

Act and Adapt

Sustainable Environment Strategy 2018-28



Act and Adapt - Sustainable Environment Strategy 2018-28

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We are seeking to ensure a sustainable future for the City of Port Phillip by creating a City that is greener, cooler and more liveable

Womin djeka

Council respectfully acknowledges the Yaluk-ut Weelam Clan of the Boon Wurrung.

We pay our respect to their Elders, both past and present.

We acknowledge and uphold their continuing relationship to this land and water on which we rely.

We recognise the intrinsic connection of the Traditional Owners to Country and acknowledge their contribution in the management of land, water and resources.



MESSAGE FROM THE MAYOR

Act and Adapt: Sustainable Environment Strategy 2018-28

On behalf of the Councillors, I am pleased to present Act and Adapt: Sustainable Environment Strategy 2018-28.

Council is committed to supporting a sustainable future for our City, as reflected by strategic direction three of the Council Plan - We have smart solutions for a sustainable future. This Strategy creates a framework to deliver on this commitment over the next 10 years, including key priorities such as:

- a greener, cooler more liveable City to reduce the impacts of heat and improve enjoyment of our public space
- a City with lower carbon emissions to reduce the environmental footprint of Council and community
- a City that is adapting in order to be resilient and better manage the impacts of a changing climate
- a water sensitive City that will enable Council to maintain our parks and sports fields while reducing pollutants entering the bay
- a sustained reduction in waste, adapting to changes in the industry and managing waste more efficiently.

This Strategy details actions that will deliver on these priorities, allocates budget and specifies a timeline indicating our long-term commitment to ensuring that as a community we can adapt to the pressing challenge of climate change. We are looking to do

this while also enhancing our City's green spaces and foreshore, being financially responsible and reducing the broader impact we have on greenhouse gas emissions and waste.

All members of our community are custodians of our land, and we have a collective role to play in protecting its future and meeting the environmental challenges ahead. That is why we are:

- planting more trees
- harvesting water to make sure it isn't wasted
- helping to keep our bay clean
- dealing with waste in more efficient and local ways.

We are excited to present this Strategy and look forward to working with you over the next 10 years to create a more sustainable Port Phillip.



Cr Bernadene Voss
Mayor
City of Port Phillip

Council is committed to supporting a sustainable future for our City, as reflected by strategic direction three of the Council Plan - we have smart solutions for a sustainable future.





As custodians of this land, it is our responsibility to protect and enhance this land for future generations. Council values traditional knowledge and the teaching of old ways to care for the environment into the future. We look forward to partnering with all our community who are proud to call it home, to ensure it thrives into the future.

WOMIN DJEKA

Womin djeka, Mar-ran biik biik. Boon Wurrung Nairm derp bordupren uther weelam. Welcome!

Welcome to my Country, the land of the great bay of the Boon Wurrung people, our beautiful home. On behalf of the Boon Wurrung, a clan of the greater Kulin nations, I welcome you to our land.

Euro Yuroke, more commonly known as St Kilda, and its surrounds, are special places that continue to carry forward the spirit of our tradition.

This land will always be protected by the creator Bundjil, who travels as an eagle, and by Waarn, who protects the waterways and travels as a crow.

As the spirit of my ancestors lives, let the wisdom and the spirit of generosity which Bundjil taught us influence the opportunities that may arise at this meeting place.

N'arweet Carolyn Briggs

Boon Wurrung Elder

Sharing the story of the land

Boon Wurrung Elder - N'arweet Carolyn Briggs

One day - many, many years ago - there came a time of chaos and crisis.

The Boon Wurrung and the other Kulin nations were in conflict. They argued and fought. They neglected their biik (land). The murrnong (yam daisy) was neglected. Too many animals were killed and not always eaten. The gurnbak (fish) were caught during their spawning season. The iilk (eel) were not harvested. As the chaos grew, the warreeny (sea, ocean) became angry and began to rise. The wurneet (river) became flooded and eventually the whole flat plain was covered in baany (water). It threatened to flood their whole barerarerungar (country).

N'arweet Carolyn shares how the terrified people sought assistance from Bundjil, but explains how Bundjil was angry with his people, and he told them that they would have to change their ways if they wanted to save their land.





A time of chaos - Jarra Steel, 2015

EXECUTIVE SUMMARY

What is Act and Adapt: Sustainable Environment Strategy 2018-28?

Act and Adapt: Sustainable Environment Strategy 2018-28 outlines the City of Port Phillip's commitment to environmental sustainability for the organisation and the wider community. It establishes a pathway that will assist to transition the City to a greener, cooler more liveable City where we are all reducing our impact on the environment and are more resilient to the impacts of climate change.

This Strategy contains 47 priority actions that outline how Council will respond to strategic direction three of the Council Plan, **'We have smart solutions for a sustainable future'** and is designed to help our City thrive.

Each action can be measured against corporate and community goals in relation to the Council Plan priorities of:

- A greener, cooler and more liveable City
- A City with lower carbon emissions
- A City that is adapting and resilient to climate change
- A water sensitive City
- A sustained reduction in waste.

Actions within this Strategy will influence city planning and urban design, waste and water management, and community outreach. They also embed sustainability into Council operations and projects to ensure the City of Port Phillip is working towards a more sustainable future. This Strategy recognises that a long-term plan is required to bring about change and so has planned the delivery of the actions across the next 10 years.

The challenge of environmental sustainability is not just limited to the City of Port Phillip; it is a worldwide issue

Why is it important?

The City of Port Phillip is an attractive destination for residents, businesses and visitors. We have 11 kilometres of bay foreshore, beautiful tree-lined streets, and many attractive parks and open spaces that attract many native species of animals and plants

We are already Victoria's most densely populated municipality, with resident numbers projected to increase 23 per cent by 2027, to 136,300. Residential growth is compounded by worker growth, which is also set to increase by over 30,000 additional jobs in the Fishermans Bend precinct alone by 2050. Sustainably managing growth is a key challenge for the City of Port Phillip.

Managing this growth to keep the City of Port Phillip beautiful, liveable, caring, inviting, bold and real has never been more important.

Our growth challenge is compounded by the effects of a changing climate. Lower than average rainfall means our water supply is estimated to reduce by up to 11 per cent by 2020 *. Increased erosion of the foreshore due to a greater number and intensity of storm surges is expected and with most of the City only one to three metres above sea level we are vulnerable to rising sea levels.

Rising temperatures are also having an impact on our environment and heat-related health stress is acutely felt by those who are the most vulnerable in our community.

The challenge of environmental sustainability is not just limited to the City of Port Phillip; it is a worldwide issue. This Strategy not only outlines our leadership and the contribution we can make at the local level, it also underpins our commitment to the Global Covenant of Mayors for Climate and Energy, which is creating a more sustainable future for cities worldwide.

What will we achieve through this Strategy?

We are seeking to ensure a sustainable future for the City of Port Phillip by creating a City that is greener, cooler and more liveable; a City with lower carbon emissions; a City that is adapting and resilient to climate change; a City that is water sensitive with a sustained reduction in waste.

FACTS

23%

projected increase in resident growth by 2027.

11%

estimated reduced rainfall in 2020

14%

of the City's greenhouse gas emissions are due to private vehicles

As our City continues to grow at an unprecedented rate, we need to look at all we do, all we will need to do, and how we can best deliver value for our community.



WHY DO WE NEED THIS STRATEGY?

The City of Port Phillip aspires to be an international leader in sustainability; to be a City that builds on our success and learns from our failings in order to do better and create a better environment for all who live, work and play here.

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

The greenhouse gas emissions from human activities are driving climate change and they continue to rise. They are now at their highest levels in history. Without action, the world's average surface temperature is projected to rise over the 21st century and is likely to surpass three degrees Celsius this century - with some areas of the world expected to warm even more. The poorest and most vulnerable people are being affected the most.

Climate change is a global challenge that does not respect national borders. Emissions anywhere affect people everywhere.

Source: United Nations Sustainable Development Goal 13
<https://www.un.org/sustainabledevelopment/climate-change-2/>

To create a sustainable City, this Strategy drives critical actions and measures progress toward:

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

Many other plans, policies and strategies within Council will also contribute to these outcomes.

A set of Guiding Principles were used to develop the actions in **Act and Adapt**:

- We make an impact for our community
- We prioritise fairness and equity
- We harness partnerships and collaboration
- We invest wisely to benefit our community now and tomorrow
- We adapt to change by testing, learning and monitoring

For the most part, the actions in **Act and Adapt** will be applied across the municipality. However, some actions may be delivered differently within neighbourhoods.



CHALLENGES WE FACE

Several significant long-term challenges were identified in the City's Council Plan 2017-27.

Each of these challenges provide us with opportunities to think differently about how we function as a City as we move toward a more sustainable future.



Population growth and urbanisation

As Victoria's most densely populated municipality, and with resident growth projected to increase 23 per cent by 2027 (taking our resident population to 136,300) sustainably managing growth is a key challenge for the City of Port Phillip.

To accommodate this increase in population, there is significant pressure for higher density developments. If not planned well, increased density has the potential to significantly impact on the environment, reducing tree canopy, trapping more heat in our streets, increasing concrete and stormwater runoff and placing more demand on our parks and foreshore.

Managing this growth sustainably to keep the City of Port Phillip beautiful, liveable, caring, inviting, bold and real has never been more important.



