Climate Action Plan

2022-2032

Nillumbik

The Green Wedge Shire

Acknowledgement of Country

Nillumbik Shire Council respectfully acknowledges the Wurundjeri Woi-Wurrung people as the Traditional Owners and Custodians of the Country on which Nillumbik is located. We pay respect to Elders past, present and emerging; and extend that respect to all First Nations People. We respect the enduring strength of the Wurundjeri Woi-Wurrung and acknowledge that sovereignty was never ceded.

Wurundjeri Woi-Wurrung people hold a deep and ongoing connection to this place. We value the contribution their Care for Country makes to the lands, waterways, plants, wildlife and people of the Shire of Nillumbik; acknowledge their beliefs, customs and values; and are committed to collaborating around how we think, work and act in relation to climate change and caring for our environment.

Contents

If you need this document in another format please contact Nillumbik Shire Council on 9433 3111.

Declaration of Climate Emergency

As a Green Wedge Shire, Nillumbik Council is acutely aware of the multiple threats facing all communities and ecosystems as a result of climate change. This requires urgent action by all levels of government, including local government.

Council therefore Declares a Climate Emergency, commits to a climate emergency response, and will proactively integrate climate change mitigation and adaptation into all Council actions.

Image: Youth volunteers learning about climate change impacts on Nillumbik's natural environment

A message from our Councillors

The *Climate Action Plan 2022-2032* provides the roadmap by which Council and our community will work together over the next decade to do our part to address one of the most pressing issues faced by society.

The Plan is the result of working closely with our community, through extensive consultation and engagement, to ensure that it reflects the feedback and views they have expressed.

Unmistakeable throughout this process was the overwhelming community view of the need for meaningful climate action and for such action to be taken as a priority.

This is why, as part of this Plan, Council has declared a climate emergency.

This public declaration is integral as it provides the overarching impetus for the objectives and strategies contained in the plan.

The Plan is accompanied by a clear implementation schedule and a commitment to evaluate and report on its progress at regular intervals.

On too many occasions over the years, our community has witnessed first-hand the devastating impacts of fires, floods and other extreme weather events.

The Plan emphasises mitigation and adaptation – in Council's activities and operations, as well as in the broader community. It sets a goal of net zero emissions in Council operations by 2030 and a 2035 net zero emissions target for our community. It identifies eight focus areas for proactive climate action.

Importantly this Plan builds on Council's previous climate action plans and on the significant work already undertaken by Council and by our community in climate change mitigation and adaptation.

Council and the broader Nillumbik community have a strong record when it comes to matters of sustainability, climate action and building resilience in the face of the challenges presented by climate change.

There is a strong sentiment, both within Council and in our community, that we all at a local level, have a key role to play in addressing this global issue.

Through this Plan we, together, will build on what has already been achieved and do our part over the critical next decade and beyond.

1. Introduction

Why Council has a Climate Action Plan

The science is clear. Climate change is occurring and greenhouse gas emissions from human activities are the dominant cause.

The Victorian government has identified climate change as one of the biggest threats to the future of the state; with warmer and drier conditions projected to have negative consequences for health, infrastructure, agriculture, water and biodiversity. The impacts of climate change cut across almost all areas of local government responsibility.

In response, legislation is strengthening. This has included the introduction of the *Climate Change Act 2017* and the *Local Government Act 2020* which require decision makers to have regard to climate change.

Through the Climate Change Act, Victoria also recognises and supports the 2015 Paris Agreement on climate change in which the international community committed to "holding the increase in average temperature to well below 2ºC above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5ºC"; and responds to Goal 13 of the United Nations Sustainable Development Goals: "Take urgent action to combat climate change and its impacts".

Local government has a pivotal role to play in helping to curb emissions to achieve this international commitment; and **in acting now** to prepare for and respond to those climate impacts that we cannot avoid. We need to think global and act local.

As further mandates, the Nillumbik community has overwhelmingly told us that local climate 'mitigation' and 'adaptation' action is needed **to tackle the climate emergency**; and Council's insurer has provided advice that the risk of matters such as fire and flood need to be addressed.

Nillumbik Shire Council is committed to working actively and collaboratively to help address the climate change emergency.

Image: Emergency services and Council 'Working together' exercise, testing equipment and training

What this Climate Action Plan will focus on achieving

This Plan provides the pathway for Council climate action over the next decade.

Our climate action will be twofold:

- **Mitigation -** We will proactively reduce Council's direct contribution to climate change; and we will support our community to do likewise

  We have set targets of achieving net-zero Council emissions by 2030 and net-zero Community emissions by 2035.

- **Adaptation -** We will proactively prepare for, respond and adapt to the risks and impacts of a changing climate on our community, environment, infrastructure and services; and we will support our community to do likewise.

We'll do this through a culture of action, innovation, collaboration and support.

We'll focus on achieving:

1. Strong climate action leadership and culture
2. A climate resilient, adaptive and safe community
3. A climate resilient natural environment
4. Climate responsive Council services, facilities/buildings and infrastructure
5. Council and community zero emissions energy use
6. Sustainable transport
7. A zero waste and circular economy
8. Integrated water management

This Plan specifies the strategic objectives and associated actions that will help get us there. An accompanying, regularly updated, Implementation Plan will drill down further.

Managing a changing climate requires a dual approach[1]

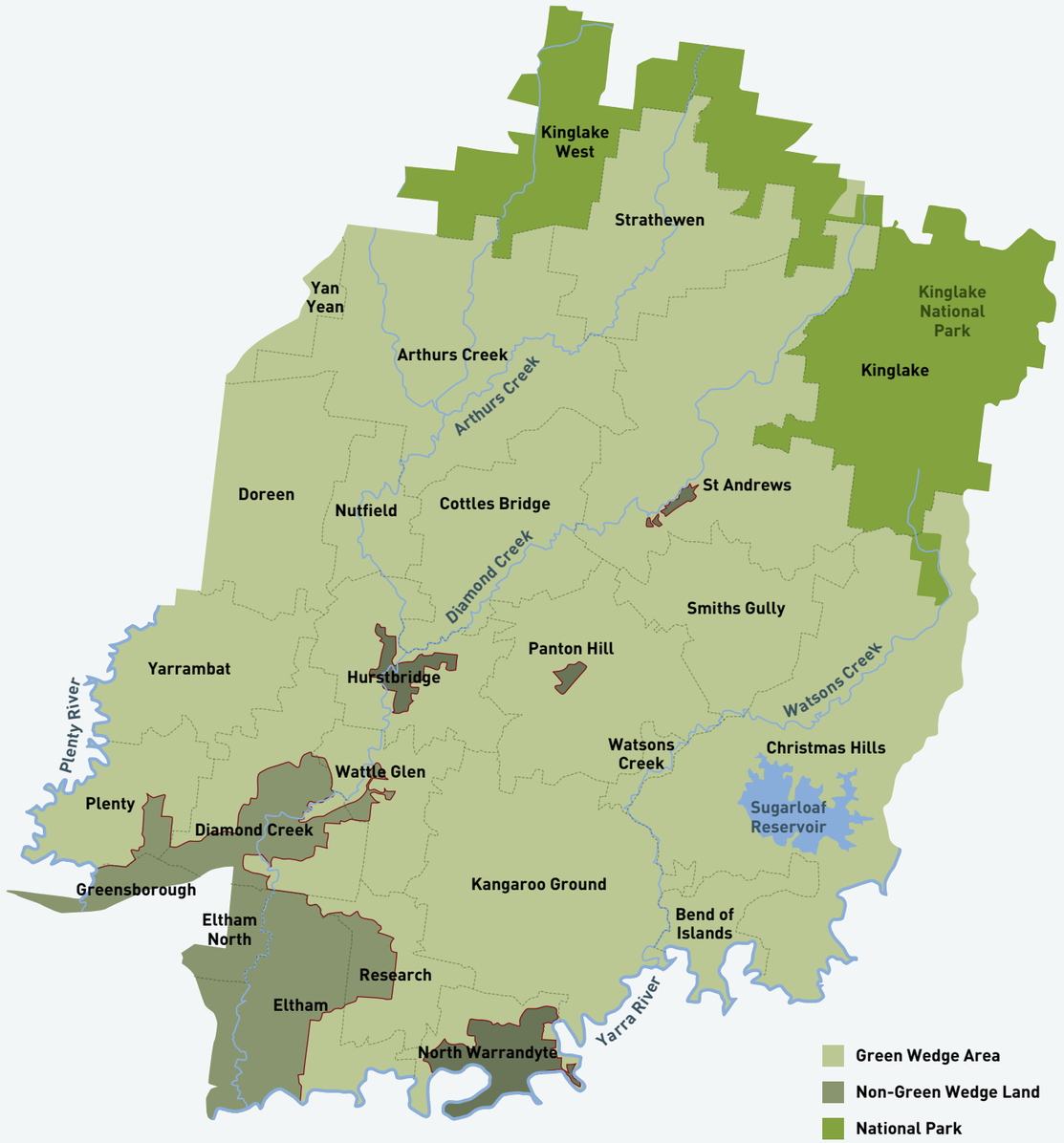
1 National Climate Resilience and Adaption Strategy

Background to the Shire of Nillumbik

The area that now comprises the Shire of Nillumbik was inhabited for thousands of years by the Wurundjeri-willam clan of the Woi wurrung speaking people.

