

Climate Change Action Plan 2016 - 2020

Mount Alexander Shire Council



Mayors Foreward

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 Action Plan is about Council doing its part. It outlines how Council will reduce its greenhouse gas emissions and move towards becoming carbon neutral, while adapting its operations to the projected weather conditions ahead.

At the Paris climate change meeting in December 2015 global leaders promised to work together to try to limit global warming to 1.5 degrees above pre-industrial levels. To achieve this commitment much larger cuts to carbon emissions will be required than those agreed to in Paris. Efforts will need to ramp up across the globe. Indeed it is remarkable to think that the goal must be to decarbonise the global economy over the course of this very century.

Many in our community are embracing this challenge and are doing amazing things, for example The Hub Foundation projects, Renewable Newstead, and the Mount Alexander Sustainability Group Waste to Energy project. Other things like community gardens and energy efficient retrofits are just as important in the background. These projects help define the character of the Shire, and consolidate our reputation as leaders of rural sustainable living.

Council is appreciative of the efforts of the community in helping to developing this Action Plan, through many meetings with community groups, within Council, and through two public consultation periods. The Plan includes commentary and over sixty actions that taken together outline a substantial program of work.

Most importantly, whilst we committed in the Environment Strategy to be carbon neutral between 2025 and 2040, in this Action Plan, Council is making it clear that the intent is to achieve this target in 2025, an ambitious and exciting target.

Monitoring and reporting for the Action Plan is connected to the evaluation plan for the Environment Strategy. Council's carbon emissions are the big metric, telling us how we are doing. I invite you to hold 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 Christine Henderson

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Traditional owner acknowledgment

Mount Alexander Shire Council acknowledges the Dja Dja Wurrung as the traditional owners of the lands and waters (Djandak) of Mount Alexander Shire.

Council acknowledges the vital role of the traditional owners and that European colonisation caused disruption and grief to the indigenous population including alienation from their traditional Country (Djandak) and their cultural practices.

Council acknowledges that with strength and wisdom Dja Dja Wurrung people proudly survive and continue to practice their culture and customs, experiencing a close cultural, spiritual, physical, social, historical and economic relationship with their Country (Djandak) which includes Mount Alexander Shire.

Council recognises the traditional and cultural association of Dja Dja Wurrung people to their Country today.

Council recognises the Recognition and Settlement Agreement 2013 between the Victorian Government and the Dja Dja Wurrung Clans Aboriginal Corporation including the Land Use Activity Agreement.

Introduction

Human influence on the global climate system is responsible for global warming and the related impacts on people and ecosystems.

Council supports efforts to radically reduce greenhouse gas emissions and address climate change vulnerability, and intends to become carbon neutral in 2025.

The key actions for Council to decarbonise are to reduce methane pollution from the Castlemaine landfill, to install significant renewable energy capacity and to optimise and then gradually electrify the vehicle fleet as this technology becomes more accessible.

Council also commits to substantial energy efficiency measures, implementing adaptation measures for the most vulnerable people and places, and to providing support and advocacy for community-based and regional climate change response projects.

This Action Plan builds on Council's Greenhouse Action Plan 2011-2015 and is directed by the current Council Plan and by the Environment Strategy 2015-2025, specifically by Environment Strategy priority area eight: Integrate our response to climate change.

The priority area states two important milestones that guide this Action Plan. They are:

Long-term goal (2025-2040):

Council is carbon neutral and is resilient to the impacts of climate change.

Intermediate outcome (2015-2025):

Council has integrated consideration of climate change into all operations and actively influences and advocates about adaptation and mitigation more broadly.

These milestones will not be reviewed until the next Council Plan is finalised and the Environment Strategy is subsequently reviewed.

The scope of the Action Plan is limited to Council's operations. These include those things that Council has control over, can influence significantly, or can advocate for.

It is not an action plan for the municipality as a whole spatial area, however in the future Council may partner with local community groups to seek funding for the development and implementation of a Shire wide climate change or carbon neutrality plan.

In developing this Action Plan, Council sought feedback and advice from the following groups:

- Mount Alexander Sustainability Group
- The Hub Foundation
- Renewable Newstead
- Connecting Country
- Growing Abundance
- 350.org
- The People's Solar
- Central Victorian Greenhouse Alliance (CVGA)

From these meetings, internal consultation within Council and public comment on draft documents the actions in this Action Plan have been developed and refined.

Terms

Decarbonisation:

Is the process by which countries or other entities aim to achieve a low carbon economy, or by which individuals or businesses such as Council aim to reduce their carbon emissions.

Carbon neutral:

Is where an individual or company's carbon emissions are effectively reduced to zero through efforts such as reducing energy consumption, using renewable energy and offsetting the remainder by purchasing carbon offsets.