Climate change

Our sustainable growth challenge is compounded by the effects of a changing climate, one of the most pressing social challenges of our time.

Lower than average rainfall means our water supply is estimated to reduce by up to 11 per cent by 2020 and with 68 per cent of the City below three metres above sea level, we are significantly vulnerable to rising sea levels.

Increased erosion of the foreshore due to a greater number and intensity of storm surges is also a significant issue.

Rising temperatures are having an impact on our environment and heat-related health stress is acutely felt by those who are the most vulnerable in our community.



Legislation and policy

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

With government funding being reduced and more expectation being placed on councils to fill this gap, ensuring we can survive and thrive in a changing environment will require us to adapt and consider new ways of managing our natural environment and assets.



Technology

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

Although challenging to keep up with the emergence of this technology, it is also an opportunity. New technology, real-time data and connectivity can help us plan our public spaces to be cooler, water our parks only when needed and let you know when an electric vehicle charging station is free.



Transport

A growing City with a road network that is at capacity and cannot be increased, requires a rethink of how more sustainable modes of transport can be used. Transport infrastructure and services can support sustainable and healthy behaviours like safe walking, bike riding and the use of public transport.



Changing economy

As changing economic conditions mean that more of our community will travel outside the municipality for work, providing more sustainable travel choices will be more important than ever.

Global challenges, local impacts

The challenge of environmental sustainability is not just limited to the City of Port Phillip; it is a worldwide issue. This Strategy outlines the contribution we can make at the local level. It is also an important part of addressing our commitment to the Global Covenant of Mayors for Climate and Energy, and the United Nations Sustainable Development Goals. Both agendas signify a global commitment to end poverty, safeguard the planet and ensure prosperity for cities worldwide.

We have the opportunity to work with governments and research organisations from all over the world to develop ways of combating these challenges on a local scale. Creating a thriving community resilient to the future impacts of climate change is a major priority for the City.



GLOBAL CHALLENGES, LOCAL IMPACTS

Health and wellbeing

- Increasing risks and discomfort for those most vulnerable in our community – people who are elderly, on a low income, living in isolation or with health conditions or impairments
- Increased strain on emergency and community support services means not everyone gets help when they need it
- Discomfort, premature death and ill health due to heat

Rising sea levels

- Damage to seaside infrastructure and property
- Increased erosion of our beaches
- Decreased quality of foreshore recreation areas and habitat

Warmer weather

- More localised hot spots where heat is trapped in concrete, asphalt and other hard surfaces
- Businesses lose income during extreme heat events
- Increased frequency of interrupted electricity supply affecting the way we live

Storm events

- Flood damage to homes, businesses and Council infrastructure
- Large clean-up costs after extreme weather events
- Insurance premiums increase
- More stormwater pollution entering the Bay after storms

Rainfall and droughts

- Our parks and gardens are drier and more expensive to maintain
- Our unique leafy character is threatened
- More frequent water restrictions





Doing things right
Inspiring our community through demonstrating environmental leadership in our own operations.

BIG OPPORTUNITIES EXIST

Changing environmental conditions will require us to think about how we deliver services to ensure we keep our residents and visitors safe. As a growing municipality, our commitment to caring for our City and to not only maintain, but enhance our local environment, is more important than ever.

Doing the right things

Understanding our current and future challenges, and evaluating our impacts to focus our investment and efforts in programs and projects that have tangible benefits for our community.

Doing things right

Inspiring our community through demonstrating environmental leadership in our own operations. Ensuring our assets and services are managed effectively and efficiently to facilitate our community to reduce their environmental impact.

Supporting Councillors and officers to become leaders in environmentally sustainable work practices.

Doing things with partners

Leveraging our strong and productive relationships with state and local governments, not-for-profit organisations, research organisations and community groups to maximise our combined impact.

Doing things differently

Embracing the rapid evolution of technology and investing in our technology systems to make it easier and cheaper for Council and the community to improve environmental outcomes.

This is the community and the environment that we are committed to protecting and enhancing.

WHERE ARE WE NOW?

From our community to our heritage buildings, we are a City of personality and character. Covering an area of 21 square kilometres, we are one of the smallest municipalities in Victoria, and we are also the most densely populated.

Half of our community live in rented accommodation. Port Phillip is also home to 19,441 businesses that collectively employ over 87,000 people.

Our proximity to Melbourne, the 11 kilometres of bay foreshore, beautiful tree-lined streets and the many attractive parks and open spaces, makes Port Phillip a popular destination for residents, businesses and tourists. As a City, we attract 2.8 million visitors a year, second only to the City of Melbourne as the most visited municipality in Victoria.

This is the community and the environment that we are committed to protecting and enhancing. This Strategy responds to the challenge of a growing population and changing environmental conditions, providing a pathway to remain the bold, liveable, caring and beautiful place we are today.

The changing climate we are already experiencing in our City brings many real challenges that demand a considered response:

1. lower than average rainfall with water supply estimated to be reduced by up to 11 per cent by 2020
2. rising temperatures, which will result in more heat-related health stress and deaths.
3. rising sea levels that will affect much of Port Phillip, which is only one to three metres above sea level
4. increased erosion of the foreshore due to an increase in the number and intensity of storm surges.

Working together

As an established municipality, opportunities to influence our urban environment to make it more resilient to these impacts can be hindered by the lack of available public space and volume of established infrastructure. However, Port Phillip is home to an engaged, committed community, which provides opportunities to unlock unique collaborative solutions.

Sustainability-focused technologies, like battery storage, bio digesters and electric vehicles, are rapidly developing, and could support Council and the community to lower emissions. Our continued investment in technology will allow us to capture and analyse large amounts of data to inform our strategic objectives and evaluate our impacts.

We have strong and productive relationships with the Victorian Government and our neighbouring councils, not-for-profit organisations and community groups. Whether it's the Melbourne Renewable Energy Project, Association of Bayside Municipalities or the Cities Power Partnership, we are able to leverage these partnerships to maximise our impact.

6.87 ha

The average Australian has an ecological footprint of 6.87 global hectares - the equivalent of a four planet lifestyle.*

Our consumption of natural resources is measured using ecological footprinting. By looking at how much energy and water we use, what type of food we eat and what we throw away, we can calculate the number of global hectares of land used to support our lifestyle.

This can then be translated into the number of planets needed if everyone on earth lived the same way.

* Global Footprint Network. (2018). National Footprint Accounts - Edition 2018. Available at: <http://data.footprintnetwork.org>

LISTENING TO OUR COMMUNITY

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

In preparing this Strategy we have engaged with the community through sustainability surveys, forums and focus groups to understand your concerns.

You told us you wanted:

Greater focus on reducing our City's carbon emissions

A proactive approach in adapting to climate change

To get people out of their cars through better public transport connections ¹

More information and education to support behaviour change

Council to play a leadership role in supporting the community to take sustainability actions.

You also told us that you want actions that have real, measurable outcomes. We are committed to tracking and reporting progress through measurable indicators for each of the five outcomes.

We've listened to what you have told us and combined this with international best practice, current research and what we have already learned, to shape and inform a strategy that will guide us all to achieve our vision together.

¹ Move, Connect, Live - Integrated Transport Strategy 2018-28 was developed in 2018



The choices we make every day have an impact on the sustainability of our City.

You can choose to buy less stuff, recycle, reduce the energy and water you use, take public transport, plant a tree and so much more.

WHAT WILL BE DIFFERENT

The City of Port Phillip has a vision to be a beautiful, liveable, caring, inviting, bold and real City. This vision will be realised through delivering the Council Plan.

Act and Adapt embeds change and collaborative actions across a range of council services including:

- urban design and city planning
- open space planning
- health and wellbeing
- foreshore management
- waste management
- transport
- economic development
- tourism.



Low carbon living

- Our City is a leader in zero carbon living and climate change resilience. All of Council's facilities are carbon neutral.
- Houses and apartments are cleverly designed to reduce energy use and to access power from renewable sources. Green roofs and walls reduce the urban heat island effect for all of us.



Transport

- New sustainability technology is embraced. Electric vehicles are commonplace and charge points are available for use by the community.
- A smart public transport system and safe connected walking and bicycle routes provide popular and convenient alternatives to car travel.



Partnerships

- Council is partnering with all levels of government and research organisations to ensure a collaborative approach to caring for Port Phillip and its people.



Working together

- Everyone works together to prepare for the extreme weather events and to keep our community safe. Services are designed to be reliable in all conditions.
- Council events are delivered without single use plastics and generate very little waste. Community and corporate events are supported to do the same.



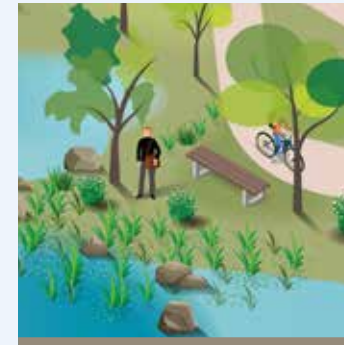
Technology

- Smart technology and the Internet of Things help to keep our streets, parks, creeks and beaches clean. Less waste is produced. The waste that is generated is managed so that 80 per cent of it is diverted from landfill.



Urban ecology

- Healthy trees and the use of water in the landscape make our City greener and cooler.
- A diverse range of birds, insects and animals live in public spaces and on private land.