Known as 'the Green Wedge Shire', Nillumbik has a population of around 65,000 people and is 432km2 in size; 91% of which is outside the urban growth boundary. As such, this Plan considers climate action in urban and rural contexts.

The Shire is located in Melbourne's outer north-east, approximately 25km from the city, extending out as far as Kinglake National Park. It comprises a collection of suburbs, townships and villages - each with its own unique identity and heritage; limited industry; and a unique rural environment that is highly valued for its biodiversity, bushland, natural beauty, visitor experiences, agriculture, grazing land, rural living and open space.



Source: Nillumbik Shire Council

2. Climate Action in Nillumbik, the story so far

Climate Action by the State Government

The Victorian government is taking the lead role in securing Victoria's (and Nillumbik's) net-zero emissions future and building resilient communities prepared to deal with the impacts of climate change.

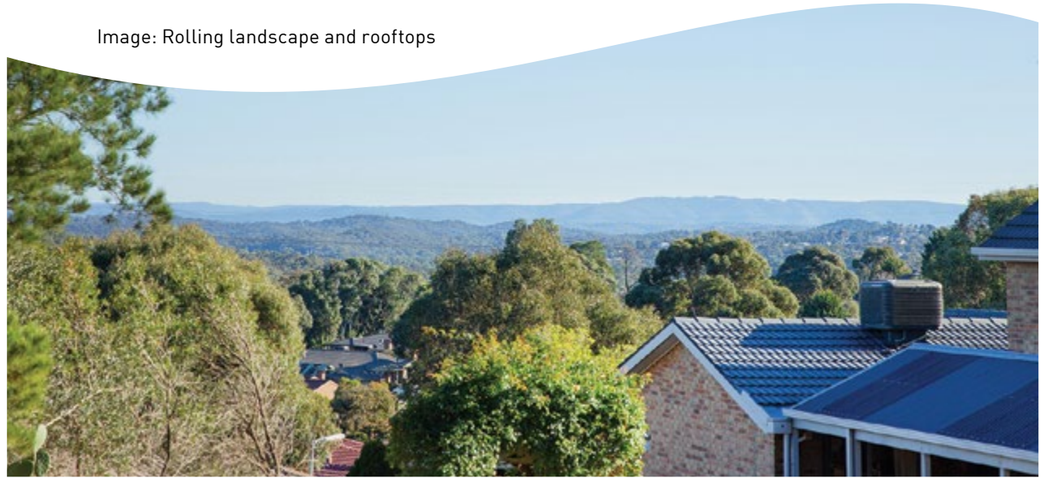
The *Victorian Climate Change Strategy 2021* was released on the basis that our climate is changing and we must act now. The State's overarching target of net-zero emissions by 2050 is law. The Strategy sets out the steps to achieve that target, and includes interim-targets to cut Victoria's emissions by 28-33 per cent by 2025 and 45-50 per cent by 2030.

Achieving these interim targets, and – ultimately net-zero emissions – will require action across all sectors of the economy by governments, businesses and the community.

To help meet these targets, the Victorian Government has prepared energy, land use, agricultural, waste, industry, transport emissions and corporate (i.e. state government operations) reduction pledges and associated supports.

The Strategy also includes a commitment to enabling 'transformational adaptation'. Adaptation Action Plans have been prepared to build Victoria's climate resilience in primary production, the built environment, education and training, health and human services, the natural environment, transport and the water cycle. They set out priorities to guide government action and help institutions and individuals take informed action, and are reviewed every five years.

Image: Rolling landscape and rooftops



Climate Action by Council

This Plan builds upon a platform of action that Council has already undertaken. Our first Climate Plan was endorsed in 2010, and our second in 2015. It also builds upon the work of the Victorian government and the action that the Nillumbik community is taking.

We have invested in supporting Council operations and our community to plan for, respond and adapt to climate impacts. Planning to reduce the risks of bushfire is a priority, along with responding to localised flooding and the impacts of drought and heat.

We have also increased our renewable energy capacity and eco-friendly purchasing focus, and we have implemented a wide variety of actions to help reduce Council's energy and water use and reduce greenhouse gas emissions. A summary is provided in **Appendix A**. For example:

- We reduced our total corporate emissions by 12.9% (from 2012 levels) between 2016 and 2020 - even while extending Council buildings which, of course, creates extra energy use; and
- We won a national innovation award for our solar and off-grid battery at Diamond Creek Community Stadium which enables the venue to be self-sufficiently powered if grid-power goes down whilst in use as an emergency relief centre.

Our 2019 corporate emissions profile is also provided in Appendix A. The emissions from Council operations represent around **one per cent** of Nillumbik greenhouse gas emissions. The remaining 99 per cent of emissions are produced within our community.

To help support our community with their climate mitigation, resilience and adaptation, Council has been an active member of organisations such as the Northern Alliance for Greenhouse Action and the Cities Power Partnership; and we have supported community action, including through the work of Clean Energy Nillumbik.

We have increasingly focused on leading by example; advocacy around climate action; and providing our community with access to energy-efficiency advice, education and programs.

Details of our full range of climate action partnerships, actions and outcomes are provided on Council's website, and are regularly updated.

Whilst much has been done, there is more to focus on over the coming years.

Image: Cyclists on the Diamond Creek Trail, Diamond Creek

Climate Action in the community

The Nillumbik community, young and old, is skilled and well placed to lead localised action on climate change.

Various climate action and emergency community groups have formed. Through advocacy, lobbying and communication they encourage the community and all levels of government to take urgent climate action and are forums for like-minded individuals to collaborate. For example:

- The Nillumbik Climate Emergency Action Team submitted a petition to the June 2021 Nillumbik Council Meeting, containing 1,846 signatures, requesting that Council declare a state of Climate Emergency, supported by a climate emergency response.
- Clean Energy Nillumbik has a renewable electricity vision and has delivered bulk purchase programs, participatory education campaigns, neighbourhood-scale battery research and more to help achieve that vision.
- Community led initiatives such as Sustainable House Day, opportunities to 'speed-date' sustainability experts, community food gardens, food swaps, carbon-offset Eltham Farmers Market, climate crisis public forums and electric vehicle displays are amplifying climate action reach.

Over recent years, the Nillumbik community has increased its uptake of rooftop solar panels, is consistently minimising waste to landfill by actively separating waste, and is walking, riding or using public transport where possible.

Information is provided in **Appendix B** which depicts a 2020/21 baseline overview of climate actions that the Nillumbik community are undertaking at the household level; and what, as at the launch of this Plan, our Community emissions profile is.

Council is doing what it can to support community action, alongside the work of interest groups, community groups, educators, businesses and individuals who are the community champions for climate action.

Again, while much has already been done, there is more that the community can lead or get involved in, often with government support, to help meet a Nillumbik community net zero emissions target by 2035; and to continuously enhance resilience to climate change impacts.

Image: Community climate action: A local community food swap

3. The steps taken to develop this Climate Action Plan

The six phases of development

PHASE 2

Research into legislative requirements, policy, data and best practice to inform the development of this Plan

PHASE 4

We asked the community what their priorities are. 400 phone survey responses and 397 online survey responses

PHASE 6

Public exhibition of the Draft Plan so the community had an opportunity to provide further feedback. 4 virtual drop in sessions and 84 submissions

PHASE 1

Review of Climate Change Action Plan 2015-2020 outcomes

PHASE 3

Regular consultation with Councillors and Council Advisory Committees on strategic priorities

PHASE 5

We commissioned an independent climate change risk assessment of Council operations

Consultation with Council officers to identify potential actions and targets

Considering community views

Hundreds of voices

Obtaining community input was important. Council sought to understand the opinions and priorities of the general community and also of thought-leaders, i.e., those passionate about climate change, as advocates and as sceptics.