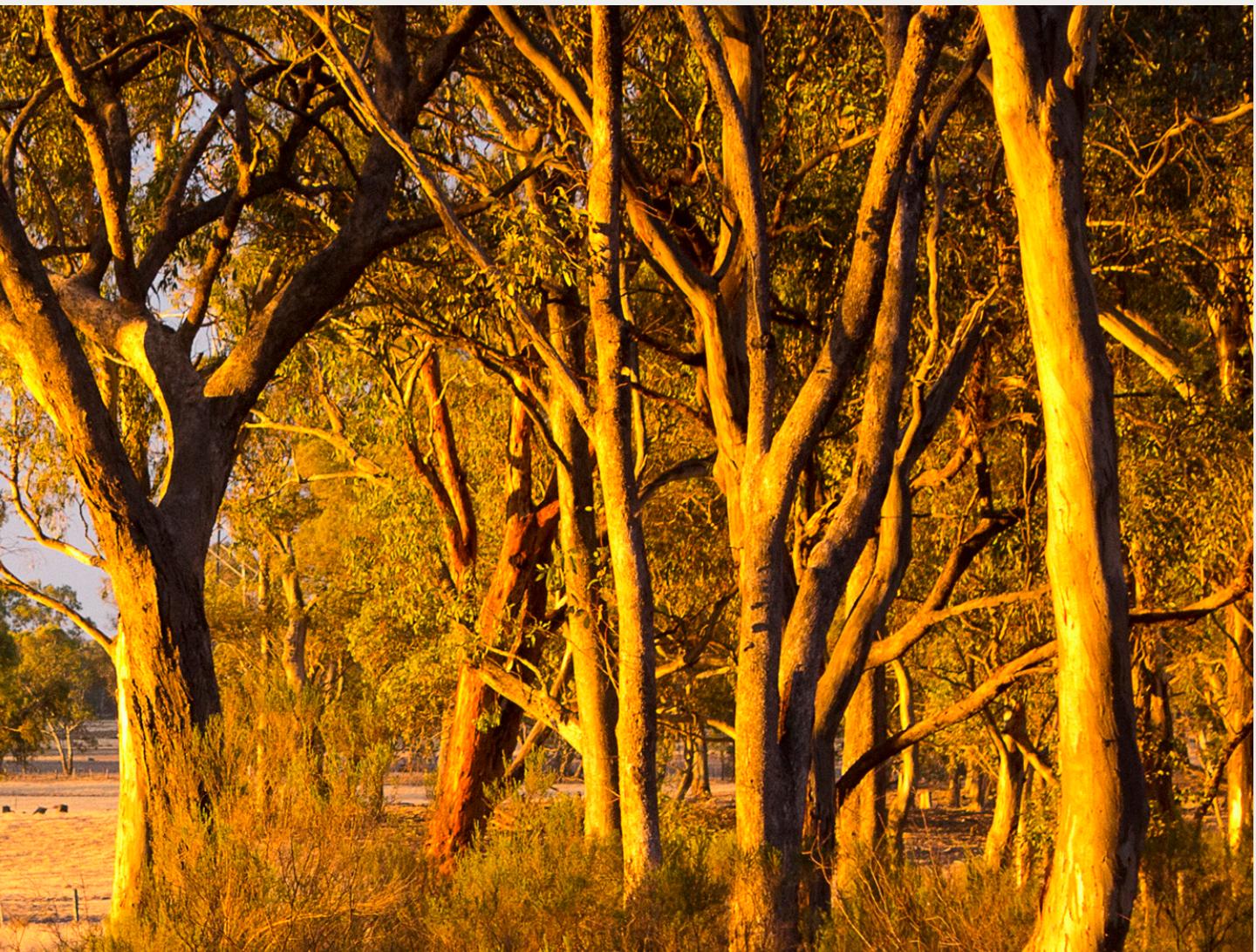
Woodland in Walmer, Mount Alexander Shire. Image courtesy of Bronwyn Silver.

CO2e:

Expresses the quantity of a greenhouse gas in terms of the quantity of carbon dioxide (CO₂) that would produce the equivalent amount of global warming. Climate change emissions are generally measured in tonnes of carbon dioxide equivalent (t CO₂e).

Carbon offsets:

Is a unit of carbon dioxide-equivalent (CO₂e) that is reduced, avoided, or sequestered to compensate for emissions elsewhere. A carbon offset usually represents one tonne of CO₂e.



Australia and climate change

Strong and effective global action on climate change is in Australia's national interests.

The main global forum for climate change negotiations is the United Nations Framework Convention on Climate Change. Convention members meet annually at the Conference of the Parties.

The ultimate objective of the Convention is to '*stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic (human induced) interference with the climate system.*'

In 2015 at the twenty-first Conference of the Parties in Paris (COP21), Australia, along with nearly two hundred other nations, agreed by means of an international accord to hold the increase in the 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, recognising that this would significantly reduce the risks and impacts of climate change.

To achieve this commitment much larger cuts to carbon emissions will be required than those agreed to in Paris. Accordingly, the signatory nations have agreed to review their individual targets every 5 years with the aim of strengthening action over time.

Australia has a current 2020 emissions reduction target of 5% below 2000 levels.

Australia adopted a 26-28% reduction below its 2005 emissions levels by 2030 as its target for Paris. In the lead up to the meeting Australia's legislated and independent climate policy advisory body, the Climate Change Authority, considered that Australia needs to reduce emissions in the order of between 45-63% below 2005 by 2030 to be in line with the climate science.

The Authority will consider the outcomes from COP21 in its 3rd and final report on Australia's climate policy actions due to be released in June 2016. This report will recommend a policy toolkit for Australia to reduce its emissions and meet its Paris commitment.



Cape Grim, on Tasmania's west coast, is one of the three premier Baseline Air Pollution Stations in the world that measures atmospheric concentrations of greenhouse gases. Wind farm in the background. Image courtesy of CSIRO.

Carbon neutral councils

Mount Alexander Shire Council has committed to become carbon neutral between 2025 and 2040, with intent to achieve this target in 2025.

Being carbon neutral is when the overall greenhouse gas emissions of an organisation are equal to zero. This can be achieved by reducing emissions and then purchasing carbon offsets to match any remaining emissions.

