



# **Act and Adapt: Sustainable Environment Strategy**

## **2023-28**

November 2023



## City of Port Phillip

99a Carlisle Street

St Kilda VIC 3182

Phone: **ASSIST** 03 9209 6777

Email: [portphillip.vic.gov.au/contact-us](mailto:portphillip.vic.gov.au/contact-us)

Website: [portphillip.vic.gov.au](http://portphillip.vic.gov.au)

## Diversity

Receive the latest news from your City and Council [portphillip.vic.gov.au/divercity](http://portphillip.vic.gov.au/divercity)



## National Relay Service

If you are deaf or have a hearing or speech impairment, you can phone us through the National Relay Service (NRS):

TTY users, dial 133677, ask for 03 9209 6777

Voice Relay users, phone 1300 555 727,

then ask for 03 9209 6777.

[relayservice.gov.au](http://relayservice.gov.au)



Please consider  
the environment  
before printing.

# Message from the Mayor

To be included

## Acknowledgement

Council respectfully acknowledges the Traditional Owners of this land, the people of the Kulin Nations. We pay our respect to their Elders, past and present. We acknowledge and uphold their continuing relationship to this land.

# Contents

Message from the Mayor .....	3
Contents .....	4
Executive summary.....	5
Purpose .....	5
Milestones and achievements.....	6
Priorities.....	8
Impacts of climate change .....	9
Current challenges .....	10
Momentum for change .....	13
Listening to our community.....	14
Partners.....	15
A water sensitive city .....	16
A greener, cooler, more liveable city .....	21
A city with lower greenhouse gas emissions.....	25
A city that is adapting and resilient to climate change .....	34
A sustained reduction in waste .....	38
Measuring and reporting .....	41
Summary table of goals, indicators, baseline, progress and targets .....	41
Action table.....	44
Glossary .....	52

## Executive summary

Climate change is now affecting every country on every continent. It is impacting lives, costing people, communities and countries dearly and disrupting national economies.

The systems that give us life – our atmosphere, land and oceans and the web of biodiversity – are under increasing pressure. We are seeing higher temperatures, increased flooding, rising sea levels, changing rainfall patterns and more extreme storms.

Greenhouse gas emissions from human activities are driving climate change and they are now at their highest levels in history. The United Nations' Intergovernmental Panel on Climate Change (IPCC) states that global temperatures are now 1.1 degrees above pre-industrial levels and they're likely to reach 1.5 degrees in the early 2030s (IPCC Synthesis Report, March 2023).

In the last few years, we've experienced devastating climate change impacts locally, nationally and internationally.

In 2019, City of Port Phillip declared a climate emergency – joining hundreds of other local councils all over Melbourne, Australia and worldwide, stating that climate change, including sea level rise and mass species extinction, poses a severe risk to the planet, biodiversity and our communities.

That year was Australia's hottest and driest on record and we experienced the largest wildfire ever recorded, beginning in spring and burning down the east coast through the summer. Then, as COVID-19 changed our lives, Australia's extreme weather flipped from dry to wet, with three years of flooding rains. Despite the pandemic's extraordinary social and economic impact, with international travel ceasing and lockdowns restricting people's movement, greenhouse gas emissions continue to rise across Victoria and the globe.

But responding to the climate emergency is possible and we know what to do. The solutions and technology now exist for the transition to a low-carbon future. There are feasible and effective options to reduce greenhouse gas emissions and adapt to human-caused climate change.

Humanity has a narrow window to act, but the IPCC says urgent climate action can still secure a liveable future for all. There has never been a more critical time to take environmental action.

## Purpose

We published our ten-year Act and Adapt: Sustainable Environment Strategy (Strategy) in 2018 in response to the many sustainability challenges we face. Under five priority areas, the Strategy set the direction for City of Port Phillip's long-term commitment to environmental sustainability for the organisation and the wider community.

The Strategy established a pathway to transition Port Phillip into a greener, cooler, more liveable city with lower carbon emissions; a water sensitive city adapting and resilient to climate change and with a sustained reduction in waste.

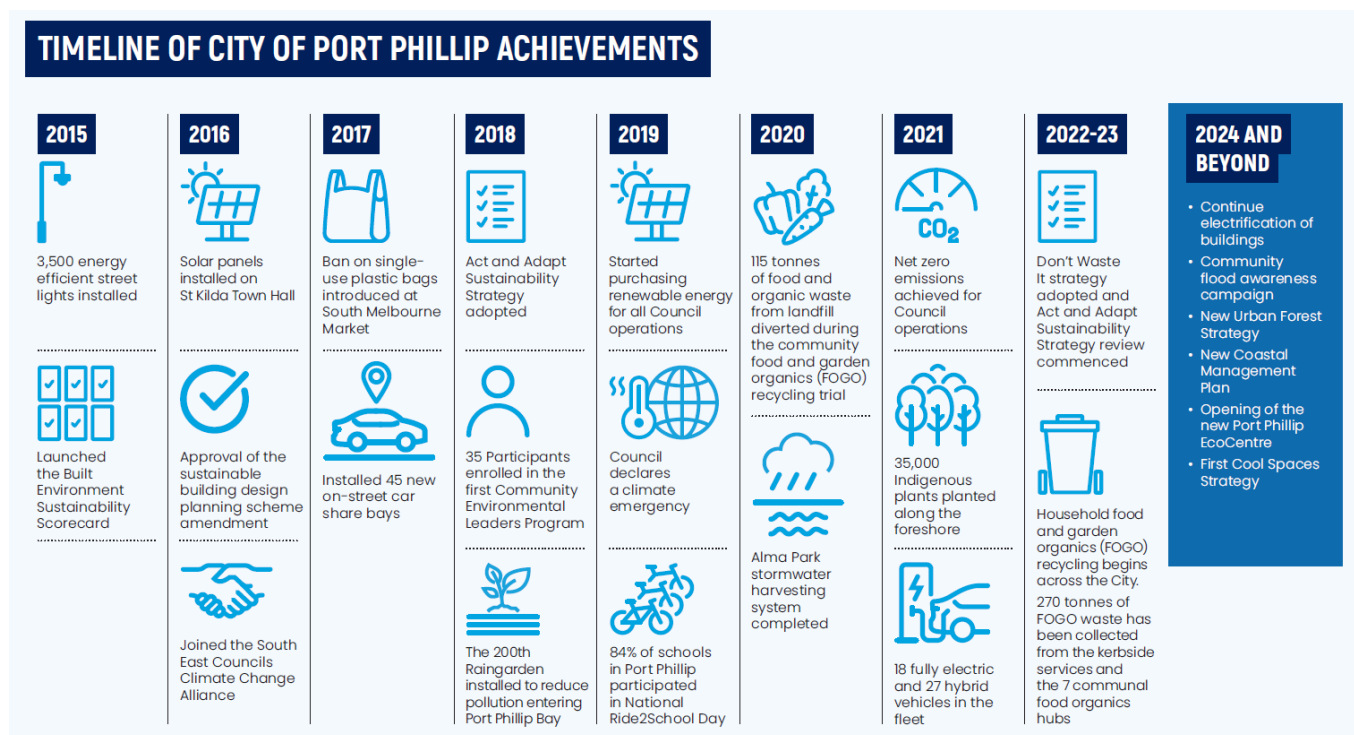
Over the past year, we reviewed the priorities and actions we set in 2018. We also looked at what has changed in the political, economic, social, technological, legal and environmental context to ensure we develop a contemporary and relevant strategy that considers our current challenges. We held workshops and undertook surveys with staff and the community. We reviewed changes inside and outside the municipality that have affected our goals. Lastly, we benchmarked the Strategy against sustainability-focused strategies at other councils.

We used this information to inform changes to targets, actions and indicators. As part of this review, we have refined some activities and simplified how we measure our progress under either Council or community indicators.

Based on the review, this Act and Adapt: Sustainable Environment Strategy 2023-28 sets out our commitments for the next five years.

## Milestones and achievements

Since 2015 we have delivered a range of sustainability outcomes for the City and community.



## Our big-ticket achievements

- We've built over 200 raingardens, including 15 new raingardens and the Alma Park stormwater harvesting scheme since 2018.
- We invested in the Alma Park stormwater harvesting scheme, which can provide 16 megalitres of clean stormwater yearly to irrigate the gardens. It also removes 78 kilograms of nitrogen, 13 kilograms of phosphorus and 8,772 kilograms of total suspended solids from stormwater yearly.
- We planted 41,337 plants through the Urban Forest Strategy in 2021/22.
- We have invested in species diversification, park trees and streetscape improvements and prioritised biodiversity by planting indigenous and climate-tolerant species
- We achieved net zero emissions for Council operations in 2021.
- We installed 610 kilowatts of solar panels on Council buildings.
- We switched 11 Council-owned buildings from gas to electricity.
- We purchased 26 electric vehicles for our fleet.
- We implemented the South Melbourne Market Sustainability Strategy, generating 771,672 kilowatt-hours of solar power since December 2019, avoiding approximately 800 tCO<sub>2</sub>-e in carbon emissions.
- We involved nearly 10,000 participants in our sustainability programs, including school travel programs, in 2020/21.
- We made 389 assessments of planning applications against sustainable design standards in 2020/21.
- We reviewed 5,991 road segments, 224 buildings, 27,458 drainage pits and pipes and 494 open spaces as part of our 2020/21 asset vulnerability assessment
- We helped support 18 schools, 81 teachers, 2,900 students and 44 youth volunteers from Port Phillip in 2020/21 to learn more about the environment, climate and sustainability and take practical action in programs delivered by the Port Phillip EcoCentre.
- We ensure our pipes and pits function at 95 per cent capacity to minimise flooding and install pits to clean pipe infrastructure effectively.
- We have installed more than 1.6 kilometres of dune fencing, which has allowed dune grasses to grow and stabilise more than 1,000 square metres of sand along the foreshore.
- We endorsed the rollout of a kerbside Food Organics and Garden Organics service to eligible houses, townhouses, units and apartments across the municipality, after a successful trial in Elwood. The service commenced in January 2023 for houses and townhouses and expanded to apartments and units from July 2023. We expect it to reduce food and garden materials in our garbage stream by between 20 and 30 per cent.
- We diverted 1,140 tonnes of food and garden organic materials from landfill between September 2021 and March 2023 through our communal food organics hubs and kerbside food and garden organics service.

