



Banyule

CITY COUNCIL

Community Climate Action Plan (CAP)

**Working in partnership for a zero net
emissions and resilient Banyule by 2040**

Acknowledgements

Banyule City Council acknowledges the Wurundjeri Woi-wurrung people as traditional custodians of the land on which we work and pay respect to all Aboriginal and Torres Strait Elders, past, present and emerging. We acknowledge their unique relationship with the land, waterways and sea and recognise our shared responsibility to care for Country by solving the climate crisis together.

We continue to learn from Aboriginal and Torres Strait Islander people, who have been caring for Country for tens of thousands of years based on an ethic of shared responsibility and unity with nature. We seek to bring that ethic into our workplace and daily lives so that it guides our decisions and actions.

We extend a heartfelt thank you to the Banyule community who have contributed openly and generously to the development of this plan, and who are crucial to implementing it. We acknowledge our Councillors who have been instrumental in driving our ambitious climate action agenda.

Cr Alison Champion
Mayor Banyule City Council

Preface

As Mayor and CEO of Banyule City Council, we wholeheartedly endorse this plan for a community that is rising to the challenges of a climate emergency, reducing emissions and adapting to climate impacts. The actions outlined here give all of us the opportunity to create a better Banyule - one that is connected, inclusive, generous, creative and resilient. In a word, thriving.

Everyone in Banyule has a part to play in realising this vision. We encourage you to consider the plan as your own: to contribute to its ongoing development, make use of the advice and support provided by Council, and take action wherever you can at work, home and play.

Allison Beckwith
CEO Banyule City Council

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Executive Summary

This plan outlines opportunities for emission reductions across the Banyule municipality. Building upon Council's own Corporate Emissions Reduction Plan, it has been established to:

- Highlight the broader context in which action is occurring;
- Provide guidance and information to key stakeholders (residents, schools and business) in undertaking action;
- Identify priorities for strengthening Banyule's adaptation response; and
- Highlight the actions that Council will take to support and accelerate progress for the municipality.

It is intended as a document for our community to understand what initial steps can be taken and how Council is intending to support you. It also acts as an Action Plan within the Council, to be implemented by each of the relevant departments.

Eight priority themes will inform our approach, reflecting critical areas where change is needed:

1. Whole of community engagement
2. Electrification and energy efficiency
3. Renewable energy
4. Green buildings
5. Zero emissions transport
6. Circular economy
7. Adaptation and resilience
8. Monitor and Report

This is the first time we have produced a Plan of this kind. We will report on our progress in implementing the actions we have committed to on an annual basis, and seek to revise the Plan every four years, to ensure it remains relevant and effective. This process will be supported by annual budget bids for actions that are currently subject to funding approval.

Our Target:

This plan will put us on a path to achieve our goal of a **carbon neutral municipality by 2040** without relying on offsets.

Ultimately the Plan will provide us with the opportunity to create a thriving and responsive Banyule - one that is connected, inclusive and resilient.

Carbon neutrality means that the net greenhouse gas emissions (GHG) arising from our municipality will be zero. This can be achieved by transitioning away from fossil fuel reliant technology (such as gas, diesel and petrol) to renewables forms of energy, reducing energy consumption and improving energy efficiency.

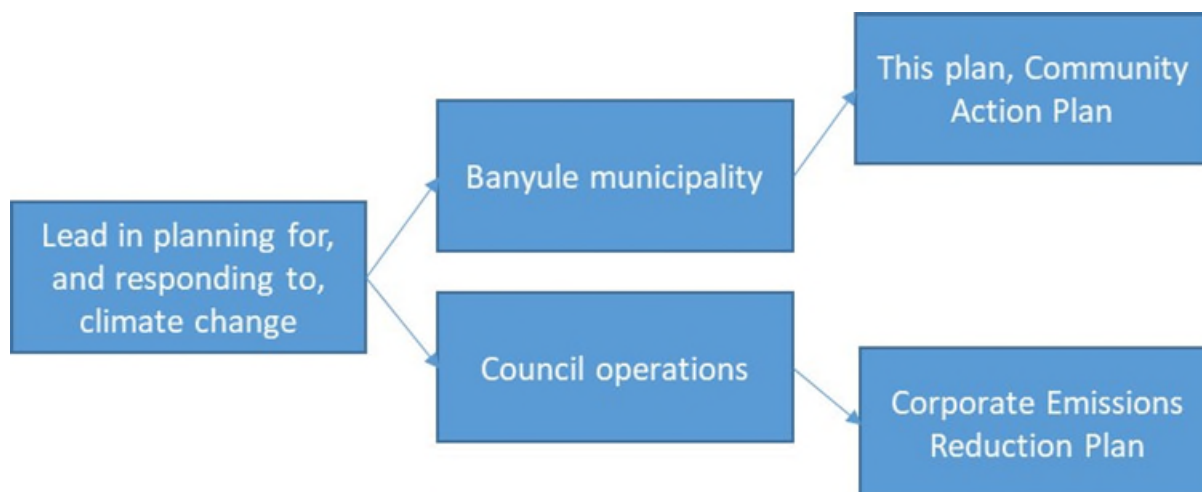
Plan purpose

Across the community, in homes, businesses and schools, Council does not have direct control over emissions like we do when they arise from our own operations. In the municipality, emissions arise from energy used in homes, from the cars travelling within and through Banyule, from industry and businesses, and from the various forms of waste that is generated through our everyday activities.

In declaring a climate emergency, Banyule City Council acknowledges that we all have a role to play in responding to climate change. [This plan outlines how as a Council, Banyule will support our residents, businesses and organisations to reduce emissions and adapt to the impacts of climate change.](#) The actions outlined give us the opportunity to create a thriving and responsive Banyule - one that is connected, inclusive and resilient.

Find out more about Council's Corporate Emissions Reduction Plan and actions to reduce organisational emissions [here](#).

The plan responds to our community's expectation for us to 'lead in planning for, and responding to, climate change', a key direction in the Council Plan 2017-21. The plan builds upon Council's Corporate Emission Reduction Plan (CERP), adopted in December 2019. The CERP addresses the emissions arising from Council activities and as such covers the key areas of buildings, fleet, street lighting and procurement. Opportunities within the CERP capture energy efficiency and renewable energy actions, as well as embedding climate action as a key priority across all departments.



Importantly, the best practice C40 framework has been used to guide our approach. The C40 climate action planning framework supports councils in developing climate action plans that are aligned with the objectives of the Paris Agreement.

C40 developed science-based targets based on what is necessary to remain within a 1.5-degree temperature rise. This underlines how action today is necessary to avoid the worst effects of climate change.

To achieve this scale of change, we know we need to work together with our community. Acknowledging this, Council will fulfil several roles through the actions in this Plan, they will be:

- a **collaborator**, working in partnership with households, community groups and businesses in Banyule, as well as with the Northern Alliance for Greenhouse Action (NAGA) Councils and other levels of government;
- an **enabler**, facilitating others' action through training, grants and other financial assistance;
- an **educator**, providing information and advice, a trusted, third party that can help inform the choice of services and providers;
- a **broker** between players within and beyond the municipality;
- an **advocate**, to State and Federal governments for changes that are beyond our direct control and mobilising the community for support.

Many of the actions identified in this plan will be implemented within existing resources. In some cases, however, the associated costs will be identified following investigation of the action itself (i.e. such as the action to examine a range of economic levers to support the uptake of energy efficiency measures for residents). Here, implementation budgets will be considered by Council via the budget process.

Why take action?

Our climate is changing dramatically.

While the earth's climate has gradually changed throughout history, scientists agree that the substantial and very rapid changes we've seen over the past hundred years or so are caused by human activities.ⁱ

Human activities such as burning fossil fuels (coal, gas, petrol and diesel) and clearing vegetation are causing global climate change, well above and beyond natural cycles.

Unless we take significant action now, we are on track for a rise in temperature of between 4-6°C. To put this in context, the difference in temperatures between now and the last ice age was around 4°Cⁱⁱ.

Why do a few degrees of warming matter? Already with a temperature increase of just 1.1°C since pre-industrial times, Australia is experiencing:

- Increased frequency and severity of extreme weather events including floods and droughts;
- More frequent, more intense and longer-lasting heatwaves;
- Greater risk and severity of bushfires and earlier, longer bushfire seasons – as experienced by many Australian communities in 2019/20
- Sea level rise, leading to more coastal flooding, erosion and saltwater intrusion into freshwater wetlands, such as the World-Heritage listed Kakadu National Park.ⁱⁱⁱ

ⁱ Climate Council, accessed online December 2019 www.climatecouncil.org.au/resources/what-is-climate-change-what-can-we-do/

ⁱⁱ Ibid.

ⁱⁱⁱ Ibid.

In Banyule, these changes impact our physical assets, as well as people's health, safety, livelihoods and wellbeing. Banyule's natural environment is also affected including wildlife, vegetation and waterways.

The more action we take now, the less pressure we put on the Earth's vital ecosystems and the better we can adapt to the impacts of climate change.