Water sensitive

- Stormwater is used to irrigate open spaces, and smart technology ensures that water isn't wasted. Water is captured in the landscape to reduce flooding and to cool the City.
- Council, the community and other stakeholders collaborate to implement cost effective solutions to reduce flooding in the Elster Creek catchment.

OUR PARTNERS

The City of Port Phillip works with key partners to deliver community focused solutions, drive regional outcomes and ensure efficient use of our resources. The initiatives outlined in this Strategy will require significant collaboration across public and community sector organisations, the private sector and our communities.

During the life of this Strategy we expect that the way we work with our partners will vary depending on the requirements of each stage of implementation. Our partners are subject to change and will evolve over time. Council values the support of our partners in helping us deliver the important initiatives in this Strategy, as we recognise we cannot achieve them alone.

Our City is affected by Federal and Victorian Government legislation and policies, the actions of neighbouring councils, the businesses and organisations that operate within our boundaries and everyone that lives, works and visits.

This context presents both opportunities and challenges for delivering the actions in this Strategy. In some instances, we will have direct control over specific actions, especially those relating to Council operations. In other cases, we will advocate to other levels of government for change and leverage opportunities to benefit our community.

Council's role

Trusted service provider

Providing high quality assets and services that are managed sustainably to ensure we minimise environmental impact and increase community resilience to the challenges of climate change.

Trusted partner and broker

Advocating to and partnering with State, Federal, and other local governments, utility providers and research organisations to drive systemic sustainability improvements in response to community needs.

Trusted advisor and agent

Working efficiently to achieve our City vision and strategic directions through delivering programs that facilitate sustainability practices in homes and businesses.

Trusted steward

Showcasing best practice sustainability practices in our own operations and trialling new ways of working to inspire our community.

Monitoring and reporting

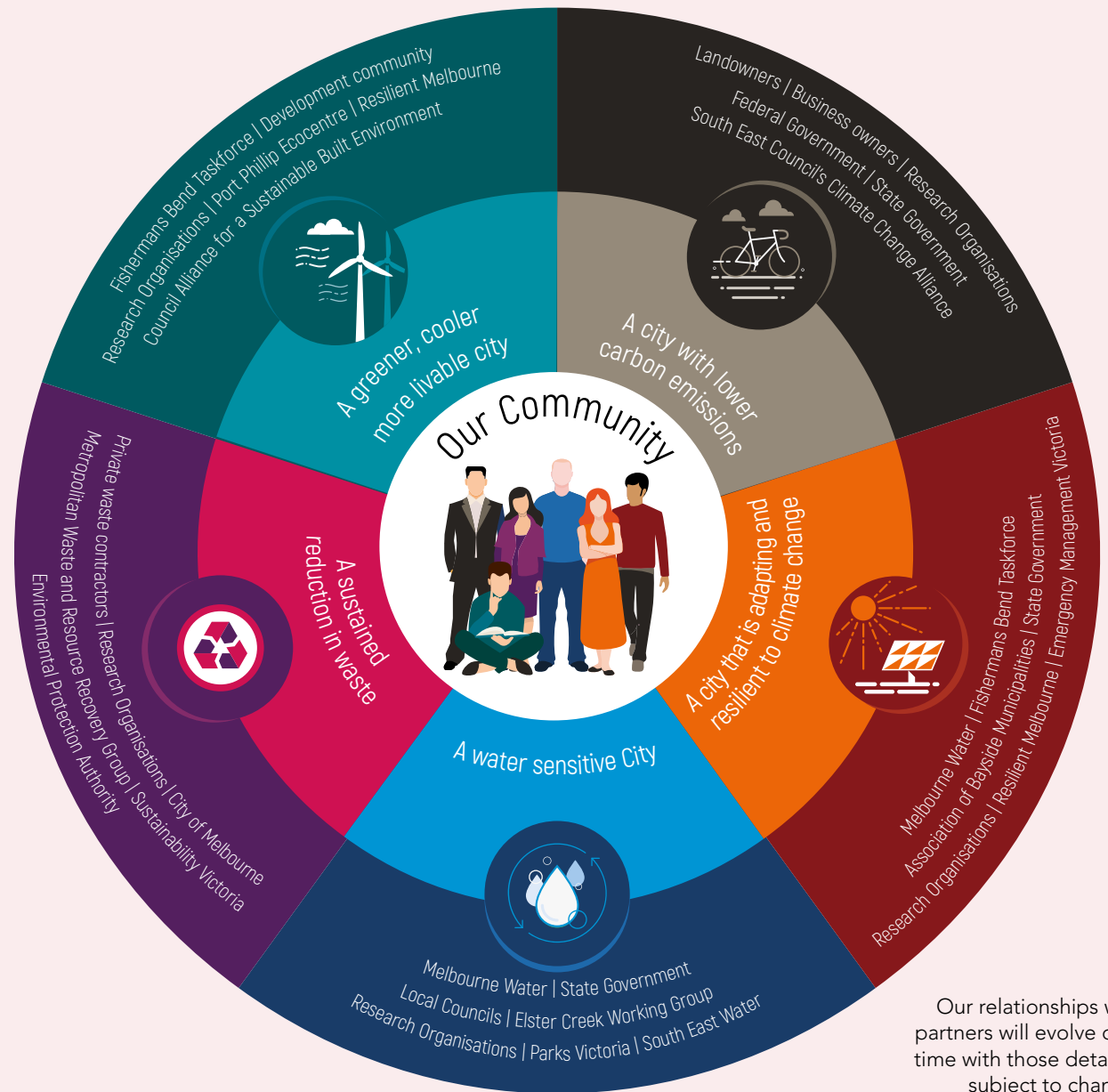
Monitoring and reporting against the key sustainability indicators outlined in this Strategy to develop a shared understanding of progress and to identify opportunities.

Key partners

The key to creating a sustainable Port Phillip is working with others. Our community, local and Victorian Government partners, research organisations and private industry all have a critical role to play.

Across Port Phillip there are already hundreds of organisations, businesses and individuals showing leadership, implementing solutions and making sustainability a part of everyday life. Building on our history of success, we must continue to come together and scale up our activities.

Each of us has a role in acting together to create a sustainable future.



Our relationships with partners will evolve over time with those detailed subject to change.

As a local government, Council exists within the larger government system. We are directly affected by the action or inaction that occurs in other municipalities and at the state and federal levels. Through collaboration and partnerships, we play a role in moving toward a system-wide approach to sustainability.

Partnering with the Victorian and Federal governments

- development of planning scheme amendments that deliver stronger outcomes for sustainable design, stormwater management, management of waste and action on climate change adaptation
- upgrade of sustainability assessment tools available to the public
- development of minimum mandatory standards for rental properties to improve thermal performance, ensure appropriate heating and cooling, and deliver lower energy bills
- development of minimum thermal safety standards in the planning scheme to drive improved energy efficiency and thermal safety and comfort of buildings
- access to funding that supports low income households and the energy efficiency of public housing and community housing, including support to upgrade high cost, high-energy using household fixtures such as hot water systems, heating and cooling
- addressing climate vulnerability among public housing tenants, with a particular focus on heat stress
- supporting health and wellbeing service delivery in Port Phillip, with consideration to increasing climate related health concerns such as extreme heat
- ensuring ongoing sustainable management and health of our beaches and Port Phillip Bay through regulation of Water Sensitive Urban Design to assist pollution reduction
- developing coastal adaptation responses that are sensitive to the ecological processes of Port Phillip Bay and the needs of our community
- actualising Victorian Government-run randomised onsite compliance checks for new buildings and landscapes
- progressing the development of a metropolitan organic waste processing facility
- reduction in use of balloons, plastic bags and single use plastics.

Melbourne Water and councils within Yarra and Elster Creek catchments

- collaborating to ensure a whole of catchment approach to flood prevention
- continued infrastructure upgrades to decrease flood risks locally and downstream
- continued stormwater capture and treatment to reduce the amount of pollutants entering Port Phillip Bay.

The role of residents and businesses

The choices you make every day have a massive impact on the sustainability of our municipality. You can choose to buy less stuff, recycle, reduce the energy and water you use, take public transport, plant a tree and so much more. When you do these things, you not only make a direct contribution to Port Phillip's sustainability, you also play a powerful role in influencing those around you.

The Sustainable City Community Action Plan (SCCAP), endorsed in March 2018 provides details of the

programs funded by Council to support the wider community to reduce greenhouse gas emissions, waste generation and water consumption. Although the SCCAP predates Act and Adapt, it is not a duplication or contradiction. Rather, it is now included in this Strategy under Action Seven. The SCCAP includes a range of education and behaviour change initiatives as well as practical support for renters, apartment buildings, businesses and community services.

The role of landlords

More than half of our residents live in rented accommodation. Landlords hold significant power and influence over what infrastructure is installed in their properties, including air conditioning, hot water, lighting, and water systems. They also control the quality of the building shell and can decide to install things like insulation and draft proofing. The combination of these factors has a huge impact

on occupant comfort, utility costs and environmental impacts.

We encourage landlords to consider upgrading tenanted properties to improve water and energy efficiency. This will not only improve liveability for tenants, it will also contribute to the appeal of the property in a rapidly changing marketplace.

Council is committed to supporting our community to become more sustainable. The **Sustainable City Community Action Plan** details exciting initiatives that Council will take over the coming years to support the community to reduce their greenhouse gas emissions, waste and water consumption.