## Priorities

This Strategy details 45 initiatives for Council and the community to reduce our collective environmental impact and become more resilient to climate change. Our five priority areas are:

1. A water sensitive city
2. A greener, cooler and more liveable city
3. A city with lower greenhouse gas emissions
4. A city that is adapting and resilient to climate change
5. A sustained reduction in waste.

Actions within this Strategy will influence city planning and urban design, emissions reduction, waste and water management and community outreach. They also embed sustainability into Council operations and projects to ensure we are working towards a more sustainable future.

Our Strategy includes areas where City of Port Phillip can take direct action, where we will work with the community and where we will advocate for others to act. To get the best outcomes, we must collaborate on many priorities.

We will evaluate our progress against 12 indicators that measure what is within Council's control. We will also review the advances made in the broader municipality against eight community indicators.



# Impacts of climate change

## IMPACTS OF CLIMATE CHANGE

### Port Phillip is already experiencing the impacts of climate change

Since 1910 globally<sup>1</sup>



Temperature increase  
↑ 1°C



Rainfall decrease

Since 1966 in Melbourne



Sea level rise  
↑ 10 cm

In 2019



Australia's hottest year on record  
↑ 1.52°C  
Above the long-term average



Australia's driest year on record  
↓ 40%  
Less rain than the long-term average

### Looking ahead: climate change projections

By 2050<sup>1</sup>



Temperature increase  
↑ Up to 2.4°C

Temperature increase and double the number of hot days. This may lead to health impacts, fire risks and heat-related deaths.



Extreme weather

More extreme storms and intense downpours with declining winter rainfall.

This may lead to property and infrastructure damage, biodiversity loss, water shortages, disruption to services and safety issues.



Sea level rise  
↑ 24 cm

Increase by around 24 centimetres. This may lead to property damage, erosion, loss of open space and safety issues.

<sup>1</sup> Victoria's Climate Science Report 2019.

# Current challenges

As a City, we face several significant challenges that impact our ability to adapt to the changing climate and create a sustainable future.

## Climate change

The IPCC has released its Sixth Assessment Report, stating that it is unequivocal that human influence has warmed the atmosphere, ocean and land. Climate change is driving unprecedented changes in weather, with disasters resulting from increased storm severity and extreme temperatures. As a result, we are experiencing floods, storm surges, heatwaves, bushfires and erosion more frequently.

Victoria's average annual temperature has risen 1.2 degrees since 1910, while average annual rainfall has decreased, according to the most recent update of Victoria's State of the Climate Report. Rising temperatures are changing our city and the most vulnerable in our community are the most affected. In addition, Melbourne's sea level has increased by 10.6 centimetres since 1966. With more than half of the municipality below three metres above sea level, we are vulnerable to rising sea levels and increasing coastal erosion with more frequent and intense storm surges.

## Population growth and urbanisation

We are Victoria's most densely populated municipality and projections show our residential population will increase 15 per cent by 2028, taking our population to 130,269.

Our growing population results in densification, with high-density housing growing much faster than free-standing or medium-density homes. For example, there was a 3.2 per cent increase in high-density housing in the City of Port Phillip between 2016 and 2021.

Increased density can significantly impact our environment if it isn't planned well – reducing the tree canopy, trapping more heat in our streets, increasing concrete and stormwater runoff and placing more demand on our parks and foreshore.

It has never been more critical to manage our growth sustainably to keep our city inclusive, liveable, sustainable, vibrant and well-governed.

## Municipality demographics

- Covering an area of 21 square kilometres, we are geographically one of the smallest municipalities in Victoria and we are also the most densely populated.
- We have 11 kilometres of foreshore.
- Half our community lives in rented accommodation.
- Port Phillip is home to 21,039 businesses employing over 97,000 people.
- Half of our community is between 25 and 49 years old.
- Nearly one-fifth of households do not own a motor vehicle.
- Nearly half of all households contain only one person, while over a third comprise two people.

## **Legislation and policy**

All Victorian councils must comply with legislation and policy, which is constantly under review and subject to change.

The *Local Government Act 2020* includes an increased legislative requirement to factor climate change into planning and decision-making. The *Climate Change Act 2017* legislates a long-term target for Victoria to achieve net-zero greenhouse gas emissions by 2045, with five-yearly interim targets. After exceeding its 2020 emissions reduction target, the Victorian Government announced more ambitious short- and medium-term targets: 28 to 33 per cent by 2025 and 50 per cent by 2030, compared to 2005.

## **Evolution of technology**

The rapid evolution of technology comes with increased demands from our community for alternative methods of service delivery.

Energy storage installation is projected to increase by more than 50 per cent worldwide by 2026, according to the International Energy Agency. However, it remains expensive for individual households and complex to establish at the neighbourhood level. Australia still has low numbers of electric vehicles, but that will change later this decade as costs come down. Smart technology – such as sensor networks for bins and utilities, and air quality, transport and movement monitors – can improve decision-making both for Council and the community.

## **Driving sustainable transport**

We have a growing population and a fixed road network. If we have more vehicles, they will require more space for parking and storage. We must balance the impact of vehicles against our community's desire to mitigate climate change impacts.

We need to promote sustainable transport and ensure our infrastructure and services support safe walking, bike riding, e-scooters and public transport use. The onset of COVID-19 saw a drop in people using public transport and usage has not returned to pre-pandemic levels. Currently, 12.5 per cent of our municipality's greenhouse gas emissions are due to private vehicle use; relying more on car travel will drive it higher.

## **Changing economy**

COVID-19 set off a complex transformation of our economy. In Melbourne, while Victorian and Australian Government intervention supported businesses and residents through the crisis, there were job losses in some industries. Now, with higher inflation, rising rents and interest rates, the cost of living has been growing rapidly, increasing food and energy insecurity in our community. It is also an incentive for people to reduce costs if they can, by pursuing energy efficiency, consuming less or switching to active transport. But with higher building costs, it's now harder to afford significant investments in retrofits or low-carbon technology.

As a result of COVID-19, City of Port Phillip has focused on delivering core services to the community. The pandemic also sparked a lasting change in the patterns of people's lives. More of us are working from home and using local parks and services. We are also shopping online more and less on local high streets.

# Momentum for change

There's nothing easy about the task ahead, but as the challenges become more urgent there are many signs that change is gathering momentum.

## **Growing climate change awareness**

As people experience the cumulative impacts of a changing climate first-hand, momentum for climate action is growing – both at the individual and community scale. Over 100 local government areas in Australia, including Port Phillip, have declared a climate emergency – representing more than a third of the population. In addition, more than 2,300 jurisdictions covering over 1 billion citizens have made climate emergency declarations worldwide.

In Australia, polling in 2022 showed that eight out of 10 people are concerned about climate change and expect government action. In recent years, the youth climate action movement has been growing fast.

Troublingly, evidence suggests that more young people are suffering the effects of climate anxiety, worrying about the world they will grow up in. We can engage positively with this growing concern by mobilising residents to join our transition to a climate-resilient city, highlighting the diversity of our local economy and supporting green businesses that are creating change.

## **Stronger government policies**

The Victorian and Australian Governments continue to strengthen climate change and environmental policies, with more ambitious targets for reducing greenhouse gas emissions. Waste management has been challenging in the past few years, with rising costs and the collapse of the recycling export business model. However, new policies to create an Australian recycling and circular economy will make transformational changes in the coming years.

Introducing a ban on single-use plastic on some everyday items and the start of the container deposit scheme will reduce litter and raise awareness of the need to minimise waste to landfill.

## **Exciting projects**

The Fishermans Bend Water Sensitive City Strategy outlines an inspiring and innovative approach to creating a climate-resilient water system, flood management and urban ecology. The precinct will be Australia's largest water sensitive urban design project, applying the world's best practices in managing water as a resource. It will boost biodiversity and urban ecology and reduce pollution from stormwater runoff.

South Melbourne Market's Environmental Sustainability Strategy for the next five years outlines a plan to eliminate waste, transition towards zero-carbon operations and reduce water use and impact on waterways. The market already provides a positive example in our community, with solar panels on its roof, rainwater tanks that reduce potable water consumption and a food waste-to-fertiliser program.