The United Nations has warned that we have just a decade, until 2030, to keep global temperature rise to a maximum of 1.5 degrees. Warming beyond this will significantly worsen the impacts on ecosystems, as well as the consequences arising from drought, floods, extreme heat and resource deficiency for people everywhere.^{iv}

The good news is, the solutions already exist! Switching to renewable energy and storage technologies is the fastest way to drive down GHG emissions.

On the flip side, taking action creates opportunities to build a better Banyule and a better world. In fact, responding to the climate crisis in inclusive, just and community-minded ways provides the foundations for a thriving, prosperous Banyule into the future. We have a responsibility to act now for our future generations.

The big picture

Through this plan, Banyule Council and our community join a growing, global movement that is taking action to solve the climate crisis.

In 2015, the international Paris Climate Change Agreement introduced global emission reduction targets to limit global temperature rise to below 2°C by 2050 and to pursue efforts to limit it to 1.5°C above pre-industrial levels. The landmark agreement has seen 195 countries committing to delivering national emission reductions and global action on climate change.

The C40 Cities Climate Action Planning Framework ('C40') was developed to guide cities around the world to establish action plans capable of achieving these targets. Banyule City Council is using this framework to guide the municipality's response to climate change and ensure our approach aligns with that of other cities around the globe. This means we are required to:

- Consider climate mitigation and adaptation in an integrated way, identifying interdependencies to maximise efficiencies and minimise risks – in other words, 'get best bang for buck';
- Develop a SMART action plan;
- Establish a transparent process to monitor and communicate progress on the plan.

At the national level, Australia ratified the Paris Agreement in 2016, setting a national target to reduce emissions by 26-28% below 2005 levels by 2030. To help reach this target, the Federal Government established several funds and plans aimed at energy efficiency and incentivising small and large scale renewable energy generation. With the inclusion of these

^{iv} Intergovernmental Panel on Climate Change (2018) Special Report: www.ipcc.ch/sr15/

initiatives, around 23.5% of Australia's electricity generation in 2020 will be sourced from renewable sources like solar, wind and water (hydroelectricity).

At a state level, the *Climate Change Act 2017* sets the long-term target for Victoria as zero net emissions by 2050. The State government has also established incremental renewable energy targets of 25% by 2020, 40% by 2025 and 50% by 2030. Its Take2 pledge program has a range of guides and resources to support action by households, community groups and businesses. Victoria's strategic priorities for adaptation are set out in the *Climate Change Adaptation Plan 2017-2020*.

At a regional level, Banyule together with eight other Councils in Melbourne's north are members of the Northern Alliance for Greenhouse Action (NAGA). NAGA trial, support and share learnings from emission reduction and adaptation activities in the region.

What we heard: 'How have you experienced the effects of climate change?'

Participants of the community engagement activities were asked, 'how have you experienced the effects of climate change?'

Here people commonly referenced health impacts, both mental and physical. People expressed anxiety about the future, for themselves and their children, as well as concern in relation to physical health impacts such as asthma and hay fever, alongside social isolation.

Main emission sources and trajectory

By understanding where emissions are coming from, we can make informed decisions about where to prioritise our attention and future resources.

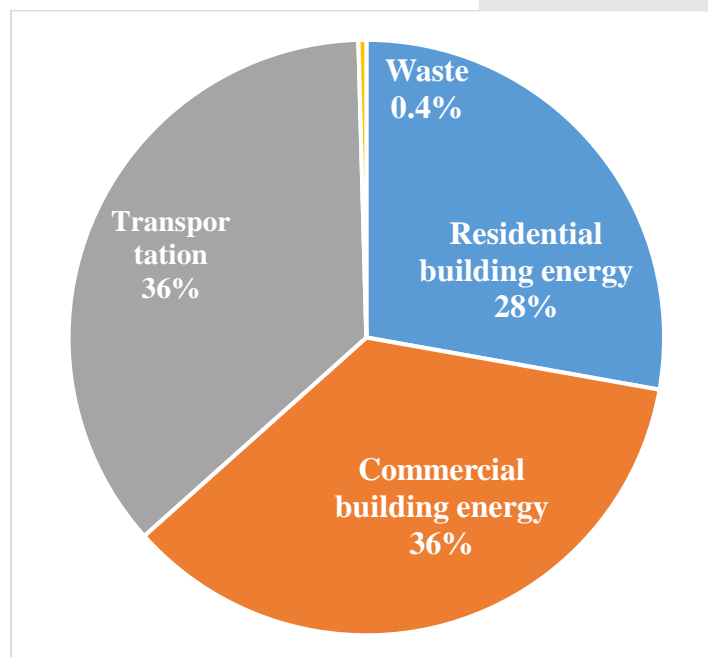
The main sources of emissions in the Banyule municipality (Figure 1) are:

- Transport
- Commercial building energy, and
- Residential building energy.

Emissions from municipal waste are unusually low in Banyule (0.4%), thanks to landfill methane capture technology at the Wollert landfill site.

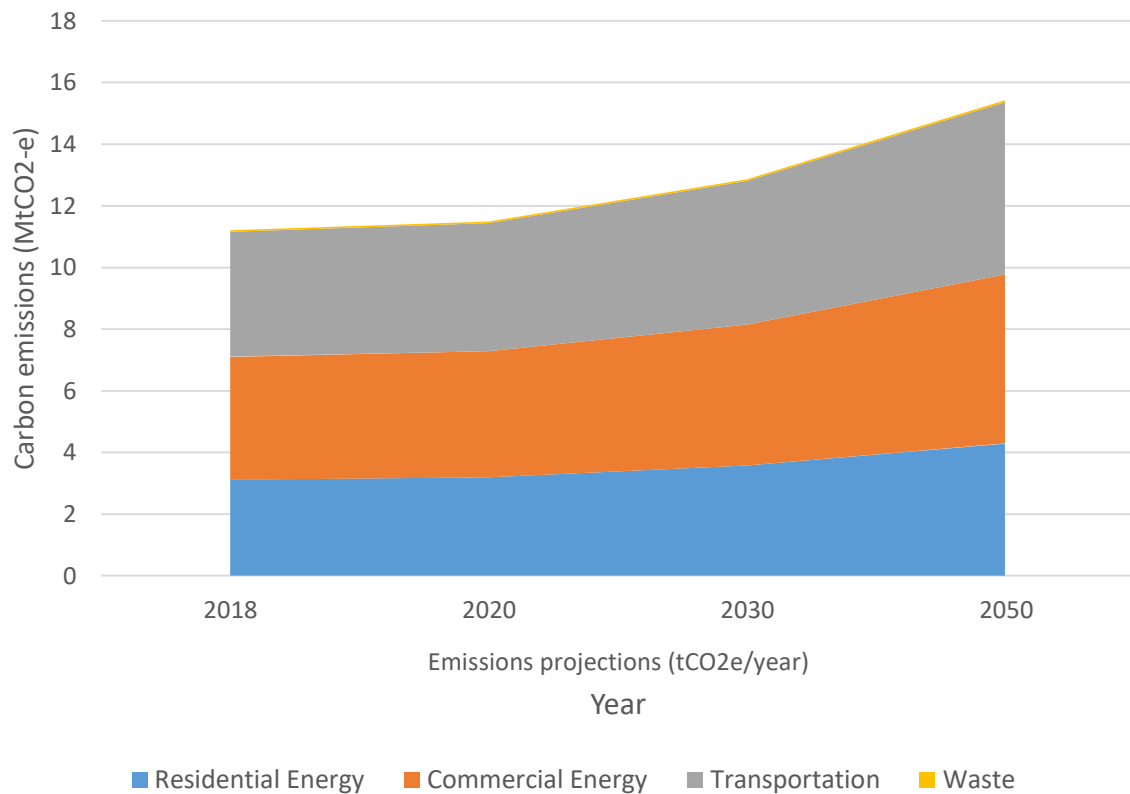
Figure 1: Main sources of emissions in the Banyule municipality (2018)

Did you know Australia's national electricity grid is fuelled by different energy sources? Renewable energy like wind, solar and hydro provide 20% of Australia's electricity supply¹. Most of our electricity, particularly within Victoria, however, is sourced from the burning of brown coal at large power stations. This is one of the most carbon emission intensive energy sources. By integrating greater renewables, we can contribute to a cleaner grid.



Without further action, total emissions from these sources are expected to increase substantially (38% by 2050), driven largely by population growth (Figure 2).

Figure 2: Business as usual projection of emissions from major sources

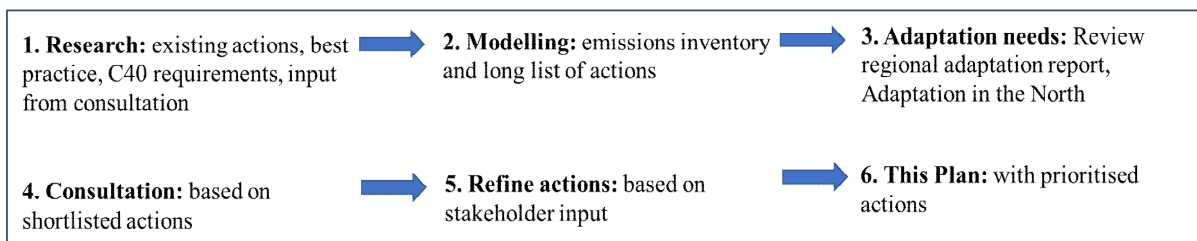


In light of these trajectories, long term targets were established to guide the development of our own actions. These reflect how energy is currently used within each key area– i.e. through heating and cooling, hot water systems and lighting - and the extent to which it needs to change.