Read more about the plan or sign up for our newsletter at:

 www.sustainableportphillip.com



Building partnerships

Water Sensitive City partners

Reducing the impact of flooding in Elster Creek, particularly in Elwood, is a challenging problem. The creek runs through four council areas and is managed by Melbourne Water. Elwood is heavily impacted by the rain that falls in Glen Eira and Bayside municipalities. Council will continue to advocate for catchment-wide solutions. We rely on our government partners to help reduce the impact felt by the community.

Dumped rubbish, litter, oils and other pollutants can end up in our stormwater system and will eventually flow into the bay. This is where we rely on our community to help us create a safer, cleaner environment and a healthy bay. By partnering with the Port Phillip EcoCentre, Beach Patrol and Love Our Streets volunteers, we can educate our community about the harmful impact pollution has on our bay, encouraging greater care for our environment.

Cooler, greener more liveable City partners

The Port Phillip Planning Scheme offers significant potential to influence new developments and retrofitting of our built environment, but there are also limits to what it can achieve. We need to work with our government partners to advocate for housing that will better cope with our future environment.

Seventy-five per cent of the land in our City is privately owned. In order to create a cooler and greener City where heatwaves have less impact, we need the community's help. Opportunities to keep large trees in our environment while we face the challenge of densification and population growth is a complex problem. We must look to a range of options like green roofs, walls and facades.

Climate Adaptation partners

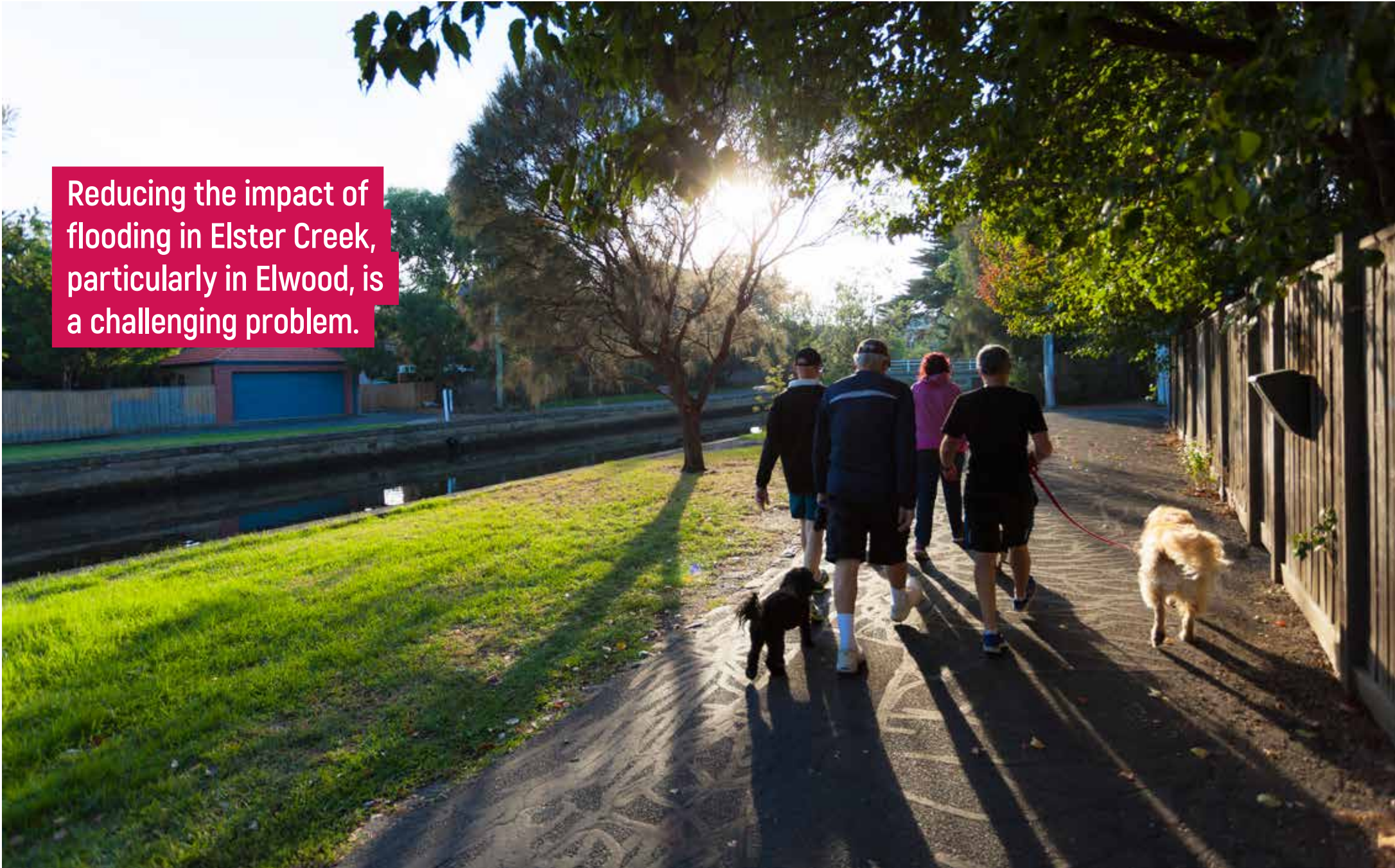
Council is committed to the Global Covenant of Mayors for Climate and Energy (formerly the Compact of Mayors), a global coalition of city leaders addressing climate change by pledging to cut greenhouse gas emissions and prepare for the future impacts of climate change. Our partnership with Resilient Melbourne also enables us to access and partner with researchers and other local governments to identify ways to adapt to climate change.

Get involved

Join us in creating smart solutions for a sustainable future. Come along to a workshop, join a local sustainability focused community group, visit the EcoCentre (ecocentre.com) or Council's sustainability website:

 www.sustainableportphillip.com

Reducing the impact of flooding in Elster Creek, particularly in Elwood, is a challenging problem.



A greener, cooler, more liveable City

Recent highlights:

Council increased areas vegetated with Indigenous species by 2,500m² including plantings at Turner Reserve Port Melbourne, Elwood Canal and Head Street Reserve.

Through Council plantings in streets and parks, and community tree planting days, 4,101 trees were planted on public land in 2016-17.

In partnership with inner Melbourne councils, the City of Port Phillip developed the Growing Green Guide - a 'how to' guide for installing green walls, roofs and facades.

We live, work and play in a landscape of natural beauty, with residents and millions of visitors enjoying our beaches and lush open spaces each year.

Healthy ecosystems are vital for our City and the health of our whole community. Cities play a crucial role in connecting people to nature, and through careful planning and investment we have the ability to improve our community's quality of life.

Good planning in the past has left a legacy of beautiful and green historic parks, public and private gardens, and many tree lined streets that contribute to a mature tree canopy cover and greening across most of our neighbourhoods. There are a number of significant areas of habitat that act as biodiversity hotspots and form corridors for animals to move through our suburbs.

With increased densification, more concrete and average temperatures increasing year on year, we are finding that the City is getting hotter not only during the day, but also overnight. This is known as the urban heat island effect and it has a large impact on our community's health and wellbeing.

We will continue to deliver green and blue connections that support our local animals and an active community who enjoy a cooler, more liveable City.

We have the goal of making our whole City greener, and for that we need your help. Our key challenge is that 75 per cent of the land in the City is privately owned, so all landowners in the City hold some responsibility for creating a greener, cooler City.

Through the actions in this Strategy and the Greening Port Phillip urban forest strategy, our partnerships with the Port Phillip EcoCentre and other environmental groups, and through working with you, we are aiming to expand our urban forest, increase biodiversity corridors, increase porous surfaces and reduce the urban heat island effect across the whole of the City.

Key partners

The community

Resilient Melbourne

Victorian Government

Port Phillip EcoCentre

Key strategies

Greening Port Phillip Strategy

Move, Connect, Live ²

Water Sensitive City Plan ³

Climate Change Adaptation and Greenhouse Plan ⁴

Public Space Strategy ⁵

Foreshore and Hinterland Vegetation Management Plan

Foreshore Management Plan

Measuring progress

MEASURE	2015/16	2027/28
Street canopy cover	19%	Increase 10%
Council's Greening Port Phillip - An Urban Forest Approach, also contains suburb-based targets that are reported against every five years.		
Canopy cover on private land	11%	Increase 10%

Green and blue connections use both vegetation and water to enhance public open spaces, making cities more vibrant, inviting in biodiversity and cooling the surrounding area. These spaces can be natural or highly urbanised streetscapes. Also known as Blue-Green infrastructure, this school of urban planning has been proven to have a positive impact on the liveability of a City.*

*Making Cities Liveable - http://issuu.com/ramboll/docs/bgj_new?e=4162991/34845282

² Council's Integrated Transport Strategy - has been developed

³ To be developed in 2018/19

⁴ To be developed in 2018/19

⁵ In development - will replace Open Space Strategy

A greener, cooler, more liveable City

ACTIONS		2018-2020	2021-2024	2025-2028
1	Implement the Greening Port Phillip Strategy and Street Tree Planting Program, including ongoing investment in species diversification, park trees, streetscape improvements and a stronger focus on enhancing biodiversity by planting indigenous and climate tolerant species			
2	Implement the Foreshore and Hinterland Vegetation Management Plan			
3	Develop a Biodiversity Study and Action Plan			
4	Maintain heat mapping and solar analysis data. Use data, along with Socio-Economic Index for Areas and flood data to guide project and service delivery Communicate information to the community through a web-based platform			
5	Deliver technical guidance and implement regulatory interventions to protect vegetation and increase canopy cover on private property, including green roofs, walls and facades			
6	Encourage and enforce sustainable, climate resilient buildings through the planning process by applying environmentally sustainable design planning policy guidelines and by providing clear, accessible information to the community			

Studies have shown that a well placed shade tree can significantly cool a house in summer, making it more comfortable for residents as well as reducing energy bills associated with cooling by 30 per cent*

* Peak Power and cooling energy savings of shade trees; Akbari et Al; Energy and buildings V25 Issue 2 1997

Photo - St Kilda EarthCare and Friends of Elster Creek



A City with lower carbon emissions

Recent highlights:

Council has committed to purchase all of its electricity through the Melbourne Renewable Energy Project.

