
**ATTACHMENT 4 – CITY OF MONASH ENVIRONMENTAL SUSTAINABILITY STRATEGY
2016-2026**



CITY OF
MONASH

Environmental Sustainability Strategy 2016 – 2026





Acknowledgement of Country

Monash Council acknowledges and recognises the Kulin Nation as the traditional owners of the land now known as Monash. On behalf of citizens of the municipality, Council pays respect to indigenous elders, past and present and values the lessons of indigenous experience.

Victorian Charter of Human Rights and Responsibilities

Council has a role to play in the development of a socially just, healthy, inclusive and sustainable community where all members irrespective of their ability, gender, social, ethnic, or economic background can fully and fairly participate in community life.

The development of the Environmental Sustainability Strategy 2016 – 2026 has been guided by the broad principles of the International Human Rights and Social Justice Charter. Monash City Council observes the rights incorporated in the Victorian Charter of Human Rights and Responsibilities Act 2006 when making decisions, developing policies and strategies and providing services.



Message from the Mayor

I am pleased to present to the community Monash's Environmental Sustainability Strategy 2016 – 2026. This strategy provides an overarching framework to achieve an innovative and environmentally sustainable garden city with resilient, diverse and thriving communities and ecosystems.

Over the next decade Council is committed to implementing the realistic but bold actions which can be achieved with sensible, steady and continuous improvements. Monash's garden city character is strongly valued by our communities and this strategy identifies a range of actions to protect and enhance the garden city character and our natural environment.

The strategy commits us to action on many fronts, including reducing Council's greenhouse gas emissions, potable water use and waste sent to landfill. There are actions to embed sustainability into Council's strategic processes that also demonstrate leadership and environmental innovation.

The strategy identifies a range of environmental education and community engagement actions to engage Monash residents, community groups and businesses to work with Council to respond to the complex sustainability issues they encounter in their personal, community and working lives.

Council will continue to build partnerships and goodwill across the board and our solid progress towards our Monash 2021: A Thriving Community focus of being a green and naturally-rich municipality can be seen within this strategy.

The development of this strategy has been a true collaboration between Council, the Environmental Advisory Committee and the community.

Council looks forward to making a positive difference to the environmental sustainability of our municipality through the implementation of this 10 year strategy.

A handwritten signature in black ink that reads "Geoff Lake". The signature is written in a cursive, flowing style.

Geoff Lake
Mayor



Message from the Environmental Advisory Committee

Council's strategic commitment to sustainability started in 2010 with the development of the 4 year Environmental Sustainability Road Map (Road Map) adopted by Council in 2011. For each of the 4 years of the Road Map, Council's annual capital works commitment of \$200,000 assisted Council to achieve and exceed the energy, water, natural environment and waste and food Road Map targets.

Key highlights have been the sustainable street lighting project; Mount Waverley, Jack Edwards and Tally Ho Reserves stormwater harvesting projects; installation of over 100kw of solar panels on a variety of council buildings; Eastern Alliance for Greenhouse Action (EAGA) membership and energy efficiency project implementation; being a leading Victorian municipality with outstanding community recycling results and comprehensive recycling facilities at Monash Transfer Station; the planting of over 400,000 plants; Gardens for Wildlife education booklet and completing the first stages of an Environmentally Sustainable Development (ESD) Policy and Open Space Strategy.

Council's Environmental Advisory Committee (EAC) has been pivotal in providing community and councillor input and guidance to the development, implementation, monitoring and reporting of the Road Map. The EAC Councillors sincerely thank our community members who have served on the Environmental Advisory Committee and supported Council on its sustainability journey.

In particular, we would like to acknowledge the EAC Working Group members¹ who, for 15 months, have provided their time, skills and knowledge to assist in the development of this strategy and to ensure community collaboration was embedded throughout the process and document.

The Environmental Sustainability Strategy 2016 – 2026 continues the strong foundation established by Council through the Road Map and provides council and community with a bold vision that will be achieved through sensible, steady and continuous improvements.

Environmental Advisory Committee Councillors:

Cr Katrina Nolan (Chair 2014)
Cr Brian Little (Chair 2015)
Cr Paul Klisaris
Cr Micaela Drieberg
Cr Stefanie Perri

1 EAC Working Group members (in alphabetical order): Caroline Bayliss, Catherine Dennis, Howard Rose, Libby Anthony, Maxwell Campbell and Melanie Bok.

Executive Summary

There are many functions undertaken by Council that enable the strengthening of sustainability. Local councils can make a difference through urban planning, facilitating economic and community development, waste management, recycling, stormwater management, transport planning, community education, public land management and the delivery of specific environmental programs. Council can also make a valuable contribution through its own day-to-day environmental impact through reduction of waste, water, energy and resource use and increase in environmental and social procurement.

Initiatives outlined in the previous edition of this strategy (Environmental Sustainability Road Map 2011 – 2015) saw Council achieve its energy, water, natural environment, and waste and food targets. During the four year Road Map Council remained a leading waste diversion and recycling municipality, planted more than 400,000 plants and reduced council fleet emissions.

The Environmental Sustainability Strategy 2016 – 2026 is a key Council document which guides Council's decision-making and delivery of services and programs. Along with the Municipal Strategic Statement, Health and Wellbeing Partnership Plan and the Social Justice Charter, it supports the Monash 2021: A Thriving Community and the Council Plan (incorporating the Strategic Resources Plan).

The Environmental Sustainability Strategy 2016 – 2026 outlines a vision for the next decade, a vision in which "Monash is an innovative and environmentally sustainable garden city: resilient, diverse and thriving". This outcome will be achieved by following the seven priority areas established in the strategy:

- 1. Built Environment**
- 2. Urban Ecology**
- 3. Climate Change**
- 4. Waste and Resource Management**
- 5. Integrated Water Management**
- 6. Partnerships and Leadership**
- 7. Education, Engagement and Reporting**

Each priority area is divided into objectives and then further divided into specific actions that will be undertaken in fulfilment of those objectives.

The setting of targets for the urban ecology, climate change, waste and resource management and integrated water management priority areas will provide direction for Council to work towards achieving significant and meaningful environmental outcomes. Establishment of targets by 2018/19 will also provide a platform to benchmark and report against Council's performance and will provide accountability to the community and other key stakeholders.

The new Monash Environmental Sustainability Strategy proposes an innovative mix of leadership and collaboration, direct action and advocacy, education and partnerships. It determines Council's approach to enhancing Monash's garden city character, improving local biodiversity, reducing greenhouse gas emissions and waste levels, improving sustainable transport, embedding sustainability into council processes and much more.

Council has chosen to take a leadership role on sustainability because it embraces its responsibility to future generations of Monash citizens. Council's legacy should be a sustainable municipality supported by innovative policies and practices. The Monash Environmental Sustainability Strategy ensures a consistent and comprehensive approach to meeting these objectives.

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Our Guiding Principles

Guiding principles assist staff and community to work together to implement the aims and actions of this strategy. Since there is not one set of guiding principles for sustainable development, the following principles have been adapted from a variety of sources.²

As a community, we will be guided by the following principles. Where there are choices or decisions to be made we will use these principles to help us choose wisely. In all aspects of our lives and in all that we do we will endeavour to:

Be inclusive, get involved and participate

Everyone has something different to offer and there are many ways to be part of our community. We value difference, welcome participation, build tolerance, understanding and empathy through diversity, equality and inclusion.

Be innovative and show leadership

Have the courage to look for new ways and try new things, step up and lead and take risks if it means making a difference. The decisions we make today support sustainability learning and action. They will not diminish the potential of Our City for our children and the generations to come.

Continual improvement

Continual improvement in performance will be based on accountability, transparency and good governance.

Decision-making

It is necessary to balance easily identified short-term economic costs with the more difficult to quantify long-term social and environmental costs.

Ecological Integrity

Actions will maintain biological diversity, essential ecological processes and life-support systems. We must not produce more waste than the natural environment is able to assimilate without damage.

Intergenerational Equity

Present and future generations of all species should have fair and equal access to resources and opportunities.

Integration

Environmental, social and economic considerations should be effectively integrated into planning and decision-making.

Live within our budget

When we take resources from the environment, we must not take them any faster than the rate at which they are replaced.

Precautionary Behaviour

Where evidence indicates the risk of serious or irreversible community, environmental or economic damage, a lack of scientific certainty should not be used as a reason to postpone remedial action.

Show respect, have integrity and be honest

We will respect our past, our environment, each other and all our differences. We will be open and accountable.

Take a systems view

In ecological systems, everything is inter-connected. The connections are not always obvious to us, but they are there. When we make decisions, we must think beyond local or immediate impacts.

² Variety of sources including other local government sustainability strategies, Local Agenda 21, the National Strategy for Ecological Sustainable Development



Our Strategy

Vision

An innovative and environmentally sustainable garden city: resilient, diverse and thriving.

Mission

Making a difference through environmental sustainability commitment, expertise and leadership.

Introduction

Environmental sustainability is planning and providing for the needs of individuals and communities now and for future generations, creating resilient³ and prosperous communities and protecting the environment and ecosystem services.⁴

The Environmental Sustainability Strategy 2016 – 2026 (ESS), explores the current and emerging sustainability issues facing the City of Monash and its residents. It sets Council's environmental goals for the future and proposes actions that will help to reach these goals.

The aim of this Strategy is to assist the City of Monash achieve the following:

- » Planning and implementing a sustainable future
- » Protecting and enhancing our natural environment
- » Mitigating and adapting to climate change
- » Reducing waste, litter, resource consumption and energy use
- » Integrating and saving water
- » Influencing behaviour
- » Demonstrating leadership and environmental innovation.

³ Resilience is defined by Council as the capacity to positively respond and adapt to external changes such as climate change. Resilience can be increased by staff and community understanding and through planning. Resilience is related to social, economic and education factors and community experience in dealing with change

⁴ World Commission on Environment and Development 1987, *Our Common Future*

This strategy addresses seven main priorities that promote the development of a sustainable and resilient community and to reduce Council's impact on the environment.

They are:

- » Built Environment
- » Urban Ecology
- » Climate Change
- » Waste and Resource Management
- » Integrated Water Management
- » Partnerships and Leadership
- » Education, Engagement and Reporting.

The ESS replaces the City of Monash's highly successful Environmental Sustainability Road Map 2011-2015 (Road Map) which was the past structure for Council's conservation and environmental activities. Over 90% of the Road Map's actions were achieved and four out of six performance targets were achieved (Appendix 1).

The new ESS builds on the successes of the Road Map. It provides the City of Monash with a framework to work towards a sustainable city that supports and protects the garden character and ecological processes of the city as well as a healthy, prosperous and growing population which enjoys a high level of community amenity. It will address environmental sustainability at the local level and help guide our activities into the future.

The ESS spans ten years and will be underpinned by an implementation plan and annual reporting against targets and sustainability indicators. In addition to annual reporting, a progress review will be undertaken in the third (2018/19) and seventh (2022/23) years.

The community and the Environmental Advisory Committee strongly support the setting of challenging but achievable targets for the urban ecology, climate change, waste and resource management and integrated water management priority areas identified in this Strategy.

The setting of targets in areas such as these will provide direction for Council to work towards achieving significant and meaningful environmental outcomes. Establishment of targets will also provide a platform to benchmark and report against Council's performance and will provide accountability to the community and other key council stakeholders.

The EAC Working Group proposed the development of targets in the following indicative areas:

- » Increase in overall tree canopy cover
- » Increase in habitat values and habitat connectivity
- » Reduction in greenhouse gas emissions resulting from Council's operations and services
- » Increase in proportion of Council's energy usage derived from Council's own alternative energy infrastructure
- » Reduction in waste and increase in resource recovery relating to Council operations
- » Minimum level of sustainable, social and ethical purchasing in Council procurement
- » Reduction in potable water use resulting from Council operations and services; and
- » Sourcing of a minimum level of Council's water use from non-potable water sources.

Whilst the above areas have been suggested as appropriate areas for development of targets and performance indicators that could drive progress in all of the priority areas of the strategy, more work needs to be done to determine the specific nature of targets spanning its 10 year time frame.

A number of feasibility studies need to be completed to provide the data and information required to develop effective, challenging and achievable targets. These feasibility studies and associated targets are identified in the Environmental Sustainability Strategic Actions section of this document with completion to occur by 2018/19.

The budget for implementation of the actions within this strategy and action plan is subject to annual Council approval. Since 2011, \$200,000 has been allocated on an annual basis to fund actions from the Road Map. The program and targets are able to be modified depending on the future funding that is allocated by Council as part of its budget.

This ESS aims to address current and emerging environmental issues and sets realistic aims in a way that benefits all people and future generations.

The strategy has been developed through an extensive engagement process involving Monash's Environment Advisory Committee (EAC) Working Group, key managers and council staff, stakeholders, Monash's Environmental Advisory Committee, environmental and community groups and local community members.

Priority Snapshot

Priority Area	Aims
Built Environment	<ul style="list-style-type: none"> » Protect and enhance the garden city character of the municipality » Promote environmentally sustainable outcomes in urban planning, design and development.
Urban Ecology	<ul style="list-style-type: none"> » Maintain and improve local biodiversity, tree canopy cover and the ecological health of ecosystems » Increase positive appreciation and stewardship of the urban ecology within the community » Define Council's roles and responsibilities relating to community food gardens.
Climate Change	<ul style="list-style-type: none"> » Reduce Council's corporate energy consumption and greenhouse gas emissions » Build Council's capacity to understand and manage <i>climate change</i> risks and how best to respond » Increase community understanding and preparedness for the likely impacts of climate change.
Waste and Resource Management	<ul style="list-style-type: none"> » Reduce Council's corporate waste and improve resource recovery » Build Council's capacity to understand and implement the waste hierarchy, litter management, life cycle analysis and sustainable procurement principles » Increase community awareness of resource consumption and <i>stewardship</i> practices.
Integrated Water Management	<ul style="list-style-type: none"> » Reduce Council's water use and increase alternative water sources » Build Council's capacity to understand and implement water reuse and water conservation principles and water sensitive landscapes » Increase community awareness of water consumption and stewardship practices.
Partnership and Leadership	<ul style="list-style-type: none"> » Demonstrate strategic environmental sustainability leadership through commitment and action objectives » Build skill, capacity and partnerships to deliver this strategy.
Education, Engaging and Reporting	<ul style="list-style-type: none"> » Educate and engage staff and community to understand environmental sustainability concepts and issues and to implement solutions » Monitor, evaluate and report on the sustainability performance of Council.

