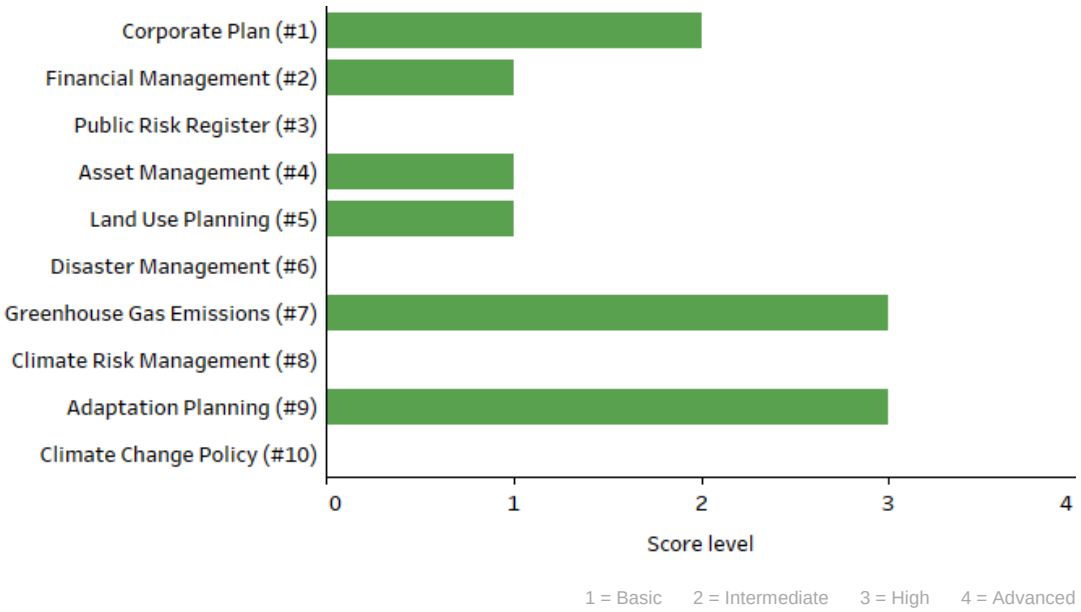

Figure 4: Central Coast Council's scores for climate change governance assessment

1.7.2 GHG Emissions Target

The previous Climate Change Action Plan stated that Council will 'begin to reduce Central Coast Council's carbon emissions towards the State target of 60% below 1990 levels by 2050.' However no formal target has been established. Council's GHG emissions have dropped over the past seven years (by 38%) and there seems to be strong support (based on the community survey) for a target of net zero emissions of Council's operations by 2050. Over 85% of survey participants wanted a formal GHG emissions target of some form.

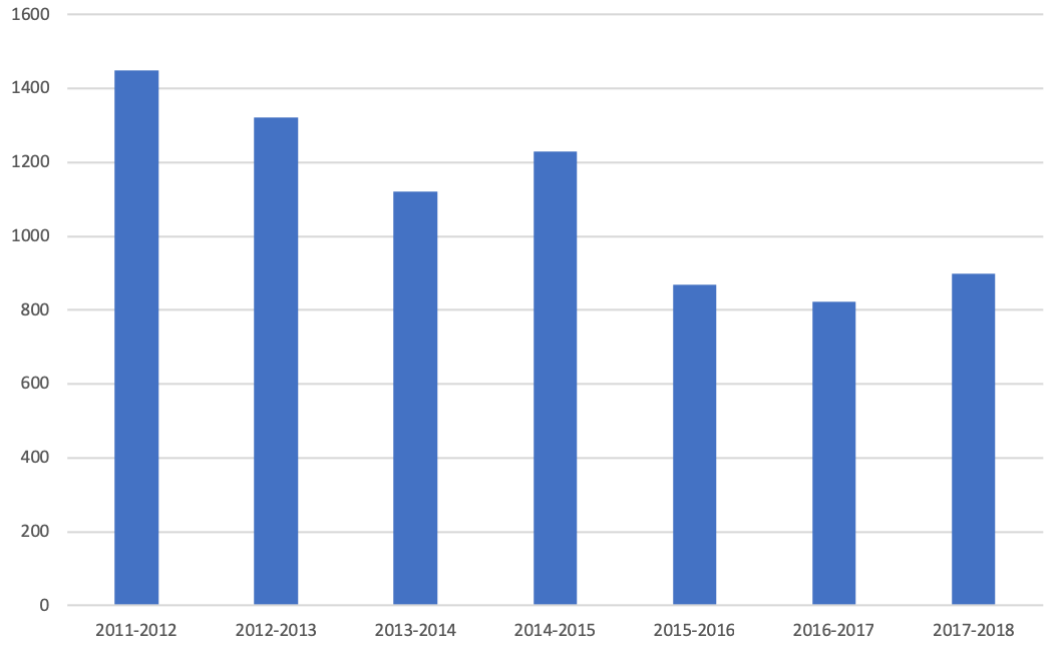

Figure 5: Central Coast Council GHG emissions 2011-2018

1.8 Central Coast Council's Climate Change Action

Council has undertaken a number of studies that explore the potential effects of climate change and activities to reduce Council's GHG emissions footprint. These include:

Carbon Audit: Council uses Planet Footprint to monitor and report on the Councils greenhouse gas emissions. A summary of this is provided in each Annual Report and this shows a continuing downward trend in greenhouse gas emissions. The annual cost of the Plant Footprint reporting is relative or 2017/18 was $10,000 – which is a considerable expenditure for Council.

At this time a specific emission reduction target has not been established as recommended in the Climate Change Action Plan 2010 due to the monitoring costs involved.