The Australian Government Carbon Neutral Program is a voluntary scheme which certifies business operations as carbon neutral against its National Carbon Offset Standard (NCOS). This standard provides integrity through its guidance and compliance to achieve carbon neutrality.

Several councils in Australia have taken the step and become certified as carbon neutral under the NCOS Carbon Neutral Program.

The City of Yarra was the first council in Victoria to receive NCOS certification, and the City of Moreland and the City of Melbourne have followed.

Others have committed to become carbon neutral and are working towards this goal.

Mount Alexander Sustainability Group has set its sights on helping the municipality, as a whole spatial area, achieve zero net emissions by 2025.



Climate change in Mount Alexander Shire

Victoria is very vulnerable to weather events that will be magnified by climate change, such as prolonged droughts and fire seasons, heatwaves and widespread floods.

In 2015 the CSIRO and the Bureau of Meteorology published new climate change projections for natural resource management regions within Australia.

Council has long recognised the importance of responding to climate change. In 1999 Council's climate change response began with membership of the international Cities for Climate Protection program milestone framework.

The key messages for our Shire are:

Average temperatures will continue to increase in all seasons.

More hot days and warm spells and fewer frosts are projected.

By late in the century, less rainfall is projected during the cool season, and there is medium confidence that rainfall will remain unchanged in the warm season.

Even though mean annual rainfall is projected to decline, heavy rainfall intensity is projected to increase.

A harsher fire-weather climate in the future.

This led Council to adopt its first Greenhouse Action Plan and to setting an emissions baseline of the year 2000.

Since that first plan Council has continued to respond to climate change through a range of plans and related measures.

Most recently this has involved the development of the Regional Climate Adaptation Plan, and measures undertaken as part of the implementation of Council's Greenhouse Action Plan 2011-2015 including the installation of solar panels on Council buildings including the Town Hall and Civic Centre.



Cr Christine Henderson, Mayor of Mount Alexander Shire, presents Nioka Mellick-Cooper with the 2015 Sustainability Youth Award.

The Mount Alexander community has also demonstrated a long-term commitment to taking action on climate change. Notable projects over the past decade include:

Solar Trial and Solar Schools: solar PV community bulk-buy projects installing a significant number of solar systems on residential and community buildings.

Central Victoria Solar Cities: incentives were offered to local residents, businesses and various market sectors to participate in a trial range of energy efficiency and local energy generation products and services.

Maine's Power Project: four major business facilities worked to decrease their emissions.

Comfy Homes: local residents were guided to local tradespeople and products to help make their homes more comfortable and energy efficient.

Castlemaine 500: 500 households committed to achieve a considerable reduction in energy consumption.

Renewable Newstead: the Newstead township effort to become the first town in Victoria that is powered by 100% renewable energy.

MASH+ and MASH2: solar PV community bulk-buy projects to increase the number of solar homes in the Shire

The People's Solar: crowdfunding of community-owned solar PV for schools/child care centres in the Shire.



Happy MASH2 community solar bulk-buy customers Ray and Lotte.

Council's emissions

Council first quantified its greenhouse gas emissions in 2000. This figure is referred to as Council's 'carbon emission baseline'. The baseline can be considered as an instructive 'peg in the sand' that can be used for comparative purposes to determine if emissions are increasing or decreasing.

Ideally the baseline is a static number. However, the number does need to be adjusted when carbon emissions accounting rules change. For example streetlight emissions were counted in 2000 but are not counted under the current rules and so the baseline was adjusted.

Council's baseline emissions in 2000 (adjusted for the current accounting rules) were 5374t CO2e. This consisted of emissions for Council's fleet, buildings and landfill (but excludes street lighting).

In 2014 Council's emissions were 11,059t CO2e (excluding street lighting).

Therefore emissions more than doubled from 5374t to 11,059t over the period from 2000 to 2014, with a total increase of 5685t CO2e. This equates to an annual increase of over 400t CO2e.

The increase in emissions from the landfill over this same period was 5694t CO2e. Whereas emissions from the fleet and buildings have been relatively stable.

From this analysis the emission increase over time can notionally be attributed to the landfill. As waste builds up at a landfill it slowly releases its emissions. Waste going to landfill has been decreasing more recently and so landfill emissions are now declining.

Table 1: Council emission trend 2000-2014 **Overall emission trend**



Table 2: Council landfill emissions 2000-2015



Organic waste in landfill

Landfills are an important part of Victoria's waste management infrastructure. The siting, management and rehabilitation of landfills requires a high level of design and management to ensure that the environment is protected and community aspirations are met.

While disposal of materials to landfill is the least preferred management option for waste, landfills will continue to be required to manage those wastes that cannot be practically removed from the waste stream.

Organic waste is a component of the waste stream from plant or animal sources that is readily biodegradable, e.g. paper and cardboard, food waste, green waste and timber. It forms a significant proportion of waste generated in Victoria, and an even more significant portion of waste sent to landfill. In Mount Alexander Shire around 20% by volume of waste collected from households is organic waste.

Landfill gas is generated by the decomposition of organic waste in a landfill. Methane and carbon dioxide make up approximately 99 per cent of the volume of landfill gas, while the remaining one per cent is made up of over 500 trace components.

Rotting of organic waste also produces potentially polluting leachate, a liquid that's created as material decomposes. This leachate must be carefully managed as it contains harmful substances that can pollute groundwater and waterways if not contained.