In 2026 Monash Council will be:

A City:	A City where the Community:	A City where Council:
<ul style="list-style-type: none"> » Where garden city character and <i>natural assets</i> have been protected and enhanced » Where neighbourhoods, infrastructure, buildings, community facilities, parklands and transport systems are designed and developed along environmentally sustainable development and urban design principles, in sympathy with the natural environment » Where it is convenient, safe and desirable to move around by walking, cycling and using public transport » Which reuses and recycles as much of its waste as possible. 	<ul style="list-style-type: none"> » Is proud of its sustainability achievements » Is well educated and engaged in how to reduce its environmental impacts » Actively enjoys and takes care of its natural environment » Participates actively in sustainability related programs and initiatives » Increasingly sees environmental sustainability as the normal and best way to do things. 	<ul style="list-style-type: none"> » Leads by example on environmental sustainability issues » Plans and makes decisions with a focus on both immediate and long-term needs » Understands the short-term versus long-term environmental and financial costs and benefits of its decisions » Works with the whole community to protect and restore our natural environment and to become environmentally sustainable » Provides targeted programs and services to support all sectors of the community to become environmentally sustainable » Understands the power of effective government and regional partnerships and actively engages in these to support its own objectives.

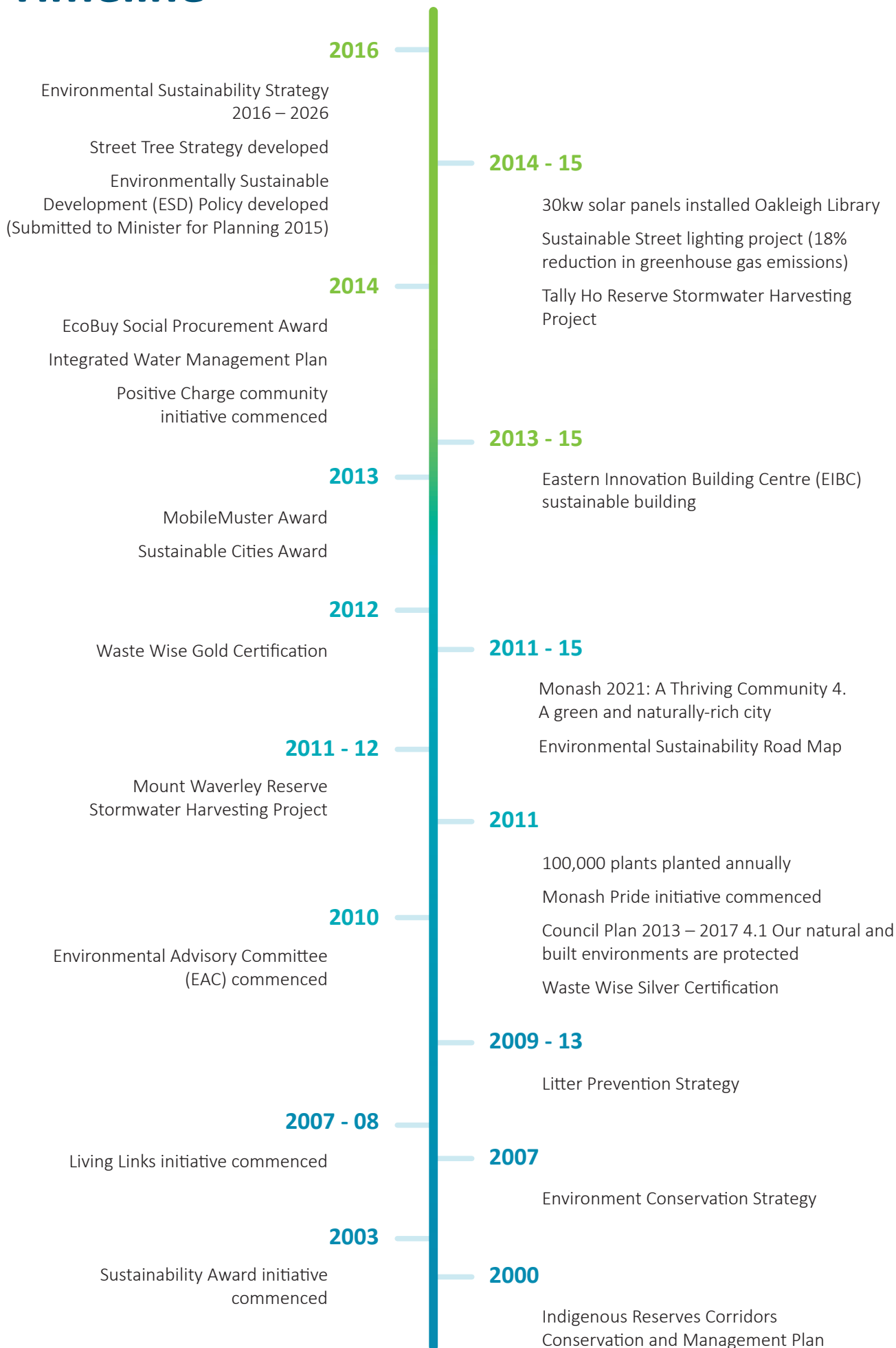


Figure 1 : Council’s strategic direction.

Blue boxes are legislative deliverables. Green boxes are community deliverables.



Timeline



Our City

Located 20 kilometres south east from the central business district of Melbourne, Monash is a vibrant and diverse community that enjoys enviable open spaces, natural resources, community facilities and a strong business community. In 2012, Monash residents said “the best thing about living in Monash” was its “proximity to facilities, its beautiful natural surroundings and its well maintained, appealing parks and gardens⁵”.

As a Council Monash is proud of its *garden city* landscape and has 125 parks and reserves that are home to important stands of indigenous vegetation and provide important corridors and habitat for native wildlife. All wetlands and waterways (Gardiners Creek, Dandenong Creek, Scotchmans Creek and Damper Creek) have high social and amenity values.

Monash has some of Melbourne’s best known landmarks within its 82 square kilometres, including the Monash Medical Centre, Monash University, Holmesglen TAFE, Jells Park, Australian Synchrotron and the Victoria Police Academy. The Monash Technology precinct has developed a reputation as a technology and business centre second only to Melbourne’s central business district for job opportunities.

With a residential population of 179,000 people (2013), including 45 percent born overseas from 45 different countries, the City of Monash is one of Melbourne’s most culturally diverse and populous municipalities.

The forecast residential population (207,727 by 2036)⁶ and projected growth of business will be facilitated through redevelopment opportunities within ex-industrial sites, residential growth zones and activity centres.



5 City of Monash, *Council Plan 2013 – 2017*

6 Forecast.id on behalf of Monash City Council

Our Role and Policy Context

International, federal and state government environmental policies and initiatives contribute to addressing global and national sustainability challenges facing the City of Monash, like communities all over Australia. These policies and initiatives continue to inform Council's Environmental Sustainability Strategy.

Local government has a unique, close connection to its immediate community and to the local environment. This means local government is well placed to promote environmental sustainability – through policy, community engagement and working in close partnership with local citizens. As the local planning authority, manager of parks and open space, and operator of community infrastructure, Council is responsible for many activities which impact upon the environment.

As a minimum, local government is only obliged to meet identified environmental international treaties and state and federal legislative requirements. However, local government also has the freedom to work more broadly towards the environmental aspirations of its community. The residents of the City of Monash have expressed their desire to protect the local environment, giving Council the opportunity to protect the local environment, enhance the liveability of the city and the wellbeing of its residents while contributing to the growth and prosperity of the municipality.

Local government therefore has an opportunity to lead, by setting an example to the community. Although local government cannot mandate changes to an individual's lifestyle, it has a leadership role in building community awareness and promoting change in the way we conserve our environment and utilise *natural resources*.

The role of Council in relation to environmental sustainability is to:

- » Define a sustainability vision
- » Develop and implement policy
- » Provide environmental services, such as waste and litter management and drainage
- » Lead by example, through Council's operational services
- » Plan and regulate land use
- » Educate, engage, encourage and empower action within the workplace
- » Advocate for change at all levels of government
- » Facilitate change within all of its stakeholders
- » Aim for transparent monitoring, reporting and continuous improvement and learning in all activities.

Monash 2021: A Thriving Community

Council's role is also guided by the four primary areas of focus articulated in Monash 2021: A Thriving Community:

- » A green and naturally-rich city
- » A fair and healthy community
- » A planned and connected city
- » An inclusive and safe community.

Our community values a clean, green environment; preservation of reserves and wetlands; open space, revegetated bushland, tall trees; environmental values; being in a 'green' city; bike and walking paths; tree-lined streets; birds and fresh air.

Our ten year priorities for a green and naturally-rich city will be to:

- » Lead the Monash community in responsible recycling, water and litter management
- » Cultivate and promote sustainable living practices within the Monash community including recycling, water and energy use
- » Reduce our community's use of resources and our greenhouse gas emissions
- » Lead by example in adopting sustainable practices and technology in council buildings and operations
- » Educate and support residents to adapt to a low carbon economy
- » Use community events as opportunities to engage the community in discussion about environmental issues
- » Maintain the provision of open space for passive and active uses
- » Maintain the leafy character of the city and streetscape.⁷

Our Environmental Challenges

There is an array of environmental issues and challenges common to communities around the world. Meeting these challenges requires a response from governments at all levels, along with businesses, communities and individuals.

Local grassroots action can build momentum and engagement at neighbourhood and individual level in the absence of leadership and coordinated action at international, national and regional level.

Biodiversity Management

The global rate of *biodiversity* loss is increasing. Factors contributing to this include population growth, urbanisation and land clearing, *pollution*, *invasive species* and the impacts of climate change.

There is increasing scientific evidence that large scale global extinctions will have significant health implications including impacts on agriculture and global food resources. In addition to social benefits, well managed ecosystems can reduce the impact of many natural disasters including flooding, landslides and storm surges⁸. Australia has experienced one of the largest declines in biodiversity of any continent over the past 200 years, according to extinction listings under the Environmental Protection and Biodiversity Conservation Act 1999.

The health, resilience and genetic diversity of indigenous native animals is diminished when there is not the opportunity for species to safely move and connect across Monash or into neighbouring municipalities. The same is true for indigenous native plants where their pollinators are not able to reach them or where their growing conditions are impacted by urban changes including competition from weeds, change of water flow and volumes, increased nutrients, or changes in sun, shade and protection.

⁸ Sudmeier-Rieux, K & Ash N 2009, *Environmental Guidance Note for Disaster Risk Reduction: Healthy Ecosystems for Human Security*

Developing and enhancing biodiversity connectivity on public and private land is important for the survival of species and overall ecosystem and human health.

The loss of local biodiversity will impact on Monash's climate stability and the ability to reduce the heat build up on days of extreme heat (*Urban Heat Island Effect*). The loss of biodiversity will also reduce the breakdown and absorption of pollution and to filter and improve the water quality within our wetlands and waterways. When biodiversity is lost at the local level there is the potential for an imbalance to occur where weeds and pests will replace indigenous native species, or undesirable species will dominate. An example is if Monash's native frog and fish populations decline there will be an increase in mosquitoes. If mosquito numbers were to increase there could be an increase in the spread of mosquito-borne diseases.

The challenge for the City of Monash is to balance urbanisation with protecting and enhancing biodiversity and the garden city character. This means strengthening and implementing planning mechanisms to protect and enhance biodiversity and the garden city character.

Council itself is a land manager with many bushland reserves, especially along our waterways. Council also manages the street treescapes and other landscaping initiatives. The City of Monash aims to demonstrate leadership in environmental sustainability by increasing the habitat connectivity across the municipality, increasing the habitat quality of land it manages and to increase the tree canopy cover across the whole municipality.





Climate Change and Energy Resources

Finite fossil fuels such as coal, oil and natural gas are used worldwide as the primary energy source for electricity, transport and heating. When fossil fuels are extracted and burnt, they release carbon dioxide into the atmosphere, a contributor to climate change. Global population growth is resulting in increased energy demand and consumption.

Over the past century there has been an observed increase in the average global temperature across all continents and oceans and changes to rain fall patterns and intensities. Climate change due to human activity is both irrefutable and unavoidable.⁹

In Australia, average air temperatures have increased by around 0.9 degrees Celsius since 1910, and each decade has been warmer than the previous decade since the 1950s.¹⁰

Melbourne's east is expected to experience warmer and drier conditions with an increasing likelihood of more extreme events such as heatwaves, bushfires, droughts and extreme rainfall events.¹¹ This is likely to lead to a variety of impacts including increased flood and storm

9 Intergovernmental Panel on Climate Change (IPCC) 2013, *Fifth Assessment Report*

10 Commonwealth Scientific and Industrial Research Organisation (CSIRO) and Bureau of Meteorology (BOM), *State of the Climate 2014*

11 Commonwealth Scientific and Industrial Research Organisation (CSIRO) 2013, *Climate Futures for Eastern Melbourne*

damage, disruption to essential services, stress on plant and animal communities and increased health risks particularly for vulnerable groups within the community.

Climate change adversely affects all of the other Priority Areas contained in this ESS and therefore Council needs to demonstrate leadership in mitigation and adaptation of climate change at the local level.

The challenge for the City of Monash is to accommodate a growing population while reducing or minimising energy consumption and greenhouse gas emissions. This means improving the planning and design of our built environment, houses, activity centres and transport systems to use fossil fuels more efficiently, to reduce congestion, and to use alternative transport and energy sources. Council has an important role to play in encouraging residents, businesses and community groups to reduce the emissions from their activities and operations.

Council also needs to show leadership in assisting the community to adapt to the impacts of climate change especially relating to human health and wellbeing.