If achieved, we can expect to realize an 85% reduction in our business-as-usual emissions, resulting in 1.3 tCO₂-e per capita by 2050 (down significantly from 8.6 tCO₂-e per capita).

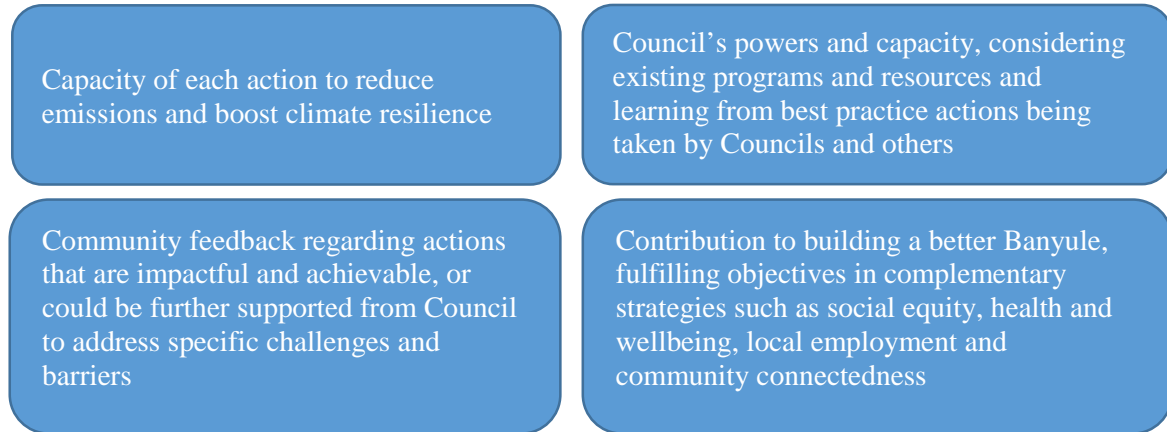
How we developed this plan

Working closely with our community, we followed a process of identifying, refining and prioritising actions



Across several forums in 2019, we consulted with business, government and the broader community in Banyule about potential actions, barriers and Council support.^v We gathered community input through an online survey, two focus groups, a workshop with environmental group members, and community pop-up information stalls.

The actions presented in this Plan have been prioritised based on the following criteria:



TAKING ACTION

The following sections are designed to be read by the various audiences:

- Residents
- Schools / youth
- Businesses

The sections are intended as a 'toolkit' for each of these groups, highlighting *just some* of the options available. A sample of actions that Council are proposing to take to support our residents, businesses and schools are also highlighted.

Small case studies have been included throughout, highlighting best practice examples. This is an important part of sharing ideas and ensuring climate action is part of our day to day.

A full list of Council actions is available at the end of this document.

^v Businesses included Austin and Mercy Health, AusNet Services and Jemena. State government agencies were Sustainability Victoria, Public Transport Victoria and Department of Environment, Land Water and Planning.

ACTIONS FOR RESIDENTS

Placeholder: *Graphic representation of best practice home (electrified)*

Everyone can act to reduce their contribution to climate change. The first step is to understand where your household emissions are coming from and how daily choices can positively impact these. We can group household emission profile into three main categories; emissions from household energy use, transport and waste. The extent to which emissions arise from these categories will depend on number of people in your household, type of housing, your selection of appliances, as well as lifestyle.

Small action, big impact

The actions you take matter. When you take action you play a part by influencing your peers to take on similar practices creating a bigger impact.

Taking action on climate change, can feel overwhelming at times. It's not unusual to feel a sense of helplessness when you hear about the extent of the problem and the action required. It's important to remember that all our solutions to bring about change are at hand and much can be done on an individual and community level. Taking these steps highlights that together we can all make a positive difference through the conscious decisions we make.

If certain change feels overwhelming, focus on doing whatever is doable and actionable right now. Take one constructive action today and then another tomorrow. The key is to start from where you are, with what you have and feel comfortable knowing that what you're doing is making a difference.

A range of Banyule specific services and programs are available to support you:

- Free household energy audits, to identify fit-for-purpose opportunities that will reduce your energy (and bills) in the home;
- Free access to our Community Energy Officer, to talk you through all things related to energy efficiency and solar;
- Clear information on household energy and affordability via our website, highlighting your rights in obtaining a better energy offer from your energy retailer and assistance available for those having payment difficulties;
- Access to Banyule's Solar Savers Program, a bulk buy program which provides you with access to reputable solar installers and products.

Banyule is home to a large number of community gardening, Transition Town and Friends Of groups. These volunteer-led organisations are leading a whole host of actions, and reaching out to others in the community to build a stronger social movement for meaningful change.

SWITCH TO A GREEN ENERGY COMPANY

- Electricity suppliers vary significantly in their environmental offerings and performance
- The Green Electricity Guide ranks providers according to emissions from their power sources, their investments in and policy positions on renewable energy and fossil fuels and other attributes.

ADVOCATE FOR BIGGER CHANGE

- Call or meet with your elected state and federal representatives. Together they have the power to influence increases in renewables, improve building standards and provide better public transport.

BETTER TOGETHER: JOIN A GROUP

- Friends of Groups, community gardens and Transition Town groups across Banyule are always open to new members. Activities include replanting days, repair events and advocacy.

REDUCE YOUR MEAT

- Try a month of vegetarianism, or Meat Free Monday with new and delicious recipes to introduce sustainable meat consumption and support GHG emissions reduction associated with live stock farming and food process operations.

HAVE THE CONVERSATIONS

- Conversations amongst your peers are powerful in changing social norms. Check out material to support these conversations at the Climate Council's website.

BE SMART WITH YOUR ENERGY

- Apply for a home energy audit to identify how you can reduce your household energy consumption.

COMPOST YOUR FOOD SCRAPS

- As well as reducing household waste, compost does wonders for your garden.

GROW YOUR OWN FOOD

- Herbs provide an easy entrance into growing your own food and reducing the need to buy herbs often housed in plastic.

MONEY FOR GOOD

- Your selection of superannuation and mortgage providers is one of the biggest opportunities to support investment of renewable energy – check with your provider to see what they invest in.

MOVE TO 100% ELECTRIC

- Replace ageing and inefficient gas or wood burning appliances with highly efficient electrical ones, including induction cooking.
- Consider replacing your gas heating with heat pumps for heating and hot water needs.
- Consider replacing petrol fueled products with battery powered alternatives, as end of life, including mowers and leaf blowers.

To further support you, Council will:

- Investigate opportunities for households to gain access to greenpower via Power Purchasing Agreements (PPAs).
- Support non-environment groups such as Rotary Clubs and youth groups, to engage members in taking climate action.

- Encourage and support community-led energy solutions, through Banyule's Environment Grants Program and facilitation of networking opportunities with experts.

You can read through all the actions Council has committed to in the next section.

Achieving Excellence in an Older Home

The following case study demonstrates how a sustainability focused couple in Banyule achieved 8 Stars for their 60 years old property from the Energy Efficiency Scorecard Assessment.

The house: A typical brick veneer home built in the late 50s/early 60s in Heidelberg

The owner: A retired couple who are highly engaged with energy efficiency and sustainability

Key actions undertaken include:

- Introduction of floor insulation;
- Introduction of additional ceiling insulation to improve overall insulation performance;
- Sealing of the old chimney;
- The use of doors and partitions to zone the house and enable efficient heating and cooling;
- Installation of several water tanks supported by a well-insulated pump.

To further improve energy efficiency for their home the residents are also planning to install new Solar PV system.

ACTION FOR SCHOOLS

Placeholder: *Graphic representation of best practice school*

Within schools, energy consumption is driven by the energy needs of:

- Lighting
- Heating and cooling, and
- Computers.^{vi}

Outside of this, waste and transport practices also contribute notably to overall emissions.

Resource Smart is a great source of information for schools. The Sustainability Victoria (SV) program provides guidance, toolkits and access to networks on key areas of sustainability: waste, biodiversity, energy, water.

The Energy module will walk you through the three key ways in which you can implement climate action:

1. Workplace/operational (i.e. retrofitting, maintenance and technology actions)
2. Learning and teaching (i.e. curriculum-based actions)
3. Whole school community engagement (including the broader school community).