In 2013 in Victoria, emissions from waste contributed 2.1% of all greenhouse gas emissions. Over the past few decades the emissions from waste have actually been declining as the result of better management of waste streams, landfills and landfill gas emissions.



Castlemaine landfill emissions

In 2014, the Castlemaine landfill contributed 88% of Council's total greenhouse emissions. To reduce these emissions plans are underway to construct an appropriate greenhouse gas management system, and to divert more organic waste from landfill.

To design the most appropriate gas management approach a cap is being built and new bores have been drilled into the old cells to see how much gas is being produced. Once more accurate information is known an appropriate management system can be designed.

To reduce the amount of organic waste going into the landfill a number of projects proposals are in development.

This includes a project to trial in-vessel composting, and a partnership project to implement a bio-digester.

By processing organic waste valuable products can be produced such as compost and soil conditioning products, and methane that can be burnt to create heat and/or electricity.

If possible, the most effective way to manage organic waste is to not put it in the bin. Households can compost their own organic waste or utilise worm farms. Council provides both compost bins and worm farms at heavily discounted prices.

Private firms offer a green waste collection service for those households that require it.



Composting worms turn household organic food waste into a rich, dark, earth-smelling soil conditioner.

Carbon offsets

To reach emissions reduction targets significant work is required. Where emission reductions are not possible carbon offsets will need to be purchased.

Currently carbon offsets costs vary greatly relative to their attributes and the market price at the time of purchase.

Although all carbon offset projects avoid, reduce, or absorb greenhouse gases, they do so in different ways. Forestry projects capture carbon in trees, whereas renewable energy projects achieve emissions reductions by displacing fossil fuel electricity generation. Projects may take place in Australia or abroad, and they may be certified by different organisations and sold in different markets.

For example, the Carbon Farming Initiative (CFI) allows farmers and land managers to earn carbon credits by storing carbon or reducing greenhouse gas emissions on land within Australia. These certified Australian Carbon Credit Units (ACCUs) can then be sold to people and businesses wishing to offset their emissions.

With so many offset projects available, Council can choose projects that offer social and ecological co-benefits, and provide for carbon neutrality to be achieved in an affordable way .

Transitioning to renewable energy will require the installation of Council's own renewable energy capacity and/or the purchase of certified GreenPower.



Carbon can be stored in soils, improving their productivity while helping to address climate change.
Image © Copyright Department of the Environment

Setting targets

Council has fixed, relative and notional targets in relation to climate change.

Fixed targets:

- Council will be carbon neutral between 2025 and 2040.

Council seeks to achieve carbon neutrality at the beginning of this time period, i.e. 2025. This is an ambitious and exciting target.

Relative Target

Relative metrics allow emissions to be calculated relative to a given output or other comparative figure. This gives a sense of changes to emission intensity over time.

Emission intensity target = Less than 50t CO₂e per full-time equivalent employee per annum by 31 December 2019



Notional target

Below, Council has set a notional emission reduction target for each calendar year relative to the year 2000 emission baseline (e.g. 25% above 2000 by 31 December 2019).

In addition, this reduction is expressed as an annual reduction from the year 2014 level of 11,059t CO2e (e.g. 6635t = 40% below 2014)

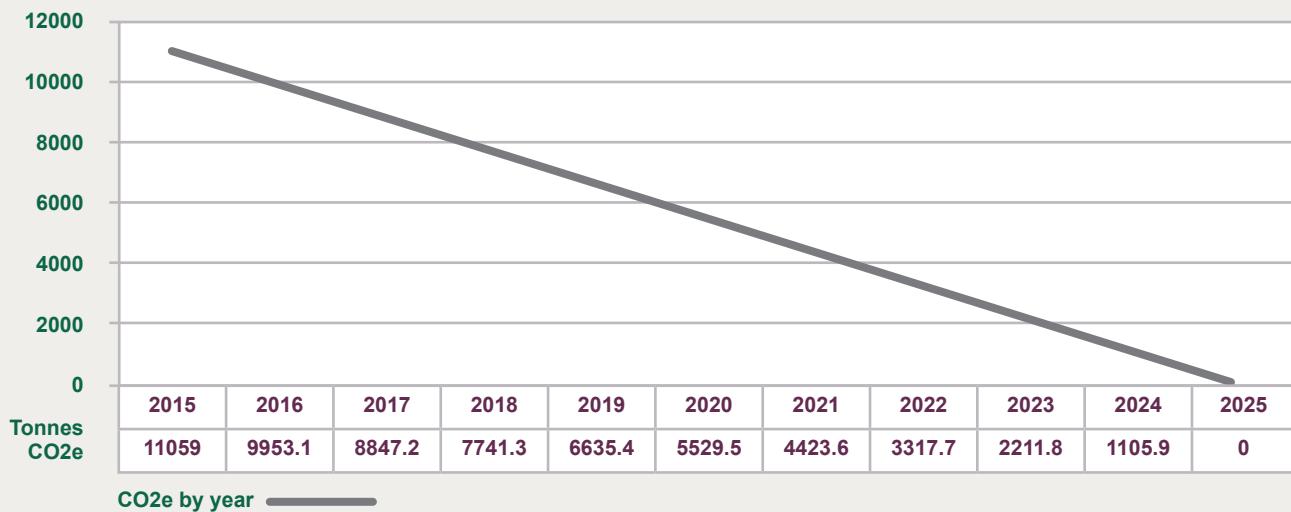
In this way we can see the targeted decrease in emissions relative to both the baseline year and the most recent year that figures are available for.