Council itself is also a contributor to greenhouse gas emissions, mainly through building use, street lights, delivery of services and council's fleet. The City of Monash aims to demonstrate leadership in environmental sustainability by reducing its own greenhouse gas emissions, retrofitting and upgrading facilities with sustainable and innovative solutions, and renewable energy as part of the solution.

Population Growth and Urbanisation

The global population has experienced continuous growth over the past decade, with the current world population estimated at 7.3 billion¹². Longer term estimates are set to exceed nine billion by 2050. Many governments around the world are concerned about the consequences of rapid population increase for economic growth and sustainable development. There is also mounting pressure on the world's natural resources including global food supplies, available drinking water, energy resources and biodiversity.

Australia is following the same trend of population growth, with the estimated resident population expected to increase from 24 million (2016) to between 30.9 and 42.5 million people by 2056¹³. There has also been an increase in urbanisation across the country with more people residing in urban areas. Many cities are now facing enormous pressure to meet the needs of their expanding populations. With more space required for the construction of houses and development of industry, there has been a significant loss of open space and reduction in local habitat and biodiversity.

Past planning reflects a strong demand for low-density housing and reliance on cars for transportation. The emphasis has been on residential development rather than mixed-use development. Within Monash there are also land use pressures from the intensification and diversification within the commercial and industrial areas.

Increasingly, residents desire affordable housing with easy access to public transport and community infrastructure while working close to where they live. As a result, long-term strategic planning is being undertaken for these areas that includes significant input from the community. These plans emphasise the importance of healthy, liveable activity centres and suburbs with access to employment opportunities, transport and quality services. Higher density residential precincts are being incorporated into and around some activity centres, where appropriate.

Where possible, Council will advocate and work with state government to ensure that Monash's land use planning system is modern and flexible. This will help to manage garden city character with population growth; resident and community expectations with increased demand; and to deal with new challenges posed by an emerging low carbon economy.

Sustainable Communities

The global trend of people moving and living within cities is creating a disconnection between people and the natural environment. This contributes to a lack of connection, understanding and awareness of how people impact on natural ecosystems. Environmental education and government leadership are critical components in reconnecting people with the natural environment including being proactive with environmental protection and living sustainably.

The goal of environmental education is to develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations, and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones.¹⁴

Effective environmental education requires a coordinated approach and communication between all involved organisations, including local, state and federal governments, not-for-profit environmental and educational organisations and businesses. This will ensure that environmental messages are aligned to assist communities, individuals, schools and businesses to take positive action.

Local government has been recognised as being well placed to translate international, national and state sustainable development policies and goals into sustainability deliverables that are meaningful to local communities.

Council plays a pivotal role in developing and delivering environmental education programs to provide the knowledge, skill, value, capacity and motivation to encourage Monash residents, community groups and businesses to work with Council to respond to the complex sustainability issues they encounter in their personal, community and working lives.

The City of Monash aims to demonstrate leadership through the development, strengthening and nurturing of partnerships and relationships that will provide and deliver environmentally sustainable outcomes. Our Guiding Principles have been developed to guide Council's decision-making processes.

12 United States Census Bureau

13 Australian Bureau of Statistics

14 United Nations Educational, Scientific and Cultural Organisation (UNESCO) 1975, *The Belgrade Charter: A Global Framework for Environmental Education*

Waste Management

The management of waste is a significant environmental issue. The production of global waste is growing, driven largely by global population growth and the demand for and availability of domestic products.

The increasing volume and changing mix of waste generated in Victoria presents a serious challenge. Victorian waste generation is expected to continue increasing by around four per cent per year and is predicted to approach 17.4 million tonnes by 2022¹⁵.

The composition of waste is changing, with more electronic products such as computers and mobile phones entering the waste stream at a greater rate. There are also higher proportions of organic materials going to landfill in Victoria, causing major problems associated with *methane gas emissions*, odour and groundwater contamination.

The challenges for the City of Monash are to:

- » educate and work with residents to reduce their waste going to landfill and to improve recycling efforts
- » ensure collection of waste and recycling is delivered to best practice standards including collection of waste and recycling from activity centres and multi unit dwellings (*MUDs*); and
- » provide electronic and organic waste solutions and ensuring appropriate resource recovery from hard rubbish collection.

Council itself is also a producer of waste, through its operations and delivery of products and services to the community. The City of Monash aims to continue reducing its own waste generation, greening its supply chains and increasing recycling and to demonstrate leadership in this area.

Water Management

Water is one of the world's most important natural resources. It is vital for all living organisms and major ecosystems, as well as for human health, food supplies and economic development.

Population growth and urbanisation have placed high demands on water resources across the world. In Australia, supply of freshwater remains a long-term issue due to increasing demands, seasonal variations and sustained drought conditions. During times of low water availability the residents and businesses, including Council, are placed on water restrictions. Council itself is also a large consumer of water, mainly through its aquatic centres, building use and the irrigation of open space.

The City of Monash has a leadership role to play in inspiring residents and businesses to save water through demonstrating water-saving and water-reuse leadership in its own operations.

Improving the quality of Australian water table, wetlands and waterways poses a significant challenge for Council. Within Monash the natural flow of water into Dandenong, Scotchmans, Damper and Gardiner creeks has been greatly altered through urbanisation, clearing of vegetation, paved surfaces and stormwater drains. This means instead of water reaching the water table, wetlands and waterways through infiltration and slow runoff processes, the water is arriving as fast flows and in large volumes.

Council will continue to implement innovative and integrated water management solutions where water is used on-site without causing flood-related concerns. It will also be critical to continue managing our creek reserves to support water quality improvements, water table and catchment health and to prevent erosion.

¹⁵ State Government Victoria 2013, *Getting Full Value: The Victorian Waste and Resource Recovery Policy*

Our Priority Areas

The Environmental Sustainable Strategy 2016 – 2026 focuses on seven broad strategic priorities. These reflect the key areas that Council and the community have identified as issues within the city.

**Priority 1:
Built Environment**

**Priority 2:
Urban Ecology**

**Priority 3:
Climate Change**

**Priority 4:
Waste and Resource Management**

**Priority 5:
Integrated Water Management**

**Priority 6:
Partnerships and Leadership**

**Priority 7:
Education, Engagement and Reporting**

The context and objectives for each priority are listed on the following pages, followed by the combined strategic action table.



Priority 1: Built Environment

CONTEXT

The way that a city, its suburbs, its buildings and transport are designed, built and managed can have a large impact on long-term environmental sustainability, how its inhabitants live, work, commute, participate in recreational activities and their overall quality of life.

Sustainable urban planning focuses on:

- » Consolidation of existing urban areas with accessible infrastructure and community services, such as public transport, open space, energy supply, water and drainage, schools and health centres
- » Planning for walking, cycling, and public transport facilities in new neighbourhoods, retrofitting existing neighbourhoods, and between neighbourhoods to improve options and accessibility for people of all ages and mobility, and to help to decrease reliance on cars
- » Water sensitive urban design to treat and slow the speed of stormwater running into waterways
- » Buildings which minimise energy, material and water use and waste generation
- » Design which encourages community interactions
- » Conservation of plant and animal habitats and corridors
- » Easy access to shops, education, health and financial facilities.

Well planned communities have less impact on and greater interaction with the natural environment. They are easier to live in and are built to be resilient to the impacts of climate change and rising fuel costs, while fostering increased community connectedness.

While state government plays a key role in the strategic planning of communities, local governments have the main role in land use planning. The City of Monash commits to implementing the built environment aims, objectives and actions within this strategy, though it understands that many of the actions will require involvement and approval from the state government.

OBJECTIVES

1. The *garden city* character of Monash is retained and improved.
2. Development is designed along *Environmentally Sustainable Development (ESD)* and *Water Sensitive Urban Design (WSUD)* principles.
3. Urban environments are designed and planned to promote and encourage integrated and active transport.



Priority 2: Urban Ecology

CONTEXT

Protecting biodiversity is vital to life on earth. It helps sustain the earth's life support systems (*ecosystem services*) that provide us with clean air and water, fertile soils and food. Biodiversity provides an important source of scientific information and gives us natural places to explore and enjoy, which may be of cultural and spiritual significance.

Protecting and enhancing indigenous vegetation and fauna is important from a cultural perspective, recognising the Kulin Nation as the original custodians of the land now known as Monash.

The City of Monash's garden city character forms a central component of land development and ensures the city will remain characterised by treed residential streetscapes and industrial areas with clearly defined precincts and buffers, wide streets and large well-landscaped setbacks. The garden city character is characterised by significant plantings of trees with spreading crowns which provide a soft, green, leafy atmosphere that is visually appealing.¹⁶

Protecting and enhancing Monash's biodiversity and garden city character will also assist in mitigating impacts from climate change and the urban heat island effect.

As a metropolitan municipality, the City of Monash has experienced increased growth and development over time. This development includes residential housing, business and industry precincts, transport corridors and public open space. This development over more than one hundred years has led to significant loss of indigenous plants and animals within the municipality.

Monash's most significant natural environmental areas are Valley Reserve, Jells Park and the riparian corridors of Dandenong Creek, Gardiners Creek, Scotchmans Creek and Damper Creek. The ecological vegetation classes (EVCs) at these reserves include grassy forest, swampy riparian complex, valley grassy forest, riparian forest, wetland complex and shrubby foothill forest.

¹⁶ City of Monash 2015, *Monash Planning Scheme; Clause 21.03-05*

151 species of flora and fauna of national, state and regional significance have been recorded at these sites, including Dwarf Galaxias, Australasian Bittern, Southern Bell Frog, Grey-headed Flying-fox, Powerful Owl, Peregrine Falcon, Pointed Flat-sedge, Yarra Gum, Muttonwood and Manna Gum.

Council is proactively working in partnership with other land and waterway management authorities and community groups to achieve joint planning and implementation of works that will result in optimum environmental outcomes. Partnerships with tertiary institutions are providing research data and results about open space, urban biodiversity, watering of street trees and integrated water management.

Underpinning Council's efforts to restore natural environmental values and enhance biodiversity is an appreciation that a healthy environment is a central element of a liveable community.

OBJECTIVES

1. A strategic approach to *landscape planning* is established which recognises *biodiversity, habitat connectivity* and builds *ecosystem resilience*.
2. Long-term *biodiversity* outcomes are achieved on Council owned and managed *conservation reserves*.
3. Increased community understanding of and participation in *urban ecology* and local biodiversity *stewardship* is achieved.
4. Roles, responsibilities and involvement relating to *community food gardens* are defined and implemented.



Priority 3: Climate Change

CONTEXT

In Victoria, we are becoming increasingly aware of our community's vulnerability to climate change.

Melbourne's east is expected to experience hotter and drier conditions with more frequent extreme weather events¹⁷. These events not only impact our natural and built environments they have an impact on health and resilience of individuals and communities.

While federal and state governments determine climate and renewable energy policy, local governments have a key role to play in engaging with the community and businesses to *mitigate* greenhouse contributions within their municipalities.

The burden of climate change adaptation falls largely at state and local government levels particularly in relation to land use planning, preservation of infrastructure and protection of community health.

There are many key drivers for local government to incorporate *adaptation* into decision-making processes including:

- » Rising insurance premiums and liability issues
- » Financial sustainability; small investments today will avoid larger costs in the future
- » Strong community expectations that local government is prepared for climate change
- » The multiple benefits of adaptation responses such as improved health and wellbeing, lower energy bills and lower maintenance costs
- » Existing climate impacts are already more frequent and more intense than previous decades.¹⁷

The City of Monash has been a member of the Eastern Alliance for Greenhouse Action (EAGA) since 2008 and will continue to work in partnership with neighbouring councils, state and federal government to jointly implement strategies and actions to mitigate, adapt and address the risks relating to climate change.

OBJECTIVES

1. Best practice climate change thinking is integrated into Council's corporate and operational functions.
2. A strategic approach to reducing Council's corporate greenhouse gas emissions is established.
3. Increased *community preparedness* for the likely impacts of climate change.

¹⁷ Eastern Alliance for Greenhouse Action (EAGA), *Climate Change Adaptation Roadmap For Melbourne's East*



Golf Course Flood

Priority 4: Waste and Resource Management

CONTEXT

Waste management has rapidly evolved from a singular focus upon protection of public health into a highly mechanised and progressive industry committed to *waste minimisation and resource management*. Community expectations for environmental sustainability and the efficient use of resources have driven and supported this transformation.

Also evolving are the changes and increases in packaging, shorter product lifespan (planned obsolescence), marketing of consumerism and the increase in readily available appliances. All of these factors combined with an increasing population are increasing the volumes of waste generated within Monash.

Council plays an important role in waste management and provides garbage collection, fortnightly recycling, fortnightly green waste and an annual hard waste and bundled green waste collection.

Council also collects garbage and recycling from public places including shopping strips and sporting venues and conducts street sweeping to prevent debris and litter flowing into our wetlands and waterways.

The Monash Transfer Station provides residents the opportunity to recycle electronic waste, light bulbs, toner cartridges, paint, batteries, polystyrene, mobile phones, mattresses, tyres and cardboard. The challenge for the City of Monash is to remain one of the top Victorian resource recovery councils as rated on diversion rates (green waste and recycling) from landfill.

Sustainable procurement involves the purchasing of products and services that are less damaging to the environment than comparable products that provide the same level of quality and functionality. Through its procurement policy and where cost and *payback* comparison allow, the City of Monash is committed to sustainable purchases of products with recycled content, are recyclable after use, locally or ethically produced, water or energy saving, biodegradable or reusable.

As with many other local governments, huge potential exists within Council for the inclusion of environmental specifications in contracts, delivery of services, building maintenance and capital works projects, as well as the use of environmental criteria in tender evaluation.

The City of Monash will continue to be an active member of the Metropolitan Waste and Resource Recovery Group (MWRRG) and Sustainability Victoria (SV) local government partnerships. Council will also continue to be actively involved in regional sustainable procurement opportunities.