This information helped to inform the goals, targets and focus areas of this Plan.

We thank the 797 people who completed a climate action telephone or online survey; the 84 people who made submissions on the draft Plan; and the 15 people who participated in virtual drop in sessions to discuss the draft Plan.

We also thank the people who voiced their climate concerns and aspirations during the development of this Plan through the broader 'Our People, Our Place, Our Future' consultation to inform the development of the *Nillumbik 2040 Community Vision*, the *Council Plan 2021-2025* and the *Health and Wellbeing Plan 2021-2025*; and through the 'Young Minds: Your Voice, Our Future' consultation.

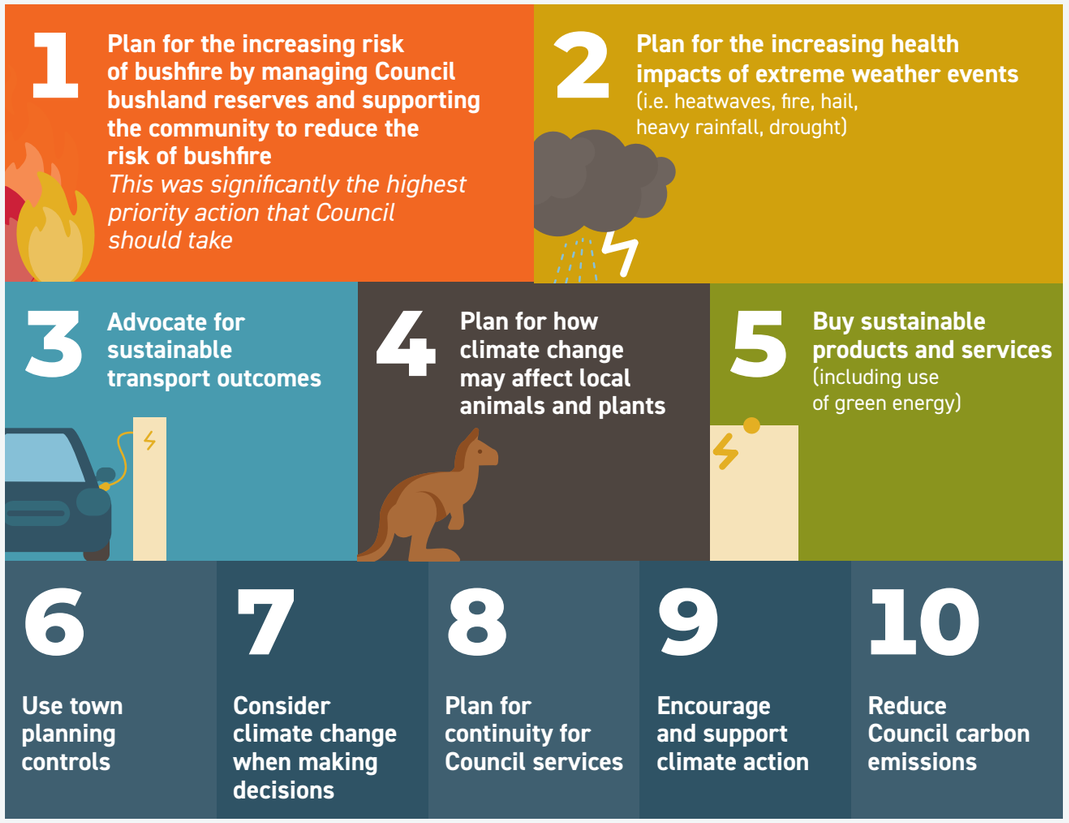
Traditional owners Wurundjeri Woi-Wurrung; and Council's formal Environment and Sustainability Advisory Committee, Public Health and Wellbeing Advisory Committee, Healthy Aging Advisory Committee, Economic Development Advisory Committee and Youth Council were consulted, and conversations held with local climate groups.

The key messages arising from the climate action survey included:

- There is overwhelming support for Council to have mitigation targets, and to align them with Victorian government targets, i.e. net zero emissions for Council operations by (or before) 2030 and net zero community emissions by (or before) 2050.
- 90% expressed some level of concern about climate change.
- 82% think Council should consider climate change in their decisions.
- Council should focus on, and resource, both mitigating the causes of climate change and adapting to the consequences of climate change.
- Fire is the biggest effect of climate change that the community is concerned about.
- The top ten priorities of the community for Council climate action to focus on are listed overleaf (and over 80% of submissions on the draft Plan supported each of the focus areas of this Plan).
- A sample of quotes obtained via the consultation is provided on the back page.

The **six effects** of climate change that the community are most concerned about are:

The community's **top ten** climate change priorities for Council to focus on are:



Source: Nillumbik Climate Action Plan consultation survey results, sample of 400 statistically representative households, 2020

Image: Council officers at work

Considering climate change risks

Understanding the key physical, transition and liability climate risks to Council's operations and services is important.

A physical climate change risk assessment was undertaken for Council by our insurance broker, in consultation with Council officers, to help inform the development of this Plan.

The risk assessment considered climate change scenarios, existing controls, their suitability, gaps, likelihood of impact, consequence and what additional adaptation needs to be prioritised.

The 2050 scenarios considered[2]:

- Increasing number of hot days (above 35°C) – additional 14 to 16 days per year
- Increasing annual maximum average temperature – by 1.6°C to 1.9°C
- Decreasing rainfall – by 6% to 8%
- Increasing frequency and intensity of rainfall events
- Increasing number of fire weather days – additional 7.7 days per year

Ongoing assessments will need to be undertaken of physical risks, and assessments of transition and liability risks will also be required.

Risk assessment findings will be used to help identify and inform Climate Action Plan initiatives and implementation.

2 Victoria's Climate Science Report 2019, Greater Melbourne Projections

4. We're taking the Climate Emergency seriously – What we will do

Focus Areas for Climate Action

Nillumbik Shire Council takes the climate emergency seriously, and is committed to working actively and collaboratively to address climate change.

A challenge is to identify priority areas for action that will deliver community benefits that Council is able to resource.

This Plan has been developed under the guidance of the following principles:

- Council accepts climate science and recognises climate change as a threat and foreseeable risk.
- Council has diverse roles in responding to the challenge of climate change so we've created a whole-of-Council proactive climate response.
- Climate action requires collaboration between communities, businesses and all levels of government.
- Climate action decision-making needs to be dynamic and responsive to innovation opportunities.
- Key implementation actions will be reviewed annually, will help inform Council planning and resourcing considerations, and will inform and be subject to annual Council Plan and Budget processes.

Our goals and targets

We have three overarching goals that will guide Council's investment and focus:

MITIGATE	**Goal 1 - Council Mitigation** Reduce Council's direct contribution to climate change *Target of net zero emissions by 2030*
ADAPT	**Goal 2- Council Adaptation** Prepare for, respond and adapt to the risks and impacts of a changing climate on our community, environment, infrastructure and services.
COMMUNITY SUPPORT	**Goal 3 - Community Mitigation & Adaptation** Support our community to reduce their contributions to climate change and to adapt and be resilient to climate change risks and impacts *Target of net zero emissions by 2035*

We've set an ambitious community climate mitigation target because we believe our community will be leaders in climate-action, just as they've been leaders in environment-action for a long time.

Each of these goals is considered within our eight focus areas in the following pages, supported by objectives and strategies that will be:

- achieved via the delivery of specific implementation actions
- tracked against targets and indicators
- assessed in terms of outcomes achieved.

Our indicators

We've included indicators that we are confident that we can currently collect data on and measure. Some of them have associated targets. They'll help track our progress in achieving the goals and objectives of the Climate Action Plan. Over the life of the Plan, as improved and more cost effective data collection options become available, we'll be able to review and update them.

FOCUS AREA 1:
Strong climate action leadership and culture

Council has Acknowledged a Climate Emergency and commits to lead by example by carrying out our work in the deliberate context of implementing regular and ongoing climate action; and to support our community to prioritise climate action.