Audit of Council Buildings: The Planet Footprint assessment is used to monitor the energy usage and greenhouse emissions in it buildings. Council has a program of retrofitting all buildings over a period of time with new technology LED lighting and installing solar power systems on its larger buildings to offset energy costs as well as reduce greenhouse gas emissions. Council has been successful in receiving grant funding for these applications (e.g. for the solar power systems at the Ulverstone Sports & Recreation Centre and Ulverstone Council Office).

Building Design: All new buildings built for the Central Coast Council are required to meet current energy efficiency standards. The new Dial Park complex is an example of this in that all energy using devices must meet the highest possible efficiency eg LED type lighting is used throughout and heating/cooling systems have the highest possible ratings. No analysis has been undertaken to determine the additional cost of this to the buildings but on the advice of energy efficiency specialists it is understood that the additional costs incurred are recovered over a short period (i.e. 5 to 8 years).

Council Vehicle Efficiency and Emissions: All new vehicles purchased must meet the latest energy and emission standards. This is taken into account when a vehicle changeover is undertaken and this has been verified with the latest review showing increasing travel distances but less fuel consumed and with lower greenhouse gases emitted. Council has recently undertaken Electric Vehicle Integration Plan, which 'presents a range of options for the Council that address its unique policy, asset management, taxation and performance requirements. This includes options for changes to policy, procedure, training and aspects of charging infrastructure, including type, location, tariff, contribution of solar and managing any charging at an employee's home'.

Waste Management: Council as a member of the Cradle Coast Waste Management Group participates in all North West Tasmania waste reduction programs. Its program includes the Regional Recycling program and it the near future it is anticipated that Central Coast Council will undertake a Food Organics Garden Organics collection and treatment program which will substantially reduce the Central Coast Councils greenhouse gas emissions by

removing greenhouse gas (i.e. methane) producing matter from the Dulverton Waste Management Facility.

Residential Streetlight Changeover program: One of the initiatives being undertaken by Council is the changeover of all residential street lighting in the municipality from the current Mercury Vapour and Compact Fluorescent lighting to the new higher efficiency LED lighting. The program will see energy savings in the order of 80% as well as the removal of mercury and other pollutants.

This program is fully funded by Council with the estimated cost being $1Million. It is estimated that the project will be cost neutral within seven years as well as returning a substantial dividend to the environment over the next twenty years.

Climate Change Adaption: Over the last four years Council has been reviewing its road and stormwater drainage maintenance work procedures in order to deal with the predicted effects of climate change (i.e. higher intensity rainfall events and drier warm weather periods). Some of the changes which are progressively being introduced include changing the shape and capacity of the road table drains where possible and changing the shape of gravel shoulders and roads to ensure stormwater is sheeted away faster but does not erode the road. As well, road and stormwater drainage design is changing to cater for this (eg larger under road drainage systems and slightly higher road cross falls).

Council has recently received a Commonwealth funding commitment for the Penguin foreshore remediation and upgrade project, which will protect the foreshore from erosion, which has been exacerbated by a storm event 2016. The project is a significant engineering response to climate change, with Council to receive $6.5 million in funding from the Australian Government.

Riverine Management: In 2019 Council commenced the development of a management plan for the riparian areas of the Leven and Gawler rivers. The Leven River and Gawler River Rivercare Management Plan will explore the conditions and the usage of the rivers (and surrounding riparian area). The project will provide valuable information to support ongoing risk management activities and provide baseline indicators for future monitoring and evaluation.

Central Coast Local Provisions Schedule: Council had initiated the draft Central Coast Local Provisions Schedule, which, together with the adoption of the Tasmanian Planning Scheme, will include the following data to help inform the sustainable use and development of land:

- Coastal Inundation overlay
- Coastal Erosion overlay
- Forth River Flood overlay
- Table of Coastal Inundation Hazard Bands AHD Levels

2 Community Insights

Council undertook a range of community engagement events to obtain a broader overview of the local climate change issues and community expectation about responses. The engagement approach included an online survey (with 133 responses), and two community workshops (22 attendees). Most populated locations in the region were represented by survey participants.

The survey and the workshops were promoted via email, Facebook, radio and television.

2.1 Council Emissions Reduction Target

When asked about a future GHG emissions reduction target there was strong indication by the participants that Council should undertake a stronger approach. In fact, approximately 63% of respondents stated that Council should commit to net zero emissions by 2050 (see Figure 6). This target is in line with the Paris Agreement and one that numerous Councils in Australia and overseas are committing to.