OBJECTIVES

1. Best practice waste and *recycling* collection and litter reduction services are delivered in a strategic municipal-wide approach.
2. A strategic approach to reducing Council's corporate waste and environmental impacts is established which recognises the *waste hierarchy, life cycle analysis* and has *sustainable procurement* integrity.
3. Reduced community consumption of resources and improved recycling is achieved.

Transfer
Station



Priority 5: Integrated Water Management

CONTEXT

Water is an essential resource for sustaining life. It is a renewable resource but its availability and quality is highly dependent on environmental influences, land use, human activities and consumption.

Water quality and supply is under pressure, particularly within urban environments due to a changing climate, inefficient use and population growth. There are various challenges and opportunities to balance when managing water sustainability across the City of Monash.

Water sustainability requires the integrated management of the whole water cycle. This includes water from rain and storm events, to water use in industry, businesses and our homes, and wastewater. In a growing municipality, the focus on sustainable use of our water resources is imperative to ensure water security into the future.

The City of Monash has three catchments that drain into the Yarra River, Mordialloc Creek and Gardiners Creek, which all eventually discharge into Port Phillip Bay. Gardiners Creek and Dandenong Creek are the two major waterways in the municipality. Scotchmans Creek and Damper Creek flow to Gardiners Creek.

While listed as having high regional importance, Dandenong Creek and Gardiners Creek (including Scotchmans Creek and Damper Creek) are in poor condition in terms of their aquatic ecosystem health (*Index of River Condition*)¹⁸. Other waterways in the municipality (e.g. Mile Creek, Clayton Drain) are highly modified (e.g. concrete channels or piped) and hence provide few ecosystem services.

All wetlands and waterways in the municipality have high social and amenity values. They provide interlinking networks of public open space that are highly valued by the community.

As an active member of the Corridors of Green and the South East Melbourne Living Links initiatives the City of Monash will continue to work in partnership with Friends of Groups, neighbouring councils, state and federal government to jointly implement strategies and actions to improve integrated water management and improve catchment waterway health.

OBJECTIVES

1. A strategic approach to integrated water management is established and implemented which recognises and values the health of *waterways, wetlands and catchments, water conservation, water reuse and water sensitive landscapes.*
2. Best practice integrated water management, water reduction and water reuse principles are included in all Council corporate and operational functions.
3. Increased community understanding of and participation in waterway health, *water conservation and water reduction* is achieved.



¹⁸ City of Monash 2014, *Integrated Water Management Plan*

Priority 6: Partnerships and Leadership

CONTEXT

“How can Council’s leadership actions and partnerships assist in getting residents and staff to integrate sustainability into their thinking and actions?”

The above question not only guided the development of this Strategy but will also guide the implementation of the Strategy’s actions.

This question also allows sustainability to be seen as a connected and integrated outcome and concept, while the first five priority areas are the parts that contribute to the whole.

Integrating sustainability across the organisation and fully utilising the resources available requires strong and consistent commitment from all staff. Leadership, cross-department collaboration and ongoing support is required to ensure staff have the awareness, information, capacity and confidence to deliver appropriate environmental outcomes through their daily work functions.



Leadership will also be shown through the development, strengthening and nurturing of partnerships and relationships that will provide and deliver environmental sustainability outcomes for our community and planet. Examples of such partnerships include but are not limited to:

- » Department of Economic Development, Jobs, Transport and Resources (DEDJTR)
- » Department of Environment, Land, Water and Planning (DELWP)
- » Eastern Alliance for Greenhouse Action (EAGA)
- » Green Building Council
- » LG Pro Behaviour Change Network (BCN)
- » Melbourne Water (including Corridors of Green Project)
- » Metropolitan Planning Authority (MPA)
- » Metropolitan Waste and Resource Recovery Group (MWRRG)
- » Monash University
- » Municipal Association of Victoria (MAV)
- » Office of Living Victoria (OLV)
- » Parks Victoria
- » Port Phillip and Western Port Catchment Management Authority (including Living Links Network)
- » South East Water
- » Sustainability Victoria
- » Teacher Environment Network (TEN)
- » University of Melbourne
- » Yarra Valley Water.

OBJECTIVES

1. Sustainability is integrated into Council decision-making processes.
2. Develop and strengthen partnerships that achieve Council’s sustainability objectives.

Priority 7: Education, Engagement and Reporting

CONTEXT

Many opportunities exist for everyone in the community to change daily behaviours that will reduce their lifestyle impacts. The City of Monash supports such behaviour change through ongoing targeted environmental education and initiatives.

Through the use of a wide range of behaviour change theories and Education for Sustainability (EFS) principles, the development of education and engagement initiatives and programs will enable residents and staff to be engaged and educated about sustainability and encourage them to participate in action and decision-making opportunities.

As part of an ongoing calendar of community events, Council offers a range of environmental activities including educational stalls at festivals, sustainable living workshops, educational booklets¹⁹, bushland restoration and planting days. These sessions aim to raise awareness and equip residents with the knowledge and skills to pursue sustainability activities at home and work as well as providing an opportunity for increased social connectedness.

Council also facilitates (in partnership with City of Boroondara) the Teacher Environment Network which helps connect and support schools and early years facilities, while providing opportunities to staff and students to assist in the delivery of environmental initiatives. The knowledge gained through these sessions is linked to curriculum and classroom delivery and provides a link to the wider community.

Council support is also provided to environmental and sustainability community groups, community centres and neighbourhood houses assisting them with capacity building, supporting good governance and providing access to environmental knowledge and skills.

Reporting is another key element of implementing Council's commitment to sustainability. Effective reporting raises the profile and promotes the importance of improving environmental outcomes across the City and enables opportunities for further improvements to be identified.

¹⁹ An example is the Gardens for Wildlife booklet

Council's annual sustainability report will be the primary method for reporting on the actions implemented by Council and the community. The reporting will highlight key milestones and achievements throughout the year and provides progress against our priorities.

A review of the strategy will be undertaken after three and seven years with a full update and review at 10 years.

Policy directions, strategies and individual actions within the ESS that align to other Council community and corporate plans, including Monash 2021 and the Council Plan, will be monitored through Monash's corporate planning framework.

OBJECTIVES

1. Environmental education and behaviour change programs relating to all priority areas are developed, delivered, monitored and evaluated.
2. Sustainability outcomes and targets are monitored, evaluated and reported using *best practice sustainability indicators* and accounting processes.



Environmental Sustainability

Strategic Actions

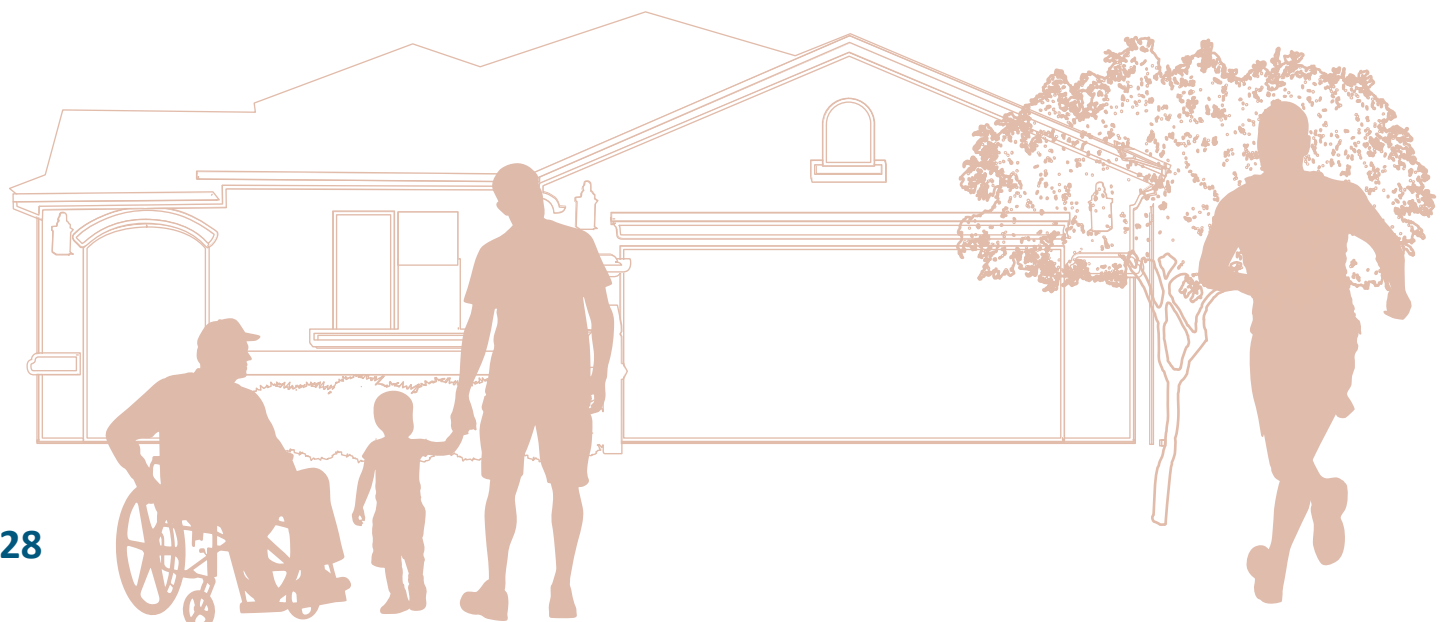
Priority 1: Built Environment

1.1 The *garden city* character of Monash is retained and improved

Action	Timeline	Resourcing
1.1.1 Planning of future strategic growth, especially <i>Structure Plans</i> , is to consider <i>garden city</i> character principles	a. Consider, and include, where practical, the <i>garden city</i> characteristic principles within Structure Plans and development proposals	2016-26 F
	b. Assessment of planning applications is to continue to consider the <i>garden city</i> characteristic principles of Monash as expressed within the Planning Scheme	2016-26 F
1.1.2 Pursue opportunities for sustainable strategic plans and policies to be incorporated within the Planning Scheme including the Municipal Strategic Statement (MSS)	a. Consider environmental sustainability, landscape criteria and enhanced garden city character principles within all future Planning Scheme and MSS reviews where applicable	2016-26 F
	b. Include environmental sustainability principles within residential zone schedules including permeability, site coverage, rear set back and landscaping requirements	2016-26 F
	c. Ensure Monash's planning policies and processes consider and implement environmental protection and, where possible, enhancement principles	2016-26 F
1.1.3 Build community and staff understanding of <i>garden city</i> character	a. Develop and implement education and advocacy activities that increase the capacity of staff and community to better understand and deliver on Monash's <i>garden city</i> principles	2016-26 F

F = Funded within existing resources.

S = Subject to approval by Council as part of an Annual Budget process, in the applicable years.



1.2 Development is designed along Environmentally Sustainable Development (ESD) and Water Sensitive Urban Design (WSUD) principles

Action	Timeline	Resourcing
1.2.1 All development assessed against best practice Environmentally Sustainable Development (ESD) and Water Sensitive Urban Design (WSUD) principles	a. Implement the ESD assessments and referrals through the planning scheme and develop the ESD skills and knowledge of Council staff	2016-26 F/S
	b. Ensure public and private spaces deliver connectivity, <i>liveability</i> and sustainability outcomes at the catchment scale	2016-26 F
1.2.2 Council buildings and infrastructure are to be designed, built, operated and maintained to reflect <i>Environmentally Sustainable Development (ESD) and Water Sensitive Urban Design (WSUD) principles</i>	a. Develop and implement a <i>Sustainable Building and Infrastructure Policy</i>	2017-26 S
	b. Develop and incorporate ESD/WSUD criteria into asset condition auditing cycle processes	2016-26 S
	c. Develop and implement best practice ESD/WSUD operating standards for capital works project development and asset maintenance aligned to budget processes	2016-26 S
1.2.3 Build industry and staff understanding of <i>Environmentally Sustainable Development (ESD), Urban Heat Island (UHI) and Water Sensitive Urban Design (WSUD) principles</i>	a. Develop and implement education activities that increase the capacity of developers and staff to better understand ESD, UHI and WSUD principles relating to the Planning Scheme development assessment processes, and Council projects including maintenance	2016-26 S
	b. Implement ESD education and behaviour change programs relating to operating and using Council buildings	2016-26 F/S
	c. Demonstrate leadership by actively communicating Council's sustainable built environment achievements	2016-26 F/S

1.3 Urban environments are designed and planned to promote and encourage integrated and active transport

Action	Timeline	Resourcing
1.3.1 <i>Integrated and active transport principles</i> are implemented throughout the municipality	a. Develop and implement an <i>Integrated Transport Strategy</i>	2016-18 F
	b. Implement the <i>Walking and Cycling Strategy</i>	2016-26 F
1.3.2 Build community and staff understanding of integrated and active transport principles	a. Implement education and advocacy activities to increase the capacity of staff and community to better understand and participate in integrated and active transport	2016-26 F

Priority 2: Urban Ecology

2.1 A strategic approach to landscape planning is established which recognises biodiversity, habitat connectivity and builds ecosystem resilience

Action		Timeline	Resourcing	
2.1.1	Planning processes are to protect and enhance Monash's biodiversity and landscape character	a. Complete a municipal-wide review of <i>vegetation and landscape character</i> and incorporate approved recommendations into future planning scheme provisions	2016-17	F
		b. Implement the vegetation and landscape assessments and referrals through the planning scheme and develop the arboricultural skills and knowledge of Council staff	2018-19	S
		c. Implement the <i>Street Tree Strategy</i>	2016-26	F/S
		d. Investigate, develop and implement the <i>Urban Forest Strategy</i>	2016-26	S
		e. Develop and implement the <i>Open Space Strategy</i>	2016-26	F/S
2.1.2	Enhance biodiversity values and habitat connectivity across the municipality	a. Undertake <i>ecological assessments</i> to record baseline data for conservation reserves under Council management and to identify habitat corridors across the municipality and at the catchment scale	2016-18	S
		b. Develop and implement a municipal-wide <i>Biodiversity Action Plan (BAP)</i> from the baseline ecological and habitat corridor data	2018-26	S
		c. Promote and implement the <i>Nature Strip Planting Guidelines</i>	2016-26	F

2.2 Long-term biodiversity outcomes are achieved on Council owned and managed conservation reserves

Action		Timeline	Resourcing	
2.2.1	Continue to manage Council's conservation reserves in accordance with best practice <i>conservation and land management principles</i>	a. Manage Council's conservation reserves using best practice <i>conservation and land management principles</i>	2016-26	F
		b. Investigate, research and monitor indicators that will demonstrate potential impacts of climate change on local biodiversity values and the resilience of ecological sites	When opportunity arises	F
		c. Review, update and implement Council's Conservation Reserve Management Plans and procedures	2016-26	S
		d. Investigate and implement suitable techniques and approaches to reduce <i>domestic and feral animal</i> impacts on Monash's native wildlife within an urban context	2016-26	S

F = Funded within existing resources.

