

# Sustainable Environment Strategy

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October 2022



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## Acknowledgement of Country

Ngalak Maali Boodja Kaditj

Wadjuk Moort Noongar Boodjara

Baalap Kalyagool Noyyang

Boodja Kep Moort

Ngalak Kwabaduk Wirn

Kabarli Bworan Kora Kora

Yeyi Ngoongoolong

The City of Swan acknowledges the traditional custodians of this region, the Whadjuk people of the Noongar Nation and their continuing connection to the land, waters and community. We pay our respects to Elders past and present, and their descendants.



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## Summary

The City of Swan has been active in the field of environmental management for many years. Our staff continue to work diligently on projects that reduce our impact on the environment and which conserve the beautiful natural assets that are present within our boundary.

To coordinate our approach to environmental management, the City has developed our Sustainable Environment Strategy. This framework details the scope of our environmental approach and the various detailed plans that comprise this Strategy. To implement these plans, the City will coordinate a wide range of environmental activities within the City to achieve our environmental objectives. These objectives are derived from the environmental objectives and high-level strategies of the City's Strategic Community Plan.

The Sustainable Environment Strategy details the various plans that the City has prepared to inform the actions the city takes to improve our environmental performance under six key Focus Areas. It also details the measures, targets (where applicable) and reporting methods that will be used to keep our community informed of our progress.

Focus Area	Measure	Target
Water Efficiency	Potable water usage • Non-potable usage against allocation	No agreed target
Water Quality	Various as detailed below	No agreed target
Carbon Reduction	tCO2e emitted	Net zero emission by 2050
Biodiversity Retention	Tree canopy coverage (measured 5 yearly)	1% growth from baseline per annum in urban street trees planted
	Hours spent in environmental land management – City staff, contractors and volunteers	No agreed target
Waste Minimisation	% Recycling vs landfill waste	No agreed target
Adaptation	Not applicable	Not applicable

This Strategy provides a clear, concise and integrated ‘blueprint’ for the City and our communities that will inform, guide and inspire all parties towards improved environmental performance.

## **Purpose of this Strategy**

The City of Swan is a complex organisation providing services across a large and diverse geographic area. In the course of this service delivery, the City has many impacts on our environment and these impacts present many opportunities for improvement in the future. These opportunities are complex and their interrelated nature can be difficult to understand. For this reason, the purpose of this strategy is to provide the context, framework and targets (where appropriate) for the City’s Sustainable Environment Strategy. It provides the overarching framework for the various operational action plans that comprise the City’s approach to environmental improvement within this organisation and within the community.

## **Sustainable Development Goals**

The City of Swan has endeavoured to link our Strategic Community Plan 2021 - 2031 (SCP) to the United Nations Sustainable Development Goals (SDG’s). This document contains statements (Page 17) of the City’s role in pursuing each SDG through the SCP. When read together, these statements provide definition to the City’s approach to sustainable development and this definition is therefore applicable within this Sustainable Environment Strategy.



# Mayor's Message

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The City of Swan is a large outer metropolitan council in the eastern region of the Perth metropolitan area. More than 162,000 people currently reside within our boundary and future projections suggest that the City will continue to grow in coming years. This growth will bring the City many opportunities and challenges and careful planning is required to ensure that we manage our challenges and gain full benefit from our opportunities.

Our environment is one example where population growth and a changing climate will present growing challenges in coming years and a cohesive organisational approach is required to manage this impact.

As a growth council, our environmental objectives must be tempered by projected population growth. However as the reality of climate change gains further clarity and momentum, it is also evident that all citizens must strive towards more ambitious emission targets. It is for this reason that the council of the City of Swan has declared a target to reach **net zero corporate emissions by 2050**.

This will be a difficult undertaking for a council of our geographic size but I am confident in our ability to meet this challenge in coming years. To achieve this target, the City must work with our community and partners to become more efficient in our use of resources and to minimise the impact that we make on the environment that supports us. While the City acknowledges that we cannot single-handedly fix the global issues that have impacted our environment, we are committed to reducing our local impacts and to assisting our communities to understand the changes that they can make as well.

Within our boundary, we also have many natural assets that are worthy of management and protection. The Swan River provides one example and is a central part of the Swan community holding immense cultural significance to our residents. Another example is the "Forest" that remains in both our urban and rural areas. These natural features provide a variety of ecosystem services such natural drainage, air-conditioning, shade, transportation and numerous recreational opportunities and must be maintained and improved if we wish to continue receiving their benefit. However these natural features also provide an expression of ecosystem stress with vegetation loss, declining water quality, erosion and biodiversity loss. In other parts of the City, diminishing groundwater supply provides a visible expression of ecosystem stress.