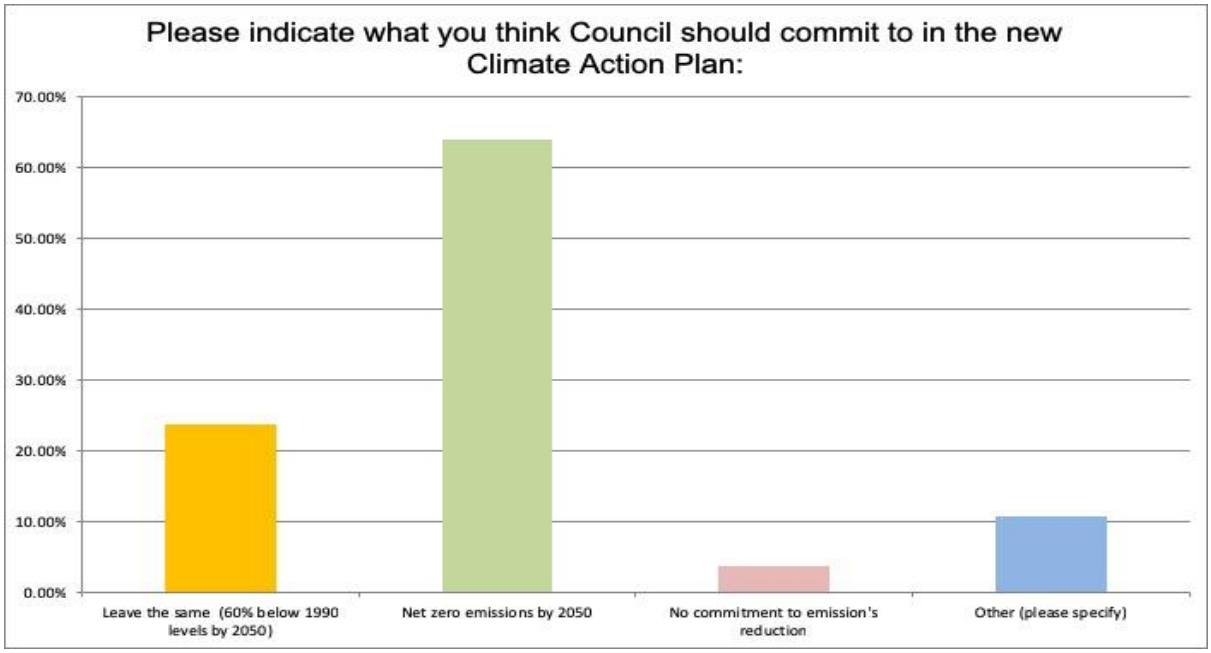

Figure 6: Survey participant view on GHG emissions reduction targets

2.2 Anticipated Climate Change Impacts

Overwhelmingly survey respondents thought that the effects of climate change were already manifesting (88%) or will by 2030 (7%) (see Figure 7). Participants indicated that environmental impacts, species loss, habitat loss, risks to public health and impacts on potable water supply, infrastructure damage and risks to residential property as being some areas of high concern (see Figure 8).