S = Subject to approval by Council as part of an Annual Budget process, in the applicable years.

2.3 Increased community understanding of and participation in urban ecology and local *biodiversity stewardship* is achieved

Action			Timeline	Resourcing
2.3.1	Raise local knowledge and appreciation of biodiversity and urban ecology	a. Develop, implement and support education, behaviour change programs and incentives that deliver biodiversity stewardship and enhancements on public and private land, especially properties adjoining Council's conservation reserves	2016-26	F
		b. Deliver <i>Responsible Pet Ownership</i> education and behaviour change programs	Ongoing	F
2.3.2	Continue to support the activities of existing local environment and similar groups	a. Facilitate access to Council's <i>Neighbourhood Matching Grants Program</i> to local groups wanting to undertake environmental projects that bring people together and form connections	2016-26	F
		b. Support <i>Neighbourhood Houses</i> and <i>Men's Shed</i> to strengthen their connections to local <i>community gardens leased</i> and licensed through Council	2016-26	F

2.4 Roles, responsibilities and involvement relating to community food gardens are defined and implemented

Action			Timeline	Resourcing
2.4.1	Understand Council's role relating to community gardens	a. Investigate and develop a framework articulating Council's role, responsibilities and involvement in community gardens	2016-18	S
2.4.2	Raise local awareness, knowledge and appreciation of growing food and the sustainability and wellbeing issues relating to food	a. Implement education programs relating to community and household food production and healthy eating	2016-26	S



Priority 3: Climate Change

3.1 Best practice climate change thinking is integrated into Council's corporate and operational functions

Action		Timeline	Resourcing	
3.1.1	Establish a whole of organisation approach for effective and efficient climate change action	a. Develop and implement a <i>Climate Change Action Plan</i> which recognises a whole of council approach to mitigation, adaptation, risk management, innovation and alternative energy sources. Developed from data from 3.2.1 (a) and (b)	2016-26	S
		b. Continue working in partnership with other local, state and federal governments and relevant organisations to achieve climate change adaptation and mitigation outcomes	2016-26	F
3.1.2	Build staff understanding of climate change and the potential impacts and opportunities	a. Implement staff education and behaviour change programs that improve understanding of climate change, especially the impacts and opportunities relating to their role	2016-26	F
		b. Ensure Council keeps abreast of and communicates to staff current climate change science, research, technology and monitoring and delivery of best practice outcomes	2016-26	F



3.2 A strategic approach to reducing Council's corporate greenhouse gas emissions is established

Action		Timeline	Resourcing	
3.2.1	Pursue new strategic plans and policies to reduce Council's operational emissions	a. Complete a feasibility study to determine an achievable greenhouse gas reduction target for Council and provide recommendations on how to achieve the target	2016-17	F
		b. Complete a feasibility study to determine an achievable renewable energy target for Council and identify council assets suitable for alternative energy infrastructure including the analysis of life cycle costs and benefits of the infrastructure	2016-17	F
		c. Develop and implement an <i>environmental and cost benefit analysis criteria</i> for <i>asset management, capital works</i> and other internal decision-making processes	2016-18	F

3.3 Increase community preparedness for the likely impacts of climate change

Action		Timeline	Resourcing	
3.3.1	Support community's preparedness for the likely impacts of climate change	a. Participate and support collaborative community related advocacy, activities and programs	2016-26	F
		b. Continue to support and implement community and business education programs to increase understanding of the local impacts of climate change and how to be climate ready	2016-26	F
3.3.2	Encourage energy efficiency and the use of renewable energy sources	a. Participate in regional and council-specific energy efficiency, renewable energy and climate-ready programs that assist the community and businesses to understand and reduce their greenhouse gas emissions and increase their <i>energy resilience</i>	2016-26	F

F = Funded within existing resources.

S = Subject to approval by Council as part of an Annual Budget process, in the applicable years.

Priority 4: Waste and Resource Management

4.1 Best practice waste and recycling collection and litter reduction services are delivered in a strategic municipal-wide approach

Action	Timeline	Resourcing
4.1.1 Establish a best practice, business case approach for waste and recycling management and collection	a. Develop and implement recycling and waste management and collection contracts and services based on a best practice <i>business case</i> approach	2016-26 F
	b. Develop and, if business case deems viable and funding provided, implement <i>kerbside food waste collection</i> and management services	2017-26 S
	c. Develop waste services criteria for new apartments and <i>multi-unit dwellings</i> (MUDs), <i>commercial</i> and <i>industrial</i> development that defines appropriate waste and recycling collection processes	2016-18 F
	d. Review and update waste and recycling clauses in relevant Council <i>contracts</i> and <i>tenders</i> to ensure best practice waste management and collection practices are included	2017-26 F
4.1.2 Implement a strategic approach to litter prevention	a. Review, update and implement the <i>Litter Prevention Strategy 2009 – 2012</i>	2016-26 S

4.2 A strategic approach to reducing Council's corporate waste and environmental impacts is established which recognises the waste hierarchy, life cycle analysis and has sustainable procurement integrity

Action	Timeline	Resourcing
4.2.1 Reduce waste to landfill from Council's corporate operations	a. Develop and implement a waste and recycling audit, management and monitoring program for identified Council buildings with staff offices and for office retrofits	2016-26 F
4.2.2 Build the understanding of staff and cleaners about the impacts of waste generation and improve recycling	a. Implement education and behaviour change programs to increase the capacity of staff and cleaners to reduce waste and paper usage and to improve recycling	2016-26 S
4.2.3 Complete a strategic asset and procurement whole of <i>Life Cycle Analysis (LCA) business case</i>	a. Research and develop the business case to incorporate LCA into the strategic asset and procurement financial assessment processes with a view to setting realistic targets	2017-19 S
4.2.4 Improve staff understanding of their procurement responsibilities	a. Implement education and behaviour change programs to increase staff awareness and understanding of the environmental sustainability, corporate social responsibility, ethical consideration and life cycle analysis (LCA) responsibilities of Council's <i>Procurement Policy</i>	2016-26 F
	b. Update contracts and tenders with best practice sustainability, social and ethical procurement clauses	2020-26 F
	c. Research and, where relevant, implement new and innovative green materials, products and services	2016-26 F

4.3 Reduced community consumption of resources and improved recycling is achieved

Action			Timeline	Resourcing
4.3.1	Encourage correct use of bins and avoid contamination of recycling	a. Continue implementing the <i>kerbside bin inspection and monitoring program</i>	Annually	F
		b. Implement education and behaviour change initiatives to increase the capacity of residents and businesses to correctly dispose of their waste and improve recycling	2016-26	S
4.3.2	Educate and support community to implement correct waste disposal and improve resource recovery practices including reducing consumption of resources	a. Implement a strategic approach to community waste and litter infrastructure, education, monitoring and evaluation, dependent on funding	Annually	F
		b. Implement waste and recycling infrastructure, signage and educational information at Council facilities including halls, community centres, sports facilities and other leased facilities	2016-26	S
		c. Continue to upgrade waste and recycling infrastructure and signage in activity centres and shopping strips	2016-26	S
		d. Implement monitoring and research projects to improve understanding of waste disposal behaviours of community and businesses	When opportunity arises	S
		e. Advocate for and support community waste reduction initiatives – for example water refill stations, plastic bag free and litter patrol campaigns – where they align to Council objectives and funding is available	2016-26	S
4.3.3	Advocate for reduced product packaging, improved resource recovery and improved litter management	a. Support and participate in appropriate initiatives and opportunities that advocate for reduced product packaging, resource recovery opportunities and improved responses to litter management	2016-26	S

F = Funded within existing resources.

S = Subject to approval by Council as part of an Annual Budget process, in the applicable years.



Priority 5: Integrated Water Management

5.1 A strategic approach to integrated water management is established and implemented which recognises and values the health of waterways, wetlands and catchments, water conservation, water reuse and water sensitive landscapes

Action		Timeline	Resourcing	
5.1.1	Utilise a full range of planning scheme and compliance tools to protect waterways, wetlands and catchments and conserve water resources	a. Include water sensitive and integrated water cycle design principles in <i>Local Planning Policies</i> and all <i>Structure Plans</i> as appropriate	2018-19	S
		b. Develop an <i>Integrated Water Management Protection Policy</i> that identifies best practice principles for planning applications to ensure water and catchments are protected	2017-26	S
		c. Promote and include integrated water cycle management and water sensitive urban design guidelines in residential and non-residential development applications	2017-26	S
		d. Educate planning applicants in integrated water cycle management and water sensitive urban design principles and requirements within the planning scheme	2019-26	S
		e. Improve the internal planning permit referral process to ensure relevant Council officers respond to the specification, approval and inspection, and maintenance of integrated water sensitive urban design systems	2016-26	S

5.2 Best practice integrated water management, water reduction and water reuse principles are included in all Council's corporate and operational functions

Action		Timeline	Resourcing	
5.2.1	Embed integrated water cycle management and water sensitive urban design throughout Council's operations and policies	a. Implement the <i>Integrated Water Management Plan (IWMP)</i>	2016-26	F/S
		b. Include best practice water sensitive urban design and integrated water cycle management principles and tools within relevant capital works and asset renewal projects	2016-26	F
		c. Implement the <i>Stormwater Management Plan</i>	2016-26	F/S
5.2.2	Reduce Council's water use supplied from potable water sources and increase water from non-potable water sources	a. Complete a water saving feasibility study that identifies water saving and non-potable water recommendations for Council's facilities and operations with a view to setting targets	2016-17	S
		b. Develop and implement a <i>Sustainable Water Use Plan (SWUP)</i> that incorporates the analysis and recommendations from (a)	2017-26	S

F = Funded within existing resources.

S = Subject to approval by Council as part of an Annual Budget process, in the applicable years.

5.2.3	Maintain waterway quality and health	a. Implement water quality actions from the <i>Integrated Water Management Plan</i>	2017-26	S
		b. Investigate and, where relevant, implement other local and state government approaches to reducing debris and litter entering waterways and wetlands via stormwater system	2018-26	S
5.2.4	Build staff understanding of integrated water cycle management, water sensitive urban design and water conservation principles	a. Implement staff education and behaviour change programs that improve understanding of integrated water cycle management, water sensitive urban design and water conservation principles	2016-26	S
		b. Ensure Council keeps abreast of and communicates to staff current integrated water cycle management science, technology, research and monitoring and delivery of best practice outcomes	2016-26	F

5.3 Increased community understanding of and participation in waterway health, water conservation and water reduction is achieved

Action		Timeline	Resourcing	
5.3.1	Encourage integrated and efficient water usage and improved waterway quality and health	a. Participate in and advocate for initiatives and programs that assist local government, residents and businesses to conserve water, provide <i>alternative water sources</i> and building community and environmental resilience	When opportunity arises	S
		b. Continue to support local water conservation and waterway initiatives, community groups and activities including <i>Waterwatch</i>	2016-26	F
5.3.2	Raise local awareness, knowledge and appreciation of water quality and stream condition	a. Implement in partnership, community education and behaviour change programs that improve understanding of integrated water cycle management, water sensitive urban design and water conservation principles relating to households and businesses through specific educational programs and activities	2016-26	F



Priority 6: Partnerships and Leadership

6.1 Sustainability is integrated into Council decision-making processes

Action			Timeline	Resourcing
6.1.1	Establish a whole of organisation approach to environmental sustainable leadership	a. Establish an internal cross-directorate <i>Sustainability Advisory Group</i> to guide the implementation of this Strategy and actions	2016-26	F
		b. Continue to coordinate Monash's community <i>Environmental Advisory Committee</i>	2016-26	F
		c. Continue to implement and build capacity of Council's internal <i>Green Team</i>	2016-26	F
		d. Integrate environmental criteria, leadership and partnership considerations into Council's policies and priorities including <i>Community Plan, Corporate Plan, Departmental Plans, staff appraisal processes</i> and individual work plans at all levels	2016-26	F
		e. Demonstrate leadership and commitment to sustainability by ensuring council reports and decisions consider environmental impacts	2017-26	F

6.2 Develop and strengthen partnerships that achieve Council's sustainability objectives

Action			Timeline	Resourcing
6.2.1	Establish successful sustainability partnerships	a. Implement partnership and leadership outcomes from Built Environment, Urban Ecology, Climate Change, Waste and Resource Management and Integrated Water Management priority areas	2016-26	F
		b. Strengthen partnerships that lead to sustainability networking, capacity building, innovation, research and monitoring outcomes and opportunities	2016-26	F
		c. Provide staff with ongoing support, capacity building and information to assist them to deliver sustainability outcomes	2016-26	F
		d. Develop and strengthen relationships with local universities, TAFEs, innovation and research organisations to deliver evidence-based sustainability outcomes and research across the priority areas	2016-26	F

F = Funded within existing resources.

S = Subject to approval by Council as part of an Annual Budget process, in the applicable years.