Improvement in our environmental performance represents a journey for the City of Swan and this Sustainable Environment Strategy is our 'roadmap'. It contains the directions we will pursue to reach our targets and provides the scope for the operational plans that flow from this strategy in each of the focus areas. Using the KPIs and targets contained in this strategy, we will track and report our progress and review our direction.

For this reason, this strategy sets realistic targets that represent a balance between projected growth and our environmental performance ambitions. It is also important that we focus on current and future community need and this strategy provides an important framework to enable this to occur. It responds to current community needs and ensures progress is made towards resilient and sustainable communities for the future. I look forward to sharing our progress achieving the targets set out in this strategy with you regularly.

A handwritten signature in black ink, appearing to read 'David Lucas', with a stylized flourish at the end.

DAVID LUCAS  
Mayor

# 1.0 Introduction

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Situated in the north eastern region of Perth and covering 1,042 square kilometres, the City of Swan is the largest local government authority in the metropolitan area.

The City is comprised of a diversity of landforms including large areas of rural, recreational and park lands along with a unique blend of land-uses transected by the beautiful Swan River and its tributaries.

With a population of approximately 162,000 (2021) residents living in dispersed and diverse communities and expected to grow to approximately 224,000 by 2036, the City faces unique challenges in managing the impacts of growth on our environment. Our communities include some of the fastest growing suburbs in Western Australia, major commercial and industrial areas, historically important town sites and rural areas, major waterways, catchments and lakes, and several national parks and reserves. Each of these communities is different and is experiencing a unique set of environmental impacts. Some of these impacts arise directly from human settlement while others arise indirectly from activities that happen elsewhere. Reducing these impacts while servicing the needs of our communities in an environmentally conscious way presents an ongoing challenge and requires the City to constantly adapt and consider different approaches.

From a historical and heritage perspective, Nyungar connection to their country (Boodja) including the Swan River, its tributaries and underground water holds great significance to the Nyungar People as being created by the Waugal rainbow serpent and being the expression of its life energy. Aboriginal custodians teach us that the Waugal created creeks and waterholes and the valleys which hold them as it made its journey from the land to the ocean. The importance of retaining biodiversity and the health of plants, animals and the land is directly linked to Aboriginal cultural and spiritual identity.

On a national and global scale, issues such as climate change, water scarcity, renewable energy, waste reduction and biodiversity loss continue to call for attention and response. The City recognises that failure to address these environmental challenges can only result in declining liveability, biodiversity loss, growing inequality and ultimately extinction. Considering and implementing local solutions are critical to meet these global challenges.

To meet these challenges, the City acknowledges that it cannot single-handedly fix the global issues that are impacting our environment. The City is however, committed to work within our framework to continue to adapt, support and empower communities to be aware of the small changes they can make that contribute to global solutions.

Within any local authority, this is a complex journey to achieve a suitable balance between human settlement and environmental protection. Achieving this balance is the essence of the sustainability agenda, the objective of the City's Sustainable Environment Strategy and the key to our sustainable future. The City of Swan is committed to achieving this balance within our operations.



## 2.0 Sustainable Development Goals

### SUSTAINABLE DEVELOPMENT GOALS

In order to demonstrate that the work done within the Swan community contributes to the achievement of global imperatives, the City has made the decision to demonstrate the alignment of our Strategic Community Plan to the United Nations Sustainable Development Goals (SDG's)<sup>1</sup>.

This decision represents a clear indication of the City's intent to demonstrate that our activity will contribute to the achievement of both local and global objectives.

To meet these challenges, the City acknowledges that it cannot single-handedly fix the global issues that are impacting our environment. For this reason, the City resolved on the 28 August 2019 that "the City of Swan lobby State and Federal Government to recognise that a climate change emergency exists and action is required by all levels of government". In addition to this, the City remains committed to working within our framework to continue to adapt, support and empower communities to be aware of the changes they can make that contribute to global solutions.