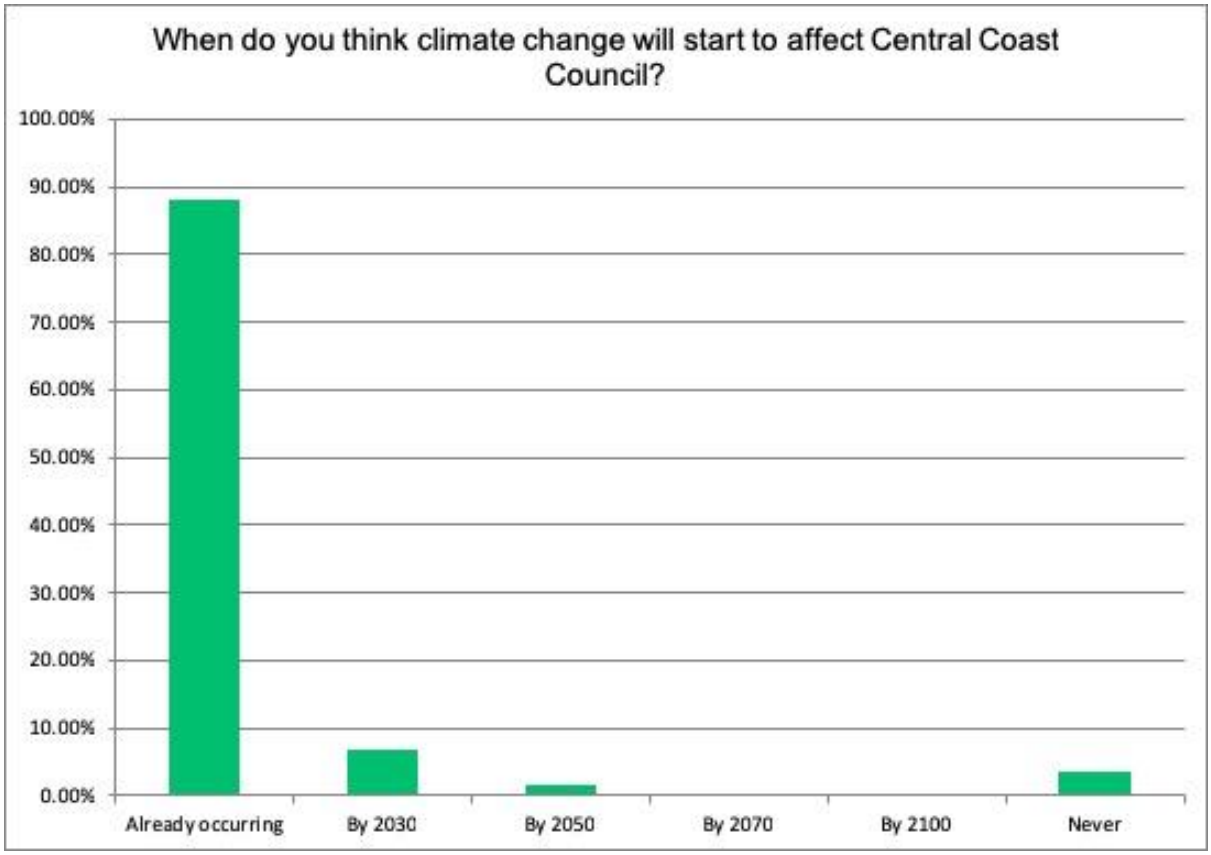

Figure 7: Survey participant view on when climate change will impact on Council

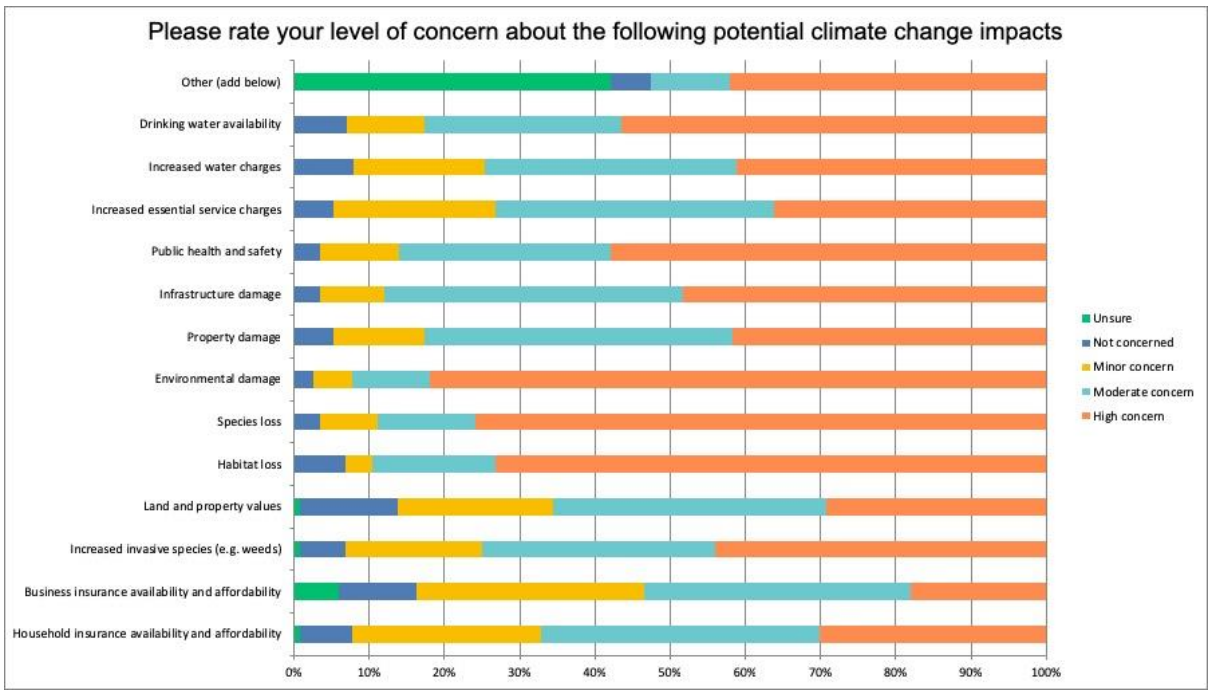

Figure 8: Survey participant view on issues of concern

2.3 Responding to the Effects of Climate Change

A large proportion of the respondents stated that they thought that the Australian Government (71%) and the Tasmanian Government (64%) were "poorly" planning for the effects of climate change. This differed considerable with only a little over 20% of respondents thought that Council was "poorly" planning for climate change risks. However, there is considerable room for an improved focus by Council on the issue with only 13% stating that they believed that it has "good" (12%) or "excellent" (1.7%) planning for climate change risks (see Figure 9).

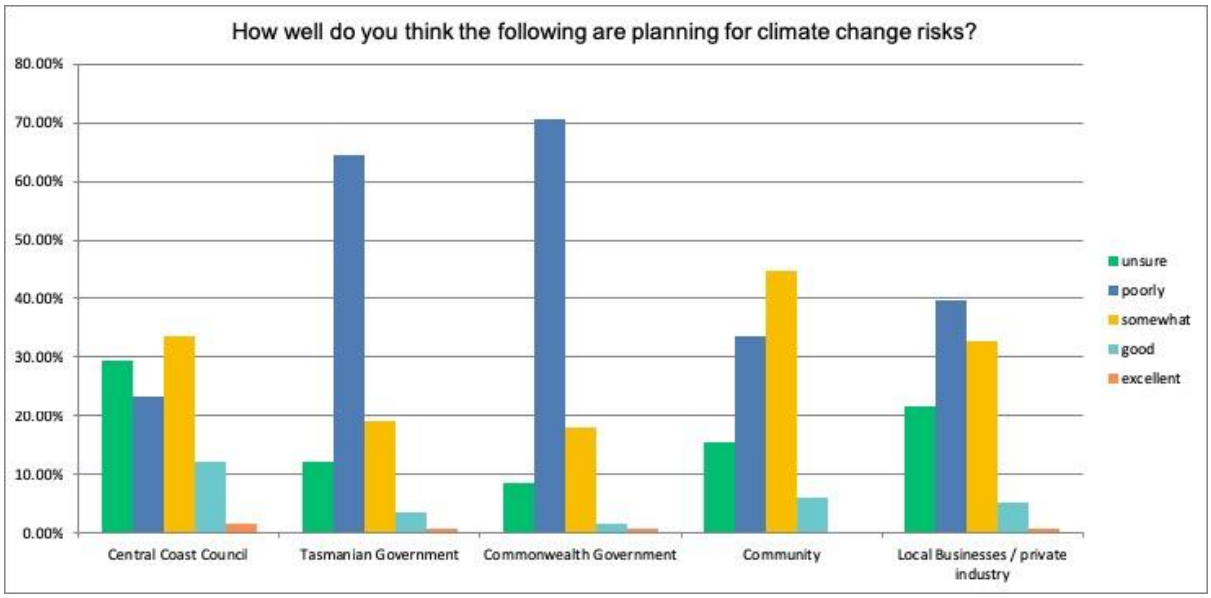

Figure 9: Survey participant view on effectiveness of climate change management

Survey respondents were open to a broad array of responses to climate change, with over 85% stating that they did not support a "do nothing" approach by Council. There was strong support for Council to undertake the following measures: Reduce GHG emissions (73.5%); Assist the community to adapt (73%); Provide community education (72%) Lobby the State and Commonwealth governments (66%); and provide hazard maps. There was much less support for activities that require large-scale expenditure (e.g. purchasing at risk properties) or specific charges or levies (see Figure 10).

In the survey the participants where asked if there were specific issues or locations in the municipality that they are concerned about. Surprisingly of the 59 responses approximately 55% indicated that they were concerned about coastal erosion and/or inundation. In particular the Penguin foreshore and Turners Beach where areas that were mentioned numerous times. Other issues included increased risk of invasive species, and general concern about bushfire risk.