2000 = 5374t CO2e	2014 = 11,059t CO2e
85% above 2000 by 31 December 2016 = 9953t	9953t = 10% below 2014
65% above 2000 by 31 December 2017 = 8847t	8847t = 20% below 2014
45% above 2000 by 31 December 2018 = 7741t	7741t = 30% below 2014
25% above 2000 by 31 December 2019 = 6635t	6635t = 40% below 2014
100% below 2000 by 31 December 2025 = 0t	0t = 100% below 2014

By keeping these notional targets in mind, Council will be better able to track its deep decarbonisation pathway over time (see Table 3).

Table 3: Notional decarbonisation pathway

Decarbonisation pathway - carbon neutral by 2025



Taking action

Council's main sources of emissions in 2014 were waste (88%), transport energy (7%) and stationary energy (5%). Ending our contribution to climate pollution requires just three primary 'key areas of action':

1. Reduce waste emissions

2. Replace fossil fuel energy with renewable transport energy

3. Replace fossil fuel energy with renewable stationary energy

In support of the above three, four supporting key areas of action are necessary:

4. Achieve ambitious energy efficiency

5. Implement necessary climate change adaptation measures

6. Investigate carbon offsets and reduce non-energy emissions

7. Partner to undertake community and regional actions



Council's Green Team weeding wicking beds at the Castlemaine Community Garden.



In addition to the specific actions outlined in this Action Plan, Council will undertake the following key strategic tasks:

- Administer relevant State and Commonwealth legislation to promote climate change response as required, including the application of relevant codes, such as the Building Code of Australia
- Manage risks and impacts to public assets owned and/or managed by Council
- Manage risks and impacts to Council service delivery
- Collaborate across councils and with the State and Commonwealth Governments to manage the risks of regional climate change impacts
- Ensure policies and regulations under Council's jurisdiction, including local planning and development regulations, incorporate climate change considerations and are consistent with State and Commonwealth Government climate response approaches
- Facilitate building resilience and adaptive capacity in the local community, including through providing information about relevant climate change risks
- Work in partnership with the community, locally-based and relevant NGOs, business and other key stakeholders to manage the risks and impacts associated with climate change
- Contribute appropriate resources to prepare, prevent, respond and recover from detrimental climatic impacts

Related Council documents

This Action Plan takes into account a number of complementary Council strategies, policies and action plans that also contribute towards action on climate change. These include the:

Council Plan and Annual Plan

Economic Development Strategy 2013-2017

Environment Strategy 2015-2025

Project Priorities 2013-2017

Public Health and Wellbeing Plan 2013-2017

Roadside Conservation Management Plan 2012-2017

Walking and Cycling Strategy 2010-2020

Municipal Emergency Management Plan

Procurement Policy and Sustainable Procurement Guidelines

Mount Alexander Planning Scheme

Investment Policy

New iterations of plans relating to waste, water and other climate relevant issues are under development.

The Action Plan also acknowledges the significant response to climate change outlined in community plans, the Regional Climate Adaptation Plan, and in the climate change response plans developed by other organisations such as the North Central Catchment Management Authority.

Action plan

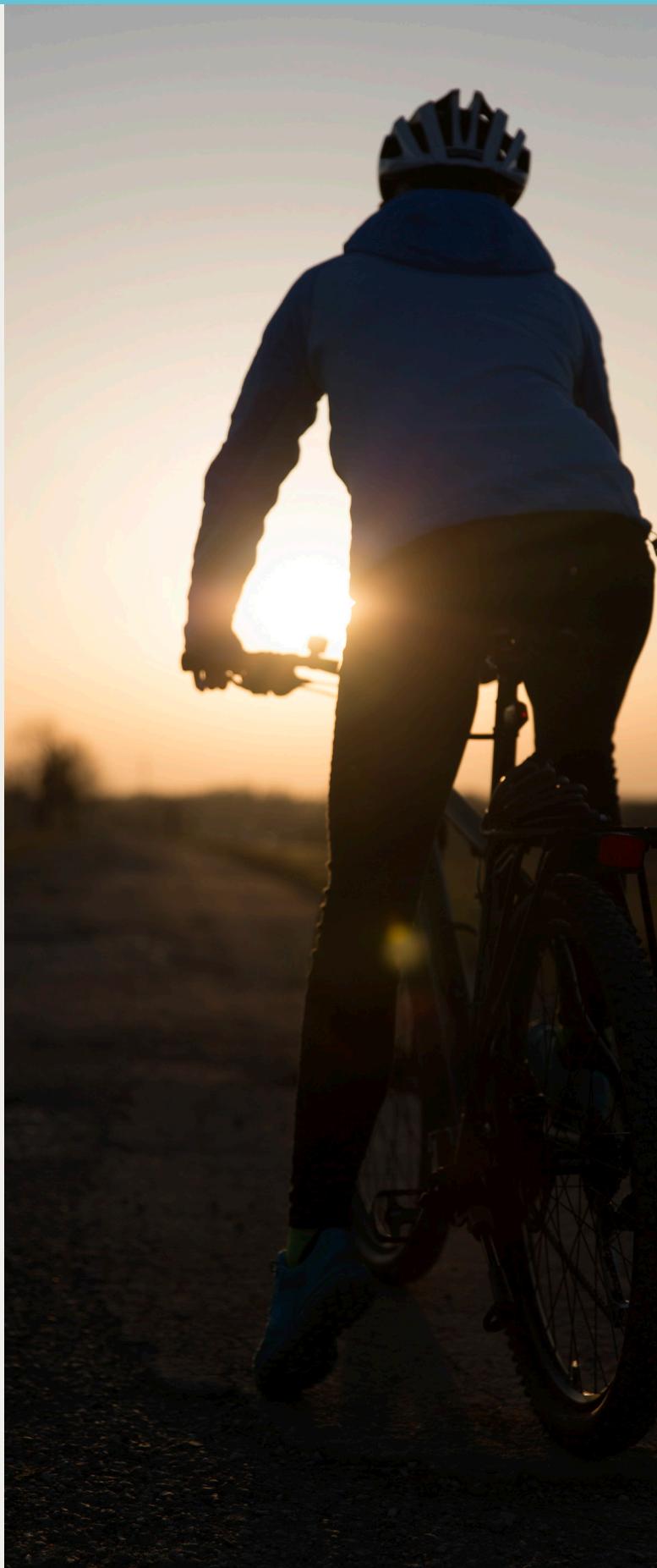
As outlined, the actions in this Action Plan are broken up into seven key action areas. Each key action area has its own actions table, as shown below.