## Social change

The cost of living has been rising steeply and with more people working from home, household thermal comfort and energy efficiency have become more critical. Likewise, the lockdowns endured by Melburnians have changed many people's relationships with nature. As a result, residents are more engaged and active with green spaces, reporting a greater desire to connect with nature. These trends create an opportunity to engage our community in planning for a climate-resilient city and help people improve their daily lives while reducing community greenhouse gas emissions.

# Listening to our community

We are proud to have an engaged and committed community who are passionate about sustainability. We need to work collaboratively with the community to meet our sustainability challenges head-on, so we need your help.

We engaged with our community during the development of the Strategy. We held workshops and received formal submissions from our engaged community and advisory groups. We ran three community face-to-face pop-up events, received 30 responses through Have Your Say and received 615 responses to our sustainability survey.

What you told us:

- Focus on what Council can do to support the community to make a difference.
- Focus on increasing access to active transport.
- Focus on increasing greening and the amount of open space within the municipality.
- Provide more detail about how Council implements initiatives.

We've listened to what you said and combined it with international best practice, current research and what we already have learned, to shape and inform a Strategy that will guide us all to achieve our vision together. Four new initiatives suggested by the community have been included in the Strategy.

## Partners

We collaborate closely with the Victorian and Australian Governments to get the best sustainability outcomes for our community. We often need government support, such as policy changes or local investment, to help deliver projects and infrastructure.

City of Port Phillip is also a member of many environmental bodies and local government associations. As a result, we can expand our reach and jointly advocate for action. These are some of our key partnerships:

- South East Councils Climate Change Alliance is one of nine regional alliances across Victoria helping councils achieve their goals for greenhouse gas emissions reduction and climate resilience. Membership consists of nine local governments in the South East: the Cities of Port Phillip, Bayside, Kingston, Greater Dandenong, Frankston, Mornington Peninsula, Casey, Cardinia and Bass Coast.
- Association of Bayside Municipalities advocates and undertakes joint projects to benefit councils around Port Phillip Bay. All ten Councils around the bay are members. The organisation focuses exclusively on marine and coastal issues and maintaining the health of Port Phillip Bay to ensure ongoing economic benefit to the region.
- Fishermans Bend is Australia's largest urban renewal project, covering approximately 480 hectares and five precincts across Melbourne and Port Phillip. We work closely with the Victorian Government and City of Melbourne on planning, development and sustainability in Fishermans Bend.
- Green Building Council of Australia is a national authority on sustainable buildings, communities and cities, with links to the World Green Building Council. It provides advice and direction to developers through Green Star assessment tools. City of Port Phillip is a member, along with other local governments, Victorian and Australian government departments, universities, property developers, planners, architects, engineers and construction companies.
- Inner Metro Partnership is an advisory group established by the Victorian Government. Its membership includes nine local community and business representatives, the CEOs of the Cities of Melbourne, Yarra and Port Phillip and a Victorian Government executive. The group shares best practices and knowledge and collaborates on policies and major procurement to achieve the best value.
- Council Alliance for a Sustainable Built Environment is an association of Victorian councils committed to ensuring future generations can enjoy a sustainable built environment. It delivers projects and advocates for broad-scale positive change to Victoria's built environment through collaborative, local government-led action.
- The Port Phillip EcoCentre in the St Kilda Botanic Gardens is a hub for community-led action to address climate change. City of Port Phillip is proud of our long-term funding partnership with the EcoCentre to promote environmental sustainability and community action. The EcoCentre educates and empowers students, residents and visitors to care for land, water, wildlife and wellbeing.



## A water sensitive city

We are committed to using water efficiently, reducing the impacts of flooding, and collecting, cleaning and recycling water.

### Why it matters

Our water resources, and the health of Port Phillip Bay, are under increasing pressure from climate change, a growing population, increasing development and aging infrastructure.

We're already one of the councils in greater Melbourne most vulnerable to flooding impacts, with low-lying land bounded by Port Phillip Bay, Albert Park, Yarra River and Elster Creek. These vulnerabilities will only become more intense. Reducing the impact of floods must be at the forefront as we design places and assets that function now and for the future.

As a water sensitive city, we face these challenges by working holistically with the urban water cycle – mains water, stormwater, wastewater and groundwater. We aim to protect the environment and improve water security by investing in various alternative sources. By creating multifunctional public spaces, we can manage water in the landscape – mitigating flood risk while creating better parks for people.

Creating a water sensitive city requires collaboration with Melbourne Water, South East Water, the Victorian Government and the community. We all benefit from this collaboration, building a Port Phillip that is less impacted by flooding, with beautiful open spaces.

### How we're going

- We continue to invest in water sensitive urban design infrastructure. We've built over 200 raingardens, including 15 new raingardens and the Alma Park stormwater harvesting scheme since 2018.
- We met our interim target for total nitrogen removal from stormwater and are on track to exceed our 2027/28 target.
- We developed the Fishermans Bend Water Sensitive City Strategy with the Victorian Government, City of Melbourne, South East Water and Melbourne Water. It aims to reduce the impact of flooding, clean stormwater before it enters the bay and provide a climate-resilient water supply for the community.
- We invested in building the Alma Park stormwater harvesting scheme, which can provide 16 megalitres of clean stormwater yearly to irrigate the gardens. It also removes 78 kilograms of nitrogen, 13 kilograms of phosphorus and 8,772 kilograms of total suspended solids from stormwater yearly.



## Key partners

- the community
- Victorian Government
- Melbourne Water
- South East Water
- research organisations
- neighbouring local governments.

## Targets

Council indicators					
Indicator	Baseline 2016/17	Target 2021/22	Progress 2021/22	Target 2028	Initiatives contributing to this indicator
Council's mains water use for irrigation  Note: This is a new indicator – see box	169 ML/y	N/A	149 ML/y 12% reduction	97 ML/y 43% reduction	1. Investigations and trials  3. Stormwater harvesting  5. Fishermans Bend  6. Recycled water  7. Infrastructure improvements
Council's potable water use  Note: We measure this indicator to support our target relating to mains water use for irrigation	238 ML/y	257 ML/y	216 ML/y	N/A	1. Investigations and trials  3. Stormwater harvesting  5. Fishermans Bend  6. Recycled water  7. Infrastructure improvements
Total nitrogen	15,009 kg/y	13,544 kg/y	13,563 kg/y	12,669 kg/y 16% reduction	1. Investigations and trials  2. Planning and development

		10% reduction	10% reduction		3. Stormwater harvesting 5. Fishermans Bend 7. Infrastructure improvements 8. Water sensitive urban design 9. Permeability improvements
Total suspended solids	717,035 kg/y	601,505 kg/y 16% reduction	627,395 kg/y 13% reduction	590,125 kg/y 18% reduction	1. Investigations and trials 3. Stormwater harvesting 5. Fishermans Bend 7. Infrastructure improvements 8. Water sensitive urban design 9. Permeability improvements
Total phosphorus	1,880 kg/y	1,656 kg/y 12% reduction	1,699 kg/y 10% reduction	1,599 kg/y 15% reduction	1. Investigations and trials 3. Stormwater harvesting 5. Fishermans Bend 7. Infrastructure improvements 8. Water sensitive urban design 9. Permeability improvements
<b>Community indicators</b>					
<b>Indicator</b>	<b>Baseline 2016/17</b>	<b>Target 2021/22</b>	<b>Progress 2021/22</b>	<b>Aspiration 2028</b>	<b>Initiatives contributing to this indicator</b>

Community potable water use	178 L/p/day	155 L/p/day	182 L/p/day	150 L/p/day	1. Investigations and trials 2. Planning and development 4. Community water use 5. Fishermans Bend 9. Permeability improvements
-----------------------------	-------------	-------------	-------------	-------------	---

### A new indicator

This review identified changes in how we measure our progress on our water use and the targets we set for pollutant reduction. Although we are on track to meet our target to reduce potable water use, we are changing this measure to focus on increasing the proportion of alternative water sources we use. We want a green and cool city as the climate warms up. Stormwater harvesting is a way to future-proof our parks and gardens and make sure they remain useable for sporting events and places of respite for residents during hot and dry weather.

## Initiatives

	Initiative	What's involved
1	Water Sensitive City Plan	€ Refresh and implement City of Port Phillip's Water Sensitive City Plan, including investigating existing, new and emerging technologies and approaches to help Council use water more efficiently, including efficient and effective irrigation.
2	Planning and development	€ Define onsite stormwater detention requirements for new developments based on the work undertaken in 2021/22, including clear technical guidance and assessment criteria for development applications.
3	Stormwater harvesting	€ Continue to investigate stormwater harvesting opportunities and implement where opportunities are feasible.
4	Community water use	€ Support the Victorian Government's Target 150 campaign through our existing community engagement and communication programs.