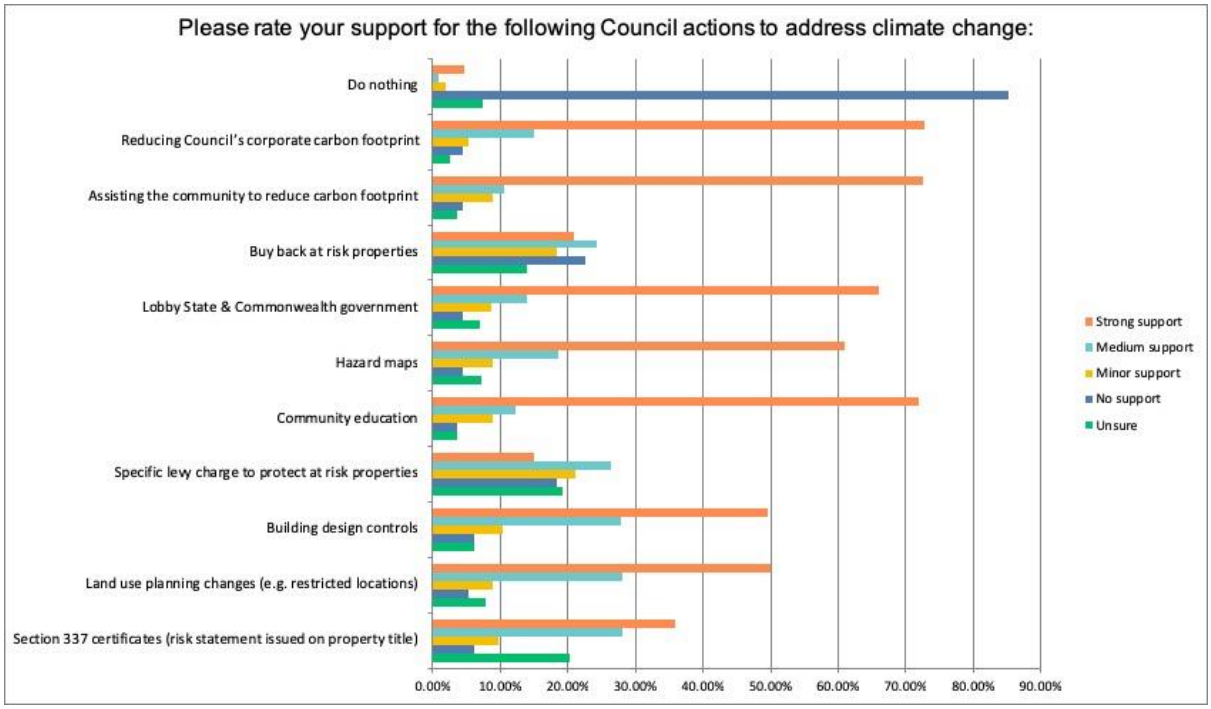

Figure 10: Survey participant support for climate change adaptation activities

3 Climate Change Strategy

The following information maps out Council's Climate Change Strategy. It should be recognised that the strategy is a live document, that enables Council to shift some timings and responses according to resource availability, capacity and other issues.

Whilst climate change affects global environmental drivers of the climatic system the impacts manifest at the local level. For example, global sea level rise results in potential inundation of human settlements. As such climate change adaptation requires a local focus.

There is often confusion about the role of local government and this report is focussed on the responses that can and should occur at the local government scale. This includes both the internal organisational responses together with those that affect the community that Council represents. The Strategy has been developed in parallel with the Central Coast Council Climate Change Policy (see Appendix 1).

This climate change strategy is framed in a way that recognises the following contextual elements:

- Climate change is a corporate risk, not just an environmental risk. Failure to give due consideration to emerging physical risks and opportunities of cost saving through energy efficiency is not effective management of the community's contributions of rates and service charges;
- Local government is constrained by other tiers of government and as such may have limited ability to implement effective change (e.g. land use planning has considerable State influence and control);
- Local governments have finite resources and limited ability to generate income without increases to annual rates and service charges. Whilst climate change presents a significant risk to the organisation and the community it represents, there is also a raft of other services that will compete for resources in any given year. As such Council's focus on responding to climate change is one that places a climate change lens on an existing provision of services and that of maintaining a sustainable long-term financial management plan.

Given the above context this Climate Change Strategy is framed through the following themes:

1. Governance
2. Risk Identification
3. Emissions Reduction
4. Council and Community Education
5. Leadership and Outreach
6. Monitoring and Evaluation

3.1 Governance

Understanding climate change governance is a way in which a decision-maker can estimate the vulnerability of a system to stress. The less climate change is considered in governance means that the organisation is more likely to be reactive and less likely to understand and pre-emptively manage potential trade-offs. A higher climate change governance score means that the organisation is better placed to identify both the risks and responses in advance and have the capacity to implement the required actions. In context of the above, creating, measuring and monitoring indicators for climate change governance provides the platform for a consistent approach and allows governments the ability to monitor and improve their performance over time.

The following actions will assist Council to improve its mainstreaming of climate change into organisational operations and culture.

Action	**3.1.1 Ensure climate change is captured in the risk register and publish general information about the risks and risk treatments.**
Responsibility	GM and department leaders
Timeframe/s	2020/2021
Resourcing	Internal Resources

Action	**3.1.2 Include climate change into the emergency management plan to at least an intermediate level.**
Responsibility	Director Infrastructure Services
Timeframe/s	2021/2022 ready for 2022/2023
Resourcing	Internal Resources

Action	**3.1.3 Improve the consideration of climate change in the Long Term Financial Management plan.**
Responsibility	GM and department leaders
Timeframe/s	2020/2021
Resourcing	Internal Resources

Action	**3.1.4 Develop a climate change risk framework that can be incorporated into Council's existing risk management system / framework.**
Responsibility	Director Organisational Services
Timeframe/s	2020 /2021
Resourcing	Internal Resources

Action	**3.1.5 Research potential climate change adaptation options for key assets and then price and embed into the asset management plan.**
Responsibility	Director Infrastructure Services
Timeframe/s	2021/2022 to 2022/2023
Resourcing	(<$7,000)

3.2 Risk Identification and Management

Climate change risk assessments provide organisations with the critical information they need to understand the impacts that climate change may present. Risk assessments take many forms, although in Australia most of them tend to follow the ISO Risk Assessment Framework AS31000. Understanding specific risks is a complex task and undertaking detailed risk assessments can be time consuming and involve numerous experts and stakeholders.