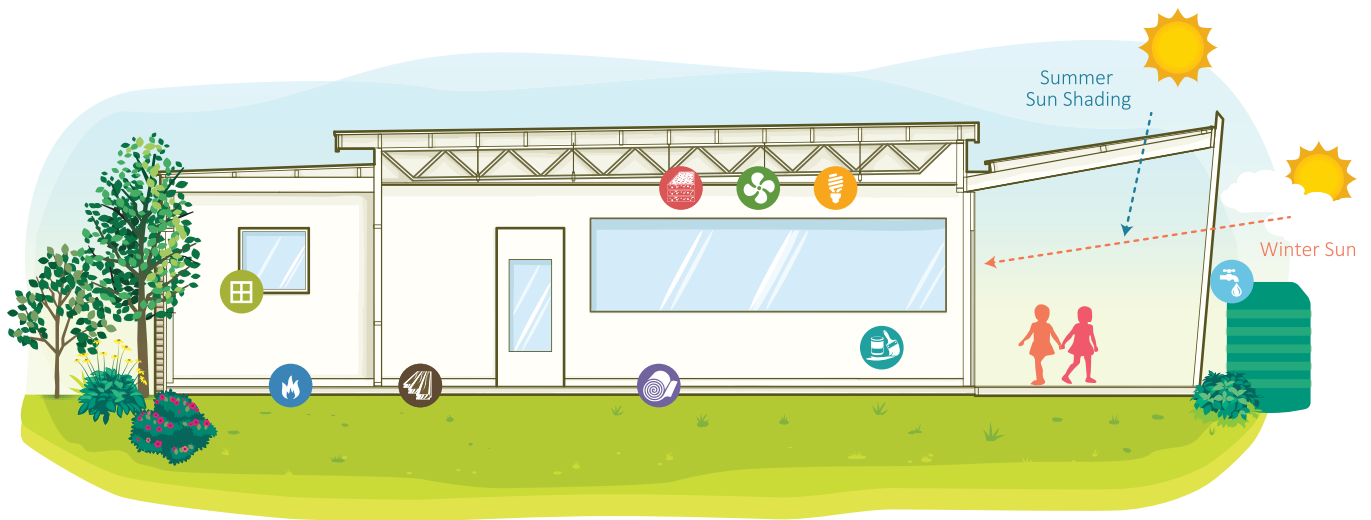
Priority 7: Education, Engagement and Reporting

7.1 Environmental education and behaviour change programs relating to all priority areas are developed, delivered, monitored and evaluated

Action	Timeline	Resourcing
7.1.1 Design and deliver sustainability education and behaviour change programs and services that are culturally inclusive and cater for different demographics	a. Develop and implement an <i>Environmental Education Plan</i>	2017-26 S
	b. Investigate best practice sustainability and environmental educational approaches being delivered by other organisations	2016-26 F
	c. Implement the education and engagement objectives from Built Environment, Urban Ecology, Climate Change, Waste and Resource Management and Integrated Water Management priority areas	2016-26 F

7.2 Sustainability outcomes and targets are monitored, evaluated and reported using best practice sustainability indicators and accounting processes

Action	Timeline	Resourcing
7.2.1 Monitor, evaluate and report on the goals and actions within this strategy	Annually	F



Nara Pre School environmental education

Appendices

PERFORMANCE OF THE ENVIRONMENTAL SUSTAINABILITY ROAD MAP 2011-2015

OVERVIEW

The Environmental Sustainability Road Map (Road Map) is the key document that has informed and supported Monash's strategic objectives and commitment to the principles of environmental sustainability. Since 2011 a wide range of projects and initiatives have been implemented across the Road Map's six themes. The outcomes for each theme are listed below with their target, the results and major achievements.

1. Energy

1.1 TARGET

20% reduction in Council's energy levels by 2020/21 compared to 2010/11 levels.

1.2 RESULT

Council has achieved a 3% (802 tCO₂-e) reduction in greenhouse gas emissions from the baseline emissions of 26,588 tCO₂-e in 2010/11.

The sustainable street lighting project has been forecasted to achieve an 18% reduction which will start to be seen in 2015/16 financial year.

Year	tCO ₂ -e	Reduction
2010/11	26,588	Baseline year
2013/14	25,786	3%
2020/21	20,065	Target year

1.3 MAJOR ACHIEVEMENTS

- » Upgrading 8,200 street lights from mercury vapour to T5 energy efficient globes
- » Active member of Eastern Alliance for Greenhouse Action (EAGA)
- » 333 household retrofits with low energy use devices (EAGA project: Live Green with Low Energy Supplies Services LESS)
- » Energy efficient lighting upgrades occurred at 10 Council facilities
- » Energy audits were undertaken for 17 facilities
- » Heating, Ventilation and Air Conditioning (HVAC) upgrades occurred at 7 Council facilities (HVAC) upgrades occurred at 7 Council facilities
- » Other energy efficient upgrades (building maintenance system, kitchen upgrade and energy efficient hand dryers) occurred at 6 Council facilities
- » Co generation/tri generation feasibility study for aquatic centres (MARC) in partnership with Boroondara, Yarra and Darebin Councils
- » Solar panels were installed at Central Reserve Recreation and Community Pavilion, Oakleigh Library, Ashwood Hall and Jack Edwards Reserve Pavilion.

2. Water

2.1 TARGET

20% reduction in potable water use by 2015/16 compared to 2002/03 levels.

2.2 RESULT

Council has achieved a 42% reduction (173ML) in water consumption since the baseline year of 2002/03.

Year	ML	Reduction
2002/03	416	Baseline year
2013/14	243	42%
2020/21	333	Target year

2.3 MAJOR ACHIEVEMENTS

- » Integrated Water Management Plan completed and being implemented
- » Mount Waverley stormwater harvesting project capturing and storing 500,000 litres from Melbourne Water reservoir roof and using the water to irrigate sports fields and street trees
- » Jack Edwards Reserve underground water tanks used to irrigate sports fields and street trees. Stormwater wetland treatment also constructed on site
- » 11 Council facilities upgraded with dual flush toilets/low water use urinals
- » Water tanks installed at 10 Council facilities
- » 15 reserves converted to low water use warm grasses
- » 1 tennis facility and 1 reserve converted to waterless surfaces
- » Onsite stormwater treatments installed at 14 Council sites and is ongoing for new developments
- » Commenced research project in partnership with Melbourne University in trialling kerb modifications enabling passive irrigation of street trees.



*Water
Harvesting*

3. Waste and Food

3.1 TARGET

To remain a leading municipality on diverting waste from landfill.

3.2 RESULT

Since 2011, Monash has been rated one of Victoria's top councils for recycling with a diversion rate of 57 – 60%.

3.3 MAJOR ACHIEVEMENTS

- » Monash Transfer Station is one of the best in Victoria and includes the recycling of televisions, computers, mobile phones, mattresses, light globes, polystyrene, tyres, batteries, organic waste and general kerbside recyclables
- » Commenced *Don't Trash Monash* campaign
- » Developed *Litter Prevention Strategy 2009 – 2012*
- » The Monash Pride Crew established in 2013
- » 57 public place recycling bins installed
- » Established commercial trader cardboard and recycling throughout Monash at 6 sites and one commercial trader recycling trial in progress
- » Council has been a member of EcoBuy since 2003. Since 2011 Council has annually spent between 5-6% or \$3-4M of its total budget on green products
- » Implemented multicultural renters recycling project for Clayton multi-unit dwellings (MUDs). Project improved how residents used bins, reduced recycle bin contamination and discouraged illegal dumping
- » Conducted specialised household waste and recycling education programs with Indian, Sudanese and Chinese residents.

- » Upgraded Council's purchasing system from paper to electronic and includes green purchasing criteria
- » Ongoing program that generates power from all landfills in the Clayton/Dandenong area and is sold to the power authority
- » Delivered stormwater education programs for Kingsway Traders (2011/12 and 2013/14)
- » Through the Compost Revolution online program, distributed 149 worm farms and compost bins to Monash residents. This diverted 15,135 tonnes of organic matter from landfill and saved 1,810kg CO₂
- » Participated in the Garage Sale Trail in 2012/13 and 2014/15. The Garage Sale Trail is an annual national initiative to promote community connections through garage sale trails as well as reusing and diverting waste from landfill
- » Council support and coordination of the annual Clean Up Australia Day events (179 sites).





*Native
plantings*

4. Natural Environment

4.1 TARGET

Plant 100,000 trees, shrubs and groundcovers per year.

4.2 RESULT

405,660 trees, shrubs and groundcovers have been planted since 2011.

4.3 MAJOR ACHIEVEMENTS

- » Planting on Nature Strip Guidelines adopted and available to the public
- » Designed and published Gardens for Wildlife booklet and biodiversity poster
- » Bushland restoration and regeneration works undertaken on Council's bushland and creek line reserves especially Napier and Drummies Reserves
- » Friends of groups for Damper Creek, and Scotchmans Creek and Valley Reserve supported by Council
- » Council support and coordination for the annual National Tree Day events
- » Stage one of Open Space Strategy completed (2012/13). This stage involved undertaking an inventory of public open space in Monash.

5. Transport

5.1 TARGET

10% reduction in the production of tCO₂-e compared to 2010/11 levels, by Council fleet by 2015/16.

5.2 RESULT

Council has achieved an 8% (131 tCO₂-e) reduction in transport greenhouse gas emissions from the baseline emissions of 1,600 tCO₂-e in 2010/11.

Year	tCO ₂ -e	Reduction
2010/11	1,600	Baseline year
2013/14	1469	8%
2020/21	1440	Target year

5.3 MAJOR ACHIEVEMENTS

- » Council participated in a 10 month electric vehicle trial in partnership with Department of Transport and other Councils
- » Constructed extensions and enhancements of Gardiners Creek, Dandenong Creek and Scotchmans Creek shared pathway trails
- » Adopted a Walking and Cycling Strategy
- » Produced a Walking and Cycling map
- » Council continues to be a member of the Eastern Transport Coalition
- » Undertaken footpath extensions and improvements with a focus on activity centres
- » Council fleet upgrades focused on downsizing engine size, increasing LPG usage and improving diesel fleet EURO standard for replacement plant purchases.



Community Bus

6. Planning and Design

6.1 TARGET

All new Council buildings meet 5 star NABERs rating.

6.2 RESULT

All new Council buildings and major retrofits are designed to align to NABERs 5 star rating or equivalent.

6.3 MAJOR ACHIEVEMENTS

- » Nara Preschool insulation
- » Double glazing west facing windows installed at Syndal Preschool
- » UV insulation reflective paint trialled at Glen Waverley South Preschool
- » Roof insulation and positive-circulating air flow windows installed at Wellington and Jack Edwards Reserves
- » Construction of Central Reserve Recreation and Community Pavilion. Sustainability features include optimum solar orientation, natural ventilation and evaporative cooling system that incorporates thermal chimneys, automated high level windows, and tempered sub-floor air, double glazing, wall and roof insulation, external shading, exposed thermal mass, 40,000L rain water harvesting system, rain gardens, swales, 2.2kw photovoltaic panel and 100% recycled and recyclable carpet tiles
- » Jack Edwards Reserve East (Junior Pavilion) retrofitted and extended
- » Council undertook the first round of community consultation on a draft Environmentally Sustainable Development (ESD) policy in April and May 2014. There was general community support for the introduction of the local policy into the Monash Planning Scheme. A formal planning scheme amendment to include the policy commenced in 2014/15
- » Insulation upgrade for workshop roof at Monash Operations Centre (MOC).



7. Other

The following are a number of other achievements relating to actions within the Road Map that cross over between the six themes:

7.1 ENVIRONMENTAL ADVISORY COMMITTEE

The Environmental Advisory Committee (EAC) of local residents and Councillor representatives was established prior to the Environmental Sustainability Road Map. EAC meets regularly to be informed of and provide advice on Council's environmental and sustainability projects and initiatives.

Smaller working groups from the EAC have been established, when needed, to focus on specific initiatives or projects, the most recent being the review of the Road Map and development of the Environmental Sustainability Strategy.

Representation on the EAC is through an application process and is for a two year term. Councillor representation is by an annual appointment.

7.2 ONLINE SUSTAINABLE LIVING GUIDE

The online Sustainable Living Guide is designed to help residents take action to live more sustainably at home and in the community. It focuses on specific environmental and sustainability topics including:

- » Composting and worm farming
- » Energy saving in the home
- » Water wise gardens
- » Ethical shopping
- » Recycling and reducing waste
- » Public transport.



Community gardening

7.3 EDUCATION

Council has an environmental education program that provides support for community and schools to implement sustainability in the home and curriculum. Community workshops and teacher information sessions are organised and held regularly and topics included:

- » Biodiversity and indigenous gardens
- » Composting and worm farms
- » Recycling and follow your waste
- » Green cleaning
- » Upcycling and mend it
- » Energy efficiency and water saving.

The Teacher Environment Network (TEN) is coordinated in partnership with Boroondara City Council and includes sustainability meetings each term and regular email correspondence.

From 2012 – 2015 Council has been able to financially support on-ground environmental projects for local organisations with deductible gift recipient (DGR) status. Over the 3 years DGR organisations applied for funding to implement a 12 month environmental project. Successful projects have included vegetation and habitat gardens, solar panels, energy audits and retrofits, and water saving upgrades. The grant funding was provided by Visy and administered by Council.

Each year Council has a sustainability education stand at events such as Monash's Clayton, Chinese New Year and Oakleigh Festivals. The educational stall is themed and residents and festival patrons learn about sustainability information that can be implemented in their home. Topics have included biodiversity and indigenous gardens, how to recycle correctly, water saving and shower head exchange and energy saving. Supporting the sustainability education stand have been environmental interactive games, roving street performers, surveys, competitions and stalls by other environmental organisations, including local community groups.

7.4 GREEN TEAM

An internal Green Team staff committee was established in 2013. The Green Team's aim is to work with staff to encourage behaviour change in staff to reduce energy, water and waste within Council operations.

A quarterly Green News is produced and circulated to all Monash staff. A variety of sustainability events, initiatives and projects are organised and run by Green Team members with the aim to reduce the environmental impact of Council's own operations.

7.5 POLICY UPDATES

A number of policies have been updated to include environmental requirements. Construction contractors are now required to have and implement an Environmental Management Plan to address erosion and sediment control. Council's construction program and private developments are required to provide sediment control measures under Local Law No 3.

Sustainable demolition clauses are now included in all Urban Design & Architecture project specifications, with brick, concrete and asphalt being returned to Council's contract recycling yard.