5	Fishermans Bend	<ul style="list-style-type: none"> <li>€ Work with partners to establish and document the governance structure for smart rainwater tanks.</li> <li>€ Continue developing blue-green infrastructure and flood-resilient solutions with internal and external stakeholders.</li> </ul>
6	Recycled water	<ul style="list-style-type: none"> <li>€ Investigate and deliver, where feasible, the infrastructure required to irrigate open spaces and vegetation using recycled water from South East Water's proposed recycled water plant in Fishermans Bend and in adjoining areas of the municipality.</li> </ul>
7	Infrastructure improvements	<ul style="list-style-type: none"> <li>€ Develop a long-term strategic asset plan to manage stormwater infrastructure, including new or proposed assets, and renew and maintain existing assets.</li> </ul>
8	Water sensitive urban design	<ul style="list-style-type: none"> <li>€ Continue seeking opportunities to implement water sensitive urban design infrastructure.</li> <li>€ Audit and inspect water sensitive urban design assets to ensure they function as intended.</li> </ul>
9	Permeability	<ul style="list-style-type: none"> <li>€ Develop methods and tools to easily quantify permeability.</li> <li>€ Use mapping and analysis to understand potential future changes in permeability across the municipality.</li> </ul>

# A greener, cooler, more liveable city

We are working to reduce the impacts of heat, protect and enhance biodiversity and help more people enjoy public spaces.

## Why it matters

Urban heat is an increasing threat to liveability and productivity. Cities have less vegetation cover than surrounding land. They're full of concrete, brick and asphalt – hard and dark materials that absorb heat, worsen summer heat extremes and jeopardise the health and wellbeing of people, pets and native wildlife. Their impact is intensified by climate change, with more frequent and extreme hot weather and heatwaves. Increased densification and larger houses have resulted in the loss of large canopy trees across Port Phillip.

Trees and greenery benefit individual households and the whole municipality. For example, the shade from trees can provide highly localised cooling, reducing pavement surface temperatures by over 10 degrees compared to non-shaded footpaths and providing a more comfortable environment for walking. Across a precinct, planting trees can reduce air temperatures by up to two degrees, helping to minimise heat-related illnesses and deaths, and giving people better access to cooler green spaces.

The shade from trees helps to cool homes and reduce electricity bills. They add beauty and value to properties and bring nature into backyards. Plants of all sizes provide critical shelter and food for wildlife, from tiny insects to birds and reptiles. Green spaces can lower stress levels, reduce rates of anxiety and depression and improve wellbeing.

### Urban forest

An urban forest is the sum of all trees and vegetation growing within a metropolitan area. We take a unified approach to managing and planning for public and private trees and vegetation by considering all our greenery as an urban forest. In Port Phillip, our urban forest includes:

- front and backyard gardens
- balcony gardens
- rooftop gardens and green roofs
- vertical gardens – vegetation growing up the walls of buildings and fences
- street trees, shrubs and groundcovers on nature strips, median strips and roundabouts
- trees and gardens in public parks, reserves and beaches
- trees along transport routes
- trees and gardens in other open spaces, such as shopping strips and industrial properties.

Growing our urban forest provides balance to our highly urbanised environment, improves the daily lives of residents and visitors' experiences and sustains our city's long-term liveability.

## How we're going

- We planted 41,337 plants through the Urban Forest Strategy in 2021/22.
- We adopted the Places for People: Public Space Strategy 2022-32, which sets the vision and blueprint for the future of our public spaces in the City of Port Phillip.
- We updated our Nature Strip Guidelines and are improving our community gardening program to increase greening in public areas.
- We trialled our first woody meadow, a cost-effective and water-efficient way to manage complex open space plantings.
- We invested in species diversification, park trees and streetscape improvements and prioritised biodiversity by planting indigenous and climate-tolerant species.
- We completed our biodiversity study and have developed a set of actions for inclusion in the Urban Forest Strategy and other strategies and projects.
- We drafted an update to the local law to increase the protection of large canopy trees.
- We investigated how we can further protect vegetation on private property through planning scheme controls.
- We completed the [Cooling South Melbourne](#) report on what Council can do to create a cooler South Melbourne by using different materials, more greening and even water misting.
- We're beginning work on a new Urban Forest Strategy to set our future actions and ensure we're fulfilling community expectations for greening.

### Canopy cover

We set targets to increase canopy cover on streets and private land by 10 per cent. Increasing canopy cover has become even more critical in recent years, given the extra demand for green space following COVID-19 lockdowns, due to more public use and more people working from home. Unfortunately, this data has proven difficult to obtain from other parties, so we have committed to undertake canopy coverage mapping as part of our new Urban Forest Strategy. We are also committed to identifying the best way to ensure we comply with requirements to keep tree branches away from electrical lines while preventing a large reduction in tree canopy.

## Key partners

- the community
- Victorian Government
- Port Phillip EcoCentre
- local environmental groups
- business community
- neighbouring councils.

## Targets

The Urban Forest Strategy is under review and we will establish new targets and indicators through that process.

Council indicator	Baseline 2015/16	Target 2028	Initiatives contributing to this indicator
Percentage of street canopy cover	19%	20.9% 10% increase on baseline  Note: Revised targets to be developed through Council's new Urban Forest Strategy	10. Urban Forest Strategy 11. Supporting guidelines and plans 13. Heat mapping
Community indicator	Baseline 2015/16	Target 2028	Initiatives contributing to this indicator
Percentage of private land canopy cover	11%	12.1% 10% increase on baseline	10. Urban Forest Strategy 12. Biodiversity study 13. Heat mapping 14. Vegetation and canopy cover on private property

## Initiatives

	Initiative	What's involved
10	Urban Forest Strategy	<ul style="list-style-type: none"> <li>Develop and deliver a new Urban Forest Strategy including additional actions identified in the public space strategy and other core strategies.</li> <li>Implement permeability initiatives such as de-paving, increasing green space and building green infrastructure.</li> </ul>

11	Supporting guidelines and plans	<ul style="list-style-type: none"> <li>Develop and implement guidelines and plans supporting the implementation of the Urban Forest Strategy, including a new Foreshore and Hinterland Vegetation Management Plan, a street tree planting program and a land acquisition policy to increase public space within the municipality.</li> </ul>
12	Biodiversity study	<ul style="list-style-type: none"> <li>Incorporate biodiversity study findings into the Urban Forest Strategy and implement initiatives to support biodiversity in the municipality.</li> </ul>
13	Heat mapping	<ul style="list-style-type: none"> <li>Use Victorian Government heat mapping data and demographic information to inform project and service delivery, including the design of public spaces, asset management, community and staff safety, and drinking water fountains around the municipality.</li> </ul>
14	Vegetation and canopy cover on private property	<ul style="list-style-type: none"> <li>Use technical guidance to influence and advocate for regulatory interventions to protect vegetation and increase canopy cover on private property, including green roofs, walls and facades.</li> </ul>



# A city with lower greenhouse gas emissions

We will maintain zero net emissions from our operations and work with our community and partners to reduce greenhouse gas emissions.

## Why it matters

Reducing greenhouse gas emissions and transitioning from fossil fuels to renewable energy is critical to tackling the climate emergency.

Responding to the climate emergency is possible. The IPCC says that urgent climate action can secure a liveable future for all. Feasible and practical options exist to reduce greenhouse gas emissions and minimise human-caused climate change (IPCC Synthesis Report, March 2023).

We are committed to real action and playing our part in keeping global temperature rise to under 1.5 degrees. We are committed to maintaining net zero carbon emissions from our operations. Council produces only 0.6 per cent of the overall emissions in the City of Port Phillip. We will reduce our emissions further by upgrading our assets and phasing out gas from Council-owned buildings.

We will also mobilise our community to reduce emissions throughout the municipality. Everyone must play their part as we move towards a low-carbon future. We are working with partners, residents and businesses to reduce our community's emissions. The Port Phillip community can create an energy-smart lifestyle by building or retrofitting houses, apartments and commercial properties with insulation and double glazing, energy-efficient lighting and appliances and accessing renewable energy.

Reducing consumption – buying less stuff – is one of the best ways to reduce emissions, but energy-efficient technologies are also part of the puzzle. In the coming years, we will roll out new programs focused on increasing the community's ability to reduce energy consumption and purchase renewable energy.

## How we're going

- We reduced our gross carbon emissions by one-quarter between 2016 and 2021.
- We power our operations with 100 per cent renewable energy through the Melbourne Renewable Energy Project.
- We achieved net zero emissions for Council operations in 2021.
- We installed 610 kilowatts of solar panels on Council buildings.
- We switched 11 Council-owned buildings from gas to electricity.
- We purchased 26 electric vehicles for our fleet.
- We implemented the South Melbourne Market Sustainability Strategy, generating 771,672 kWh of solar power since December 2019, avoiding approximately 800 tCO<sup>2</sup>-e in carbon emissions

- We involved nearly 10,000 participants in our sustainability programs, including school travel programs, in 2020/21.
- We facilitated the Victorian Government's 'Small Business Energy Saver' program with South East Councils Climate Change Alliance to help over 140 small businesses access funding to upgrade equipment to reduce emissions and save money.
- We are partnering with the Victorian Government on the redevelopment of the Port Phillip EcoCentre, so that a zero emissions building can support the delivery of sustainability programs.

## Key partners

- the community
- Victorian Government (Department of Energy, Environment and Climate Action)
- South East Councils Climate Change Alliance
- Council Alliance for a Sustainable Built Environment
- Inner Metro Melbourne Partnership.