A number of additional resources are available for schools within Banyule:

- **The Teachers Environment Network (TEN)**; a partnership program between Nillumbik and Banyule Councils. Monthly meetings are held for teachers during the term, highlighting new environmental curriculum ideas, as well as providing an avenue for sharing lessons learnt;
- **Environmental Grants**: An annual pool of grant funding is available for various environmental activities. The grants include a Youth Climate Action Funding stream, designed to encourage young people of primary and secondary school age to come up with projects that will make a difference for their community or school and contribute to our goals to reduce community emissions, strengthen biodiversity, conserve resources or reduce waste to landfill;
- **Darebin Creek Management Committee**: Darebin Creek Management Committee, which is part funded by Banyule City Council, offers free education programs to all School's in Banyule to learn about the ecology of the creek, and importance of the wildlife corridor it supports.
- **The ReThink Centre** in Bellfeild offers incursions for Primary and Secondary schools to learn about how their waste is sorted and recycled and how to make better choices as consumers.

Below are just some initial steps that will place you well on your way to becoming a low carbon school.

^{vi} Sustainability Victoria (2016) Resource Smart Schools, "Energy: a 'how to' guide", accessed online via sustainability.vic.gov.au.

SCHOOL WIDE ENERGY EFFICIENCY

- Track energy usage and use information to build a school wide energy profile.
- Conduct an on-site energy audit to identify how energy is used in the school's facilities and what could be improved.
- Check for Federal and State funding opportunities for the installation of solar panels, and other energy and water conservation measures including solar hot water systems, water tanks, external window shading and energy efficient lighting.

TURN OUT THE LIGHTS

- Install occupancy sensors that will automatically turn off the lights when no one is in the room.
- Replace lighting with Light Emitting Diode (LED) bulbs to reduce energy use around the school.
- Allocate a student Energy Monitor to help make sure lights and computers are turned off in breaks, and before and after class/school.

REPUTABLE SUPPLIERS

- Consider utilising the sustainability service panel set up by the Department of Education and Training. Listed companies provide advice on how to improve the sustainability of your school and importantly have already been screened for qualifications, value for money and experience.
- Access the panel through the school maintenance system and choose Asset operations/Panel service providers

LOWER YOUR TRANSPORT USE

- Work with local government and community leaders to create more pedestrian and bike friendly routes to your school.

MANAGING WASTE

- Appoint a student action waste team to monitor contamination of bins and consumption patterns.
- Divert organic food waste into a school wide composting program including food scraps from the canteen and school kitchens.
- Have a regular 'Nude Food lunch day' for students and staff.

INCREASING BIODIVERSITY & ENVIRONMENTAL STEWARDSHIP

- Create and manage worm farms, bee hotels and native nesting boxes to build biodiversity and conservation knowledge from an early age.
- Plant a carbon-absorbing forest for shade, lessons and playtime.
- Support and raise funds for a wildlife conservation project or organisation.
- Have staff join and attend the Teachers Environmental Network meetings, to share environmental education opportunities.
- Pursue citizen science projects and share indigenous historical and science knowledge.

ADVOCATE FOR BIGGER CHANGE

- Create a student environment club or green team to assist in planning, implementing and managing sustainability and environmental initiatives.
- Apply for Banyule City Council's Youth Climate Action Grant to access funding up to \$3K to transform ideas into action.

PUBLICISE YOUR RESULTS

- Use office communication (email, newsletters and staff meetings) to highlight school ideas, policy updates, and achievements.

<ul style="list-style-type: none"> • Lead by example and take public transport, carpool, ride or walk to school. • Start a Walk to School Campaign with VicHealth to encourage active and low carbon travel. 	<ul style="list-style-type: none"> • Publicise energy, water and waste costs and savings for students and staff to understand the benefits of extra efforts. • Recognise your school environmental achievements via the Resource Smart School Awards.
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Some of the new ways Council will support schools are:

- Facilitating peer to peer learning, connecting sustainability educators together to gain new ideas and share knowledge;
- Encouraging and supporting community-led energy solutions via Banyule's Environment Grants Program and facilitation of networking opportunities with experts;
- Implementing priority actions around walking and cycling including provision of infrastructure;
- Supporting schools to develop and implement sustainable travel behavioural change programs.

You can read through all the actions Council has committed to in the next section.

Driving sustainability at Banyule Primary

At Banyule Primary, every student and staff member is part of a Sustainability Action Team. As a team, goals around the areas of water, waste, biodiversity and energy are set, implemented and regularly reviewed.

Using this approach, the school have implemented a range of actions to help create a sustainable space for students & the broader school community. This includes:

- Installation of louvers in classrooms to help with natural ventilation, lowering their energy usage;
- Installation of water tanks to gather rain water and collection of over flow from their drinking taps for garden watering;
- Monitoring of biodiversity on campus and establishment of a veggie garden and worm farm;
- Introduction of a four-bin waste system in every classroom;
- Reuse of food waste to onsite chooks.

Through the holistic approach to sustainability, kids at Banyule Primary are gaining a great understanding of sustainability & how to lessen their environmental footprint, whilst contributing to the reduction of municipal emissions.

The Take2 Pledge

In 2016, Banyule joined other organisations and individuals to sign the Take2 Pledge. TAKE2, is a Sustainability Victoria program, whereby business, local councils, community, educational institutions and individuals pledge to take collective voluntary action on climate change to help Victoria reach net zero greenhouse gas emissions by 2050.

A large number of Banyule's residents and businesses have committed to reduce emissions under the pledge including Banyule's primary and secondary schools, as well as large organisations such as Austin Health.

You, as an individual, school or business can also pledge to make change! Visit the website [here](#).

ACTION FOR BUSINESS

Placeholder: *Graphic representation of best practice business*

Sustainable business practices will reduce your operational emissions, whilst realising greater cost reductions. The emissions profile of businesses will vary significantly depending on your service. For example:

- **Manufacturers:** emissions are likely to be dominated by energy consumption during the production process and material transportation;
- **Hospitals:** emissions profile likely to be dominated by significant heating, cooling and lighting demands;
- **Cafes/restaurants:** equipment operation and food waste processing will largely contribute to their emission profile;
- **Retail stores:** packaging and store energy consumption will often determine overall energy performance.

These varying emission profiles represents different opportunities and need for actions. Council will continue to support and collaborate with the business community in the uptake of the emission reduction practices and advocate the Federal and State government on sustainable business supports.

SAVE MONEY, REDUCE EMISSIONS

- Go for a 100% green power energy supplier or contribute with a green power surcharge with your current supplier to invest in the green power development.
- The Green Electricity Guide ranks providers according to emissions from their power sources, their investments in and policy positions on renewable energy and fossil fuels and other attributes.

SUSTAINABLE PACKAGING AND LESS WASTE

- Commit to minimal packaging and utilise recyclable material.
- Purchase from local supplies to support the local economy and reduce emissions from deliveries.
- Food businesses can compost waste by partnering with local community gardens to transfer your food waste into rich soils for your community.

BETTER UNDERSTANDING OF YOUR BUSINESS ENERGY NEEDS

- Apply for a [small business grant \(runs biannually\)](#) for a business energy efficiency audit to identify how you can reduce your operational energy consumption
- Apply for the Federal government [Energy Efficient Community funding](#) to implement appliances upgrades for better businesses energy performance and future proof your business with advanced energy efficient products.

TRAVEL GREEN

- Implement bicycle friendly end of trip facilities, such as shower rooms and secure bike-storage to support active travel to work.
- Reserve dedicated parking spots for carpooling.
- Negotiate discounted MYKI for staff travel on PT.
- Participate in local purchasing opportunities to reduce product

MONEY FOR GOOD

- Your selection of superannuation and mortgage providers is one of the biggest opportunities to support investment of renewable energy – check with your provider to see what they invest in.

SHARE AND LEARN

- Join industry groups and business associations to share your experience in environmentally friendly business practice and get new ideas to support sustainable business operations.
- Participate in council-initiated energy efficiency upgrade program such as the Greening Macleod LED upgrade project.
- Check banyulebusiness.com.au regularly for sustainability seminars and new project information.

transportation emissions and have more reliable local deliveries.

ADVOCATE FOR BIGGER CHANGE

- Call or meet with your elected state and federal representatives. Together they have the power to influence increases in renewables, improve building standards and provide better public transport.
- Conversations amongst your peers are powerful in changing social norms.

Some of the ways Council will support businesses in Banyule:

- Investigate opportunities to broker power purchasing agreements (PPAs) for Banyule businesses, providing access to long term prices for GreenPower;
- Support high energy usage commercial building owners to improve the efficiency of their buildings through facilitating access to low cost financing via Environmental Upgrade Finance (EUF) and expert information sources;
- Investigate the provision of recycling service and collection at businesses.

What are Power Purchasing Agreements (PPAs)?

PPAs provide just one means to achieve a green electricity source. They are essentially agreements between an independent power generator (ie electricity provider) and a buyer for the sale of energy.

PPAs can be used to secure large amounts of renewable energy, enabling support of the renewable energy sector whilst locking in an energy price over an extended period.

Sealane Group – Embedding Sustainability as Business as Usual

Sealane Group is an Australian owned and operated family business since 1982. Located in the Heidelberg West Business Park, they are a distributor of frozen and chilled foods, dry groceries, packaging and cleaning products to restaurants / cafes, healthcare facilities, educational institutions, event and accommodation venues and supermarkets. They also deal direct to public and offer home delivery services.