Council has installed a 172 kW solar system on St Kilda Town Hall, reducing emissions by 300 tonnes and saving Council \$44,000.

Council facilitated the community to install 102 solar systems on homes.

One of the most significant challenges the world faces is transitioning away from our use of fossil fuels and reducing our carbon emissions.

Council has joined with the Victorian Government and countries around the world to play our part in reducing greenhouse gas emissions, in an attempt to keep the global temperature rise to under two degrees.

To do this we must work collaboratively. Council produces only 0.6 per cent of the overall emissions in the City, and as we move towards a low carbon future we need to work with our community.

We are committed to taking real action and to supporting our community to do the same. The 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 by accessing renewable energy.

In 2015 at the United Nations Framework Convention on Climate Change, the international community committed to the Paris Agreement on Climate Change - to keep the rise in global temperatures to below 2°C above preindustrial levels, and to work towards limiting the rise to 1.5°C. Australia ratified this agreement on 9 November 2016.

Key partners

- _____
- The community
- _____
- Victorian Government
- _____
- South East Councils Climate Change Alliance
- _____
- Council Alliance for the Sustainable Built Environment

Key strategies

- _____
- Sustainable City Community Action Plan
- _____
- Climate Change Adaptation and Greenhouse Plan ¹¹
- _____
- Move, Connect, Live - Integrated Transport Strategy 2018-28
- _____
- Don't Waste It - Waste Management Strategy 2018-28

Measuring progress

GREENHOUSE GAS EMISSIONS tCO2e	2016/17 BASELINE	2027/28
Council	10,950 tCO2e ⁶	520 gross emissions
Council	6,464 tCO2e	Zero net emissions
Community	1.7 M tCO2e ⁷	Zero* net emissions by 2050 ⁸
ELECTRICITY FROM RENEWABLE SOURCES	2016/17 BASELINE	2027/28
Council	293 kW	100 % (includes onsite and offsite)
Community	5,100 kW	50 % penetration ⁹ (29,000 kW)
ENERGY CONSUMPTION	2016/17 BASELINE	2027/28
Energy consumption in buildings and streetlights ¹⁰	8,900 MWh	7,300 MWh

⁶ Gross emissions are the total emissions for City of Port Phillip, before accounting for any purchased offsets. Gross emissions include scope 1, 2 and 3 emissions (relevant scope 3 emissions will be reported in accordance with a recognised standard). Offsets are subtracted from gross emissions to calculate Council's net emissions.
Scope 1, direct emissions: the emissions released to the atmosphere as a direct result of an activity. For example, emissions from the burning of diesel fuel in Council vehicles.
Scope 2, indirect energy emissions: the emissions released to the atmosphere from the indirect consumption of an energy commodity. For example Council using electricity produced by a coal fired power station.
Scope 3, indirect emissions: the emissions that are generated in the wider economy (other than scope 2 emissions). They occur as a consequence of Council's activities, but from sources not owned or controlled by Council. For example, the emissions released as a result of powering streetlights throughout the City.

⁷ This figure is an estimate based on the best available data and takes into account emissions generated through energy use, transport, waste and water across the residential, commercial and industrial sectors in our municipality. It has been compiled in accordance with the Global Protocol for Community Scale Greenhouse Gas Emission Inventories. It should be noted however that due to the unavailability of publicly available data sets some of the supporting data is based on interpolation from state wide and national emissions information.

⁸ Aligned with Victorian State Government GHG emissions target for whole of state as per Victorian Climate Change Act 2017

⁹ Based on standalone and semi-detached homes as per 2016 ABS data

¹⁰ Electricity and gas consumption included. Joules of gas have been converted to an equivalent kWh

¹¹ To be developed in 2018/19

* Interim emissions to 2025 to be confirmed in late 2018

A City with lower carbon emissions

ACTIONS		2018-20	2021-24	2025-28
7	Deliver behaviour change and education programs through the Sustainable City Community Action Plan (SCCAP) and support environmental education programs in schools			
8	Review Council services to identify opportunities to reduce carbon emissions and implement changes			
9	Reduce energy use in Council buildings by investing in renewable energy, energy efficiency in Council buildings and changing our behaviour			
10	Increase the sustainability of South Melbourne Market by installing renewable energy			
11	Embed sustainability into Council's procurement and investment policies and practices, including minimum sustainability performance requirements for suppliers			
12	Introduce green lease provisions targeting tenant energy consumption, cleaning and waste management into new and renewed leases of Council buildings			
13	Transition the Council fleet to zero emissions, prioritising electric vehicles and charging stations, traditional and electric bikes, car share and low emissions vehicles			
14	Where viable, progressively convert Council buildings to fully electric power through maintenance and renewal programs			
15	Deliver an energy efficient street lighting upgrade (category V lights)			
16	Deliver a program that supports households, particularly those on a low income, to invest in sustainability retrofits, solar panels and pay back their investment through an alternative financing arrangement (SCCAP)			
17	Work with partners to drive the uptake of Environmental Upgrade Agreements for commercial and (legislation pending) residential buildings (SCCAP)			

ACTIONS		2018-20	2021-24	2025-28
18	Work with the community to determine the viability of a collective purchase of offsite renewable energy for a consortium of apartment buildings (SCCAP)			
19	Seek a partnership to test and increase uptake of solar retrofit and energy sharing platforms for apartment buildings (SCCAP)			
20	Support the community to increase the sustainability of their homes during the planning and design phases			
21	Support the uptake of electric vehicles, including installation of public charging stations and investigation of planning controls to require charging infrastructure in new developments			
22	Advocate to developers for buildings designed to achieve low energy properties and precincts above Victorian planning policy regulations			
	Advocate to the Fishermans Bend Taskforce and Victorian Government for planning policy regulation to support their commitment to an accredited Greenstar Community in Fishermans Bend			

Melbourne Renewable Energy Project (MREP)

Council is participating in an innovative wind power project that will reduce our total emissions by 87 per cent. Everything from street lights to Council buildings will be powered by zero-emission electricity starting in 2019.

We are part of an Australian first and a model for the future - partners working together for shared sustainability and prosperity using new, market-based approaches to transform and move Australia's electricity system away from fossil fuels.

Led by the City of Melbourne, the MREP partners plan to purchase 88 GWh of electricity each year, the equivalent to powering more than 17,000 households in Melbourne annually. Because the wind farm will produce more electricity than the MREP partners need, the total emission savings will be even greater.

14% of our City's greenhouse gas emissions are due to private vehicle use.

As a growing municipality, reducing car use is a key way to reduce our City's carbon emissions and air pollution.

Move, Connect, Live - Council's Integrated Transport Strategy (due for release 2018) contains actions that will help residents and visitors to drive less and hop on public transport, walk or ride their bikes instead.

By 2028 Council is aiming for:



by foot of all daily trips by pedestrians



by bike of all daily trips by bike



by public transport of all daily trips by public transport



by car of all daily trips by car



Reducing car use is a key way to reduce our City's overall impact on carbon emissions and air pollution.



A City that is adapting and resilient to climate change

Recent highlights:

Council joined the South East Councils Climate Change Alliance in 2016, partnering to deliver climate adaptation and carbon mitigation projects regionally.

Through our involvement in the Association of Bayside Municipalities, we joined with nine neighbouring councils to develop the Bay Blueprint. The Blueprint is a coastal adaptation planning framework that ensures councils use a consistent methodology to address coastal impacts of climate change.

Council heatmapped the City to understand where the 'hotspots' are, so we can concentrate our efforts to cool particular locations through trees, shading and water in the landscape.

Climate change is already having an impact around the world. Preparing for a different future where extreme heat events, flooding, coastal storm surges and drought are more prevalent requires commitment, innovation and collaboration.

How we respond and adapt to climate change is crucial for our community, especially the most vulnerable.

Adaptation planning is based on:

- understanding expected climatic changes
- understanding our current services and assets, and how they may cope in the future
- predicting how vulnerable our community and environment is to climate risks

- using this information to establish ways we can manage these risks and support our community to be resilient and our environment to thrive
- monitoring our response and adjusting our approach as needed.

We are getting ready for the future now, proactively preparing our assets and thinking about how we can best support our community.

We aspire to increase our resilience, ensuring changing environmental conditions won't affect Council's ability to deliver the services that support our business community and residents.