Some of the action targets will make significant inroads into Council's carbon emissions, or lead to significant adaptation improvements. Many others focus on creating a culture within Council of integrating the consideration of climate change into all operations, or of supporting climate change response efforts within the community.

The implementation of all actions is subject to the annual budget process of Council and/or external funding. Accordingly, the intended completion dates are notional dates that will be used to assist with annual budget submission planning.

As waste is by far Council's biggest source of carbon emissions, key action area one is the most vital to rein in carbon emissions. Accordingly, by the end of 2016, Council will identify the top five actions that will deliver the best reductions based on a return on investment model.

A range of measures are in place within Council to help link actions, such as an overall effort to improve the sustainability of procurement and events.



Key action area one: Reduce waste emissions

Action #	Target	Responsibility	Performance Indicator	Intended completion date
1	Construct a cap on the Castlemaine landfill to capture greenhouse gas.	Healthy Environments	Cap in place and greenhouse gas captured	2016
2	Install an appropriate greenhouse gas management system at the Castlemaine landfill to manage and reduce emissions.	Healthy Environments	Projected emission reduction	2018
3	Assess the relative greenhouse gas merits of alternatives to building another landfill cell at the Castlemaine landfill, and communicate the assessment results to the community through the Shire News.	Healthy Environments	Alternatives quantified and communicated	2017
4	Increase the separation of green waste and organic waste at the waste management facilities and divert it from landfill. Explore possible uses such as waste to energy and composting.	Healthy Environments	Reduction in food waste within municipal waste, and separation of green waste from woody waste.	2018
5	Encourage residents to manage their own green waste and organic waste through composting and worm farms.	Healthy Environments	Annual sale of compost bins and worm farms by Council.	Ongoing

Key action area two: Replace fossil fuel energy with renewable transport energy

6	Optimise the size and efficiency of the Council passenger, light commercial and bus fleet in accordance with audit findings, and reduce vehicle travel through efficient rostering and carpooling.	Finance	Fleet emission savings	2016
7	Consider options to incentivise staff transport alternatives such as walking, cycling and public transport.	Healthy Environments	Staff mode of transport to work	2017
8	Investigate the feasibility of Council investing in electric vehicle technology including hybrid trucks and recharge stations and vehicles.	Healthy Environments	Feasibility paper developed	2018
9	Continue involvement in the Central Victoria Greenhouse Alliance including representation on the board.	Healthy Environments	Representation on the CVGA board	Ongoing

Key action area three: Replace fossil fuel energy with renewable stationary energy

Action #	Target	Responsibility	Performance Indicator	Intended completion date
10	Transition to renewable electricity for Council's electricity requirement, beginning with 10% GreenPower, and investigate sourcing this power from local renewable energy production and/or a retailer with excellent green credentials.	Finance	Percentage of renewable electricity procured	2017
11	Continue to install appropriate renewable energy capacity on Council buildings and optimise the use of energy generated.	Healthy Environments	100 kilowatts of total capacity	2018
12	Work collaboratively with Powercor, energy retailers and regulators to enable virtual net metering and other innovations that make best use of local renewable energy capacity.	CVGA	Virtual net metering enabled	2019
13	Ensure energy contracts enable easy access to high quality online energy consumption, cost and emissions data.	Healthy Environments	Satisfaction with online data	2016
14	Promote the work Council and key community initiatives are undertaking to reduce emissions through renewable energy.	Communications	Number of media releases	Ongoing
15	Develop fossil fuel divestment policy options for the consideration of Council and consider community submissions regarding divestment when updating Council's investment policy.	Finance	Divestment considered	Ongoing
16	Use 100% biodiesel generators for Council events when additional energy capacity is required.	Healthy Environments	Biodiesel generator used at relevant events	2016

Key action area four: Achieve ambitious energy efficiency

17	Work with the CVGA to develop ambitious energy efficiency projects.	Healthy Environments	Emission savings	Ongoing
18	Facilitate rolling audits of the Town Hall and Civic Centre under the National Australia Built Environment Rating Scheme.	Healthy Environments	NABERS ratings	Ongoing