The updated Procurement Policy gives preference to products with recycling or reuse content and whole of life cycle. Green cleaning products are now included within cleaning service contracts. Staff have attended EcoBuy's green contracts and tender training session.

7.6 POSITIVE CHARGE

In 2014 Monash Council engaged Positive Charge, a not-for-profit organisation, to provide independent energy efficiency advice to Monash residents and businesses. The energy experts at Positive Charge offer advice and recommendations on solar, lighting, insulation, heating, hot water and windows. Positive Charge's Intensive Solar Bulk Buy program was offered to residents between March and June 2015.



7.7 AWARDS

Council has received a number of awards for our sustainability and environmental achievements including:

Winners

- 2011 **Sustainability Victoria Silver Waste Wise Certification**
- 2013 **MobileMuster Top Overall Collector Award: Mobile phones recycling**
- 2013 **Sustainable Cities Litter Prevention Award: Monash Pride Crew**

Finalists

- 2011 **Sustainable Cities: Sustainable City of the Year**
- 2011 **Sustainable Cities Awards Efficient Energy Award:** Batesford Community Hub
- 2011 **Sustainable Cities Awards Protection of the Environment Award:** Settlers Court Estate
- 2011 **Sustainable Cities Community Government Partnerships Award:** Batesford Community Hub and Landscape
- 2013 **Sustainable Cities: Sustainable City of the Year**
- 2013 **Sustainable Cities Community Action and Leadership Award:** Eaton Mall Enhancement
- 2013 **Sustainable Cities Community Government Partnerships Award:** Eaton Mall Enhancement
- 2013 **Sustainable Cities Pam Keating Environmental Sustainability Award:** Mt Waverley Stormwater Harvesting Project
- 2013 **Sustainable Cities Resource Recovery and Waste Management Award:** CALD recycling education program
- 2014 **EcoBuy Excellence in Social Procurement & Excellence in buying recycled content**
- 2014 **Sustainable Cities Community Government Partnerships Award:** Creating Clayton's Laneways
- 2014 **Sustainable Cities: Sustainable City of the Year**



List of Council Documents and Strategies

Council Plan 2013 – 2017

Customer Services Strategy 2012 – 2015

Disability Action Plan 2013 – 2017

Economic Development Strategy and Action Plan 2013 – 2017

Graffiti Removal Strategy and Policy 2012 – 2015

Health & Wellbeing Partnerships Plan 2013 – 2017

Home and Community Care (HACC) ASM and Diversity Action Plan 2013 – 2015

Indigenous Framework and Action Plan 2007 – 2011

Indigenous Reserve Corridors Conservation & Management Plan 2000

Integrated Water Management Plan 2014

Litter Prevention Strategy 2009 – 2013

Monash 2021: A Thriving Community

Monash Baby Boomers Strategic Action Plan 2010 – 2014

Monash Bushland Fire Management Plan

Monash Flood Emergency Plan

Monash Food Access Project 2014

Monash Heatwave Plan 2010

Monash Housing Strategy

Monash Neighbourhood Character Strategy

Monash Pandemic Plan

Monash Planning Scheme and Municipal Strategic Statement (MSS)

Monash Public Health Emergency Management Plan

Monash Public Library Service Strategic Plan 2012 – 2015

Monash Responsible Gambling Strategy 2012 – 2015

Monash Road Safety Strategic Plan

Monash Tender Schedule F

Monash Youth Plan 2013 – 2016

Multicultural Action Plan 2013 – 2017

Open Space Strategy – Stage 1

Physical Activity Plan 2010 – 2015

Walking and Cycling Strategy

Women's Leadership and Participation Strategy 2011 – 2013

Glossary

There are many terms used in this plan that can have a range of meanings. The purpose of this glossary is to provide definitions of these words as they are intended in this strategy.

Term	Definition
Action	What Council will do over coming years to achieve its goals and objectives.
Adaptation – Used in reference to climate change	The ability or preparedness to adapt systems and our way of living to accommodate changes that we know will occur as a result of climate change. For example, constructing buildings that will withstand exposure to more frequent and more intense extreme weather events.
Alternative energy infrastructure	The sourcing of electricity from non-grid technologies that are installed on Council assets including solar, wind and other alternative energy technologies not currently on the market.
Alternative water sources	The sourcing of water from non-potable water sources including rainwater, stormwater, recycled water and ground water.
Asset Management	A systematic process of managing, operating, maintaining, upgrading, and disposing of assets aligned to best value services. Council assets will be accessible, safe and suitable for community use. The approach to asset management will balance competing social, environmental and economic needs for the benefit of the current and future generations.
Biodiversity	The variety of all living things; the different plants, fungi, animals and micro organisms, the genetic information they contain, their inter-relationships and the ecosystems they form.
Biodiversity stewardship	The management and protection of something considered worth preserving (biodiversity).
Built Environment	Surroundings created by humans such as urban areas which comprise buildings, roads and other infrastructure such as water supply or energy networks.
Business case	Reasoning for the validity of a project or action.
Capital Works	Building and engineering works that create an asset, as well as constructing or installing facilities and fixtures associated with, and forming an integral part of those works.
Catchment	A natural drainage area which collects water, especially rainfall.
Climate change	Changes in climatic systems and patterns that have arisen as a result of human activity (involving the release of greenhouse gases) which have contributed to the enhanced greenhouse effect. It does not refer to the normal patterns of climatic fluctuation that have historically occurred in relation to Earth's climate systems.
CO₂-e	Carbon dioxide equivalent – used as a standard unit to measure the impact of a range of greenhouse gases.
Community	A group living in the same place or sharing a particular characteristic. As well as individuals, communities can include households, businesses and schools.
Community Garden	A piece of land which is cultivated by a group of people rather than an individual or household for the purpose of growing food. Often found in urban areas.
Community preparedness	The ability of the community to understand and manage risks associated with climate change.
Conservation and land management principles	Principles used to effectively manage land such as conservation reserves to maintain and increase their environmental values.

Term	Definition
Conservation Reserves	Reserves with the purpose of conserving native flora and fauna.
Context	Background information and justification for priority.
Contracts	A written agreement between Council and successful party that gives rise to legal rights and obligations.
Corporate energy consumption	The amount of energy consumed as a result of Council's corporate and operational activities such as building use, street lights, delivery of services and council's fleet.
Cogeneration	Process where electricity and heat are obtained from a single fuel input.
Domestic animal	An animal kept by humans, commonly as pets. For example, dogs and cats.
Drought conditions	Conditions such as decreased rainfall which result in drought.
Eastern Alliance for Greenhouse Action (EAGA)	EAGA is a formal collaboration of seven Councils in Melbourne's east, working together on regional programs that reduce greenhouse gas emissions and facilitate regional adaptation.
Ecological assessments	Assessment of an environment to determine data such as biodiversity and habitat values. Information from such assessments can then be used to inform future decisions about the management of those environments.
Environmental Advisory Committee (EAC)	Committee which provides input and advice to Council on issues of environmental sustainability. Comprises four Councillors and twelve community representatives.
Ecological health	The condition of an environment and its ability to function properly.
Ecological processes	Interactions within an environment which are integral to its sustained health. An example is hydrological processes.
Ecological Vegetation Class (EVC)	EVC is a system of classifying vegetation and is used to describe and map local patterns of vegetation diversity. An EVC represents one or more floristic (plant) communities that occur in a similar environmental niche determined by factors such as geology, soil type, aspect, rainfall and other features.
Ecosystem	A system of living organisms such as plants, animals and bacteria that interact with each other and with the non-living components of their environment such as air, water and soils.
Ecosystem resilience	The ability of an ecosystem to recover from, and maintain its function after, disturbance events such as fire or long-term pressures such as temperature increases.
Ecosystem services	The benefits people obtain from ecosystems. These are earth's life support systems and include services such as climate regulation and soil formation.
Edge effect	The impacts associated with the boundary of one environment abutting another. An example would be the edge of a conservation reserve bordered by urban development.
Energy resilience	The ability to cope with, and be prepared for changes, disruptions and possible shortages of grid-produced electricity and gas during peak demand times especially on days of extreme weather.
Environmental and cost benefit analysis criteria	The analysis criteria is a systematic approach that considers environmental, social and financial criteria in decision-making processes within Council including capital works, council reports, procurement and asset management. The justification and feasibility of some environmental and social criteria will allow payback periods to be considered as part of the analysis. For example a solar system will have a greater upfront financial cost but feasibility modelling will show that the solar system will pay itself off over a certain period of time and this benefit needs to be considered in the decision-making process.
Environmentally Sustainable Development (ESD)	Planning and design ideas for the building environment that supports environmental protection, reduced use of natural resources and results in enhanced indoor thermal comfort.

Term	Definition
Environmentally Sustainable Development (ESD) Policy (Submitted in 2015 to Minister for Planning for approval C113)	<p>This policy aims to integrate environmental sustainability into land use planning, new developments and redevelopment of existing infrastructure. This policy provides a framework for early consideration of environmental sustainability at the building design stage in order to achieve the following efficiencies and benefits:</p> <ul style="list-style-type: none"> » Easier compliance with building requirements through passive design » Reduction of costs over the life of the building cycle of building costs » Improved housing affordability and running costs » Improved amenity and liveability » More environmentally sustainable urban form » Integrated water management
Environmental sustainability	The ability and capacity of an environment to allow all living things to live well, maintain diversity and prosper now and into the future.
Ethical purchasing	Purchasing ethical and fair trade goods to support equitable local, national and international trade. Ensuring council supply chains adhere to local, national and international labour standards.
Fauna	Animals of a particular region or habitat.
Feral animal	An introduced animal not native to Australia, including domesticated animals that have evolved to live independent from humans. This altered distribution often threatens species naturally found in that region. Monash examples include fox, cat, rabbit, bee, Indian Mynah bird, Blackbird and European wasp.
Flora	Plants of a particular region or habitat.
Garden City Character	Monash has a 'garden city' character characterised by leafy, low-rise suburbs with well vegetated private gardens and wide streets with street trees. The Garden City Character is characterised by significant plantings of trees with spreading crowns which provide a soft, green, leafy atmosphere that is visually appealing. This characteristic is highly valued by the community and visitors to the municipality.
Global hectares (gha)	The number of hectares per person that a) the planet can support (1.8 gha) and b) that humans demand through current lifestyles.
Goal	For each of the priority areas, goals have been set. The goals are long-term aspirational intentions that describe broadly what Council wants to achieve in relation to that theme. These goals are not intended to be measurable: within the priority area there are measures that will be applied to the approaches to monitor progress toward the goal.
Greenhouse Effect	Also referred to as the 'enhanced greenhouse effect', this term refers to the effect on climate systems that is caused by the build-up of certain gases in the atmosphere such as carbon dioxide, methane and nitrous oxide. Human activity has resulted in much higher levels of these gases than would have naturally occurred. Once in the atmosphere, these gases reduce the loss of heat from Earth to space, acting in a similar way to a greenhouse for growing plants. The impact of this is that the planet's climate systems are changing at a faster rate than would otherwise occur.
Greenhouse gas emissions	Emissions from gases which are causing an enhanced greenhouse effect, resulting in changes to the planet's climate systems. Common greenhouse gases include carbon dioxide, methane and nitrous oxide.
Green Team	Internal Council staff working to implement internal sustainability initiatives such as education programs and to facilitate changes to operations to increase sustainability within Council.
Habitat connectivity	The interconnectedness of habitat within a landscape. Important for the flora and fauna within a fragmented landscape.
Habitat corridors	Habitat corridors connect isolated areas of habitat within a landscape. A common example is continuous habitat found along waterways.
Habitat hectares	A measure of the quality of a habitat. It is a method that has been developed to allow an assessment of the real health of an ecosystem that goes beyond simply measuring the physical area of habitat. Habitat hectare assessments rely on comparison of remnant native vegetation to a benchmark for the same vegetation type in a mature and long-undisturbed state.

Term	Definition
Indigenous	This refers to endemic native species whose normal distribution includes the Monash area. It does not include native (Australian) species that have not traditionally been found in the Monash area.
Industrial planning zone	To provide for manufacturing industry, the storage and distribution of goods and associated uses in a manner which does not affect the safety and amenity of local communities.
Integrated and active transport principles	Planning of transport is integrated across many levels of planning, interests and modes. Active transport requires integration into an urban structure that makes walking and cycling trips convenient, pleasant and safe. Integrated transport planning promotes public and active transport options and reduces vehicle use, congestion and the resulting environmental consequences of pollution, greenhouse gas emissions and resource consumption. Concerns of liveability and public health are also strong motivators.
Integrated Water Management	An approach that brings together all aspects of the water cycle including water supply, sewage management, water treatment and stormwater management to maximise social, environmental and economic outcomes.
Integrated Water Management Plan (IWMP)	Council document which details a vision and goals for integrated water management, reviews existing policy and guidelines and water sensitive urban design achievements, and documents water and pollutant load balance. The document also outlines targets and recommendations to guide future strategic policy development and action.
International treaties	An agreement under international law. For example the Japan – Australia migratory bird agreement (JAMBA) or the China – Australia migratory bird agreement (CAMBA).
Invasive species	Plant or animal species which occur outside their natural distribution. This altered distribution often threatens species naturally found in that region. Commonly invasive species are from overseas but can also be species from other regions of Australia.
Kerbside bin inspection and monitoring program	This program visually inspects the bins of residential households and the results are reviewed in relation to contamination within the recycling bin (non-recycling items incorrectly placed in the recycle bin) and the volume of recyclable items within the waste/landfill bin that could be diverted from landfill to recycling
Kerbside food waste collection	The collection of food waste from residential households (and potentially businesses) via a bin system that involves the bin to be brought to the kerbside, collected by a waste collection service. The food waste is treated and reused, usually as compost or soil enhancer. The kerbside food waste collection process diverts food or organic waste from landfill, thus reducing waste to landfill and most importantly reducing the release and management of greenhouse gases that occur when the food waste decomposes.
Landscape planning	An approach to catchment-scale planning to provide environmental protection and increase the ecological value within urban environments. Landscape planning assists with reconciling competing land uses while protecting natural processes and significant cultural and natural resources.
Life Cycle Analysis (LCA)	Assessment of the environmental impact of a product throughout its life. This includes from extraction of materials through to the disposal of the product.
Litter	Litter is any item discarded inappropriately which ends up in a public place. It is both harmful to people and the environment, and can end up in stormwater and the ocean.
Litter Prevention Strategy 2009 – 2013	A document with management actions and objectives to reduce and manage litter within the City of Monash.
Local Planning Policy	Is a policy of the planning scheme and is one of the tools available for implementing objectives and strategies in the MSS. A local policy is a policy statement of intent or expectation. It states what the responsible authority will do in specified circumstances, or the responsible authority's expectation of what should happen. It gives a responsible authority an opportunity to state its view of a planning issue and its intentions for an area.
Liveability	Is the sum of the factors that add up to a community's quality of life—including the built and natural environments, economic prosperity, social stability and equity, educational opportunity, and cultural, entertainment and recreation possibilities.
Low carbon economy	An economy based on low carbon power sources.