The following actions will assist Council to improve its understanding of the potential climate change risks.

Action	**3.2.1 Undertake a detailed climate change assessment on Council assets. Quantify the extent of assets exposed to all hazards. Include financial costings, impacts on depreciation, operational maintenance etc.**
Responsibility	Director Infrastructure Services
Timeframe/s	2020/2021 to 2022/2023
Resourcing	($60,000 over 3 financial years)

Action	**3.2.2 Undertake a financial analysis potential savings through GHG emissions reduction. Embed results into the long-tern financial management plan.**
Responsibility	Director Infrastructure Services
Timeframe/s	2020 /2021
Resourcing	Internal Resources

Action	**3.2.3 Undertake a climate change assessment on environmental assets in the region. Ideally the work should be undertaken with relevant State, Landcare and NRM organisations.**
Responsibility	Director Infrastructure Services
Timeframe/s	2021/2022
Resourcing	($30,000-$50,000)

Action	**3.2.4 Seek legal advice on the general legal risks for Council associated with climate change. In particular Council should seek advice about private landholders undertaking remedial action on Crown land (which may be under Council control).**
Responsibility	Director Organisational Services
Timeframe/s	2020 /2021
Resourcing	($10,000)

Action	**3.2.5 Undertake a survey of all coastal foreshore areas to identify areas where potential sea wall are required. Review existing walls and determine structural integrity.**
Responsibility	Director Infrastructure Services
Timeframe/s	2021 /2022
Resourcing	($20,000)

Action	**3.2.6 Undertake a pilot land use planning study for one location (e.g. West Ulverstone) that explores how some climate change issues can be managed through a Specific Area Plan. Use the methodology and findings from this study to replicate studies in other locations.**
Responsibility	Director Community Services
Timeframe/s	2021 /2022 – 2024/2025
Resourcing	($20,000)

Action	**3.2.7 Implement a riparian and coastal zone management plan, that determines revegetation targets, species requirements etc.**
Responsibility	Director Community Services
Timeframe/s	2021/2022 – 2023/2024
Resourcing	($80,000 – some of the funding will be through the application of Grants)

3.3 Emissions Reduction and Planning

GHG emissions reduction planning helps organisations to implement a staged process for a pathway towards net zero emissions. In particular, good practice planning helps to ensure that relevant GHG emissions recording standards are being met, roles and responsibilities are clarified, and adequate resourcing and capacity are allocated to the task.

The following actions will assist Council to better understand its GHG emissions profile and commit to meaningful reductions.

Action	**3.3.1 Establish a system that enables Council to undertake internal GHG emissions reduction – with regular audits (e.g. every 2-5 years). An initial outlay may be high, but it would pay for itself in 2-3 years and then save approximately $5,000-$10,000 every year thereafter.**
Responsibility	Director Infrastructure Services
Timeframe/s	2021/2022
Resourcing	($10,000-$15,000)

Action	**3.3.2 Establish a formal GHG emissions target with committed goal of net zero emissions for Council operations by 2050.**
Responsibility	Director Infrastructure Services
Timeframe/s	2021/2022
Resourcing	Minimal

Action	**3.3.3Join the Climate Council 's Cities Power Partnership.**
Responsibility	Director Infrastructure Services
Timeframe/s	Ongoing
Resourcing	TBC (<$1,000 per annum)

Action	**3.3.4 Consider grant funding for Large scale alternative energy projects for community self-sufficiency e.g. solar farm to cover 50% of Central Coast energy by 2050.**
Responsibility	GM and SLT
Timeframe/s	2020 - 2030
Resourcing	Minimal

Action	**3.3.5 Install at least five (5) electric charging stations by 2025. Install three (3) by 2021.**
Responsibility	Director Infrastructure Services
Timeframe/s	2020/2021 – 2024/2025-2025
Resourcing	minimal

Action	**3.3.6 Purchase a fully small electric pool vehicle.**
Responsibility	Director Infrastructure Services
Timeframe/s	2021/2022 – 2024/2025
Resourcing	Up to $25,000 above typical vehicle allowance

3.4 Council and Community Education

Improving staff, council and community understanding of climate change is critical to ensuring that the issue receives due attention. If a Council only relies on external consultants for climate change research and responses, then it is doing very little in regard to increasing the internal adaptive capacity of its organisation.

Action	**3.4.1 Provide elected members with an education package on climate change.**
Responsibility	Director Infrastructure Services
Timeframe/s	2020/2021
Resourcing	($<$5,000)

Action	**3.4.2 Promote citizen science programs for climate change adaptation and mitigation.**
Responsibility	Director Infrastructure Services
Timeframe/s	2020/2021
Resourcing	minimal

Action	**3.4.3 Ensure relevant staff undertake professional development that considers the effects of climate change for their position. For example, Council could subscribe to the Climate Change Innovation Lab.**
Responsibility	GM and SLT
Timeframe/s	2020/2021
Resourcing	($2,000 - $10,000)

3.5 Leadership and Outreach

Climate change is a trans-boundary issue. Actions (or inaction) by one stakeholder can both improve or erode the resilience of another. Furthermore, economies of scale and collectively sharing knowledge can improve climate change governance. An important part of the institutional arrangements and engagement with external stakeholders is the clarification of roles and responsibilities that are associated with climate change governance.