## Targets

Council indicators				
Indicator	Baseline 2016/17	Progress 2021/22	Target 2028	Initiatives contributing to this indicator
Gross greenhouse gas emissions from Council operations, including buildings and streetlights	10,954 tCO <sub>2</sub> -e	8,142 tCO <sub>2</sub> -e	37% reduction 6,918 tCO <sub>2</sub> -e	15. Sustainability data reporting, use and communication 16. Reducing emissions, energy use and increasing electrification in Council buildings and assets 17. South Melbourne Market Sustainability Strategy 18. Green leases and tenant engagement 19. Electric vehicles 20. Energy efficient lighting upgrade

<p>Energy consumption in Council buildings and streetlights</p> <p>Note: We are measuring this indicator to help achieve the gross greenhouse gas emissions target</p>	8,900 MWh	6,382 MWh	N/A	<p>16. Reducing emissions, energy use and increasing electrification in Council buildings and assets</p> <p>18. Green leases and tenant engagement</p> <p>20. Energy efficient lighting upgrade</p>
Net greenhouse gas emissions from Council operations	6,464 tCO <sup>2</sup> -e	Zero	Zero	<p>15. Sustainability data reporting, use and communication</p> <p>16. Reducing emissions, energy use and increasing electrification in Council buildings and assets</p> <p>17. South Melbourne Market Sustainability Strategy</p> <p>18. Green leases and tenant engagement</p> <p>19. Electric vehicles</p> <p>20. Energy efficient lighting upgrade</p> <p>21. Carbon offset policy</p>
Percentage of Council electricity use from renewable sources	293 kWh	100%	100%	<p>15. Sustainability data reporting, use and communication</p> <p>16. Reducing emissions, energy use and increasing electrification in Council buildings and assets</p> <p>17. South Melbourne Market Sustainability Strategy</p> <p>18. Green leases and tenant engagement</p>

Community indicators				
Indicator	Baseline 2016/17	Progress 2021/22	Aspiration 2028	Initiatives contributing to this indicator
Greenhouse gas emissions in the municipality	1,700,000 tCO <sup>2</sup> -e	1,279,000 tCO <sup>2</sup> -e	Zero by 2045  75 to 80% reduction by 2035  Aligned with state government target, awaiting legislation	22. Port Phillip EcoCentre redevelopment and programs  23. Community emissions reductions  24. Industry and business emissions reductions  25. Environmental upgrade agreements  26. Sustainable solutions for apartment buildings and low-income and rental households  27. Environmentally sustainable design in planning and development  28. Neighbourhood batteries  29. Library sustainability initiative  30. Electric vehicle uptake  31. Sustainable transport initiatives
Electricity use from renewable sources in the municipality	5,100 kWh	16,758 kWh	N/A	23. Community emissions reductions  24. Industry and business emissions reductions  25. Environmental upgrade agreements

				<p>26. Sustainable solutions for apartment buildings and low-income and rental households</p> <p>27. Environmentally sustainable design in planning and development</p> <p>28. Neighbourhood batteries</p>
Percentage of households with solar power	<p>11%</p> <p>(Baseline 2021/22)</p>	N/A	N/A	<p>23. Community emissions reductions</p> <p>24. Industry and business emissions reductions</p> <p>26. Sustainable solutions for apartment buildings and low-income and rental households</p> <p>27. Environmentally sustainable design in planning and development</p> <p>28. Neighbourhood batteries</p>
Number and percentage of private vehicles that are electric	<p>0.14%</p> <p>20,095 cars</p> <p>(Baseline 2021/22)</p>	N/A	N/A	<p>30. Electric vehicle uptake</p> <p>31. Sustainable transport initiatives</p>

## Initiatives

Initiative		What's involved
15	Sustainability data reporting, use and communication	<ul style="list-style-type: none"> <li>● Introduce a system to collect, store and use sustainability data to ensure informed decision-making.</li> <li>● Review Council services to understand supply chain emissions.</li> <li>● Identify opportunities to reduce supply chain emissions and incorporate changes.</li> </ul>
16	Emissions, energy use and electrification in Council buildings and assets	<ul style="list-style-type: none"> <li>● Undertake an environmental performance audit and reduce energy use in key Council buildings by investing in renewable energy, energy efficiency and water efficiency initiatives and changing our behaviour in a targeted way.</li> <li>● Progressively electrify existing Council buildings where feasible.</li> <li>● Build new assets with no gas connections (with minimal exceptions where needed for commercial cooking).</li> <li>● Introduce minimum sustainability performance standards for key asset classes, such as drains, footpaths, buildings and open space.</li> <li>● Measure and reduce embodied carbon in our buildings and assets.</li> </ul>
17	South Melbourne Market Sustainability Strategy	<p>€ Implement the South Melbourne Market Sustainability Strategy, focusing on reducing waste, transitioning towards zero-carbon operations and reducing water use and impact on waterways.</p>
18	Green leases and tenant engagement	<ul style="list-style-type: none"> <li>● Enhance green lease provisions and tenant engagement to drive and report on emissions reduction and improved waste management, focusing on large commercial leaseholders.</li> </ul>
19	Transition to a lower emissions fleet	<p>€ Undertake a review of the fleet with specialist advice to identify and implement cost effective options to reduce emissions, which could include electrification, transition away from diesel and extending the life of existing vehicles</p>

20	Energy efficient lighting upgrade	<ul style="list-style-type: none"> <li>Continue to deliver our existing commitment to an energy-efficient street lighting upgrade of 1,500 lights for major roads.</li> <li>Develop a business case to identify and prioritise additional street lighting upgrade opportunities.</li> <li>Reduce greenhouse emissions by replacing old streetlights with more efficient LEDs, as identified in the business case.</li> </ul>
21	Carbon offset policy	<ul style="list-style-type: none"> <li>Develop a carbon offset policy to guide Council's purchase of offsets to achieve carbon neutrality, including exploring regional opportunities for carbon offsets.</li> </ul>
22	Port Phillip EcoCentre redevelopment and programs	<ul style="list-style-type: none"> <li>Lead the Port Phillip EcoCentre redevelopment and invest in EcoCentre programs that support an environmentally aware community.</li> <li>Promote the redeveloped EcoCentre as a hub for community-led action, empowering young people, schools, residents and visitors to address climate change impacts by connecting with the local environment.</li> </ul>
23	Community emissions reductions	<ul style="list-style-type: none"> <li>Expand delivery of sustainability programs for community benefit.</li> <li>Understand community needs and barriers to renewable energy and deliver a program to support community renewable energy uptake.</li> <li>Target communications and resources to help key audiences reduce their carbon emissions and adapt to the impacts of climate change.</li> <li>Provide support to the community to enhance transition from the use of fossil fuels such as gas.</li> </ul>
24	Industry and business emissions reductions	<ul style="list-style-type: none"> <li>Support major commercial and industrial greenhouse gas emitters in their emission reduction initiatives and support small-to-medium-sized businesses to reduce their emissions with access to programs, rebates and incentives.</li> </ul>
25	Environmental upgrade agreements	<ul style="list-style-type: none"> <li>Work with partners to drive the uptake of environmental upgrade agreements for commercial and residential buildings – legislation pending.</li> </ul>
26	Sustainable solutions for apartment buildings and low-income and rental households	<ul style="list-style-type: none"> <li>Seek partnerships to drive sustainable solutions for apartment buildings, including supporting owners corporations to undertake sustainability retrofits and giving residents access to renewable electricity and energy-sharing platforms.</li> <li>Advocate to the Victorian and Australian Governments for funding and support mechanisms that support residents on low incomes and rental households to invest in solar and sustainability retrofits through alternative financing arrangements.</li> </ul>

27	Environmentally sustainable design (ESD) in planning and development	<ul style="list-style-type: none"> <li>• Encourage and enforce sustainable, climate-resilient buildings by applying ESD planning policy guidelines and providing clear, accessible information to the community.</li> <li>• Advocate to developers to achieve climate-positive buildings, properties and precincts, which are fossil fuel free, highly efficient, powered by renewables and built with lower upfront emissions.</li> <li>• Update our Sustainable Design Strategy to highlight the minimum standards for new buildings and tenants in rented buildings.</li> <li>• Advocate to the Fishermans Bend Taskforce and Victorian Government for planning policy regulation to support their commitment to a certified Green Star community in Fishermans Bend.</li> </ul>
28	Neighbourhood batteries	<ul style="list-style-type: none"> <li>• Work with partners to identify feasible locations for neighbourhood batteries and engage and empower local communities to benefit from energy storage.</li> </ul>
29	Library sustainability initiative	<ul style="list-style-type: none"> <li>• Build and maintain library sustainability programs that provide the community with books, interactive displays and a seed library, and lend sustainability and gardening tools and devices.</li> </ul>
30	Electric vehicle uptake	<ul style="list-style-type: none"> <li>• Support the uptake of electric vehicles in the community by investigating, trialling and facilitating the installation of public charging stations and private charging infrastructure and removing barriers to charging infrastructure in new developments and existing buildings.</li> </ul>
31	Sustainable transport initiatives	<ul style="list-style-type: none"> <li>• Implement initiatives in Move, Connect, Live: Integrated Transport Strategy 2018-28 to support sustainable transport, including walking, cycling, public transport, car share and new alternative forms of transportation.</li> </ul>



### **Sustainable building case study – Port Phillip EcoCentre**

City of Port Phillip has a long history of incorporating ESD into Council buildings. Port Phillip EcoCentre in the St Kilda Botanic Gardens is a hub for community-led action to address climate change. It educates and empowers students, residents and visitors to care for land, water, wildlife and wellbeing. We're proud of our long-term funding partnership with the EcoCentre to promote environmental sustainability and community action.