For the purpose of this Sustainable Environment Strategy, the most relevant Sustainable Development Goals to be pursued through this framework, are:

- Clean water and sanitation
- Affordable and clean energy
- Sustainable cities and communities
- Responsible consumption and production
- Climate action
- Life below water
- Life on the land



<sup>1</sup>United Nations. (2020, September 1). Retrieved from Sustainable Development Goals: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

## 3.0 Our Integrated Planning Framework

The City has developed and adopted a Strategic Community Plan and a Corporate Business Plan. Figure1 shows how this is applied at the City, and how these core plans both inform and are informed by other aspects of our planning and reporting.

The Sustainable Environment Strategy reflects both the outcomes and objectives from the Strategic Community Plan and Corporate Business Plan, and will serve to inform upwards into these documents when reviewed.

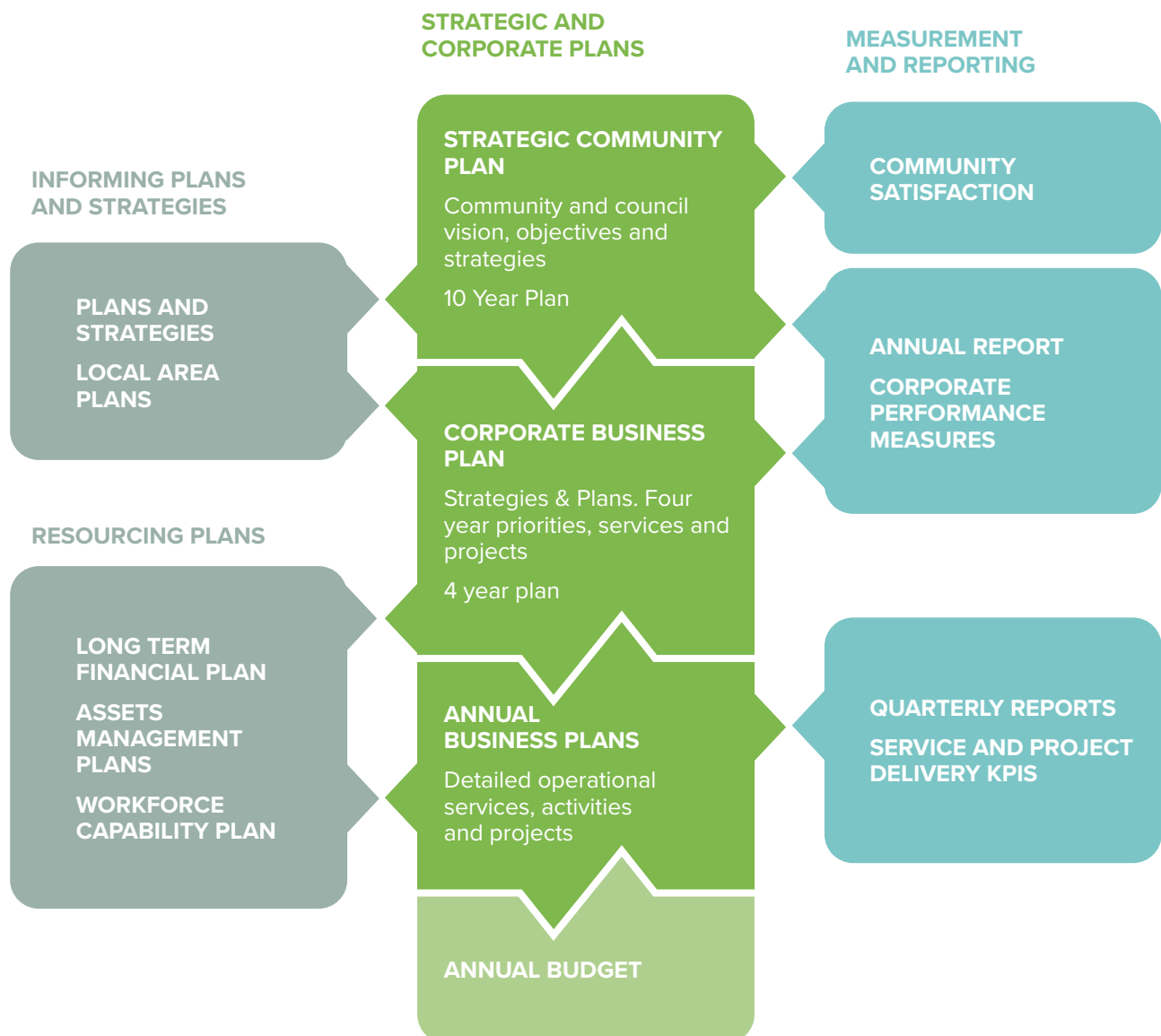


Figure1. Integrated Planning and Reporting Framework





## 3.1 City of Swan Strategic Community Plan

The Strategic Community Plan (SCP) outlines the vision for the City and identifies community priority areas for the next 10 years. It is broken into five key result areas - Economic, Natural Environment, Built Environment, Social and Governance which details a number of outcomes and objectives. The Natural Environment key result area vision is detailed below and outcomes and objectives are show in Table 1 below.