Action #	Target	Responsibility	Performance Indicator	Intended completion date
19	Investigate and undertake energy efficiency upgrades to Council buildings.	Healthy Environments	Number of sites upgraded	Ongoing
20	Include energy efficiency requirements in contracts with key partners such as the Castlemaine Art Gallery, Castlemaine State Festival, Buda Historic Home and Garden, Newstead Swimming Pool Incorporated and the Bendigo Regional YMCA.	Liveable Communities	Requirements in contracts and compliance	2016
21	Develop a tenancy partnership program aimed at encouraging users of Council facilities to be aware of, measure and report and reduce emissions from the occupation and operation of these facilities.	Healthy Environments	Partnerships in place	2017
22	Adopt Council procurement standards relating to the energy and water efficiency of new appliances.	Healthy Environments	Standards developed and adopted	2016
23	Monitor fuel use for plant and continue to implement fuel efficiency measures.	Infrastructure	Fuel use monitored and a reducing use trend established	Ongoing
24	Include information on Council's climate change response and culture of energy and resource efficiency in staff recruitment and induction processes.	Organisational Development	Information included in processes	2016
25	Facilitate staff training related to energy efficiency behaviour change such as eco-driving training to enable fuel-efficient driving.	Organisational Development	Training delivered and evaluated as successful	2017
26	Improve the energy efficiency of computers for example by enabling automatic power-off and standby modes.	Information Services	Measures implemented and savings quantified	2016

Action #	Target	Responsibility	Performance Indicator	Intended completion date
27	Continue to work with Ecobuy to implement and improve sustainable procurement practices across Council and to educate suppliers.	Finance	Ecobuy sustainable procurement rating	Ongoing
28	Support Council's internal environment group the Green Team to undertake projects including those related to energy and resource efficiency projects.	Healthy Environments	Demonstrated efficiency savings	Ongoing
Key action area five: Implement necessary climate change adaptation measures				
29	Work with the CVGA to seek funding for the further implementation of the Regional Climate Adaptation Plan.	Healthy Environments	Further actions implemented	Ongoing
30	Ensure climate change adaptation is fully considered in Council's risk register and in project and in contract management.	Governance and customer service	Appropriate references to climate change	2017
31	Ensure natural environment, waste and sustainability expertise is utilised during the evaluation of significant procurements.	Finance	Expertise is utilised and evaluated as driving outcomes	2016
32	Provide professional development training to planning staff about influencing customers to design climate change ready developments such as utilising passive solar orientation and renewable energy.	Organisational Development	Training completed	2017
33	Consider climate change projections when planning significant projects such as new drainage infrastructure or pools.	Infrastructure	Projects integrate climate change into design	Ongoing
34	Advocate for funding to improve the thermal comfort of residential households that are most vulnerable to heatwaves.	Community Wellbeing	Number of retrofits installed	Ongoing
35	Develop a climate change informed response to street tree replacement and urban forestry, and the irrigation of public open spaces such as parks.	Healthy Environments	Approach developed and implemented	Ongoing

Action #	Target	Responsibility	Performance Indicator	Intended completion date
36	Ensure messaging for tourists is accurate during climate extremes such as heatwaves and floods e.g. Maldon is open for business.	Local Economy	Communication mechanism developed	2016
37	Investigate the use of Council's rate scheme to support climate adaptation measures by homeowners and businesses such as the through the implementation of environmental upgrade agreements.	Finance	Project feasibility investigated	2017
38	Consider environmentally sustainable design as a specific component of the development of Castlemaine's Cultural Precinct Vision Strategy.	Liveable Communities	Precinct responds to climate change	2016

Key action area six: Investigate carbon offsets and reduce non-energy emissions

39	Support food security through community gardens and related local measures, and share information with the community about the likely impacts of climate change on local agricultural production.	Healthy Environments	Number of community gardens	Ongoing
40	Advocate for higher building sustainability standards in updates to the National Construction Code.	Development Services	Advocacy undertaken	Ongoing
41	Investigate in detail the certification process for becoming a carbon neutral organisation under NCOS and advise Council.	Healthy Environments	Analysis presented to Council	2016
42	Develop a checklist to enable climate change to be considered during the internal development of major project proposals.	Governance and customer service	Checklist developed and utilised	2016
43	Investigate climate-friendly social procurement.	Healthy Environments	Report prepared	2018

Action #	Target	Responsibility	Performance Indicator	Intended completion date
44	Investigate low carbon and/or high recycled content concrete and asphalt/emulsion options that can become a standard specification.	Infrastructure	Climate friendly alternatives identified	2016
45	Ensure certified carbon offsets purchased originate from within Australia and where possible contribute local benefits.	Healthy Environments	Australian offsets purchased	Ongoing
46	Undertake an annual staff tree planting day in conjunction with local Landcare groups.	Healthy Environments	Tree planting event undertaken	Ongoing
47	Advocate for NBN services across the Shire as soon as possible to enable environmental benefits such as reduced travel through videoconferencing.	Local Economy	Advocacy undertaken	2016
48	Undertake 'green cleaning' training for relevant cleaning staff and develop a manual for use and future reference.	Governance	Training implemented	2016
49	Provide information to staff about climate friendly superannuation options.	Organisational Development	Advice made available to staff	2016
50	Monitor paper use and implement paper saving measures across the organisation.	Healthy Environments	Paper saving trend	Ongoing