The EcoCentre is being redeveloped into a new, world-class facility. Designed to operate with net zero energy and low water usage, the EcoCentre will achieve a 6-Star Green Star Design and As Built certification. The EcoCentre will join an exclusive club of only 500 buildings worldwide that produce more clean energy than it consumes, offsetting all carbon used during construction.

We successfully advocated for a 50 per cent funding contribution from the Victorian Government to redevelop the EcoCentre. The \$6.7 million project will see scientists, educators and volunteers together under one roof.

The existing building will be dismantled with all materials re-used or recycled where possible, in accordance with high sustainability standards. The new EcoCentre will open in late 2024.

Other examples of building sustainability include undertaking de-gassing projects in 13 Council buildings, efficiency upgrades on our heating, ventilation and cooling systems in seven of our biggest buildings and lighting upgrades in 19 buildings.

# A city that is adapting and resilient to climate change

We will work with our community and partners to adapt to the impacts of a changing climate.

## Why it matters

Port Phillip is already experiencing the impacts of climate change, including higher temperatures and sea levels, less annual rainfall and more severe flooding.

Victoria's average annual temperatures have increased by 1.2 degrees since 1910. Under a high emissions scenario, they could increase by 2.4 degrees by the 2050s, with double the number of very hot days as well as higher sea levels and more intense downpours.

Rising seas, increased severity and frequency of storms and more extreme rainfall are projected to increase the likelihood of flooding of homes, businesses, Council buildings, roads and public spaces. We're also likely to see increased storm damage to private land and Council assets and increased inundation of beaches, parks and buildings along the foreshore. Increased flooding and storms could result in safety risks, disruption to transport and services, reduced property values, increased insurance costs for Council and our community, and loss of revenue for Council.

Lower rainfall and population growth will put significant pressure on water supply security for our community and make it more difficult and expensive to maintain our green spaces. We can also expect heat-related health issues, hotter urban areas and power outages as temperatures rise.

Guided by the latest science, we're working to understand the risks we face from climate change, support our most vulnerable people and prioritise solutions that will help protect the essential systems and services we rely on daily. Action is crucial because climate change impacts everyone in our community, with vulnerable members most affected.

Responding requires investment in our assets, changing how we deliver our services and working with our community and partners to mitigate and adapt to climate change. We encourage residents and businesses to take meaningful action to reduce their emissions, learn how to become more climate resilient and prepare for a changing climate.

## How we're going

- We made 389 assessments of planning applications against sustainable design standards in 2020/21.
- We reviewed 5,991 road segments, 224 buildings, 27,458 drainage pits and pipes and 494 open spaces as part of our 2020/21 Asset Vulnerability Assessment.
- We partnered with Melbourne Water and the Cities of Kingston, Bayside and Glen Eira to deliver actions in the Elster Creek Flood Management Plan, such as a community campaign

with letters sent to households, schools and sporting clubs, with a map showing areas at risk of flood and providing helpful advice about being prepared.

- We helped support 18 schools in the municipality to learn more about the environment and sustainability by participating in programs delivered by Port Phillip EcoCentre in 2020/21.
- We ensure our pipes and pits function at 95 per cent capacity to minimise flooding and install pits to clean pipe infrastructure effectively.
- We have installed more than 1.6 kilometres of dune fencing, which has allowed dune grasses to grow and stabilise more than 1,000 square metres of sand along the foreshore.

## Key partners

- the community
- Victorian Government
- South East Councils Climate Change Alliance
- emergency management organisations
- Association of Bayside Municipalities.

## Targets

Council indicators			
Indicator	Baseline 2021/22	Target 2028	Initiatives contributing to this indicator
Percentage of asset management plans that include details of identified climate risks and measurable actions to increase the climate resilience of the asset class	35%	100% of asset management plans	36. Fishermans Bend as an innovation precinct 37. Climate change risks to Council 38. Coastal Hazard Vulnerability Assessment and Coastal Adaptation Plan 39. Drainage infrastructure 40. Flooding and sea level rise
By 2028, Council has a fit-for-purpose risk management, reporting and decision-making framework to manage climate-related	No framework	Framework complete	37. Climate change risks to Council 38. Coastal Hazard Vulnerability Assessment and Coastal Adaptation Plan

risk to service delivery, assets and finances			
Community indicators			
Indicator	Baseline 2021/22	Aspiration 2028	Initiatives contributing to this indicator
Percentage of community members who have sufficient information to make informed decisions about how to protect themselves and respond in the event of extreme weather (heatwaves, storms, or flooding)	62%	No advocacy position to be set because this is a lag indicator, which will be measured to inform community support and programs	32. Community climate resilience 33. Cool spaces strategy 34. Community flood awareness campaign 41. Emergency management planning

## Initiatives

Initiative		What's involved
32	Community climate resilience	<ul style="list-style-type: none"> <li>Assess opportunities to support community resilience to climate change impacts.</li> <li>Establish partnerships to improve opportunities for community resilience and adaptation.</li> <li>Build on current work to develop and collate data to understand climate impacts on the community.</li> <li>Support the community to lead, build and implement action plans to respond to flooding, heatwaves and other climate impacts.</li> </ul>
33	Cool spaces strategy	<ul style="list-style-type: none"> <li>Develop a cool spaces strategy with community health and emergency services providers that will identify and create safe locations for the community to access during times of extreme heat.</li> </ul>
34	Community flood awareness campaign	<ul style="list-style-type: none"> <li>Undertake a targeted campaign based on up-to-date flood modelling to ensure residents know of existing and future flood risks and understand the implications for insurance and measures to reduce impacts.</li> </ul>

35	Fishermans Bend as an innovation precinct	<ul style="list-style-type: none"> <li>Leverage investment and designate Fishermans Bend as an innovation precinct for Council to design, deliver, monitor and scale-up successful localised adaptation measures.</li> </ul>
36	Climate change risks to Council	<ul style="list-style-type: none"> <li>Undertake a climate change risk assessment that quantifies climate hazards, exposures and vulnerabilities across Council assets, services, community and ecosystems.</li> <li>Establish a monitoring and reporting protocol to keep the community informed of Council's response to climate risks.</li> <li>Deliver climate change risk training to officers.</li> </ul>
37	Coastal Hazard Vulnerability Assessment and Coastal Adaptation Plan	<ul style="list-style-type: none"> <li>Assess recommendations from the Victorian Government's Coastal Hazard Vulnerability Assessment.</li> <li>Develop a Coastal Adaptation Plan to build the municipality's resilience against sea level rise and inundation.</li> </ul>
38	Stormwater infrastructure	<ul style="list-style-type: none"> <li>Continue maintenance of stormwater assets to ensure they operate effectively.</li> </ul>
39	Flooding and sea level rise	<ul style="list-style-type: none"> <li>Explore partnerships to deliver infrastructure and design approaches to protect against flooding and sea level rise.</li> </ul>
40	Emergency management planning	<ul style="list-style-type: none"> <li>Update the Flood Preparedness Emergency Management Plan and Heatwave Sub-plan to improve our emergency response.</li> </ul>

### Climate change adaptation scenarios for Council assets

In 2019, Port Phillip kicked off a regional climate vulnerability analysis project with the South East Council's Climate Change Alliance (SECCCA). The project looked at how Council's buildings, roads, drains and open spaces may be impacted by climate change, particularly flooding, sea level rise, storm surges, heat and drought.

The project modelled different climate scenarios and their impact on assets at different times in the future. That data is now being used to make informed decisions about strategic asset management, investment and service delivery. We used case studies to understand how various climate change adaptations impacted costs.

Since early 2022, we have been working to integrate this data and make informed decisions when planning for projects and services being delivered to the community.

You can find more information under asset vulnerability assessment on [SECCCA website](#).

# A sustained reduction in waste

We are committed to improving how we manage waste to reduce landfill, greenhouse gas emissions and the loss of valuable materials and support Victoria's evolving recycling sector.

## Why it matters

In 2021/22, our municipality sent nearly 22,000 tonnes of rubbish to landfill. This waste represents a loss of essential resources and causes impacts on land and greenhouse gas emissions.

Before Council introduced the kerbside FOGO service, much of the municipality's food waste ended up in landfills. When it is left in landfill, rotting food waste creates methane, a greenhouse gas 20 times stronger than carbon dioxide. Through Council's communal food organics hubs and kerbside FOGO service, more than 1000 tonnes of food and garden materials have been diverted from landfill.

In 2020, Council bin audits also identified that one in every four household kerbside mixed recycling bins contained non-recyclable material. We have now reduced contamination in recycling bins by a quarter across our municipality through our 'Recycling Reset' campaign. Council has also begun using waste as a resource and repurposing items previously considered waste.

The Victorian and Australian Governments are focused on building Australia's recycling industry, so there is an opportunity for City of Port Phillip to be a part of the industry's evolution. As a local government, we must ensure the community has straightforward systems to recycle products. We also need to minimise waste to landfill from our operations by buying recycled and recyclable materials where possible, ensuring effective waste management systems and reducing waste from events and places like South Melbourne Market.