Sustainability and reducing their carbon footprint is a strong focus of Sealane's everyday operation. Notably, being a cold storage distribution facility, energy efficiency has been a key focus. Actions undertaken to date include:

- *A purpose-built operation building, to lessen the requirement for air-conditioning and large rain water tanks, used to wash a fleet of energy efficient trucks;*
- *Fully insulated PIR panels on all external walls to maintain a constant low temperature inside all year round;*
- *Introduction of rapid shutter doors to minimize energy loss from operational movements;*
- *Introduction of rooftop solar to meet all energy requirements.*

You can learn more about Sealane on their [website](#).

You can read through all the actions Council has committed to at the back of this document.

Council Priority Actions

Actions across the following eight key themes will place the Banyule municipality on a pathway to zero net emissions by 2040. Interim targets for 2024 are also identified and will be used to inform tracking of performance and revision of the Plan.

1. Whole of community engagement	<i>2024 Target:</i> 1,000 - number of community members engaged annually (as measured via event activity numbers);	5. Zero emissions transport	<i>2024 Target:</i> I. Introduction of public electric vehicle charging stations at four key locations across Banyule; II. 65km of on-road cycling lanes within Banyule;
2. Electrification and energy efficiency	<i>2024 Target:</i> 80% of households report at least a two star improvement after utilizing energy upgrade program;	6. Circular economy	<i>2024 Target:</i> 49% of consumer waste diverted from landfill;
3. Renewable energy	<i>2024 Target:</i> I. 18% of households with solar (as measured in Banyule’s Household Survey); II. Increase in capacity of commercial solar installations;	7. Adaptation and resilience	<i>2024 Target:</i> I. Constrain Council’s annual potable water use to less than 300ML; Annually remove 50 tonnes of litter and 130 tonnes of sediment from Council’s Water Sensitive Urban Design assets; II. 95% of streets to be planted with trees that have growth potential to achieve canopy cover targets;
4. Green buildings	<i>2024 Target:</i> I. Undertake ESD compliance inspections for 20% of completed multi dwelling developments. II. Provide ESD related training for 100% of planning staff every 12 months	8. Monitor and Report	

These actions are based on the ‘powers’ available to Council, considering opportunities within our control, together with opportunities outside our control where our role is to advocate, educate and influence.

We will adopt a staged approach to supporting a zero net emissions municipality by 2040, beginning with actions that can be undertaken within the current budget, and planning for the actions that require further budget for additional staffing, research and infrastructure.

For each action we have indicated the investment implication and timeframe for implementation, as below. It is noted that a strong environmental and financial return will be realised through these actions.

Investment	Implication
Existing	Council can adopt these actions within the current proposed budgets. They can be integrated into existing programs or investigated without additional staff or infrastructure requirements.
\$	<\$10k. Low cost action.
\$\$	\$10k - \$100k Council should plan for budget beyond the current proposed budget. Investment in additional research, infrastructure, staffing or funding is required to realise the action.
\$\$\$	>\$100k Council will require significant additional budget to realise the action, due to the need for new infrastructure, additional staff or introduction of regulations and / or requirements.

Timeframe	Period
Existing	
Short term	1 – 4 years
Medium	5 – 8 years
Long term	9 – 20 years

1. Whole of Community Engagement

This set of actions stems from our understanding that becoming a zero net emissions municipality is both a cultural and technical task. We know that responding to the climate emergency means that we need to bring along more people with us on the journey. We also recognise that many outcomes in this plan depend on action by the State and Federal governments and that advocacy is likely to be more effective coming from a broad cross-section of the community.

Banyule has a strong base of environmental community groups and engaged individuals who have been instrumental in shaping Banyule's response to climate action. These groups will continue to play a big part in achieving the goals of this plan. The task now is to broaden and grow this level of engagement to include people from all walks of life.

By participating in training under Council's Green Training Fund, many of our environmental volunteers have boosted their abilities and confidence in areas such as bicycle mechanics, permaculture design and built strong networks via attendance at the Climate Emergency Conference.

Expanding on the good work already happening, we will:

#	Action	Description	Timeframe	Investment
1.1	Support for environment volunteers	Continue to support Community Environment Groups such as Friends groups, Transition Towns, Community Gardens and Banyule Clean Energy Group to deliver community led action.	Short Term	\$ - \$\$
1.2	Face-to-face models to broaden engagement	Support existing non-environment groups such as Rotary, sporting clubs and youth groups, to engage members in taking climate action.	Short term	\$\$
1.3	Facilitate peer learning	Investigate different models that can support peer learning and engagement.	Short term	\$
1.4	Building the intrinsic value of nature	Continue to build local engagement with nature via Banyule's stewardship programs.	Short Term	\$\$

2. Electrification and energy efficiency

Households and businesses can achieve notable energy (and cost) reductions through energy efficiency measures. This essentially means using less energy to do the same activity – such as lighting your business or keeping your home at a comfortable temperature.

Energy efficiency can be achieved by retrofitting actions such as opting for more efficient appliances at the end of life. Making clean energy choices when upgrading is an essential step. This means shifting off gas (electrification) for your space heating and hot water supply, as well as cooking needs.

We heard:
You feel overwhelmed by the amount of information available and are uncertain of the benefits of efficiency focused action.

To support uptake, Council will:

#	Action	Description	Timeframe	Investment
2.1	Financial incentives	Examine a range of economic levers to support the uptake of electrification and energy efficiency measures for residents and business owners. This could include facilitated low cost loans, product subsidies (i.e. free LED globe installation), bulk purchase programs across all target areas (lighting, water and space heaters, common high energy user appliances).	Medium term	\$\$-\$\$\$
2.2	Residential energy efficiency campaign	Establish a community focused electrification and energy efficiency program to promote financial and energy efficiency, providing clear information campaigns that promote financial savings, payback periods and environmental benefits.	Now	Existing
2.3	Residential Environmental Upgrade Finance (EUF)	Seek to partner with State Government (DELWP) and others to pilot the use of residential EUF as mechanism to support thermal upgrades for households.	Short term	\$\$
2.4	Environmental Upgrade Finance (EUF) for commercial owners	Support high energy commercial building owners to encourage electrification and improve the efficiency of their buildings through facilitating access to low cost financing through the EUF program and expert information sources.	Medium	\$\$

3. Accelerate opportunities for renewable energy

Reducing carbon emissions in the municipality relies on the uptake of zero-carbon renewable energy by households, businesses and organisations. One of the greatest challenges for households and businesses in this space is the upfront cost of solar PV installation. For larger organisations, technical guidance would assist in determining financial feasibility and how to optimise renewable energy generation onsite.

Local governments are perceived as trusted sources of information and Banyule can use this to provide information on available schemes, subsidies and relevant certification bodies that can ensure a quality installation.

Council will:

#	Action	Description	Timeframe	Investment
3.1	Solar at leased facilities	Work with preschool, sporting clubs and other community users to upgrade energy performance and install solar PV on facilities leased from Council.	Short term	\$\$\$
3.2	Residential/Commercial PPA	Investigate opportunities to broker power purchasing agreements (PPAs) for Banyule businesses and households. Implement viable models.	Short term Medium term	\$\$
3.3	Community-led power	Encourage and support community-led energy solutions and facilitation of networking opportunities with experts.	Short term	\$\$
3.4	Bulk purchase programs	Continue to participate in bulk purchasing programs, such as Solar Savers, to enable residential and business access to quality solar PV systems and installers.	Now	\$\$
3.5	Education	Provide clear information and support to residents in relation to solar PV, facilitating improved understanding of value, cost and technical considerations.	Now	Existing

4. Green buildings

Actions to realise zero emission buildings must drive electrification and the uptake of green energy sources, and also ensure standards are translated from planning into built form.

Sustainability outcomes for new builds can be best strengthened via the inclusion of sustainability targets at all levels of planning, including:

- State planning policy frameworks
- Local policy planning frameworks and planning scheme requirements
- Updated Building Regulations
- Councils' strategic plans.

The strongest sustainable development outcomes are achieved when building and planning are working together across all levels of government. Building regulations and the State Planning Framework are State and Federal Government responsibilities and provide the most effective means of addressing the environmental performance of buildings. In responding to the climate emergency, these standards need to be updated and improved to achieve more ambitious outcomes.

Local governments have continued to work hard to address the current gap and have introduced ESD planning policies in local planning schemes to incorporate sustainability into

design. This has been a successful approach for Councils, including Banyule, introducing best practice environmentally sustainable design into the planning process.