People are the heart of our City. Through the actions contained in this Strategy and partnering with community organisations, emergency services and all levels of government, we will enhance our City, maintain our reputation as Melbourne's playground and keep our community healthy and safe.

Key partners

- _____
- The community
- _____
- Victorian Government
- _____
- South East Councils Climate Change Alliance
- _____
- Emergency management organisations
- _____
- Association of Bayside Municipalities
- _____
- Resilient Melbourne

Key strategies

- _____
- Climate Change Adaptation and Greenhouse Plan ¹³
- _____
- Sustainable City Community Action Plan
- _____
- Greening Port Phillip Strategy
- _____
- Asset Management Strategy ¹⁴
- _____
- Public Space Strategy ¹⁵

Measuring progress

Measuring the impact our action will have on our community's resilience to climate change is difficult, as most of the benefits are dependent on an individual's perception of comfort and safety, which is different for everyone. To ensure we keep track of how the community is impacted by climate change we will monitor several indicators and use these to help us plan for improved service delivery.

These indicators are:

- number of houses impacted by extreme weather ¹²
- temperature hotspots
- use of Council facilities in extreme weather.

We will also measure and report:

- actions taken to retrofit Council buildings to combat climate change.

Heatwaves

Heatwaves impact on our comfort levels, the health and safety of our community and pets, and cause significant increased demand on our electricity network.

The extreme heat experienced in Melbourne between 14 to 17 January 2014 is estimated to have cost business within the City of Melbourne approximately \$37 million in lost revenue.

59% of businesses reported an impact on the comfort, motivation or morale of their workforce.

40% reported an impact on the reliability of their workforce.

62% experienced additional operational costs such as increased use of air conditioning.

Source: A Quantitative Research Report on: 2014 Heatwave Business Impacts Social Research, Sweeny Research, 24 March 2014. Commissioned by City of Melbourne. melbourne.vic.gov.au/sitecollectiondocuments/eco-impact-of-heat-waves-on-business-2014.pdf

¹² Subject to data being made available by the insurance industry

¹³ To be developed in 2018/19

¹⁴ Under development

¹⁵ Under development - to replace Open Space Strategy


A City that is adapting and resilient to climate change

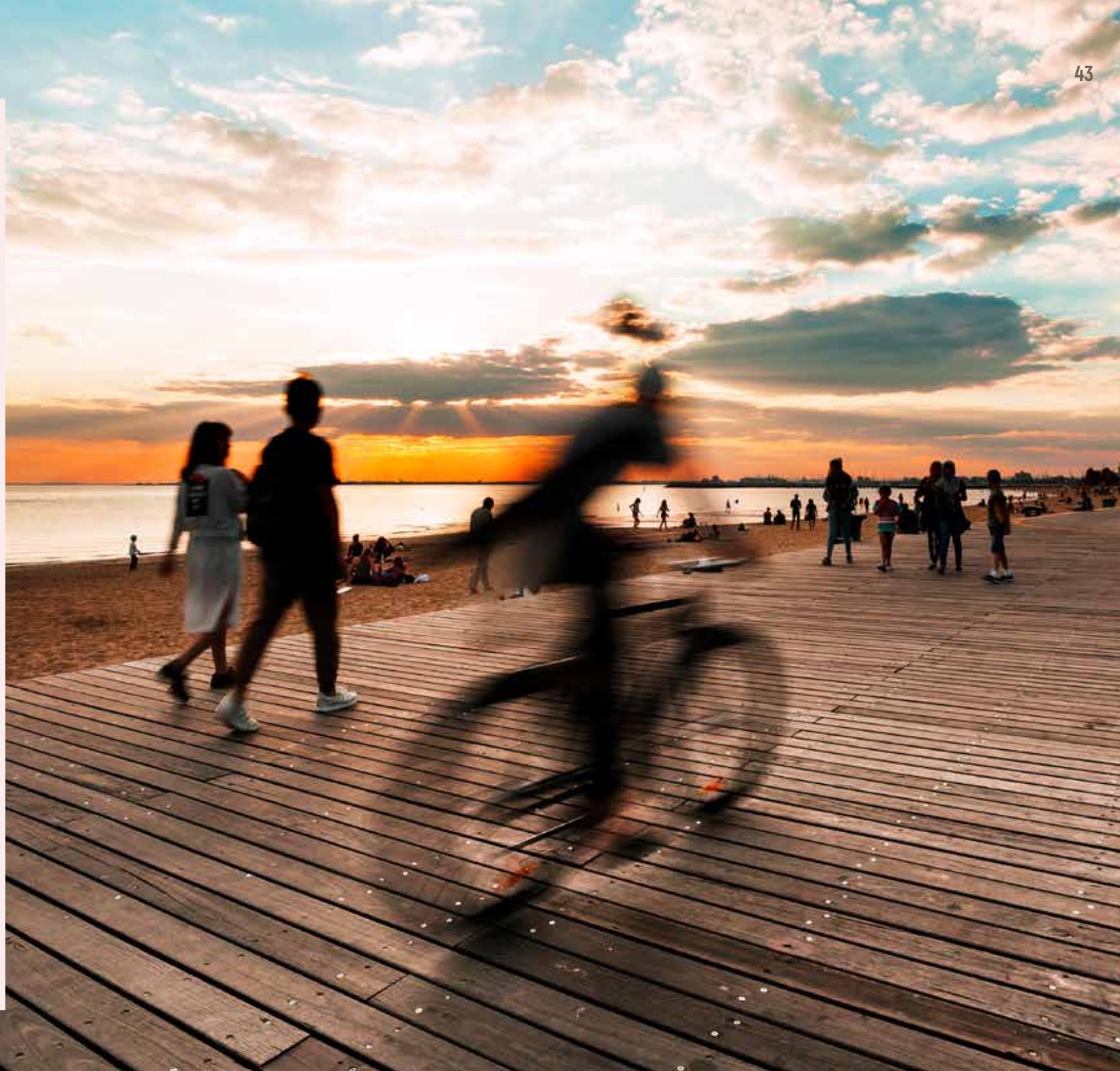
ACTIONS		2018-20	2021-24	2025-28
23	Create a revised Climate Adaptation and Greenhouse Plan in order to identify which tools will help the community increase their resilience to climate change, including managing the impact of heat and extreme weather			
24	Contribute to the EcoCentre redevelopment (subject to external funding). Continue to invest in EcoCentre programs that support an environmentally aware community			
25	Examine the effectiveness of establishing a Port Phillip Energy Foundation or partnering with an existing foundation to undertake advocacy, research, advisory and community engagement initiatives			
26	Conduct vulnerability assessments and financial risk modelling of Council's assets and develop minimum environmental performance standards and design guidelines for Council buildings Embed these standards into our maintenance and construction programs			
27	Assess recommendations from the state-led Coastal Hazard Vulnerability Assessment and develop an implementation strategy and action plan to help protect the City of Port Philip against sea level rise and inundation			
28	Develop concept design of blue-green infrastructure that protects against flooding and sea level rise, and enhances the natural environment			
29	Investigate alternative funding models for environmental initiatives to deliver priority projects			

Council works closely with Emergency Services Victoria and the State Emergency Service (SES) to ensure the safety of our community during storms, floods and heatwaves.

Council plays a supporting role during these times and a maintenance role after the event. During an emergency, the SES and Emergency Services Victoria are the people who respond, and should be who our community calls. The SES also provides education and support materials to ensure you can prepare for these types of weather events.

For more information visit:

 <http://www.portphillip.vic.gov.au/be-alert.htm>



A water sensitive City

Recent highlights:

Gaining commitment from Melbourne Water and neighbouring local governments in the Elster Creek Catchment to collectively work on flooding issues.

Installing our 200th raingarden in our streetscapes to treat stormwater and remove pollutants before they enter the bay.

Commencing CCTV investigation of the City's stormwater system to assess its condition and identify opportunities for improvements.

Here in Port Phillip we have a deep connection to water. Port Phillip Bay is at our doorstep, Albert Park Lake at our core, the Yarra River to our west and Elster Creek to our east.

Creating a water sensitive City requires collaboration with Melbourne Water and South East Water to manage all aspects of the water cycle - mains water, stormwater, wastewater and groundwater - in an integrated way.

Climate change has had a significant impact on how we use urban water, and in a growing City there is increased demand being placed on our parks and open spaces.

Through treating our City as a catchment, we plan to capture water for use and work with our partners to reduce flooding.

We will not only maintain, but enhance our public spaces by using water efficiently, as well as reducing pollutants flowing into Port Phillip Bay, ensuring its health into the future.

To create a truly water sensitive City we need the community's help. Through policy changes, regulation and guidance, Council can provide support, but developers and home owners will need to take action to reduce the amount of concrete and paving on private property, ensuring that water has a chance to soak into the ground.

This will have multiple benefits, including groundwater recharge, cooling the City and reducing flooding. We may, at times, also need to disrupt parks to install water harvesting or upgrade irrigation to make them more resilient to future droughts, delivering a better long-term outcome for our community.