Objective	Goal 1	Goal 2	Goal 3	Strategies
1.1 To lead by example	♻	⇄	🤝	a. Council has Declared a Climate Emergency b. Demonstrate climate action leadership through proactive Council action to achieve net zero emissions and to build climate resilience (i.e. implementation of this Plan)
1.2 To consider climate impact in day-to-day operations and when making Council decisions	♻	⇄	🤝	a. Embed delivery of the Climate Action Plan within the CEO's contract / performance plan b. Support and encourage all Council staff to be engaged in undertaking or supporting climate action within their roles c. Leverage relationships with agencies, organisations and groups to keep abreast of best practice climate action and opportunities for continuous improvement d. Embed consideration of climate risks, impacts, mitigation and adaptation opportunities into Council's key governance documents and decision-making processes; and into new Council policies, strategies and plans e. Prioritise and plan for climate action that will achieve the greatest emissions reductions.
1.3 To collaborate and advocate for climate action by local, state and federal government that will support the Nillumbik and broader community and environment	♻	⇄	🤝	a. Collaborate and advocate for broad and urgent climate action by all levels of government to reduce and respond to climate change b. Collaborate and advocate for climate action opportunities that will support the Nillumbik community to participate in, and contribute to, climate action; and respond to climate change

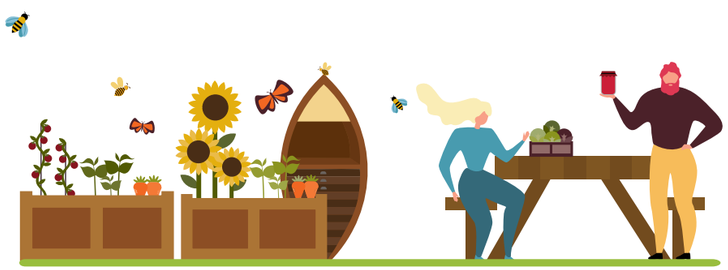
Indicators

- Community satisfaction with Council's performance in delivering climate action leadership and initiatives (source – Annual community survey)
- Annual percentage of department business plans that include climate actions (Target – increasing)

KEY ♻ COUNCIL MITIGATION ⇄ COUNCIL ADAPTION 🤝 COMMUNITY SUPPORT

Case study:
Council strategies will be climate action responsive

During the life of this Plan, Council will prepare and update many strategies and plans, and will incorporate a stronger climate lens into this work than ever before. Examples may include Council's Biodiversity Strategy, Housing Strategy, Integrated Transport Strategy, Heatwave Strategy, Open Space Strategy, reviews of the Nillumbik Planning Scheme, the next Council Plan, the next Health and Wellbeing Plan, and so on.



FOCUS AREA 2:
Having a climate resilient, adaptive and safe community

The direct and indirect physical and mental impacts of climate change on health and wellbeing can be considerable. Actions delivered through this Plan and through Council's Health and Wellbeing Plan seek to deliver health co-benefits for our community - including building community resilience, planning for and reducing the impact of extreme weather events, supporting vulnerable community members, strengthening food systems, and reducing carbon emissions and waste.

Climate change impacts can also affect community economic wellbeing and resilience, including for example the costs of mitigation, adaptation and recovery, including insurability.

"Victoria is already seeing direct and indirect health and wellbeing impacts associate with events such as floods, fires and heatwaves, which are occurring with greater frequency and intensity due to climate change. Without urgent action from all levels of society to mitigate and adapt to climate change it is evident that the health, safety and wellbeing of Victorians, particularly those most vulnerable, is at risk now and into the future[3]*" .*

Council will continuously explore opportunities, including working in partnership with others, to encourage and support the Nillumbik community to be engaged and climate-action active, adaptive and resilient – to help keep our community safe and healthy.

Our partners and community stakeholders will regularly evolve and are likely to include cohorts such as residents/land owners, youth, community groups, businesses, health and wellbeing organisations and emergency services.

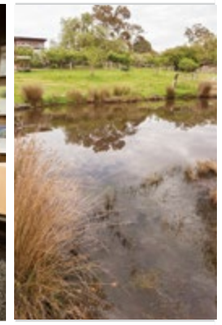
Objective	Goal 1	Goal 2	Goal 3	Strategies
2.1 To have an engaged community that is climate-action active				a. Support community awareness of the importance of taking climate action and of opportunities for action b. Build the capacity of community stakeholders to lead and deliver climate action initiatives c. Support and participate in collaborative mitigation and adaptation opportunities across the Shire d. Support the community to be prepared for and resilient to climate change impacts - including an increase in the number of extreme heat, fire weather and high rainfall days; and a decrease in overall rainfall e. Celebrate, promote and share community climate-action achievements
2.2 To support the community to be bushfire-prepared				a. Work in partnership with the CFA and other stakeholders to support the Nillumbik community to prepare their property for a potential bushfire and to have a fire safety survival plan in place organisations and groups to keep abreast of best practice climate action and opportunities for continuous improvement
2.3 To plan for the health impacts of extreme weather events				a. Implement the Municipal Health and Wellbeing Plan b. Engage with the community to raise awareness of the impacts of climate change on health, and actions that can be taken to help stay healthy and well in a changing climate.

3 Victorian Department of Health and Human Services, 2020,
Tackling climate change impacts on health, Municipal Public Health and Wellbeing Plan guidance

Indicators

- Percentage of Nillumbik residents that have made changes to their home or lifestyle to help reduce climate change and its impacts (Source – annual community survey). Target – increase.
- Nillumbik resident rating of their household's ability to cope with climate related risks and impacts (such as fire, drought, extreme heat and heavy rainfall). (Source – annual community survey). Target – increase.

KEY COUNCIL MITIGATION COUNCIL ADAPTION COMMUNITY SUPPORT



Case study:
Our own Climate Action Hub

Imagine if Edendale Community Environment Farm could evolve to also become a climate action hub for the community. We'll be exploring the possibility and will do what we can. This could include more climate action education opportunities for school groups and others, a new-look nursery which incorporates climate-sensitive planting advice, and - over time - as many other urban and rural climate mitigation and adaptation demonstrations and examples as we can manage.

FOCUS AREA 3:
Having a climate resilient natural environment

Nillumbik is home to a rich and varied natural environment, however the current and projected rate and magnitude of climate change is challenging its natural adaptive capacity. Ongoing work is required to understand thresholds before tipping points are reached, beyond which irreversible changes to ecosystems occur, and what can be done to help prevent or adapt to such changes in Nillumbik.

Climate change also exacerbates other 'threatening processes' such as invasive species numbers and distribution, disease and pathogens, and other agents of change – which can interact with direct climate impacts (such as fire, flood and drought) to undermine the resilience of our natural environment.

As such, approaches to resilience that incorporate broad thinking about environmental change are most likely to contribute to positive outcomes; and require urgent focused attention.

Nillumbik's green wedge and its vegetated urban environment present opportunities for deliberate action to act as a carbon-sink to help sequester emissions (i.e. absorb and store carbon dioxide from the atmosphere) and thus help to limit climate change – whilst at the same time helping to reduce urban heat-island impacts, provide climate resilient habitat, and climate resilient food systems.

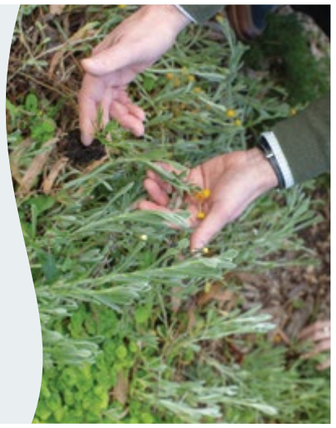
Objective	Goal 1	Goal 2	Goal 3	Strategies
3.1 To protect and enhance our natural environment so that it is climate responsive and resilient	♻	⇄	🤝	a. Investigate and support collaborative climate-action mitigation and adaptation opportunities that help to: • Protect and enhance urban, peri-urban and rural biodiversity (e.g. protect wildlife corridors, enhance the diversity of native vegetation cover, protect threatened species) • Respond to invasive species • Reduce the likelihood and impacts of bushfire • Sequester carbon • Conserve soil moisture and optimise soil functionality • Conserve and maximise beneficial use of water b. Plan for the increasing risk of bushfire by managing Council's roadside and bush reserves; and engaging with the community to reduce the risk of bushfire c. Investigate measures to establish and enhance urban tree canopy and help reduce urban heat
3.2 To have climate resilient food systems			🤝	a. Encourage sustainable / regenerative agriculture b. Identify opportunities to enhance the local food system c. Promote and support community and home based food growing

Indicators

- Number of hectares of vegetation coverage – frequency of survey every four years - 2024, 2028
- Number of properties supported through Council delivered programs (rate relief, grants, advice etc) to engage in biodiversity conservation, sustainable land management, sustainable agriculture and/or food growing
- Number of organisations (including Traditional Owners) collaborating with Council to protect and enhance our natural environment

KEY ♻ COUNCIL MITIGATION ⇄ COUNCIL ADAPTION 🤝 COMMUNITY SUPPORT

Case study: Supporting climate resilient land management and gardening



A changing climate can require land management practices to evolve to best protect and enhance our natural environment. We keep abreast of best practice and share what we know with the community, in particular via our free land management and biodiversity advice services, demonstration days, and our gardening for wildlife community program. We've been helping around 400 properties a year and are ready to help even more households and properties across urban and rural Nillumbik.