Pushing for greater outcomes, Council will:

#	Action	Description	Timeframe	Investment
4.1	Environmentally Sustainable Design (ESD) Planning Opportunities	<p>Continue to participate in opportunities to improve ESD standards through the planning process and ultimately achieve zero net and climate resilient buildings.</p> <p>Participate in opportunities for local government to partner in planning scheme amendments to introduce net zero standards for new commercial and residential buildings.</p>	<p>Now</p> <p>Ongoing</p>	<p>Existing</p> <p>\$\$</p>
4.2	The Built Environment Sustainability Scorecard (BESS)	<p>Continue to be a BESS subscriber and Council Alliance for a Sustainable Built Environment (CASBE) member, to ensure our developers can use BESS.</p> <p>Provide a resource to seek BESS Governance Board membership to advocate for improved ESD outcomes.</p>	Short term	Existing
4.3	Environmentally Sustainable Design (ESD) Compliance and Triggers	<p>Embed Sustainable Design Assessment in the Planning Process By:</p> <ul style="list-style-type: none"> improving the technical capacity of the Development Planning to implement ESD in planning outcomes supporting ESD related planning policy amendments and the development of planning guidelines. 	Short term	\$\$
4.4	Environmentally Sustainable Design (ESD) Compliance	Trial, implement and report on ESD inspections to inform an understanding of current compliance levels.	Short term	\$\$
4.5	New build advocacy	Collaborate with Local Governments, consortiums (including Council Alliance for a Sustainable Built Environment (CASBE)) and other market leaders to advocate State and federal government to lift the minimum standards in the NCC, with specific reference to climate change (i.e. cover adaptation and mitigation).	Short term	Existing

5. Zero emission transport

Transitioning to zero emissions transport will require a major shift to active and public transport, as well as widespread uptake of electric vehicles charged by renewable energy and other emerging technologies. This shift relies on behavioural changes that will only occur through actions that enhance the usability, convenience and safety of zero or lower emissions transport options.

Banyule’s Integrated Transport Plan (2015 – 2035) articulates a comprehensive approach to delivering much of this work, with a number of objectives that ultimately support a zero emissions goal, including the following:

- Improve accessibility and transport choice to destinations within and beyond Banyule for people of all abilities and reduce our reliance on private cars
- Support sustainable transport and reduce the distance travelled via land use and development activity
- Raise and promote awareness of transport issues faced by the community and continue to advocate to State and Federal Governments for funding and action.

Council’s Social Support Groups offers a door to door service for older residents, to ensure their safe arrival to and from home to the social support centres. To support Council’s commitments to improving transport services for older people, and to address climate change, an electric bus has been introduced into the fleet. Its introduction has enabled a more comfortable and efficient pick up service for participants, whilst reducing individual taxi trips.

High priority actions in the Transport Plan have been included within this plan to enable accelerated uptake:

#	Action	Description	Timeframe	Investment
5.1	the Integrated Transport Plan	Continue to implement priority actions around walking and cycling, public transport and land use and development, as outlined within Banyule's Integrated Transport Plan.	Now – Long term	Existing
5.2	Electric charging stations	Pursue electric vehicle charging stations in partnership with businesses, State Government and private charging infrastructure provider(s) at key locations.	Short term	\$\$
5.3	Carshare programs	Collaborate with private providers of carshare system to realise opportunities for the roll out of a carshare program across the municipality.	Short term	\$\$
5.4	Transport advocacy	Collaborate with Local Governments and consortiums to advocate State and Federal government to achieve a greener transport sector.	Short term	Existing

#	Action	Description	Timeframe	Investment
5.5	Incentivise alternative, green, transport modes	Explore ways (education, best practice models) to incentivize the use of zero or low emission transport modes, including walking, public transport and electric vehicles.	Short term	\$\$\$

6. Circular economy

A circular economy moves beyond the standard steps of production, use and disposal to consider how materials can be used (and reused) as much as possible. The thinking supports a reduction in production and in turn waste, as more value is extracted from materials in the first instance.

The Waste Management Hierarchy:

1. Avoid
2. Reduce
3. Reuse
4. Recycle
5. Recover
6. Treat
7. Dispose

Banyule's Towards Zero Waste Management Plan

supports the circular economy principles and is based on the waste management hierarchy, which is the basis of waste policies in Australia. This outlines the preference for waste management, where avoiding waste is the most preferred option and disposing waste to landfill is the least preferable.

Council can positively influence waste reduction outcomes through:

- Continuing to deliver education program;
- Leading by example;
- Providing enabling infrastructure; and
- Advocating other levels of government and industry to respond.

#	Action	Description	Timeframe	Investment
6.1	Food Organics and Green Organics (FOGO)	Implement a FOGO system for the municipality.	Short term	\$\$\$
6.2	Buy Local	Deliver a 'Buy Local' campaign, which supports the revitalisation of smaller activity centres across Banyule.	Now	\$
6.3	Food production and waste	Continue and expand programs to increase awareness of food waste and local food production.	Now	\$
6.4	Enable recycling at leased facilities	Investigate opportunity for the provision of recycling service for council owned and leased facilities (i.e. footy/tennis clubs).	Short term	\$\$

#	Action	Description	Timeframe	Investment
6.5		Provide green cone and supporting education at all leased facilities.	Short term	\$\$
6.6	Enabling recycling in activity centres	Investigate the feasibility of introducing public place recycling into activity centres.	Short term	\$\$
6.7	Business, multiunit and apartment recycling	Investigate the provision of recycling service and collection at businesses, multiunit and apartment developments	Short term	\$\$
6.8	Social enterprise	Increase the number of social enterprises servicing or operating in Banyule by building business capacity and capability, as outlined within the draft Social Enterprise Strategy	Short term	\$\$
6.9	Waste advocacy	Collaborate with Local Governments and consortiums to advocate State and Federal government to improve waste standards, specifically for: <ul style="list-style-type: none"> investment in waste management infrastructure that supports more circular approaches to the Australian economy, including advanced organic processing and product recycling. Increase what is included within the Product Stewardship Act 2011 to include more mandatory products. 	Ongoing	\$

Farm Raiser is a non-for profit entity, establishing a urban farm on a 1.8 acre parcel of land behind Waratah Special Development School. Following the principles of regenerative, organic, low-till farming, the vegetable producing farm will provide the local students with a learning resource in a specially designed garden.

The farm requires irrigation, as well as an opportunity to harvest and treat water from the roof of the school. Banyule City Council committed \$100,000 to Farm Raiser, allowing Farm Raiser to secure an additional \$55,000 of funding from Melbourne Water. The irrigation design and ability of the farm to mitigate the storm water from Darebin Creek, as well as reducing runoff in a drainage area, means the project has a high impact potential for Banyule's WSUD goals.

7. Adaptation and Resilience

We are experiencing the impacts of climate change today and will continue to do so. We have seen this in numerous ways, including the flooding that occurred across the municipality in 2016, and widespread fires across Australia in 2019.

Adaptation is a key component of our efforts to withstand and manage the frequency and intensity of climatic extremes. It refers to practical actions and adjustments that are taken to reduce vulnerability and increase the resilience of individuals, communities, organisations and natural systems to deal with the consequences, pressures and shocks of climate change.

To build and maintain a better Banyule, our adaptation efforts will capture a wide range of policies, actions and choices incorporating local knowledge and long-term thinking. Everyone has a role to play in adaptation; factoring current and future climate risks into decisions, supporting those who are more vulnerable, applying the best available science, involving those affected in decision making and regularly reviewing actions to look for flexible choices and opportunities.

As a Council we must continually be agile in the way that we do things and integrate this concept of resilience within our everyday work and strategic planning. Much of this is already evident across complementary areas and strategies (Appendix C).

To further strengthen our response, we will:

#	Action	Description	Timeframe	Investment
7.1	the Urban Forest Strategic Plan	In line with the Urban Forest Strategic Plan, continue to roll out tree planting program across the municipality, prioritising locations with the lowest canopy cover.	Short term	Existing
7.2	Regional adaptation	Review and implement key actions outlined within the regional, 'Adaptation in the North' Report around human services, infrastructure, emergency management, industry, natural ecosystems and planning.	Short – Medium term	\$\$-\$\$\$
7.3	Vulnerability assessment	Undertake a community and council infrastructure vulnerability assessment to understand the risk of these assets to climate change and prioritise actions to enhance resilience, with attention given to supporting vulnerable groups within the municipality.	Short term	\$\$\$
7.4	Energy security for relief centers	Build the energy security of relief centers across Banyule to enable resilience in the face of projected climate impacts, including grid outages.	Short term	\$\$\$

#	Action	Description	Timeframe	Investment
7.5	Lighting effect on nocturnal animals	Ensure the impact of lighting on nocturnal wildlife is considered and minimised when introducing or replacing public lighting.	Now	Existing
7.6	Embedding resilient thinking	Embed the thinking behind this document and climate adaptation into all strategic documents, as revisions are undertaken.	Short term	Existing

ADAPTATION & OUR URBAN FOREST

What is an Urban Forest?

An urban forest is a managed population of trees, both planted and naturally occurring, which provide economic, social, environmental and ecological benefits to communities within an urban setting. In Banyule, these trees are located within streets, parks, sports reserves, private property, along railway verges and waterways. Additionally, the urban forest can incorporate green roofs, vertical walls, and community gardens.