Key partners

The community

Victorian Government

Melbourne Water

South East Water

Research organisations

Neighbouring local governments

Key strategies

A Water Sensitive City¹⁷

Climate Change Adaptation and Greenhouse Plan¹⁸

Sustainable City Community Action Plan

Greening Port Phillip Strategy

Public Space Strategy¹⁹

Measuring progress

MAINS WATER USE	2016/17 BASELINE	2027/28	REDUCTION
Council	238 ML/y	203 ML/y ¹⁶	15 %
Community	178 L person per day	155 L person per day	27 %
POLLUTANTS REMOVED ANNUALLY	TOTAL RELEASED IN CATCHMENT	REMOVED IN 2016/17	REMOVED BY 2027/28
Total suspended solids	717,035 KG/y	71,369 (10 %)	192,813 (27 %)
Total phosphorous	1,880 KG/y	139 (7 %)	374 (20 %)
Total nitrogen	15,009 KG/y	1,033 (7 %)	2,222 (15 %)

Note: These pollutants have been identified as key pollutants that have a major role in negatively impacting the long-term health of the Bay. By targeting them, a broad range of other pollutants will also be captured, including litter, oils and heavy metals that wash off our rooftops, roads and other surfaces.

¹⁶ Goals and budgets are dependent on particular projects. If these projects do not proceed, goals will be reviewed and if needed updated.

¹⁷ To be developed in 2018/19

¹⁸ To be developed in 2018/19

¹⁹ In development

A water sensitive City

ACTIONS		2018-20	2021-24	2025-28
30	Develop a Water Sensitive City Plan to drive an integrated approach to water management			
31	Reduce water use by renewing irrigation infrastructure and improving controls and management while maintaining highly valued green spaces			
32	Investigate and implement high value opportunities for stormwater harvesting to provide alternatives to potable water use for key Council open spaces			
33	Support plans for recycled water processing at Fishermans Bend, with water being used by residents and for irrigation of Council reserves			
34	Investigate mechanisms to require onsite stormwater detention in new developments, and technology to monitor tank levels and empty prior to storm events			
35	Implement the Elster Creek Action Plan			
36	Develop and implement a Stormwater Asset Management Plan and invest in drainage improvements			
37	Plan and deliver Water Sensitive Urban Design projects to reduce the amount of pollution entering Port Phillip Bay			
38	Complete a study of permeability potential for Council land and introduce place-based permeability targets Embed these standards into our maintenance and construction programs			
39	Update Council policy and engage with the community to achieve greater permeability on private property			

Litter and other pollutants wash into our stormwater drains when it rains. This means anything that reaches the gutter, be it litter, detergents, dog droppings or dirt and grit off the road, will flow directly into our stormwater system, Port Phillip Bay and onto our beaches.

One way Council is working to improve the quality of stormwater is through raingardens. Raingardens look like a regular garden with one major difference – they are positioned to receive rainwater from hard surfaces like roads.

Using layers of soil and gravel for filtration and planted with a combination of plants, shrubs and grasses, a raingarden reduces the amount of stormwater that would otherwise wash pollutants into the stormwater system.

This raingarden in Middle Park will remove 1.4 tonnes of dirt and 13 kg of nitrogen per year.



A sustained reduction in waste

Recent highlights:

A GaiaRecycle unit installed at the South Melbourne Market converts 360 tonnes of food waste to organic fertiliser each year.

Solar powered compaction bins installed in public spaces have increased the amount of rubbish that can be put in the bins before collection is needed.

Council is leading the standard of hard waste recycling with 70 per cent of waste being diverted from landfill. The Victorian average is 15 per cent.

The growth and increased densification of our City is placing increased pressure on waste services. This also stimulates the need for service improvements.

To respond to these changes **Don't Waste It!**, a new 10-year Waste Management Strategy is currently being developed.

The Strategy is a roadmap detailing how we will become a leader in municipal waste management through investment in new technologies, focused education campaigns and better planning.


In addition to our growth challenges, the waste industry in Victoria is experiencing significant stress due to the closure of multiple landfills and uncertainty within the recycling industry. These combined pressures will result in increased costs to manage waste.

Along with challenges, there are opportunities for City of Port Phillip regarding waste management. Urban renewal of Fishermans Bend within Port Phillip has caused a rethink as to where our services for waste should be located, while maintaining the high standard of services that the community expect.

The option to relocate the depot and transfer station facilities has created potential opportunities to increase the use of 'Smart Solutions' for waste management, and to seek out partners to share the new facilities to ensure full effectiveness and efficiency of waste management in the area.

Despite all the technological improvements that will be implemented, minimisation of waste is the biggest challenge we face as a Council. This is where we need your help, through:

- avoiding excess and unrecyclable packaging, like using your own coffee cup and avoiding disposable single-use plastics
- reducing waste and avoiding recycling being placed in the wrong bin, which will end up in landfill or contaminate the recycling bin
- keeping our streets and beaches litter free by using public bins, and accessing the free hard waste collection service²¹.

²¹  ASSIST 03 9209 6777 to book a collection.

Key partners

The community

Victorian Government

Metropolitan Waste and Resource Recovery Group

Sustainability Victoria

Key strategies

Sustainable City Community Action Plan

Don't Waste It! Waste Management Strategy ²¹

Measuring progress

PERCENTAGE OF WASTE DIVERTED	2017/18 BASELINE	2027/28
Council	38 %	85 % ²²
Community (houses)	33 %	80 %
Community (apartments/units)	23 %	85 % ²³
WASTE GENERATED	2016/17 BASELINE	2027/28
Council facilities	61 kg/FTE/year	20 % reduction from baseline
Waste generation households (inclusive of apartments and houses)	554 kg/HH/year	20 % reduction from baseline

Note: Progress on these targets will be done through the Don't Waste It! - Waste Management Strategy 2018-28.

²¹ Was developed in 2018

²² Draft targets are subject to external funding partner commitments and will be confirmed in the **Don't Waste It!** Waste Management Strategy.

²³ Average of multi-unit dwellings from throughout Victoria - referenced from Sustainably Victoria

A sustained reduction in waste

ACTIONS	2018-22	2023-28
<p>40 Implement a new Waste Management Strategy that will deliver:</p> <ul style="list-style-type: none"> • a City that reduces waste • a City that maximises reuse and recycling • a City with clean streets, public spaces and foreshore areas • a City that uses new technology to process waste better and reduce environmental impacts 		
<p>41 We will set guidelines for developers to make sure it's possible for people who live in apartments to recycle guidelines for apartments and implement education programs to maximise reuse and recycling</p>		
<p>42 We will partner and explore the feasibility of a sustainability hub to better address our future waste and recycling need, including:</p> <ul style="list-style-type: none"> • supplying recycled water to public spaces • access to Advanced Waste Treatment • providing Community access to better waste drop-off facilities • a new shared depot and service facility • community education, training spaces and sporting facilities 		
<p>43 We will educate and support residents, businesses and Council staff to have good recycling habits, recycling more and ensuring recycled waste is not contaminated</p>		
<p>44 We will trial community composting and other communal food recycling opportunities for commercial premises</p>		
<p>45 We will promote a reduction of single use plastics (e.g. plastic bags and coffee cups)</p>		
<p>46 We will make sure Council purchasing practices prioritise the use of recycled and recyclable products</p>		
<p>47 We will make sure Council's waste contracts maximise recycling</p>		

Note: Progress on Actions 41-47 will be done through the Don't Waste It! Waste Management Strategy.

Community having an impact

Beach Patrol

Through the power of local residents and community spirit, Beach Patrol is helping to clean the beaches of Melbourne.

Beach Patrol is a chain of volunteer community groups whose members donate an hour of their time each month to keep the beaches cleaner and safer for the greater enjoyment of all. Starting in Port Phillip in 2009 with 3206 Beach Patrol - Middle Park, there are now more than 24 groups and 2,200 people registered as volunteers keeping our beaches clean.

For more information visit:

www.beachpatrol.com.au

Port Phillip EcoCentre

The EcoCentre is leading research on litter and microplastics with several ongoing citizen science projects focused on tracking and preventing litter before it gets to the beaches of Port Phillip. Beach Patrol, the Yarra Riverkeeper and local Scout groups are partnering to deliver this work.

Penguin Friendly Event project

In the Penguin Friendly Event project, Albert Park Primary School, St Kilda Primary School and the EcoCentre collaborated to create kits for landfill and litter-free fetes and festivals. Replacing single-use items with "war on waste washing up kits" prevented thousands of food, beverage and cutlery items from going in the bin - best bit is that these kits will continue to be used and build impact over time.

For more information visit:

www.ecocentre.com/penguin_friendly



MEASURING AND REPORTING

Act and Adapt is a 10 year strategy. It will be reviewed every four years and updated if needed.

We will be reporting our progress each year through Council's annual report (unless otherwise stated).