Case study: Bushfire mitigation

Council's annual bushfire mitigation program is informed by the Municipal Fire Management Plan. Each year fuels, hazards and fire fighting assets are assessed and managed. This includes managing tree hazards on roadsides; reducing fuels on roadsides and in reserves; ensuring that fire tracks and water tanks are accessible and operational. In the Eltham Copper Butterfly reserves we manage to protect the endangered butterfly while protecting adjacent properties from the potential bushfire threat.

FOCUS AREA 4:
Having climate responsive Council services, facilities, buildings and infrastructure

Council provides a wide variety of services for the people and environment of the Shire of Nillumbik. We need to be prepared to ensure that we can continue to deliver services such as waste management, animal management, health services, local laws, planning and building services, emergency management, road management, and community services - without being majorly impacted by the changing climate or extreme weather events.

We are also responsible for community infrastructure including local roads and roadsides, bridges, drains, council buildings, libraries, recreation and leisure facilities, Council bushland reserves, parks, playgrounds and gardens; and we are responsible for considering climate risks and making sure that this infrastructure is built and maintained in a fashion that will be useable as the climate changes.

Objective	Goal 1	Goal 2	Goal 3	Strategies
4.1 To enable continuity of Council service delivery in a changing climate and in the event of a natural disaster/ emergency		⇄	🤝	a. Reduce the risks from climate change impacts on the delivery of Council services b. Consider whether additional or modified services may be required to support community safety and wellbeing in a changing climate
4.2 To have Council infrastructure and facilities that are appropriate in a changing climate (i.e. roads, footpaths, drainage, buildings, facilities, open space, parks)		⇄		a. Reduce the risks from climate change impacts on the ability to use council facilities and infrastructure b. Reduce the risks from climate change impacts on the functionality of council infrastructure c. Enable climate resilient outcomes in the construction, renewal and maintenance of Council assets

Indicators

- Number of Council facilities where climate efficiency projects/programs have been delivered

KEY ♻ COUNCIL MITIGATION ⇄ COUNCIL ADAPTION 🤝 COMMUNITY SUPPORT

Case study:
Off-grid Emergency Relief Centre and Sports Stadium

Council won a national climate innovation award in 2020 for our climate mitigation and adaptation at the Community Bank Stadium in Diamond Creek. The sports stadium doubles as an emergency relief centre and needs a reliable power supply. In a world-first, instead of just installing roof top solar we also installed a battery system designed to enable the building to function off-grid in times of need, for example when a bushfire or storm results in wide-spread power losses or people needing a place to shelter.

Case study:
Shade, Shade, Shade

Hot weather and extreme heat can limit the communities' ability to use and enjoy outdoor facilities such as playgrounds and sports facilities. We're doing what we can to increase shade through targeted tree planting, shade sails, shelters and innovative designs.

FOCUS AREA 5:
Achieving Council and community zero emissions energy use

Council will work with, and alongside, other levels of government, interest groups, residents and businesses to help explore local emissions-reduction and carbon sequestration opportunities that will contribute towards achieving our target of the Nillumbik community being carbon neutral by 2035. This will include consideration of how to:

- encourage the community to maximise energy efficiency and reduce energy consumption
- encourage implementation of Environmentally Sustainable Design (ESD)
- encourage and support the community to transition to renewable energy
- encourage carbon sequestration
- advocate for and leverage off government programs and incentives

We will also lead by example by prioritising the reduction of our own emissions. A Zero Emissions roadmap will guide a staged approach to achieving the target of council operations being carbon neutral by 2030.

When selecting energy-efficiency and emissions-reduction Council projects, priority will be given to projects which will deliver substantial emissions reductions - along with consideration of whether they:

- Are under the control of Council
- Focus on reductions from the greatest remaining emissions sources
- Can return benefits to Council or the Nillumbik community
- Deliver a strong return on investment
- Improve comfort and thermal performance of buildings
- Enhance safety
- Reduce reliance on grid supply
- Use proven technologies to deliver outcomes
- Incorporate best available technologies
- Achieve the strategic objectives of Council

Areas of opportunity include renewable energy, batteries, transitioning away from gas, zero-emissions buildings and machinery, energy-efficiency, charging facilities, lighting, micro-grids and other emerging sectors and technologies; all within the context of maintaining delivery of Council services. This will include the construction of a solar farm that will supply 100% renewable electricity for Council operations with scope to explore community access; and will build upon previous renewable energy gains.

Objective	Goal 1	Goal 2	Goal 3	Strategies
5.1 To reduce / eliminate Nillumbik community carbon emissions from homes, businesses and buildings				a. Participate in collaborative mitigation opportunities across the Shire b. Deliver local initiatives, including education, that will assist the community to increase energy efficiency and reduce carbon emissions c. Support the community to incorporate ESD principles in new developments and retrofits d. Support and amplify 'state and federal led' and 'community and business led' zero-emissions initiatives
5.2 To reduce / eliminate carbon emissions from Council assets and operations (i.e. buildings, facilities, street lighting and procurement)				a. Increase the energy efficiency of Council assets and operations b. Maximise efficient use of clean, renewable energy. Plan for this by implementing and regularly reviewing a staged Zero Emissions roadmap for Council operations. c. Conduct annual corporate emissions accounting

Indicator

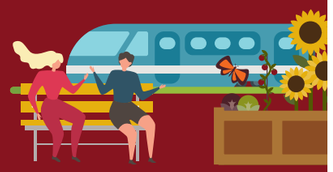
- Volume of annual greenhouse gas emissions emitted within the Shire of Nillumbik. Target of net zero emissions by 2035. (Source: Ironbark snapshot)
- Volume of annual greenhouse gas emissions emitted by Council facilities and operations. Target of Net-zero emissions by 2030
- Percentage of Council's stationary energy use (i.e. building energy use) that is supplied via a renewable energy source. Target of 100 per cent by 2030

KEY COUNCIL MITIGATION COUNCIL ADAPTION COMMUNITY SUPPORT

Case study:
Nillumbik's own solar farm

A solar farm is being planned at our former Plenty landfill site on Yan Yean Road. It will supply enough renewable energy to power all of Council's corporate facilities, including our buildings and street lighting, and to power our electric vehicle charging stations. The 1.5MW first stage consists of more than 3,300 solar panels and should reduce carbon emissions by 2,400 tonnes per year. (It will also save around 4,840,000 litres of water when compared to a traditional coal-fired power station generating the same amount of energy). The site can accommodate an expansion of the solar farm up to 5MW which could include potential future community investment opportunities and future battery storage solutions as demand grows and as technology advances.

FOCUS AREA 6:
Enhancing sustainable transport



Travelling by public transport, driving a low or zero-emissions vehicle, car-pooling, walking and cycling reduces the emission of these greenhouse gases, which contribute to climate change.

When this Plan was released, light vehicles (cars, 4x4s, SUVs and small commercial vehicles up to 3.5 tonnes) accounted for 10 percent of Australia's greenhouse gas emissions[4]; and emissions from transport accounted for 23% of Nillumbik's community emission[5].

Council wants to help make it safer and easier for the Nillumbik community to choose to travel sustainably; and will also continue to look at how we can support our own workforce to reduce travel related emissions.

Objective	Goal 1	Goal 2	Goal 3	Strategies
6.1 To avoid transport emissions	♻		🤝	a. Identify opportunities to design Council services so that they can be accessed by the community remotely / from home b. Design Council works and services to optimise efficient fleet use and reduce associated transport emissions c. Identify opportunities to support a reduction of Council workforce travel-related emissions
6.2 To improve public transport, vehicle-share, walking and cycling options			🤝	a. Design, construct and enhance public spaces/ activity centres that promote walking, cycling and public transport b. Prioritise opportunities, and advocate for funding, to enhance public transport, walking and cycling connections within and to/from the Shire
6.3 To transition to zero-emissions vehicle use within Nillumbik	♻		🤝	a. Transition Council's light and heavy fleet to be zero-emissions b. Monitor emerging zero-emissions transport technology c. Support the distribution of public electric vehicle charging stations across the Shire

Indicators

- Volume of greenhouse gas emissions emitted by Council fleet vehicles.
- Target of 100% zero emissions Council light and heavy fleet by 2030
- Volume of greenhouse gas emissions emitted by vehicles within Nillumbik.
- Target of 100% zero-emissions transportation by 2035 (source: Ironbark snapshot)

KEY ♻ COUNCIL MITIGATION ⇄ COUNCIL ADAPTION 🤝 COMMUNITY SUPPORT

4 Australian Government Department of Industry, Science, Energy and Resources, December 2021
5 Refer to Appendix 1

Case study:
Helping to make it easier to leave the car at home

When Council was awarded $5 million to help combat Eltham's traffic congestion in 2021/22, we poured that money into helping to get people out of their cars - by investing in measures that promote walking, cycling and public transport usage in the Eltham activity centre.
We asked the local community first, and they backed us, and made some great suggestions on how to improve our designs. We want to continue to support people to be able to leave their cars at home.