Action	**3.5.1 Attend workshop in conjunction with external utilities (e.g. TasWater, communication providers, rail, electricity providers and neighbouring Councils, etc.) to explore current and emerging climate change risks, information sharing and opportunities for shared-costs in adaptation actions.**
Responsibility	Director Infrastructure Services
Timeframe/s	Annual
Resourcing	($<2,000)

Action	**3.5.2 Lobby Tasmanian Government to improve support for local governments (e.g. downscaled climate change data, improved planning provisions for hazard management, pilot adaptation projects etc.).**
Responsibility	General Manager
Timeframe/s	Annual
Resourcing	($<2,000)

3.6 Monitoring and Evaluation

Creating, measuring and monitoring indicators for climate change provides the platform for a consistent approach and allows organisations the ability to monitor and improve their performance over time. Council is committed to measurable change – as such the following key performance indicators will be tracked and reported on:

- Changes to climate change governance scores.
- Annual GHG emissions from Council assets (Scope 1&2).
- Annual electricity and energy expenditure.
- Value of Council assets exposed to climate change hazards.
- Asset units (e.g. kilometres of road exposed to climate change).
- Unit measure of engineered adaptation measure (e.g. metres of sea walls) .
- Cost of insurance for Council.
- Number of residential properties exposed to climate-related hazards.
- Number of commercial properties exposed to climate-related hazards.
- Average home insurance premiums (subject to market information availability).
- Average suburban mortgage asset-to-loan ratio.
- Number of properties uninsurable or in mortgage risk ((subject to market information availability).
- Number of extreme events (and relevant damage cost to council).
- Number of threatened / listed species in the municipality.
- Number of invasive species/extent of native species.
- Number of staff with climate change in their position description

- Number of community presentations and events on climate change (and numbers of participants).
- Responses to community surveys on climate change.

Monitoring Method	Delivery	Frequency
Changes to climate change governance scores		
Annual GHG emissions from Council assets		
Annual electricity and energy expenditure.	Planet Footprint	Quarterly.
Asset units.	Asset Management System to identify assets exposed to climate change by CCC Asset Officer.	Annually.
Unit measure of engineered adaptation measure.	Asset Management System to identify assets adapted to climate change mitigation by CCC Asset Officer.	Annually.
Cost of insurance for Council.	Insurance provider.	Annually.
Number of residential properties exposed to climate-related hazards.	Spatial data mapping by CCC Asset Officer.	Annually.
Number of commercial properties exposed to climate-related hazards.	Spatial data mapping by CCC Asset Officer.	Annually.
Average home insurance premiums.		

Average suburban mortgage asset-to-loan ratio.		
Number of properties uninsurable or in mortgage risk.		
Number of extreme events.		
Number of threatened / listed species in the municipality.	Spatial data mapping by CCC Asset Officer.	
Number of staff with climate change in their position description.	HR to review new positions for inclusion of climate change.	When new positions become available.
Number of community presentations and events on climate change.	Central Coast Council staff	When opportunity arises.
Responses to community surveys on climate change.	Climate Change survey.	

4 References

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5 Appendices

Appendix 1: Strategic Framework

This Strategy works in alignment with the Central Coast Council Climate Change Policy. The Policy seeks to guide the Central Coast Council toward integrating climate change adaptation into Council's planning processes in a way which improves community resilience, reduces carbon emissions and capitalises on positive opportunities.

Any Strategic Direction updates will be reflected in this Appendix. The current Strategic Directions are listed below:

Strategic Direction 1.1 – Council recognises the Strategy as a dynamic document that can be updated as new information or opportunities arise. Specific mitigation and adaptation responses to climate change should be directed via the Strategy.

Strategic Direction 1.2 – Council will focus on improving its performance in responding to climate change through the implementation of the Strategy, which identifies climate change priorities and commitments that can be reported against regularly.

Strategic Direction 1.3 – Council will look for opportunities to reduce its carbon footprint, including establishing a greenhouse gas emissions reductions target. The target will start by being an aspirational target of net zero greenhouse gas emissions by 2050, with fixed pathway targets being established over the next five years as part of the Strategy.

Strategic Direction 1.4 – Council's approach to climate change adaptation recognises that a diverse range of roles and responsibilities exist across all levels of Australian governments with regards climate change adaptation. As such, internal documents and/or guidelines will be created over time to help to determine Council's most relevant responses. The documents will contain actions and procedures to assist staff and councillors.

Strategic Direction 1.5 – Council recognises the importance and validity of the Intergovernmental Panel on Climate Change (IPCC) and will review all actions upon the publication of new assessment reports within 12 months of publication. Council also acknowledges that global greenhouse gas emissions are at the high-end (worst case) of global projections and as such, as a minimum, Council commits to using the top global Representative Concentration Pathways (RCPs) during decision-making (RCP8.5). For localised climate change data all climate change projections must come from, or be based on, a reputable scientific source (e.g. BOM, CSIRO, ACE CRC).

Central Coast Council Climate Change Policy

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Climate Planning

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CLIMATE CHANGE POLICY

1 PURPOSE

Council is committed to a consistent response to the potential impacts and opportunities that may eventuate from climate change. The purpose of the Climate Change Policy is to clearly outline the Council's approach to managing the effects of climate change, and identifying the minimum standards, processes and information sources that Council will use to respond to the effects of climate change. This Policy will also provide a corporate governance framework for the Central Coast Council Climate Change Strategy 2019-2024 (referred to as the "Strategy").

2 OBJECTIVES

The following statements reflect the objectives of the Council with respect to a response to climate change:

- Support long term financial planning, asset management, strategic planning, emergency management and other key Council processes with consistent, timely and scientifically sound information related to climate change.
- Ensure that climate change adaptation is a core component of planning for a more resilient and low carbon Central Coast Council and is therefore mainstreamed into council's functions and activities.
- Ensure that Central Coast is well placed to benefit from economic development opportunities that may eventuate due to its proactive commitment to corporate climate change adaptation and mitigation.