Significantly, tree canopy cover can help the community cope with extreme heat. Melbourne in recent years has endured just over eight days a year on average above 35 degrees. By 2050, that could rise to between 13 and 21 days of extreme heat^{vii}. It can feel ten degrees cooler standing under a tree^{viii}. In a warmer climate tree canopy cover will help us to continue to go about our day to day activities.

Benefits of an Urban Forest

Economic

Urban trees shade both people and hard infrastructure such as roads and buildings from direct sun and UV rays during summer. This has the significant positive impact of reducing energy use in buildings by lowering mechanical cooling requirements and therefore avoiding further carbon emissions. This shading also protects and prolongs the life of asphalt paths and roads.

Environmental

Through their natural processes, urban trees are an essential part of providing ecosystem services in urban areas. Urban trees filter particulate matter and pollutants from the air and stormwater, they reduce the flow and amount of stormwater by intercepting and storing rainfall and they improve groundwater flows. Urban trees also provide shelter, habitat and food for wildlife, encouraging biodiversity.

Social

^{vii} Department of Environment, Land, Water and Planning (2019) "Climate Science Report 2019: Evidence is the strongest base for decisions about the future", accessed online at <https://www.climatechange.vic.gov.au/climate-science-report-2019>

^{viii} Coutts, A, Loughnan, M, Tapper, N, White, E, Thom, J, Broadbent, A, Harris, R 2014, 'The impacts of WSUD solutions on human thermal comfort. Green Cities and Micro-climate - B3.1 -2-2014' Cooperative Research Centre for Water Sensitive Cities, Monash University, December 2014.

Urban trees are a key component in facilitating a sense of place, community, neighbourhood character and social interaction. Tree lined streets and parks can profoundly increase property value and encourage physical activity. Access to green spaces has also been shown to improve mental health and speed up recovery from medical care.

Our Tree Care Team are continually undertaking programs to ensure our tree stock remains healthy, diverse and resilient to the impacts of climate change. Find out more by searching ‘Urban Forest’ on our website.

Next steps: get involved, monitor and report

To ensure we understand how we are progressing – what is working (and what is not), we will need to continually monitor the impact and effectiveness of the actions committed to in this Plan. We will publicly report on this via our website and our annual State of the Environment Report.

Beyond our own programs we will also keep abreast of broader policy and technological changes that we can take advantage of, or that create new needs or areas of advocacy focus. We will revise this Plan in the next four years, to ensure it remains relevant and effective.

#	Action	Description	Timeframe	Investment
8.1	Establish framework	Develop a Monitoring, Evaluating, Reporting and Improvement (MERI) framework for the plan.	Year 1-4	Existing
8.2	Monitor, evaluate, report and improve (MERI)	Monitor and evaluate progress. Identify areas for improvement. Report on key progress on the anniversary of the climate action resolution (mid December of each year).	Year 1-4	Existing
8.3	Communicate	The success of this Plan will be contingent on the ability to bring the community along and secure uptake of actions. We will communicate and partner with the various audiences in the community via a range of avenues and mediums, as outlined within a Communications Plan established in Year 1.	Ongoing	Existing

Implementing this plan is going to be a journey and we strive to bring everyone along through ongoing engagement with our community. We encourage you to stay in touch and sign up for updates through our quarterly environment newsletter:

banyule.vic.gov.au/Greenwrap

You can also stay up to date through our website here:

banyule.vic.gov.au/ClimateAction

We encourage you to take the lead in your household, neighbourhood, workplace and social circles - to have climate conversations and share learnings about the actions you are taking.

APPENDIX A: Council Action Plan: Summary

#	Council role	Action	Description	Timeframe	Investment	Lead Department
1.1	Collaborator	Support for environment volunteers	Continue to support Community Environment Groups such as Friends groups, Transition Towns and Community Gardens to deliver community led action	Short term	\$ - \$\$	Environment
1.2	Enabler	Face-to-face models to broaden engagement	Support existing non-environment groups such as Rotary Clubs and youth groups, to engage members in taking climate action.	Short term	\$\$	Environment
1.3	Educator	Facilitate peer learning	Investigate different models that can support peer learning and engagement.	Short term	\$	Environment
1.4	Educator	Building the intrinsic value of nature	Continue to build local engagement with nature via Banyule's stewardship programs.	Short term	\$\$	Environment
2.1	Broker	Financial incentives	Examine a range of economic levers to support the uptake of energy efficiency measures for residents and business owners. This could include facilitated low cost loans, product subsidies (i.e. free LED globe installation) or bulk purchase programs across all target areas (lighting, water and space heaters, common high energy user appliances).	Short term	\$\$ - \$\$\$	Environment
2.2	Educator	Residential energy efficiency campaign	Establish a community focused energy efficiency program to promote electrification and energy efficiency actions.	Now	Existing	Environment
2.3	Broker	Residential Environmental	Seek to partner with State Government (DELWP) and others to pilot the use of residential EUF as mechanism to support thermal upgrades for households.	Short term	\$\$	Environment

		Upgrade Finance (EUF)				
2.4	Broker	Environmental Upgrade Finance (EUF) for commercial owners	Support high energy commercial building owners to improve the efficiency of their buildings through facilitating access to low cost financing via the EUF program and expert information sources.	Medium	\$\$\$	Economic Development
3.1	Collaborator	Solar program at leased facilities	Work with preschool, sporting clubs and other community users to upgrade energy performance and install solar PV on facilities leased from Council.	Short term	\$\$\$	Environment
3.2	Broker	Residential/Commercial PPA	Investigate opportunities to broker power purchasing agreements (PPAs) for Banyule businesses and households. Implement viable models.	Short term Medium term	\$\$	Environment
3.3	Enabler	Community-led power	Encourage and support community-led energy solutions, and facilitation of networking opportunities with experts.	Short term	\$\$	Environment
3.4	Enabler	Bulk purchase programs	Continue to participate in bulk purchasing programs, such as Solar Savers, to enable residents and business access to quality solar PV systems and installers.	Now	\$\$	Environment
3.5	Educator	Education	Provide clear information and support to residents in relation to solar PV, facilitating improved understanding of value, cost and technical considerations.	Now	Existing	Environment
4.1	Collaborator	Environmentally Sustainable Design (ESD)	Continue to participate in opportunities to improve ESD standards through the planning process and	Now	Existing	Planning

		Planning Opportunities	ultimately achieve zero net and climate resilient buildings. Participate in opportunities for local government to partner in planning scheme amendments to introduce net zero standards for new commercial and residential buildings.	Ongoing	\$\$	Planning
4.2	Enabler	The Built Environment Sustainability Scorecard (BESS)	Continue to be a BESS subscriber and Council Alliance for a Sustainable Built Environment (CASBE) member, to ensure our developers can use BESS. Provide a resource to seek BESS Governance Board membership to advocate for improved ESD outcomes.	Short term	Existing	Planning
4.3	Enabler	Environmentally Sustainable Design (ESD) Compliance and Triggers	Embed Sustainable Design Assessment in the Planning Process By: <ul style="list-style-type: none"> improving the technical capacity of the Development Planning to implement ESD in planning outcomes supporting ESD related planning policy amendments and the development of planning guidelines. 	Short term	\$\$	Planning
4.4	Educator	Environmentally Sustainable Design (ESD) Compliance	Trial and implement ESD inspections to inform an understanding of current compliance levels.	Short term	\$\$	Planning
4.5	Advocate	New build advocacy	Collaborate with Local Governments and consortiums (including Council Alliance for a Sustainable Built Environment (CASBE)) to advocate State and federal government to lift the minimum standards in the NCC,	Short term	Existing	Planning

			with specific reference to climate change (i.e. cover adaptation and mitigation).			
5.1	Enabler	the Integrated Transport Plan	Continue to implement priority actions around walking and cycling, public transport and land use & development, as outlined within Banyule's Integrated Transport Plan.	Now – Long term	Existing	Transport
5.2	Collaborator	Electric charging stations	Pursue electric vehicle charging stations in partnership with businesses, State Government and private charging infrastructure provider(s) at key locations.	Short term	\$\$	Transport
5.3	Collaborator	Carshare programs	Collaborate with private providers of carshare system to realise opportunities for the roll out of a carshare program across the municipality.	Short term	\$	Transport
5.4	Advocate	Transport advocacy	Collaborate with Local Governments and consortiums to advocate State and Federal government to achieve a greener transport sector.	Short term	Existing	Transport
5.5	Educator/ Enabler	Incentivise alternative green transport modes	Explore ways (education, best practice models) to incentivize the use of zero or low emission transport modes, including walking, public transport and electric vehicles.	Short term	\$\$\$	Transport
6.1	Enabler	Food Organics and Green Organics (FOGO)	Implement a FOGO system for the municipality.	Short term	\$\$\$	Waste Management
6.2	Educator	Buy local	Deliver a 'Buy Local' campaign, which supports the revitalisation of smaller activity centres across Banyule.	Short Term	\$	Economic Development