Key action area seven: Partner to undertake community and regional actions

51	Renew and develop Memoranda of Understanding between Council and key local climate change action groups.	Healthy Environments	MOU in place	2017
52	Work with Special Committees of Management to respond to climate change.	Community Engagement	All Special Committees engaged	2018
53	Partner with regional councils and other groups to develop regional projects to address climate change.	Healthy Environments	Partnership projects funded and undertaken	Ongoing
54	Continue to promote an understanding of climate change and provide community grants to assist community action.	Healthy Environments	Community grants fully subscribed	Ongoing

Action plan

Action #	Target	Responsibility	Performance Indicator	Intended completion date
55	Support community efforts to reduce and offset the carbon footprint of signature events such as the Castlemaine State Festival.	Healthy Environments	Number of events explicitly reducing emissions	Ongoing
56	Encourage exhibitions and other art events relating to climate change through opportunities such as Council's annual theatre touring and exhibition program.	Liveable Communities	Tangible change in the arts program	2016
57	Support young people to develop and implement climate change projects and recognise young sustainability leaders through the Mount Alexander Youth Awards.	Community Engagement	Youth group instigation of climate projects	2017
58	Promote rebate opportunities and other incentives through local networks and Council newsletters.	Healthy Environments	Rebates promoted	Ongoing
59	Provide existing and prospective new businesses with relevant information relating to local climate change projections.	Local Economy	Material developed and made available	2016
60	Develop case studies of the successful refurbishment of heritage places with ESD features that respond to climate change and recognise sustainability leaders through the Mount Alexander Heritage Awards.	Local Economy	Case studies developed and made available	2017
61	Seek to attract a green car-share service to the Shire.	Healthy Environments	Car share service in place	2018
62	Advocate for better public transport services in the Shire.	Local Economy	Advocacy undertaken	Ongoing
63	Continue to offer the Sustainable Living Workshop Series.	Healthy Environments	Workshop attendance	Ongoing

Monitoring, evaluation and reporting

For Council to achieve deep reductions in its emissions and adapt to climate change it will need to undertake many projects. While this ‘leading by example’ effort is significant in and of itself, Council also aspires to help influence and/or advocate to the wider Shire community and region. Achieving outcomes across the Shire and region will require the cumulative efforts and partnership of individuals, businesses, and community groups.

A monitoring, evaluation and reporting plan has been developed for the Environment Strategy 2015-2025. The Environment Strategy Evaluation Plan is available on Council’s website.

The Environment Strategy Evaluation Plan includes the evaluation questions and community engagement approach for this Action Plan.

The relevant key evaluation question is: **To what extent has Council integrated climate change across its operations and actively influenced and advocated to the community and others?**

The relevant sub-key evaluation question is listed below. This sub-key evaluation question will be the basis for Action Plan reporting.

Sub-key evaluation questions:

To what extent have the following key strategic tasks from the Environment Strategy been achieved.

Implement the Regional Climate Adaptation Plan

Develop and implement the Climate Change Action Plan

Through relevant planning manage and minimise the impacts on Council and the community from heatwaves, fires, floods, and other extreme weather events

Data Sources

Plan implementation

Emissions data from energy retailer and from other relevant sources such as fuel cards

Evidence of the integration of climate change thinking across the organisation including as it relates to emergency management

Advocacy efforts

Indicators

Commentary about the development and implementation of plans and the management and minimisation of climate risks and vulnerabilities

Greenhouse gas emissions

Monitoring, evaluation and reporting



Key points of interest are that monitoring, evaluation and reporting will be integrated to the optimal extent with Council's existing reporting software systems and that where appropriate, the public will be engaged in the active monitoring of progress. For example, the public can now access the production data for the solar systems on the Town Hall and Civic Centre via an online web portal.

Progress implementing this Action Plan, and other elements contained in the Environment Strategy Evaluation Plan will be communicated annually via Council's Sustainability and Environment E-newsletter and other Council media and communications.

The Environment Strategy will be reviewed after the next Council Plan has been finalised. This review will be an opportunity to revisit all elements of the Environment Strategy including the important long-term goals and intermediate outcomes, and all components of the Evaluation Plan.

Appendix 1: Council's position statement on climate change

Council supports the findings of the Intergovernmental Panel on Climate Change (IPCC) 2014 Fifth Assessment Report.

The Report outlines the current state of global knowledge concerning the science of climate change and states that the scientific evidence for warming of the climate system is unequivocal.

The headline statements taken from the Fifth Assessment Report are adopted as Council's official position statement in respect to climate change.

1. Observed changes and their causes

Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems.

2. Future Climate Changes, Risks and Impacts

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. Limiting climate change would require substantial and sustained reductions in greenhouse gas emissions which, together with adaptation, can limit climate change risks.

Endnotes

<http://dfat.gov.au/international-relations/themes/climate-change/pages/climate-change.aspx>

http://unfccc.int/essential_background/convention/items/6036.php

<http://www.climatechangeauthority.gov.au/sites/prod.climatechangeauthority.gov.au/files/files/CFI/CCA-statement-on-Australias-2030-target.pdf>

3. Future Pathways for Adaption, Mitigation and Sustainable Development

Adaptation and mitigation are complementary strategies for reducing and managing the risks of climate change.

Substantial emissions reductions over the next few decades can reduce climate risks in the 21st century and beyond, increase prospects for effective adaptation, reduce the costs and challenges of mitigation in the longer term, and contribute to climate-resilient pathways for sustainable development.

4. Adaptation and Mitigation

Many adaptation and mitigation options can help address climate change, but no single option is sufficient by itself. Effective implementation depends on policies and cooperation at all scales, and can be enhanced through integrated responses that link adaptation and mitigation with other societal objectives.