OUTCOME	INDICATOR	BASELINE	2020/21	2027/28
Council goals				
A greener, cooler more liveable City	Street tree canopy cover ²⁴	19 %	2 % increase on baseline (19.2%)	10 % increase on baseline (21%)
A City with lower carbon emissions	GHG emissions (tCo2-e) Gross	10,950 (2016/17)	1,200	520
	GHG emissions (tCo2-e) Net	6,464 (2016/17)	Zero net	Zero net
	Electricity from renewable sources (%)	293 kW (2016/17)	100 %	100 %
	Energy consumption in Council buildings and streetlights (MWh) ^{25 26}	8,900 MWh (2016/17)	7,200 MWh	7,300 MWh
A City that is adapting and resilient to climate change	Actions taken to retrofit buildings to combat climate change	Baseline and targets to be developed through Climate Adaptation and Greenhouse Action Plan		
A water sensitive City	Potable water use	238 ML/y (2016/17)	257 ML/y ²⁷	203 ML/y
		Pollutant reduction load (kg/year)	(percentage reduction load/year)	
	Total suspended solids	71,369	16 %	27 %
	Total phosphorous	139	12 %	20 %
	Total nitrogen	1,033	10 %	15 %
A sustained reduction in waste ²⁸	Percentage of waste diverted (%)	38 % (2017/18)	58 %	85 %
	Waste generated in Council buildings (Kg/FTE/yr)	61 Kg/FTE/yr	20 % reduction (from baseline)	20 % reduction (from baseline)

²⁴ Reported every five years

²⁵ Decrease in energy consumption is expected by 2020/21. Beyond this time a slight increase is forecast due to growth in Council's asset base and electrification of Council's vehicle fleet

²⁶ Electricity and gas consumption included. Joules of gas have been converted to an equivalent kWh

²⁷ The initial increase is to account for growth and increased watering and establishment of parks. Following this irrigation upgrades and efficiencies and more alternative water will result in an overall decrease towards 2027/28 targets

²⁸ Draft targets are subject to external funding partner commitments and will be confirmed in the **Don't Waste It!** Waste Management Strategy

Note: Progress on these targets will be done through the Don't Waste It! - Waste Management Strategy 2018-28.

OUTCOME	INDICATOR	BASELINE	2020/21	2027/28
Community goals				
A greener, cooler, more liveable City	Canopy cover on private land	11 %	2 % increase on baseline (11.2%)	10 % increase on baseline (12.1%)
A City with lower carbon emissions	GHG emissions (tCo2-e)	1,700,000 (2016/17)	Zero net emissions by 2050 ²⁹ (interim emissions to 2025 to be confirmed in late 2018)	
	Electricity from renewable sources (%)	5,100 kW (2016/17)	10,400 kW (18% penetration rate)	29,000 kW (50% penetration rate)
A City that is adapting and resilient to climate change	Indicators to be reported on - number of houses impacted by extreme weather; temperature hotspots; use of council facilities during extreme weather.			
A water sensitive City	Potable water use	178 L person per day (2016/17)	155 L person per day	155 L person per day
A sustained reduction in waste	Houses: Percentage of waste diverted (%)	33 % (2016/17)	TBC	85 %
	Multi-unit dwellings: Percentage of waste diverted (%)	23 %	TBC	85 %
	Households: Inclusive of apartments and houses	554 Kg/HH/yr	TBC	20 % reduction (from baseline)

Note: Refer to Don't Waste It! - Waste Management Strategy 2018-28 for full list of targets.

²⁹ Aligned with Victorian State Government GHG emissions target for whole of state as per Victorian Climate Change Act 2017

APPENDIX 1

Actions and financial overview

STRATEGY	ACTIONS	ESTIMATED COST
<p>A greener, cooler more liveable City</p>	<p>1. Implement the Greening Port Phillip Strategy and Street Tree Planting Program, including ongoing investment in species diversification, park trees, streetscape improvements and a stronger focus on biodiversity and climate tolerant species selection</p>	<p>\$7,475,000</p>
	<p>2. Implement the Foreshore and Hinterland Vegetation Management Plan</p>	
	<p>3. Develop a Biodiversity Study and Action Plan</p>	
	<p>4. Maintain heat mapping and solar analysis data; use data, along with Socio-Economic Index for Areas and flood data to guide project and service delivery; communicate information to the community through a web-based platform; use data for reporting and to track intervention impact</p>	
	<p>5. Deliver technical guidance and implement regulatory interventions to protect vegetation and increase canopy cover on private property, including green roofs, walls and facades</p>	
	<p>6. Encourage and enforce sustainable, climate resilient buildings through the planning process by applying environmentally sustainable design planning policy guidelines and by providing clear, accessible information to the community</p>	

STRATEGY	ACTIONS	ESTIMATED COST
A City with lower carbon emissions	7. Deliver behaviour change and education programs through the Sustainable City Community Action Plan and support environmental education programs in schools	\$7,358,000
	8. Review Council services to implement opportunities to reduce carbon emissions and incorporate changes	
	9. Reduce energy use in Council buildings by investing in renewable energy and energy efficiency initiatives and changing our behaviour	
	10. Increase the sustainability of South Melbourne Market by installing renewable energy	
	11. Embed sustainability into Council's procurement and investment policies and practices, including minimum sustainability performance requirements for suppliers	
	12. Introduce green lease provisions targeting tenant energy consumption, cleaning and waste management into new and renewed leases of Council buildings	
	13. Transition the Council fleet to zero emissions, prioritising electric vehicles and charging stations, traditional and electric bikes, car share and low emissions vehicles	
	14. Where viable, progressively convert Council buildings to fully electric power through maintenance and renewal programs	
	15. Deliver an energy efficient street lighting upgrade (category V lights)	
	16. Deliver a program that supports households, particularly those on a low income, to invest in sustainability retrofits and solar, and pay back their investment through an alternative financing arrangement (SCCAP)	
17. Work with partners to drive the uptake of Environmental Upgrade agreements for commercial and (legislation pending) residential buildings (SCCAP)		
18. Work with the community to determine the viability of a collective purchase of offsite renewable energy for a consortium of apartment buildings (SCCAP)		

STRATEGY	ACTIONS	ESTIMATED COST
A City with lower carbon emissions (continued)	19. Seek a partnership to test and increase uptake of solar retrofit and energy sharing platforms for apartment buildings (SCCAP)	\$7,358,000
	20. Support the community to increase the sustainability of their homes during the planning and design phases	
	21. Support the uptake of electric vehicles, including installation of public charging stations and investigation of planning controls to require charging infrastructure in new developments	
	22. Advocate to developers for buildings designed to achieve low energy properties and precincts above Victorian planning policy regulations Advocate to the Fishermans Bend Taskforce and Victorian Government for planning policy regulation to support their commitment to an accredited Greenstar Community in Fishermans Bend	
A City that is adapting to climate change	23. Create a revised Climate Adaptation and Greenhouse Plan in order to identify which tools will help the community increase their resilience to climate change, including managing the impact of heat and extreme weather	\$3,740,000
	24. Examine the effectiveness of establishing a Port Phillip Energy Foundation or partnering with an existing foundation to undertake advocacy, research, advisory and community engagement initiatives	
	25. Conduct vulnerability assessments and financial risk modelling of Council's assets and develop minimum environmental performance standards and design guidelines for Council buildings. Embed these standards into our maintenance and construction programs	
	26. Assess recommendations from the state-led Coastal Hazard Vulnerability Assessment and develop an implementation strategy and action plan to help protect the City of Port Phillip against sea level rise and inundation	
	27. Develop concept design of blue-green infrastructure that protects against flooding and sea level rise, and enhances the natural environment	
	28. Investigate alternative funding models for environmental initiatives to deliver priority projects	

STRATEGY	ACTIONS	ESTIMATED COST
A water sensitive City	29. Develop a Water Sensitive City Plan to drive an integrated approach to water management	\$28,870,000
	30. Reduce water use by renewing irrigation infrastructure and improving controls and management while maintaining highly valued green spaces	
	31. Investigate and implement high value opportunities for stormwater harvesting to provide alternatives to potable water use for key Council open spaces	
	32. Support plans for recycled water processing at Fishermans Bend, with water being used by residents and for irrigation of Council reserves	
	33. Investigate mechanisms to require onsite stormwater detention in new developments, and technology to monitor tank levels and empty prior to storm events	
	34. Implement Elster Creek Action Plan	
	35. Develop and implement a Stormwater Asset Management Plan, and invest in drainage improvements	
	36. Plan and deliver Water Sensitive Urban Design projects to reduce the amount of pollution entering Port Phillip Bay	
	37. Complete a study of permeability potential for Council land, introduce place-based permeability targets. Embed these standards into our maintenance and construction programs	
38. Update Council policy and engage with the community to achieve greater permeability on private property		

STRATEGY	ACTIONS	ESTIMATED COST	
A sustained reduction in waste	39. Implement a new Waste Management Strategy that will deliver: <ul style="list-style-type: none"> • City that reduces waste • City that maximises reuse and recycling • City with clean streets, public spaces and foreshore areas • City that uses new technology to process waste better and reduce environmental impacts 		
	40. We will set guidelines for developers to make sure it's possible for people who live in apartments to recycle guidelines for apartments and implement education programs to maximise reuse and recycling		
	41. We will partner and explore the feasibility of a sustainability hub to better address our future waste and recycling need, including: <ul style="list-style-type: none"> • supplying recycled water to public spaces • access to Advanced Waste Treatment • providing Community access to better waste drop-off facilities • a new shared depot and service facility • community education, training spaces and sporting facilities 	\$4,723,000	
	42. We will educate and support residents, businesses and Council staff to have good recycling habits, recycling more and ensuring recycled waste is not contaminated		
	43. We will trial community composting and other communal food recycling opportunities for commercial premises		
	44. We will promote a reduction of single use plastics (e.g. plastic bags and coffee cups)		
	45. We will make sure Council purchasing practices prioritise the use of recycled and recyclable products		
	46. We will make sure Council's waste contracts maximise recycling		
Note: Progress on Actions 41-47 will be done through the Don't Waste It! Waste Management Strategy.			





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