## How we're going

- We endorsed the rollout of a kerbside FOGO service to eligible houses, townhouses, units and apartments across the municipality, after a successful trial in Elwood. The service commenced in January 2023 for houses and townhouses and will be expanded to apartments and units from July 2023. We expect this service will reduce food and garden materials in our garbage stream by between 20 and 30 per cent.
- We diverted 1,140 tonnes of food and garden organic materials from landfill between September 2021 and March 2023 through our communal food organics hubs and kerbside food and garden organics service.
- We reduced contamination in recycling bins by a quarter through our 'Recycling Reset' contamination management campaign. In April 2020, bin audits identified that one-quarter of kerbside mixed recycling bins contained non-recyclable material. The Recycling Reset campaign provided educational bin tags to help educate householders on how to use their mixed recycling bins.

- The South Melbourne Market has partnered with The Nature Conservancy to recycle oyster, mussel and scallop shells generated by retailers and patrons. The Nature Conservancy uses the shells to restore marine environments affected by dredging, including Port Phillip Bay.
- The St Kilda Repair Cafe has been tackling our throwaway culture by providing a free repair service to the Port Phillip community since November 2017.

## Key partners

- the community
- Victorian Government (Department of Energy, Environment and Climate Action)
- Recycling Victoria
- Sustainability Victoria.

## Targets

Council indicators				
Indicator	Baseline 2016/17	Progress 2021/22	Target 2025	Initiatives contributing to this indicator
Reduction in the garbage stream for Council buildings	New target	37.6% waste diversion rate	33 to 50% increase in waste diversion rate  50.1 to 56.4% waste diversion rate	42. Don't Waste It! Waste Management Strategy 2022-25  44. Council waste to landfill  45. New waste to resource streams
Community indicators				
Indicator	Baseline 2016/17	Progress 2021/22	Target 2025	Initiatives contributing to this indicator
Percentage of kerbside waste diverted from landfill	31%	32%	54 to 56%*	42. Don't Waste It! Waste Management Strategy 2022-25  43. Business waste to landfill  46. Community initiatives and programs

\*Target from Don't Waste it! Waste Management Strategy 2022-25

## Changing indicators and targets

In 2018, we set ambitious targets to increase the proportion of waste diverted from landfills for both Council and the community. Those targets relied on the implementation of advanced waste processing technologies. Since then, the waste and recovery sector has changed significantly, with higher costs, the end of waste exports and the introduction of reforms aimed at building the local circular economy. So far, diversion rates have not improved and we have revised the timing of our ambition for change. We have simplified our indicators and targets and have responded to these changes through our Don't Waste It! Waste Management Strategy 2022-25.

## Initiatives

Initiative		What's involved
41	Don't Waste It! Waste Management Strategy 2022-25	<ul style="list-style-type: none"> <li>Implement the Waste Management Strategy, with five priority areas: food organics and garden organics, separated glass recycling, mixed recycling, garbage and public place waste.</li> </ul>
42	Business waste to landfill	<ul style="list-style-type: none"> <li>Explore opportunities to support business waste management needs and reduce waste to landfill through existing sustainability education and awareness programs.</li> </ul>
43	Council waste to landfill	<ul style="list-style-type: none"> <li>Introduce systems and behaviour change programs to increase the diversion of waste generated in Council buildings from landfill.</li> </ul>
44	New waste to resource streams	<ul style="list-style-type: none"> <li>Seek opportunities to integrate new waste-to-resource streams into Council's infrastructure projects.</li> </ul>
45	Community initiatives and programs	<ul style="list-style-type: none"> <li>Support community initiatives for local food growing and sharing, resource efficiency and reuse through existing sustainability education and awareness programs.</li> </ul>



## Measuring and reporting

We are committed to ongoing monitoring and evaluation of targets, indicators and actions. As we test and refine the targets, indicators and actions, we will:

- report against indicators annually (or as indicated)
- use data to evaluate progress and inform decision-making
- re-evaluate our existing methods for measuring and calculating greenhouse gas emissions, sustainability, water use and water quality impacts
- investigate how to make data accessible
- use data to guide internal actions as well as educate the community to make informed decisions about climate change, sustainability actions and programs.

As we implement the Strategy, we will work internally and with partners to ensure that all community members have fair access to the same opportunities, resources and to advance equity.

## Summary table of goals, indicators, baseline, progress and targets

Priority Area	Indicator	Baseline	Progress 2021/22	Target 2028
<b>Council goals</b>				
A water sensitive city	Council's mains water use for irrigation	169 ML/y	149 ML/y 12% reduction	97 ML/y 43% reduction
	Council's potable water use	238 ML/y	216 ML/y	N/A
	Note: We measure this indicator to support our target relating to mains water use for irrigation			
	Total nitrogen	15,0009 kg/y	13,563 kg/y 10% reduction	12,669 kg/y 16% reduction
	Total suspended solids	717,035 kg/y	627,395 kg/y 13% reduction	590,125 kg/y 18% reduction
	Total phosphorous	1,880 kg/y	1,699 kg/y 10% reduction	1,599 kg/y 15% reduction

A greener, cooler, more liveable city	Percentage of street canopy cover	19%	Data unavailable	20.9% 10% increase
A city with lower greenhouse gas emissions	Gross greenhouse gas emissions from Council operations, including buildings and streetlights	10,954 tCO <sup>2</sup> -e	8,142 tCO <sup>2</sup> -e	6,918 tCO <sup>2</sup> -e 37% reduction
	Energy consumption in Council buildings and streetlights  Note: We are measuring this indicator to help achieve the gross greenhouse gas emissions target	8,900 MWh	6,382 MWh	N/A
	Net greenhouse gas emissions from Council operations	6,464 tCO <sup>2</sup> -e	Zero	Zero
	Percentage of Council electricity use from renewable sources	293 kWh	100%	100%
A city that is adapting and resilient to climate change	Percentage of asset management plans that include details of identified climate risks and measureable actions to increase climate resilience of the asset class	35% (Baseline 2021/22)	N/A	100% of asset management plans
	By 2028, Council has a fit-for-purpose risk management,	No framework	N/A	Framework complete

	reporting and decision-making framework to manage the climate-related risk to service delivery, assets and finance			
A sustained reduction in waste	Reduction in the garbage stream for Council buildings	New target	37.6% waste diversion rate	33 to 50% increase in waste diversion rate  50.1 to 56.4% diversion rate

Priority Area	Indicator	Baseline	Progress 2021/22	Target 2028
<b>Community goals</b>				
A water sensitive city	Community potable water use	178 L/p/day	183 L/p/day	150 L/p/day
A greener, cooler, more liveable city	Percentage of private land canopy cover	11%	Data unavailable	12.1% 10% increase
A city with lower greenhouse gas emissions	Greenhouse gas emissions in the municipality	1,700,000 tCO <sub>2</sub> -e	1,279,000 tCO <sub>2</sub> -e	Zero by 2045  75 to 80% reduction by 2035  Aligned with state government target, awaiting legislation.
	Electricity use from renewable sources in the municipality	5,100 kWh	16,758 kWh  10.7%	N/A
	Percentage of households with solar power	11% (Baseline 2021/22)	N/A	N/A

	Number and percent of private vehicles that are electric	0.14% 20,095 cars (Baseline 2021/22)	N/A	N/A
A city that is adapting and resilient to climate change	Percentage of community members who have sufficient information to make informed decisions about how to protect themselves and respond in the event of extreme weather (heatwaves, storms or flooding)	To be established	N/A	No advocacy position to be set because this is a lag indicator, which will be measured to inform community support and programs
A sustained reduction in waste	Percentage of kerbside waste diverted from landfill	31%	32%	54 to 56%

## Action table

The following table lists each of the five priority areas and their actions, with a cost estimate for implementation.

Priority Area	Action	Cost
A water sensitive city	Refresh and implement City of Port Phillip's Water Sensitive City Plan, including investigating existing, new and emerging technologies and approaches to help Council use water more efficiently, including efficient and effective irrigation.	\$10.5 m
	Define onsite stormwater detention requirements based on the work undertaken in 2021/22. This work should include clear technical guidance and assessment criteria for development applications.	
	Continue to investigate stormwater harvesting opportunities with a positive benefit-cost analysis and implement where opportunities are feasible.	

	Support the Victorian Government's Target 150 campaign through our existing community engagement and communication programs.	
	Work with partners to establish and document the governance structure of smart rainwater tanks.	
	Continue developing blue-green infrastructure and flood-resilient solutions with internal and external stakeholders.	
	Investigate and deliver, where feasible, the infrastructure required to irrigate using recycled water from South East Water's proposed recycled water plant in Fishermans Bend and in adjoining areas of the municipality.	
	Develop a long-term strategic asset plan to manage stormwater infrastructure, including new or proposed assets, and renew and maintain existing assets.	
	Continue seeking opportunities to implement water sensitive infrastructure, along with continued investment in associated maintenance regimes.	
	Audit and inspect water sensitive assets to ensure they function as intended.	
	Develop methods and tools to easily quantify permeability.	
A greener, cooler, more liveable city	Use mapping and analysis to understand potential future changes in permeability across the municipality.	\$3.43 m
	Develop and deliver a new Urban Forest Strategy to include additional actions identified in the public space strategy and other core strategies.	
	Implement permeability initiatives such as de-paving, increasing green space and building green infrastructure.	
	Develop and implement guidelines and plans supporting the implementation of the Urban Forest Strategy, including a new Foreshore and Hinterland Vegetation Management Plan, a street tree planting program and a land acquisition policy to increase public space within the municipality.	