3 SCOPE

This Policy applies to the following:

- All of Council's activities, operations and services; and
- Council's communication and collaboration with the community and regional partners to mitigate against climate change and to help our residents, businesses and local environment to build resilience and adapt to the impacts of a changing climate.

4 POLICY

- The Council will ensure that it is responding the physical and transition risks presented by climate change.
- The Council will manage the risks presented by climate change.
- The Council will commit to reducing corporate greenhouse gas emissions.

- The Council recognises that climate change presents a material risk to Council assets and operations and has the potential to impact the economic, social and environmental viability of the region.

5 DEFINITIONS

Adaptation - Taking action to avoid, withstand or benefit from current and projected climate changes and impacts.

Climate Change - A change in global or regional climate patterns, in particular, a change apparent from the mid to late 20th century onwards and attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels.

Exposure - The state of having no protection from something harmful.

Greenhouse Gas - A gas in the atmosphere that absorbs and emits radiation within the thermal infrared range. This process is the fundamental cause of the greenhouse effect. The primary greenhouse gases in Earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide, and ozone. Greenhouse gases can be emitted through transport, land clearing, and the production and consumption of food, fuels, manufactured goods, materials, wood, roads, buildings, and services. For simplicity of reporting, greenhouse gas emissions are often expressed in terms of the equivalent amount of carbon dioxide or carbon emissions.

Low Carbon Economy - An economy based on low carbon power sources that therefore has a minimal output of greenhouse gas emissions into the environment. Can also be referred to as 'low fossil-fuel economy' or 'decarbonised economy'.

Mitigation/ Mitigate - Taking action to reduce or prevent emissions of greenhouse gases. Can also be referred to as 'abatement'.

Resilience - The ability of a social, economic or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organisation, and the capacity to adapt to stress and change.

6 GUIDING PRINCIPLES

Council decisions associated with climate change will be guided by the following principles:

a) Focus on informed decision-making and undertake an adaptive management approach (continuing to review actions in the light of new information);
b) Encourage private adaptation by making information publicly available and facilitating community-based planning;
c) Consider climate change as part of an overall corporate risk reduction and resilience program for Council;
d) Identify vulnerable areas and implement an ongoing program that reviews their vulnerability as more information becomes available;

e) Review the provisions of the planning scheme to ensure that development is appropriately regulated to consider climate change risk;
f) Where appropriate, goals should be measurable and evaluated on a regular basis;
g) Work cooperatively with other Councils and State Government and ensure that the respective roles and responsibilities are appropriate, and duplication is avoided;
h) Staff capacity and resourcing is maintained commensurate with the issues and opportunities as they arise; and
i) Council will quantify (in units and financial value) assets exposed to risk and will present a regular comparative analysis of their exposure to the risks over time.

7 STRATEGIC FRAMEWORK

This Policy seeks to guide the Central Coast Council toward integrating climate change adaptation into Council's planning processes in a way which improves community resilience, reduces carbon emissions and capitalises on positive opportunities. The Council will achieve these goals by implementing the following strategic directions:

Strategic Direction 1.1 – Council recognises the Strategy as a dynamic document that can be updated as new information or opportunities arise. Specific mitigation and adaptation responses to climate change should be directed via the Strategy.

Strategic Direction 1.2 – Council will focus on improving its performance in responding to climate change through the implementation of the Strategy, which identifies climate change priorities and commitments that can be reported against regularly.

Strategic Direction 1.3 – Council will look for opportunities to reduce its carbon footprint, including establishing a greenhouse gas emissions reductions target. The target will start by being an aspirational target of net zero greenhouse gas emissions by 2050, with fixed pathway targets being established over the next five years as part of the Strategy.

Strategic Direction 1.4 – Council's approach to climate change adaptation recognises that a diverse range of roles and responsibilities exist across all levels of Australian governments with regards climate change adaptation. As such, internal documents and/or guidelines will be created over time to help to determine Council's most relevant responses. The documents will contain actions and procedures to assist staff and councillors.

Strategic Direction 1.5 – Council recognises the importance and validity of the Intergovernmental Panel on Climate Change (IPCC) and will review all actions upon the publication of new assessment reports within 12 months of publication. Council also acknowledges that global greenhouse gas emissions are at the high-end (worst case) of global projections and as such, as a minimum, Council commits to using the top global Representative Concentration Pathways (RCPs) during decision-making (RCP8.5). For localised climate change data all climate change projections must come from, or be based on, a reputable scientific source (e.g. BOM, CSIRO, ACE CRC).

Refer to Appendix 1 of the Strategy for the most recent version of this strategic framework.

8 COMMUNICATION AND DISCLOSURE

The Council recognises the importance of communication and disclosure to help inform the community and local economy about the known climate-related issues and responses. As such it commits to the following:

- Annual disclosure of Council's operational carbon footprint, including comparison to previous years, and tracking against any proposed reduction targets;
- Regular disclosure of exposure of key council assets and number of properties to climate change related hazards (e.g. coastal inundation). The disclosure should occur at least once every three years. Other metrics may also be disclosed (e.g. number of invasive species recorded, etc.); and
- Annual disclosure of Council activities that are associated with adaptation and mitigation.

9 STANDARD (INCLUDING RELEVANT LEGISLATION)

This Policy has been developed in accordance with the:

- *Local Government Act 1993*
- Central Coast Council Climate Change Strategy 2019-2024 ("Strategy")
- Central Coast Strategic Plan 2014-2024

10 REVIEW

This Policy will be reviewed every five (5) years, unless organisational and legislative changes require more frequent modification. If this document is a printed copy always check the electronic version to ensure it is up to date.

11 RELATED DOCUMENTS

- Central Coast Council Climate Change Strategy 2019-2024 ("Strategy")
- Central Coast Strategic Plan 2014-2024

12 APENDICES

The following appendices are attached to this Policy: Nil