Case study:
Transitioning to a clean energy Council fleet

We'll be transitioning Councils light and heavy vehicle fleet to be zero-emissions. This process began in 2021 with the purchase of our first electric vehicle and the installation of fleet EV chargers at our Civic Centre. We'll be installing additional EV chargers across Council locations; and as the vehicles in our fleet become due for replacement they will be replaced with electric or other clean energy technology vehicles.

FOCUS AREA 7:
Achieving a zero waste and circular economy

Reducing waste - and recycling more - benefits our community, the economy and the environment.

Inefficient use of materials and natural resources exacerbates climate change. As a society we need to shift the focus from just recycling at the end of a product's lifecycle, to upstream activities that are focused on avoiding, reducing and reusing, thus creating a circular economy.

The circular economy model goes beyond just reducing waste and recycling and looks at ways to design products as well as reuse and repair materials to get the highest value from the resources we use. This also helps to reduce the energy used in the manufacturing process.

Council will provide waste services that promote circular economy principles. We'll support the community to avoid generating waste and to have opportunities for product repair and reuse. For unwanted materials, Council's waste collection and drop-off services will send materials back into industry to make new products or to generate power.

Objective	Goal 1	Goal 2	Goal 3	Strategies
7.1 To reduce emissions from waste	♻		👥	a. Reduce the amount of waste that goes to landfill b. Support the community to avoid and reduce waste generation through discouraging single-use and promoting repair, reuse and recycling c. Maximise source separation of waste and minimise contamination to produce clean material streams for remanufacture d. Recover materials from the waste stream for the highest and best use
7.2 To prioritise sustainable purchasing and use of recovered resources	♻		👥	a. Transition council operations to using low or zero emissions products b. Embed sustainable purchasing guidelines within Council's purchasing / supply chain systems

Indicators

- Annual percentage of kerbside waste that is diverted from landfill. Target of 80 per cent
- Reduce waste by 15 per cent per person by 2030
- Percentage of recycled content used in new Council capital works projects. Target of 15 per cent recycled content in all new capital works projects by 2026 and 30 per cent by 2030

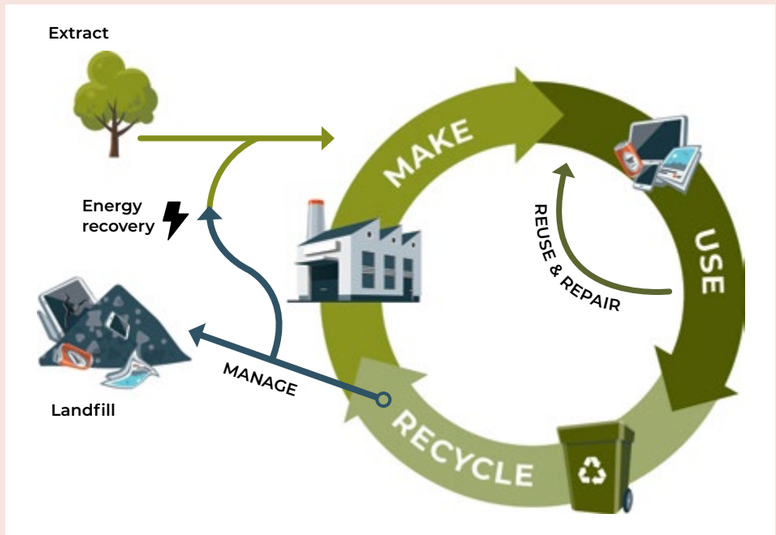
KEY ♻ COUNCIL MITIGATION ⇄ COUNCIL ADAPTION 👥 COMMUNITY SUPPORT

Case study: Improving waste services

During the life of this Plan some great advancements will be made in the waste services that we can offer our community. We will work with the Victorian government to introduce a container deposit scheme in Nillumbik by 2023 and a kerbside source separated glass collection and we're excited to keep abreast of what might happen next. We'll also continue to divert garden and food waste from landfill to reduce methane emissions and to return carbon to soils; and to pursue local circular economy opportunities.

Case study: Get your broken items fixed!

Repair cafes are a place you can bring your broken stuff to receive a new lease on life. Skilled volunteers perform simple repairs on items such as bikes, jewellery, tools, instruments, toys, clothing and furniture – that would otherwise be thrown out and sent to landfill. Council is interested in supporting these types of community climate action initiatives through leadership programs and seed funding grants.



Resource flows in a circular economy[6]

6 DELWP 2020 Recycling Victoria: A new economy

FOCUS AREA 8:
Integrated Water Management

Water is a precious and finite resource. Climate change is making rainfall less predictable - with lower rainfall overall, yet more frequent heavy downpours. Looking long-term, surface water availability across the Yarra Catchment is expected to decline by 16 per cent[7]; and water security across the whole of Greater Melbourne will be a challenge - due to the combined driving forces of climate change and population growth, which are predicted to substantially alter water and pollutant balances.

Reduced water availability may impact, for example, drinking water supply, water for irrigation of sports fields, storage dams for stock and firefighting, soil water storage and consequently, the well-being of communities, businesses and the environment.

Areas of Nillumbik may experience higher incidence of riverine and flash flooding during periods of heavy rain, and consequent polluted runoff into our waterways and on to Port Phillip Bay.

So local action is required to adapt to the changing nature of water in the landscape and our water supply.

Council is committed to integrated water management to address such matters and will work collaboratively with partners to deliver and help achieve the objectives of the *Yarra Catchment Scale Integrated Water Management Plan 2021* which is our local part of Victoria's long term approach to water cycle adaptation.

Objective	Goal 1	Goal 2	Goal 3	Strategies
8.1 To have safe, secure and affordable water supplies in an uncertain future	♻	⇄	👥	a. Reduce Council's potable water use through water efficiency measures and use of alternative water sources b. Support the community to reduce potable water use through promotion of water efficiency measures and use of alternative water sources
8.2 To manage flood risk		⇄	👥	a. Adapt the drainage network to respond to current and future flood risk to minimise damage to the community and the environment
8.3 To retain water in the landscape to support urban and rural land uses and the natural environment		⇄	👥	a. Incorporate the principles of water sensitive urban design in the development of Council assets b. Promote and support the community to incorporate water sensitive urban design principles in new developments and retrofits c. Promote and support initiatives to retain water in the landscape for rural land uses d. Promote and support initiatives that deliver environmental flows and improved water quality

Indicators

From Yarra Catchment Scale Integrated Water Management Plan 2021

- Reduction in Council's potable water use.
- Percent of the total area of active public open space supported by an alternative water source. Target 18% by 2030 and 50% by 2050.

KEY ♻ COUNCIL MITIGATION ⇄ COUNCIL ADAPTION 👥 COMMUNITY SUPPORT

Case study:
Harvesting stormwater for oval irrigation

More than 3 megalitres per year, harvested from road run-off, is used to irrigate ovals in Diamond Creek and Hurstbridge. Stormwater from local streets is diverted into underground tanks where sediments and litter can be removed. The water is pumped into wetlands where it is further cleaned by natural processes and then flows into dams. From there it is used to irrigate Coventry and Hurstbridge ovals during the growing season.

Multiple benefits include reduced potable water use; removing pollutants from waterways; retaining water in the landscape for wildlife and urban cooling; and provision of minor flood storage.

7 DELWP (2020) Long-term Water Resource Assessment

5. Climate Action Plan Implementation

Implementation of the Plan

The work of the Climate Action Plan will be embedded into Council's business as usual.

An Implementation Plan that specifies key climate action initiatives will be prepared every year. These key climate initiatives will be considered in Council's annual budget process.

How we'll review and report on progress

Evaluation will enable Council to measure its effectiveness in delivering and supporting ongoing positive climate action.

Outcome evaluation - Are the goals of the Plan being achieved? We'll consider our targets, indicators and specific initiative outcomes.