	Incorporate biodiversity study findings into the Urban Forest Strategy and implement initiatives to support biodiversity in the municipality.	
	Use Victorian Government heat mapping data and demographic information to inform project and service delivery, including the design of public spaces, asset management, community and staff safety and drinking water fountains around the municipality.	
	Use technical guidance and implement regulatory interventions to protect vegetation and increase canopy cover on private property, including green roofs, walls and facades.	
A city with lower greenhouse gas emissions	Introduce a system and process to collect, store and use sustainability data to ensure informed decision-making.	\$19.86 m
	Review Council services to understand supply chain emissions.	
	Identify opportunities to reduce supply chain emissions and incorporate changes.	
	Undertake an environmental performance audit and reduce energy use in key Council buildings by investing in renewable energy, energy efficiency and water efficiency initiatives and changing our behaviour in a targeted way.	
	Progressively electrify existing Council buildings where feasible.	
	Build new assets with no gas connections (with minimal exceptions where needed for commercial cooking).	
	Introduce minimum sustainability performance standards for key asset classes, such as drains, footpaths, buildings and open space.	
	Measure and reduce embodied carbon in our buildings and assets.	
	Implement the South Melbourne Market Sustainability Strategy, focusing on reducing waste, transitioning	

	towards zero-carbon operations and reducing water use and impact on waterways.	
	Enhance green lease provisions and tenant engagement to drive and report on emissions reduction and improved waste management, focusing on large commercial leaseholders.	
	Undertake a review of the fleet with specialist advice to identify cost effective options to accelerate emissions reductions, which could include electrification, transitioning from diesel and extending the life of existing vehicles.	
	Continue to deliver our existing commitment to an energy-efficient street lighting upgrade of 1,500 lights for major roads.	
	Develop a business case to identify and prioritise additional street lighting upgrade opportunities.	
	Reduce greenhouse emissions by replacing old streetlights with more efficient LEDs, as identified in the business case.	
	Develop a carbon offset policy to guide Council's purchase of offsets to achieve carbon neutrality, including exploring regional opportunities for carbon offsets.	
	Lead the Port Phillip EcoCentre redevelopment and invest in EcoCentre programs that support an environmentally aware community.	
	Promote the redeveloped EcoCentre as a hub for community-led action, empowering young people, schools, residents and visitors to address climate change impacts by connecting with the local environment.	
	Expand delivery of sustainability programs for community benefit.	
	Understand community needs and barriers to renewable energy and deliver a program to support uptake.	

	<p>Target communications and resources to help key audiences reduce their carbon emissions and adapt to the impacts of climate change.</p> <p>Provide support to the community to enhance transition from the use of fossil fuels such as gas.</p> <p>Support major commercial and industrial greenhouse gas emitters in their emission reduction initiatives and support small-to-medium-sized businesses to reduce their emissions with access to programs, rebates and incentives.</p> <p>Work with partners to drive the uptake of environmental upgrade agreements for commercial and residential buildings – legislation pending.</p> <p>Seek partnerships to drive sustainable solutions for apartment buildings, including supporting owners corporations to undertake sustainability retrofits and giving residents access to renewable electricity and energy-sharing platforms.</p> <p>Advocate to the Victorian and Australian Governments for funding and support mechanisms that support residents on low incomes and rental households to invest in solar and sustainability retrofits through alternative financing arrangements.</p> <p>Encourage and enforce sustainable, climate-resilient buildings by applying ESD planning policy guidelines and providing clear, accessible information to the community.</p> <p>Advocate to developers to achieve climate positive buildings, properties and precincts, which are fossil fuel free, highly efficient, powered by renewables and built with lower upfront emissions.</p> <p>Update our Sustainable Design Strategy to highlight the minimum standards for new buildings and tenants in rented buildings.</p> <p>Advocate to the Fishermans Bend Taskforce and Victorian Government for planning policy regulation to support their commitment to a certified Green Star community in Fishermans Bend.</p>	
--	--	--



	Work with partners to identify feasible locations for neighbourhood batteries and engage and empower local communities to benefit from energy storage.	
	Build and maintain library sustainability programs, that provide the community with books, interactive displays and a seed library, and lend sustainability and gardening tools and devices.	
	Support the uptake of electric vehicles in the community by investigating, trialling and facilitating the installation of public charging stations and private charging infrastructure and removing barriers to charging infrastructure in new developments and existing buildings.	
	Implement the initiatives in Move, Connect, Live: Integrated Transport Strategy 2018-28 to support sustainable transport, including walking, cycling, public transport, car share and new alternative forms of transportation.	
A city that is adapting and resilient to climate change	Assess opportunities to support community resilience to climate change impacts.	\$4.844 m
	Establish partnerships to improve opportunities for community resilience and adaptation.	
	Build on current work to develop and collate data to understand climate impacts on the community.	
	Support the community to lead, build and implement action plans responding to flooding, heatwaves and other climate impacts.	
	Develop a cool spaces strategy with community health and emergency services providers that will identify and create safe locations for the community to access during times of extreme heat.	
	Undertake a targeted campaign based on up-to-date flood modelling to ensure residents know of existing and future flood risks and understand the implications for insurance and measures to reduce impacts.	
	Leverage investment and designate Fishermans Bend as an innovation precinct for Council to design, deliver, monitor and scale-up successful localised adaptation measures.	

	Undertake a climate change risk assessment that quantifies climate hazards, exposures and vulnerabilities across Council assets, services, community and ecosystems.	
	Establish a monitoring and reporting protocol to keep the community informed of Council's response to climate risks.	
	Deliver climate change risk training to officers.	
	Assess recommendations from the Victorian Government's Coastal Hazard Vulnerability Assessment.	
	Develop a Coastal Adaptation Plan to build the municipality's resilience against sea level rise and inundation.	
	Continue maintenance of stormwater assets to ensure they operate effectively.	
	Explore partnerships to deliver infrastructure and design approaches to protect against flooding and sea level rise.	
	Update our Flood Preparedness Emergency Management and Heatwave Sub-plan to improve our emergency response.	
A sustained reduction in waste	Implement the Waste Management Strategy, with five priority areas: food organics and garden organics, separated glass recycling, mixed recycling, garbage and public place waste.	\$3.629 m
	Explore opportunities to support business waste management needs and reduce waste to landfill through existing sustainability education and awareness programs.	
	Introduce systems and behaviour change programs to increase the diversion of waste generated in Council buildings from landfill.	
	Seek opportunities to integrate new waste-to-resource streams into Council's infrastructure projects.	
	Support community initiatives for local food growing and sharing, resource efficiency and reuse through existing sustainability education and awareness programs.	



## Glossary

**Alternative water source** – water sourced from rainwater, stormwater, desalination, groundwater and recycled water.

**Asset management plans** – a means of documenting the key elements involved in managing Council's extensive asset base. City of Port Phillip's assets are categorised across five separate asset portfolios, each which has an individual asset management plan.

**Blue-green infrastructure** – infrastructure containing vegetation that is passively irrigated with stormwater, such as raingardens that reduce pollution entering local waterways.

**Energy storage** – batteries capturing energy for later use.

**Environmental upgrade agreements** – a form of finance designed to fund building efficiency upgrades, also known as building upgrade finance.

**Environmentally sustainable design** – design that seeks to reduce negative impacts on the environment and the health and comfort of building occupants, thereby improving building performance.

**FOGO – Food organics and garden organics** – food waste and leftovers and garden waste that can now be collected through Council's kerbside service and recycled into compost.

**Green lease** – a lease between the landlord and tenant which aims to ensure that the ongoing use and operation of the building minimises environmental impacts.

**High emissions scenario** – emission scenarios for greenhouse gases serve as the basis for working out the possible climate conditions of the future. A high emissions scenario is when there is little to no reduction in greenhouse gases, while a low emissions scenario is when there is a significant effort to reduce greenhouse gases.

**IPCC – Intergovernmental Panel on Climate Change** – founded in 1988, the IPCC is an intergovernmental body of the United Nations that assesses scientific knowledge about climate change.

**Lag indicator** – an indicator that involves a significant delay between when an action is taken and when a difference is measurable.

**Net zero greenhouse gas emissions** – net zero emissions involve balancing the carbon emitted into the atmosphere and the carbon removed from it.

**Permeability** – the ability of a material like concrete, asphalt, or soil to allow water or other liquids to pass through it. For example, a garden bed is more permeable than a road.

**Raingardens** – specially designed garden beds that filter stormwater runoff from surrounding areas.

**Smart rainwater tanks** – tanks connected via a network that enables data monitoring and pump-control commands to be issued to individual tanks. For example, they can be controlled to empty before storms and then used to reduce runoff during heavy rain.

**Stormwater detention** – temporary storage and controlled discharge of stormwater runoff, which reduces the peak stormwater flow from a site.

**Sustainable transport** – transport that has low or zero emissions, including active transport options such as walking and cycling, using public transport and car share services, or driving an electric vehicle.

**Total suspended solids** – suspended particles that are not dissolved in a water sample. It is a parameter used to assess water quality.

**Water sensitive urban design** – a land planning and engineering design approach that integrates the urban water cycle – including stormwater, groundwater, and wastewater management and water supply – into urban design to minimise environmental degradation and improve aesthetic and recreational appeal.