Term	Definition
Methane gas emissions	Methane is classed as a greenhouse gas, its emissions contributing to an enhanced greenhouse effect. An example of the creation of methane is during the breakdown of waste in landfill.
Men's Shed	Community group which provides a communal space for men to demonstrate their skills, contribute to their communities, develop social connections and access information on health and other community programs.
Mitigation	Used in relation to climate change, this refers to action that is taken to reduce or mitigate the effects of human activity on climate systems and the greenhouse effect. Actions such as reducing the use of cars and electricity produced using coal will result in less CO2 being produced, hence reducing or mitigating impacts on climate change.
Multi-unit dwellings (MUDs)	Housing such as apartments and units which have more than one residence on a block of land.
Municipal Strategic Statement (MSS)	Is a concise statement of the key strategic planning, land use and development objectives for the municipality with related strategies and actions. The MSS: <ul style="list-style-type: none"> » provides a link to the council corporate plan and the planning framework » provides the strategic basis for the local content of the planning scheme, such as local policies and the choice of zones and overlays » provides the strategic basis for decision-making by the responsible authority. The MSS is dynamic and is reviewed periodically to ensure that it responds to the changing needs of the community. The MSS is built upon as responsible authorities develop and refine their strategic directions in response to the changing needs of the community.
Native	This is used to broadly refer to species that are endemic to Australia, and may include indigenous species. Where a statement is intended to refer to species that are traditionally found in Monash, the term indigenous is used.
Natural assets	Assets of the natural environment including biological assets (produced or wild), land and water areas with their ecosystems, soil and subsoil assets and air.
Natural resources	Materials or substances occurring in the natural environment which can be used by humans for a benefit. An example is water.
Nature Strip Planting Guidelines	Council document outlining requirements for planting and maintain indigenous vegetation on nature strips.
Neighbourhood Houses	Are at the heart of local communities, providing a diverse range of services that are driven by the needs of local people. They provide a universal service that supports people at all stages of life to build their skills, find pathways to education and employment and be included in the local community. Neighbourhood houses are well placed to strengthen community development and participation, giving people a role in governance and a voice in shaping the services that their community needs.
Neighbourhood Matching Grants Program	Support community driven projects that are planned, delivered and managed by and for the neighbourhood community. The Neighbourhood Grants are for small groups of neighbours who live in the City of Monash and come together with a good idea on how they can improve their neighbourhood.
Objectives	Specific, measureable outcomes to be achieved within a specified timeframe.
Open space	Parks, green spaces and other open areas. The areas are open to the public and range from playing fields, manicured gardens to wetlands, waterways and bushland reserves.
Open Space Strategy	Is a study and analysis of the open space throughout an area. The strategy produces recommendations for the implementation of actions that meet the principles and vision that have been identified.
Payback period	The length of time required for an investment to recover its initial outlay in terms of profits or savings.
Planning Scheme	A planning scheme contains three main parts: <ul style="list-style-type: none"> Maps – including symbols to identify the zones and overlays, and detailed zone and overlay information shown on separate maps Written text – explaining what the zone and overlays mean and what planning policies and other provisions apply Incorporated documents – documents which are referenced by the scheme, rather than physically included.

Term	Definition
Pollution	Contaminants in the natural environment which have a negative impact. Examples of pollution include water and air pollution.
Potable water	Water that is of drinking quality.
Procurement Policy	Council policy detailing to the procurement of goods and services or undertaking of buildings or construction works by Council.
Responsible Pet Ownership	Care taken by owners of domesticated animals such as dogs and cats to ensure they do not pose a threat to native wildlife.
Recycling	The process of making materials used for one purpose suitable for reuse in another capacity. An example of resource recovery.
Renewable energy sources	Sources of energy which are not finite. Examples include sunlight and wind.
Resilience	Resilience is defined by Council as the capacity to positively respond and adapt to external changes such as climate change.
Resource consumption	The resources used by a person.
Resource recovery	The process of removing materials from a waste stream to utilise for another purpose.
Social purchasing/Social procurement	<p>Using procurement processes and purchasing power to generate positive social outcomes in addition to the delivery of efficient goods, services and works. Social procurement strategies can be employed to deliver:</p> <ul style="list-style-type: none"> » Social policy objectives » Social procurement outcomes as part of the value-for-money in council purchasing frameworks. <p>Examples of social procurement include:</p> <ul style="list-style-type: none"> » Employing local workers and/or providers » Encouraging participation in procurement by diverse providers, including social benefit suppliers » Incorporating social benefit objectives, outcomes and requirements into procurement documentation » Purchasing fair trade products » Supporting ethical supply chains.
Stewardship	The responsible use, management and protection of something considered worth preserving.
Stormwater	Water originating from rainfall which runs off surfaces such as roofs and pavement. Water is captured in constructed drainage systems.
Structure Plans	<p>Structure planning sets out an integrated vision for the desired future development of a place. It establishes a planning and management framework to guide development and land use change in order to achieve stated environmental, social and economic objectives. These objectives are necessary to ensure the change in activity centres anticipated by government policy is managed appropriately. It also:</p> <ul style="list-style-type: none"> » Enables the community and other stakeholders to actively participate in shaping the future form and function of centres, ultimately helping to secure their confidence in the centre's development » Links broad strategic objectives outlined in government policy and the application of suitable mechanisms to facilitate appropriate development.
Sustainability	Sustainability is planning and providing for the needs of individuals and communities now and for future generations, creating resilient and prosperous communities and protecting the environment and ecosystem services (World Commission on Environment and Development, Our Common Future Oxford: Oxford University Press, 1987).
Sustainability indicators	Methods of measurement relating to environmental and sustainability assessments. One example being Council's operational emissions.
Sustainable development	Balancing the needs of human development with the requirements to maintain healthy and sustainable natural systems.
Sustainable procurement/Sustainable purchasing	The purchasing of products and services that are less damaging to the environment than comparable products that provide the same level of quality and functionality.

Term	Definition
Target	An aspirational and measurable outcome that will lead to a reduction in Council's sustainability impact or an environmental and ecological improvement.
Tenders	Written proposals submitted in response to a public invitation for the supply of goods, services or works.
Tree Canopy Cover	The proportion of land area covered by tree canopy when viewed from the air.
Trigeneration	Extension of cogeneration process (generates electricity and heat) which additionally generates cooling.
Urbanisation	The increase in development of features such as buildings and roads associated with urban environments.
Urban Design principles	Overarching guidelines that articulate how urban design planning and government involvement can help cities work better. Examples of documents showcasing urban design principles include Creating Places for People: An Urban Design Protocol for Australia Cities and Our Cities, Our Future: a national urban policy for a productive, sustainable and liveable future.
Urban environments	Environments with human-built elements such as buildings and roads, also characterised by a high density of people.
Urban Ecology	Is the scientific study of the relation of living organisms with each other and their surroundings in the context of an urban environment.
Urban Forest Strategy	The trees within an urban context provide a multitude of benefits for ecosystems, the economy, and community health and wellbeing. A strategy acknowledges and builds upon urban forest benefits to ensure the best future for our city. One of the important functions of the urban forest is to provide shade and cooling. Increased canopy coverage throughout Monash will minimise the urban heat island effect and improve thermal comfort at street level for pedestrians.
Urban Heat Island Effect	Increase in temperatures in urban areas associated with the removal of native vegetation and introduction of heat-absorbing surfaces such as concrete.
Waste	Waste is defined as any product or substance that has no further use or value for the person or organisation that owns it, and which is, or will be discarded.
Waste hierarchy	A set of priorities with the objective of achieving optimal environmental outcomes in waste management. Most preferable is to avoid, least preferable is to dispose.
Water conservation	Managing water as a natural resource to ensure adequate supplies for both human needs and the natural environment.
Water consumption	The amount of water used.
Water reduction	A decrease in the amount of water used.
Water reuse	The use of reclaimed water for a direct beneficial purpose, for example irrigation and watering of street trees.
Water security	Reliable access to adequate supplies of quality water, both for human livelihoods as well as ecosystem health.
Water sensitive landscapes	Urban design that ensures the urban water management is sensitive to natural hydrological and ecological cycles. It integrates urban planning with the management, protection and conservation of the urban water cycle.
Water Sensitive Urban Design (WSUD)	Integration of water cycle management into urban planning and design with the aim to protect and improve waterway health.
Water sustainability	Ensuring that there are adequate supplies of fresh clean water for present and future generations and for the environment.
Waterwatch	Community engagement program connecting local communities with river health and sustainable water issues and management.
Waterway	A river, creek, stream or watercourse; or a natural channel in which water regularly flows, whether or not the flow is continuous.
Waterway health	The quality of waterways and wetlands to provide water for purposes including wildlife habitat. Threats to waterway health include changes to natural flows, pollution and climate change.
Wetland	Areas of land which are covered with water either all year or at certain times during the year. Important natural or constructed environment with benefits such as reducing the impacts of floods and absorbing pollutants.

Abbreviations

Abbreviation	Definition
BAP	Biodiversity Action Plan
BOM	Bureau of Meteorology
CSIRO	Commonwealth Scientific and Industrial Research Organisation
EAC	Environmental Advisory Committee
EAGA	Eastern Alliance for Greenhouse Action
ESD	Environmentally Sustainable Development
EVC	Ecological Vegetation Class
GHG	Greenhouse gases
IPCC	Intergovernmental Panel on Climate Change
IWMP	Integrated Water Management Plan
LCA	Life Cycle Analysis
MSS	Municipal Strategic Statement
MUD	Multi-Unit Dwelling
Road Map	Environmental Sustainability Road Map
SAG	Sustainability Advisory Group
T (tonnes)	A measure of weight commonly used for waste and gases – equivalent to 1000 kilograms [1 kilogram = 1000 grams]
WSUD	Water Sensitive Urban Design



Valley Reserve playground

References

Footnote	Page	Reference
1	4	EAC Working Group members (in alphabetical order): Caroline Bayliss, Catherine Dennis, Howard Rose, Libby Anthony, Maxwell Campbell and Melanie Bok.
2	7	Variety of sources include other local government sustainability strategies, Local Agenda 21, the National Strategy for Ecological Sustainable Development.
3	8	Resilience is defined by Council as the capacity to positively respond and adapt to external changes such as climate change. Resilience can be increased by staff and community understanding and through planning. Resilience is related to social, economic and education factors and community experience in dealing with change.
4	8	World Commission on Environment and Development 1987, <i>Our Common Future</i> , Oxford University Press, Oxford.
5	14	City of Monash, <i>Council Plan 2013 – 2017</i> .
6	14	The forecast residential population (207,727 by 2036). Forecast.id on behalf of Monash City Council.
7	15	City of Monash, <i>Monash 2021: A Thriving Community</i> .
8	16	Sudmeier-Rieux, K & Ash N 2009, <i>Environmental Guidance Note for Disaster Risk Reduction: Healthy Ecosystems for Human Security</i> , IUCN, Gland, Switzerland, viewed 1 March 2016, http://www.wetlands.org/Portals/0/Capacity%20building/PfR/Environmental%20Guidance%20Note%20for%20Disaster%20Risk%20Reduction%20IUCN.pdf
9	17	Cubasch, U, Wuebbles, D, Chen, D, Facchini, MC, Frame, D, Mahowald, N & Winther, JG 2013, <i>Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report Executive Summary</i> , Cambridge University Press, Cambridge, viewed 1 March 2016, http://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_Chapter01_FINAL.pdf
10	17	Commonwealth Scientific and Industrial Research Organisation (CSIRO) and Bureau of Meteorology (BOM) 2014, <i>State of the Climate 2014</i> , viewed 1 March 2016, http://www.bom.gov.au/state-of-the-climate
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12	18	United States Census Bureau, <i>World Population Clock</i> , viewed 14 August 2015, http://www.census.gov/popclock
13	18	Australian Bureau of Statistics (ABS), <i>Population Clock</i> , viewed 1 March 2016, http://www.abs.gov.au/ausstats/abs%40.nsf/94713ad445ff1425ca25682000192af2/1647509ef7e25faaca2568a900154b63?OpenDocument
14	18	United Nations Educational, Scientific and Cultural Organisation (UNESCO) 1975, <i>The Belgrade Charter: A Global Framework for Environmental Education</i> , viewed 1 March 2016, http://portal.unesco.org/education/en/files/33037/10935069533/The_Belgrade_Charter.pdf/The+Belgrade+Charter.pdf
15	19	State Government Victoria 2013, <i>Getting Full Value: The Victorian Waste and Resource Recovery Policy</i> , viewed 14 August 2015, http://www.depi.vic.gov.au/environment-and-wildlife/sustainability/waste-management-and-resource-recovery
16	22	City of Monash 2015, <i>Monash Planning Scheme; Clause 21.03-05</i> .
17	23	Eastern Alliance for Greenhouse Action (EAGA), <i>Climate Change Adaptation Roadmap For Melbourne's East</i> , viewed 15 August 2015, https://eaga.com.au/wp-content/uploads/FINAL-ROADMAP-web1.pdf
18	25	City of Monash 2014, <i>Integrated Water Management Plan</i> .
19	27	An example of an educational booklet is the Gardens for Wildlife booklet.



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