Progress evaluation - Have we done what we said we would?

Over the life of the Plan indicators and targets will be reviewed and updated where we have improved data collection and/or where we identify that we can achieve more. This may include moving to science derived targets.

We will also engage with the community at least twice to check in on the Plan and whether you think its implementation initiatives and outcomes are heading in the right direction and to consider your suggestions. And we will work closely with our relevant Advisory Committees on an ongoing basis.

An annual update will be provided to Councillors and a summary will be placed on our website and in Council's Annual Report. It will track progress and outcomes within each of our focus areas, and against indicators and targets.

Continuous improvement

This cycle of regular tracking and review will enable us to:

- Reflect on challenges and progress
- Consider emerging climate change factors, innovation, collaboration and opportunities
- Program timely climate action via our annual Implementation Plans
- Embed continuous improvement climate action within our processes, services, operations, facilities and community interactions.

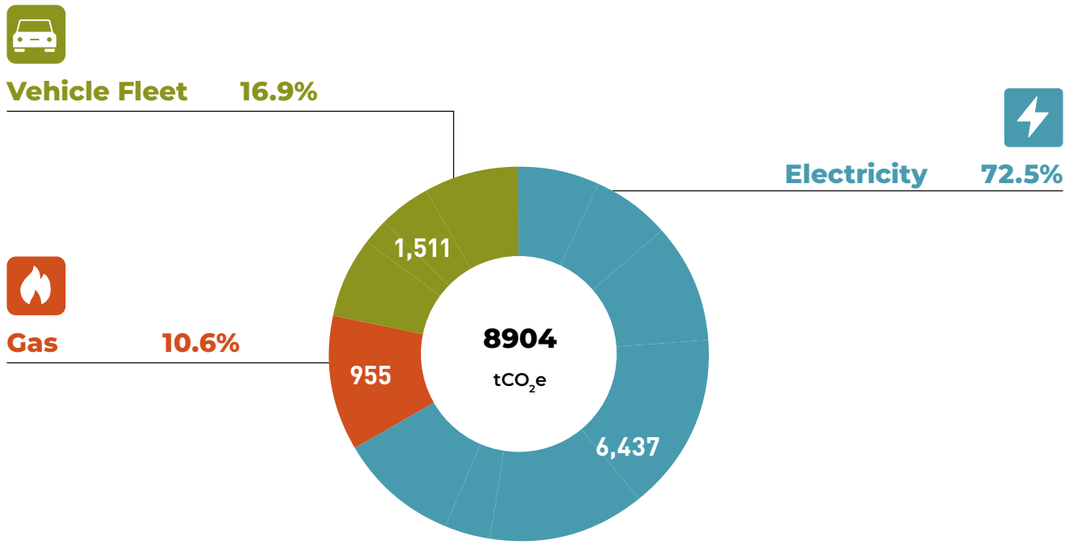
Appendix

Appendix A - Baseline information on climate action and emissions

When this Plan was released considerable action had already been undertaken to reduce Council and community emissions. This appendix provides high level data on where we were at, at that point in time, for comparison purposes over the life of the Climate Action Plan.

Council emissions profile and climate actions

This is a snapshot profile of emissions associated with Council facilities and operations in 2019[8]. Council accounted for slightly less than 1.5% of overall community emissions.



8 2019 data provided in lieu of less typical (because of Covid restrictions) 2020 or 2021 data

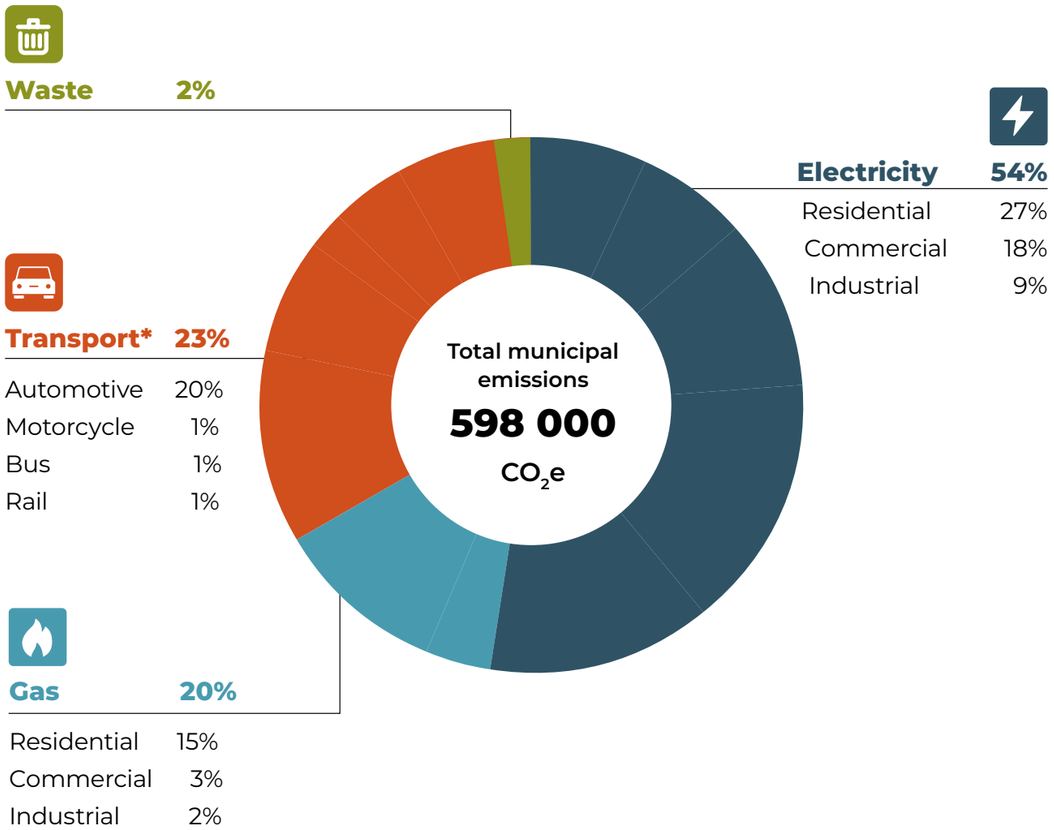
Below is a list of some of the climate action achievements reached before the action directed by this Plan commenced. Updates will continue to be provided on our website and will be broadened to include more adaptation updates.