6.3	Educator	Local food production & waste	Continue and expand programs to increase awareness of food waste and local food production.	Short Term	\$	Environment / Waste Management
6.4	Enabler	Enable recycling at leased facilities	Investigate opportunity for the provision of waste and recycling service for council owned and leased facilities (i.e. footy/tennis clubs).	Short term	\$\$\$	Waste Management
6.5	Enabler / Educator		Provide green cone and supporting education at all leased facilities.	Short term	\$\$	Waste Management
6.6	Enabler	Enabling recycling in activity centres	Investigate the feasibility of introducing public place recycling into activity centres.	Short term	\$\$	Waste Management
6.7	Collaborator	Business, multiunit and apartment recycling	Investigate the provision of recycling service and collection at businesses, multiunit and apartment developments.	Short term	\$\$	Waste Management
6.8	Enabler	Social enterprise	Increase the number of environmental social enterprises servicing or operating in Banyule by building business capacity and capability, as outlined within the draft Social Enterprise Strategy	Short term	\$\$	Social Enterprise
6.9	Advocate	Waste advocacy	Collaborate with Local Governments and consortiums to advocate State and Federal government to improve waste standards, specifically for: <ul style="list-style-type: none"> Investment in waste management infrastructure that supports more circular approaches to the Australian economy, including advanced organic processing and product recycling. Increase what is included within the Product Stewardship Act 2011 to include more mandatory products. 	Short term	\$	Waste Management

7.1	Enabler	the Urban Forest Strategic Plan	In line with the Urban Forest Strategic Plan, continue to roll out tree planting program across the municipality, prioritising locations with the lowest canopy cover.	Short term	Existing	Parks and Gardens
7.2	Enabler	Regional adaptation	Review and implement regionally focused actions outlined within the <i>Adaptation in the North Report</i> around human services, infrastructure, emergency management, industry, natural ecosystems and planning.	Medium term	\$\$-\$\$\$	Environment
7.3	Enabler	Vulnerability assessment	Undertake a detailed community and council infrastructure vulnerability assessment to understand the risk of these assets to climate change and prioritise actions to enhance resilience, with attention given to supporting vulnerable groups within the municipality.	Short term	\$\$	Environment
7.4	Enabler	Energy security for relief centers	Build the energy security of relief centers across Banyule to enable resilience in the face of projected climate impacts, including grid outages.	Short term	\$\$\$	Emergency Management / Environment
7.5	Enabler	Lighting effect on nocturnal animals	Ensure the impact of lighting on nocturnal wildlife is considered and minimised when introducing or replacing public lighting.	Now	Existing	Environment
7.6	Educator / Enabler	Embedding resilient thinking	Embed the thinking behind this document and climate adaptation into all strategic documents, as revisions are undertaken.	Short term	Existing	All
8.1	Enabler	Establish framework	Develop MERI framework for the plan, including supporting annual action plan.	Year 1-4	Existing	Environment
8.2	Enabler	Monitor, evaluate,	Monitor and evaluate progress. Identify areas for improvement.	Year 1-4	Existing	Environment

		report and improve	Report on key progress on the anniversary of the climate action resolution (mid December of each year).			
8.3	Enabler	Communicate	We will communicate and partner with the various audiences in the community via a range of avenues and mediums, as outlined within a Communications Plan established in Year 1.	Ongoing	Existing	Environment

APPENDIX B: Glossary

Adaptation	<p>Changing behaviours, increasing resilience and upgrading assets to better respond to the impacts of climate change such as extreme weather events.</p> <p>Regardless of how successful we are in mitigating climate change, we will continue to experience impacts to which we need to adapt.</p>
Carbon neutral	See ‘zero net emissions’
Climate change	Changes to the Earth’s climate caused by human activity including burning fossil fuels (coal, gas, petrol and diesel) and clearing vegetation. Impacts include a global temperature increase as well as local droughts, floods, extreme hot and cold spells, and more intense rainfall.
CO₂-e	Carbon Dioxide-equivalent. A measure used to compare emissions from greenhouse gases based upon their global warming potential, the amount they contribute to climate change.
Energy efficient	An appliance or vehicle that is energy efficient generates ‘more output per input’: more light, heat, movement or other desired output, per input of energy.
Greenhouse gases	Carbon dioxide, methane, nitrous oxide and other gases that build up in our atmosphere.
LEDs	Light Emitting Diodes. Energy efficient lighting.
Mitigation	Reducing emissions of greenhouse gases that cause climate change.
MERI	Monitoring, evaluation, reporting and improvement of our plan.
Northern Alliance for Greenhouse Action (NAGA)	Nine councils in Melbourne's north, including Banyule, working together to trial, support and share learnings from emission reduction and adaptation activities in the region.
Offsets, carbon offsets	Projects that compensate for emissions at one source by either investing in emissions avoidance elsewhere, such as through renewable energy generation, or removing carbon from the atmosphere through reforestation. With enough purchase of offsets, net emissions from an organisation’s activities could be reduced to zero (zero net emissions).
Power Purchasing Agreement (PPA)	An agreement between an electricity provider and a buyer for the sale of energy. They can be used to secure a large amount of renewable energy at an agreed price over an extended period, and ensure money exchanged for power is only invested in the development of renewable energy sources
Renewable energy	Energy generated by renewable sources such as the sun, wind and movement of water.
Zero Net Emissions	Once emissions have been reduced as much as practically possible, there will still be some unavoidable residual emissions. Net emissions are zero when carbon offsets are bought, or renewable energy is installed which reduces emissions by the same amount as the residual. Another term with the same meaning is Carbon Neutral.

APPENDIX C: Complementary Council strategies

For many of the action themes, existing plans are already in operation to address complementary objectives of resilience and environmental sustainability.

These key documents are listed below:

<p>BIODIVERSITY PLAN, 2019 - 2022</p>	<p>The Biodiversity Plan provides an overview of Banyule's biodiversity assets and lists actions and indicators to direct and monitor our management of biodiversity within the municipality.</p>
<p>CORPORATE EMISSIONS REDUCTION PLAN, 2020 - 2023</p>	<p>This four year Plan outlines nine priority themes and 30 key actions that collectively will place Council in a strong position to achieve its target of carbon neutrality by 2028 for Council operations.</p>
<p>INTEGRATED TRANSPORT PLAN, 2015-2035</p>	<p>The ITP delivers on one of Council's Place objectives of the City Plan 2013-2017, providing long-term direction in transport and land use decisions in Banyule. It includes a vision where Banyule is a city with accessible, sustainable and active communities, with good access to jobs, education, shopping and community opportunities within a safe transport network.</p> <p>The plan identifies six objectives that reflect the aspirations and principles developed to assist Council achieve an integrated and sustainable transport network and improve the overall liveability of our municipality.</p>
<p>MUNICIPAL EMERGENCY MANAGEMENT PLAN</p>	<p>A requirement of the State Government, this Plan articulates Banyule's approach to:</p> <ul style="list-style-type: none"> • the prevention of, • response to, and • the recovery from emergencies affecting the community.
<p>STEWARDSHIP PLAN, 2019 - 2022</p>	<p>The Stewardship Plan articulates Council's program of works to respond to the objective of being and building environmental stewards across the municipality. Specifically, it looks to focus on the following:</p> <ul style="list-style-type: none"> • Supporting and education the community to protect, enhance and experience the environment, working together with local friends groups and environmental organisations, and <p>Managing recreation and open spaces in an environmental sustainable way.</p>
<p>(draft) SOCIAL ENTERPRISE</p>	<p>Social enterprises are defined as businesses that:</p> <ul style="list-style-type: none"> • are led by an economic, social, cultural or environmental mission consistent with a public or community benefit

<p>STRATEGY 2020 – 2025</p>	<ul style="list-style-type: none"> • derive a substantial portion of their income from trade • reinvest the majority of their project / surplus in the fulfilment of their mission. <p>The Social Enterprise Strategy aims to drive employment participation and inclusive economic growth in Banyule by supporting the growth and sustainability of the social enterprise sector.</p>
<p>TOWARDS ZERO WASTE MANAGEMENT PLAN, 2019 - 2023</p>	<p>This Plan is based on the waste management hierarchy, in which avoidance is the most preferable option and disposal to landfill the least preferable. The plan has four strategic directions.</p> <ol style="list-style-type: none"> 1. Avoid waste generation. 2. Build, support and strengthen a community culture that is striving to be zero waste. 3. Deliver environmentally responsible and cost-effective recycling and waste services. 4. Advocate to other levels of government to avoid waste, reduce waste to landfill and increase recycling.
<p>URBAN FOREST STRATEGIC PLAN, 2014</p>	<p>This Strategic Plan provides the foundation for building policy and programs to ensure Council effectively plans, manages and maintains our highly valued urban forest.</p>
<p>WATER STRATEGIC PLAN, 2019 - 2023</p>	<p>The Water Plan builds on our strong experience in managing water sustainably, while improving our ability to plan for and respond to significant events like the water shortages of the Millennium drought, and the major floods that we have experienced in the last several years.</p> <p>The Plan sets us up to ensure that water is available for the environment in a sustainable way, and to continue to enjoy the benefits that water provides to the community</p>