Examples of Council climate action already undertaken prior to 2022

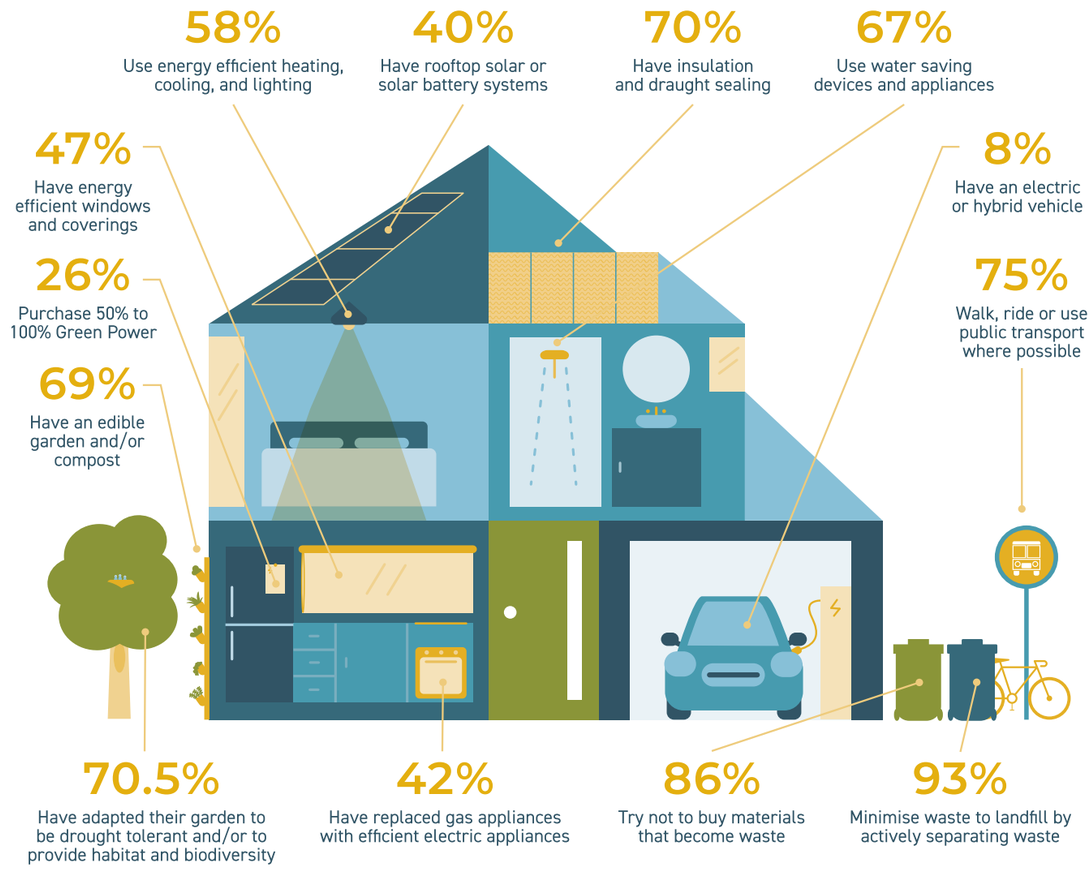
- As a member of the national Cities Power Partnership, Council pledged to:
  - Use Council resources to support the uptake of renewable energy
  - Install renewable energy (solar PV and battery storage) on council buildings
  - Investigate opening up unused council managed land for renewable energy
  - Roll out energy efficient lighting across the municipality
  - Support local community energy groups with their community energy initiatives
- We were partnering with the Australian Energy Foundation to provide our community with free, on-demand and tailored, energy efficiency and renewable energy advice
- Solar electricity systems at 46 council facilities, totalling 900kW with an estimated annual generation of 680 Megawatt hours
- Tender awarded to progress the solar farm development on the former Plenty landfill site to supply all grid-based electricity needs for council operations and provide a carbon offset opportunity for council's residual carbon emissions
- Solar hot water systems at 16 facilities
- Energy efficient lighting
- Double glazing at seven facilities, including Eltham Library, and enerlogic window film installed at five facilities
- Program of replacing inefficient heating and cooling with more efficient electric options
- Audits of hot water systems across 30 facilities; water conservation and irrigation audits across all facilities; and audits of building energy and water across 50 facilities - including sports pavilions, community centres, Living and Learning venues, leisure centres and early years centres to inform future works.
- Electric vehicle chargers at three council facility locations for community use (Community Bank Stadium in Diamond Creek, Eltham Leisure Centre and Diamond Valley Sports and Fitness Centre)
- Electric vehicle chargers at two locations, specifically for council fleet use
- Roll-out of energy efficient laptop computers for staff, energy efficient printers and promotion of a paperless workplace – led to reduction in energy usage by office equipment of 40 per cent and paper consumption by 50 per cent
- Office paper is 100 per cent recycled content
- Policy of phasing out single use plastics ahead of 2023 ban
- Inclusion of sustainability initiatives into new builds
- 101 rain tanks at council facilities with capacity of 923,000 litres
- Water aerators, flow restrictors and dual flush toilet systems at all council owned facilities
- Rain sensors and an electronic irrigation system at Edendale Farm and Civic Drive office
- Use of indigenous plant species and warm season grasses in new park and roadside reserve plantings, including planning of drought tolerant warm season grasses at 15 sports grounds
- Five wetlands, three swales and three rain gardens
- Rainbird IQ sportsground irrigation system which tracks water usage and enables irrigation to be turned off remotely when rain is forecast
- Emergency management preparation, recovery and resilience works

Appendix B - Community emissions profile and residential climate actions

This is a snapshot profile[9] of Nillumbik community emissions in 2019, the most relevant dataset available at the time of preparing this document. It indicates that our major emissions source is electricity consumption, with the majority of this coming from residential electricity consumption.



The below image depicts the types of residential climate actions being undertaken in Nillumbik[10].



9 Ironbark Sustainability Snapshot – 2019 Nillumbik Community Profile, sourced July 2021

10 Nillumbik Climate Action Plan community survey, 400 statistically representative random households, December 2020

Glossary

Carbon (Carbon dioxide CO2) is a greenhouse gas. It traps heat within the atmosphere, which causes the surface of the earth to heat up and associated climate change.

Carbon emissions:

- You're **carbon neutral** if the amount of carbon emissions your home, business or community puts into the atmosphere (through energy use or agriculture for example) is the same as the amount that you remove from the atmosphere (through trees and soils or producing renewable energy, for example). Your impact is neutral.
- **Net zero emissions** is broadly the same as being carbon neutral. Emissions are still being generated but they're offset by the same amount elsewhere. The 'net total' of emissions is then zero.
- **Carbon negative** is a step up and is the same as being 'climate positive'. It means that the amount of carbon emissions you remove from the atmosphere is bigger that the amount that you put into the atmosphere. Your impact is positive.

Carbon sequestration The process of removing carbon from the atmosphere by storing it, for example, in plants, soils and oceans.

Circular economy[11] A process that allows us to avoid waste through good design and effective recovery of materials that can be reused. It seeks to reduce the environmental impacts of production and consumption and encourage intense and efficient product use; transforming our linear economy mindset - take, use and throw away – and fostering innovation and productivity that invigorates existing businesses and creates new ones.

Climate change A change in the pattern of weather (e.g. temperature, wind and rainfall), and the related changes on land and in oceans, occurring over time. These changes in weather patterns increase the occurrence, severity and distribution of events such as drought, flooding, heatwaves, bushfire and rising sea levels.

Climate change adaptation[12] Action taken to reduce the adverse consequences of climate change or to harness opportunities. Investing in climate change adaptation:

- Helps us to avoid future costs by building resilience now into our environments, our economy and society.
- Protects plants, animals and communities – particularly those most vulnerable to the consequences of climate extremes.
- Supports job creation in emerging and evolving industries.

Climate change mitigation Action taken to reduce emissions of carbon/greenhouse gases that cause climate change.

Climate Emergency There is no single definition of a climate emergency, but the use of the word 'emergency' indicates a clear sense of urgency and a call to action.

Climate resilience The capacity of individuals, institutions, businesses, communities and systems to adapt, survive and thrive any climate stresses and shocks they may be subjected to.

Greenhouse gases Carbon dioxide, methane, nitrous oxide and other gases that build up in our atmosphere as a result of human activity such as burning fossil fuels.

Stakeholders Community stakeholders are people or groups with an interest or concern in something, which in this context is climate change and taking climate action.

Zero emissions roadmap A strategically planned process of how to achieve a transition to zero emissions.

11 DELWP 2020 Recycling Victoria: A new economy
12 Victoria's Climate Change Strategy 2020, page 40

What our Community is saying...

"It's impacting our way of life. More extreme weather events, impacts on biodiversity - we need to adapt and change the way we use carbon emitting activities"

"Climate change is causing significant changes to environmental and ecological processes, creating significant changes in weather patterns and related disasters, and creating uncertainty and anxiety for many people about their futures"

"It affects every aspect of life, from rainwater, food availability, bushfires and liveability factors"

"It's the single most defining issue of our generation and will define generations to come"

"It's important but not all consuming. Other aspects of life count as well"

"I see enormous opportunity for Australia in acting decisively now to address climate change – economically, politically and socially"

"The risk of bushfire is ever present here in Nillumbik. The summers keep getting hotter and as summer approaches we become more aware of the ever-present heat and threat of prolonged drought. This year may be forecast to be different but it is only one year in many"

"Rising temperature will make it difficult to grow all varieties of food, to maintain the natural environment and green spaces, and to be able to afford to cool our homes and spend time outdoors"

Our Community's ideas...

"Educate people to make them aware of the dangers of bushfires and the need for measures that ensure our safety"

"Make bushfire mitigation a priority"

"Reduce the risk of bushfires"

"Preserve the natural environment"

"Weatherproof parks and playgrounds"

"Embrace regenerative farming"

"Make it easier for us to reduce energy and recycle, reuse and reduce waste"

"Facilitate installation of micro-grids to allow neighbours to share electricity and improve grid stability"

"Work with Wurundjeri elders in management of the land and fire risk"

"Declare a Climate Emergency"

"Provide more bike parking and improve access to amenities by bike and walking"

"Put a stronger focus on community gardens, increasing resilience and educating children on where their food comes from and how it's made"

"Embrace leadership that puts a greener future at the core"

"Reach beyond those of us who are already engaged in positive change"

Nillumbik Shire Council

Civic Drive (PO Box 476)
Greensborough Victoria 3088

9433 3111

nillumbik@nillumbik.vic.gov.au

nillumbik.vic.gov.au

Connect with us

nillumbikshire

nillumbikcouncil

nillumbikcouncilvic