### Natural Environment

#### **Vision:**

A sustainable, thriving City of diverse people and places enjoying a great quality of life, health and wellbeing

#### **Emergent Themes:**

Caring for our environment

The City is committed to caring for and protecting the environment and our history and heritage. The community is proud of the City's beautiful natural environment, bushland, open spaces, the Swan Valley and Swan River with its natural and diverse beauty.

**Table 1. SCP outcomes and objectives**

Outcome	Objective
<b>N1</b> Outcome - Sustainable natural environment	<b>N1.1</b> Protect our green environment
	<b>N1.2</b> Enhance, preserve and protect local ecology and biodiversity of natural ecosystems
	<b>N1.3</b> Reduce adverse impacts on biodiversity
<b>N2</b> Outcome - Sustainable natural resources	<b>N2.1</b> Protect our natural resources for future generations
	<b>N2.2</b> Minimise waste to landfill





## 4.0 Scope of the Sustainable Environment Strategy

As part of the City's Integrated Planning Framework and to guide the City's environment approach, this Sustainable Environment Strategy has been prepared to highlight the City's strategic directions and explain the hierarchy of plans (with associated actions) across the six focus areas (Figure 2).

These plans contain the actions the City will undertake over the period of the plan. Each plan has a suitable review period and over time the plans and related actions will change and adapt to the current and emerging environmental setting and/or to reflect the changes in our goals. This may result in the development of other subsidiary environmental plans over time. These plans are subject to individual review and reporting processes (Refer to Part 5). These processes are designed to enable the City to adapt more quickly as we experience ongoing changes in available information and best practice in environmental management.



Figure2. Sustainable Environment Strategy Hierarchy





## **4.2 Environmental Steering Committee**

The City's Environmental Steering Committee (ESC) an internal operational group of business units that integrate environmental management into the core business of the City and serves as the direct reporting link to Executive Management and Council. The broad purpose of the team is to manage and improve the implementation of the plans contained within this framework.

This internal committee comprises officers with responsibility for implementing the key components of the City's Sustainable Environment Strategy and is chaired by the Executive Manager Operations. The Environmental Steering Committee has primary responsibility for coordinated implementation of the Sustainable Environment Strategy across the City.

## **4.1 Responsible Business Units**

The Strategic Planning business unit has overall responsibility for the development and coordination of the City's Sustainable Environment Strategy and associated projects and some stakeholder relationships.

The implementation of the City's 'on ground' environmental management and education functions are dispersed to a number of business units within the city.

This situation is consistent with the City's position that integrated environmental management is a shared responsibility.





## 4.3 Our Partners

Partnerships with external stakeholders are critical for success in the area of environmental management. Involvement in collaborative projects facilitates knowledge sharing, clarity of understanding, motivation and a potential for cost and resource sharing. Our current partners and stakeholders are:

- Our resident communities
- Our business communities
- Swan Chamber of Commerce
- Department of Water and Environment Regulation
- Department of Planning Lands and Heritage
- Department of Transport
- Public Transport Authority
- Department of Biodiversity, Conservation and Attractions
- Water Corporation
- Main Roads WA
- Eastern Metropolitan Regional Council (EMRC)
- Perth NRM
- Neighbouring Local Governments
- Integrated Catchment Groups
- Environmental and 'Friends Groups'
- Local Indigenous communities
- City Power Partnership (Climate Council)
- The Western Australian Local Government Association (WALGA)
- Registered environmental volunteers and general community members

The above list represents a 'snapshot' of current stakeholders. The list is dynamic and future changes in the City's needs and priorities may result in changes.





## 5.0 Focus Areas

The Sustainable Environment Strategy is divided into six focus areas.

These divisions provide a method to effectively classify the volume and variety of environmental work being currently undertaken or proposed in the City. When reading these focus areas, it is important to note that no focus area is intended to be seen as discrete, mutually exclusive or of higher comparative importance within the City's environmental approach, as environmental management requires a comprehensive and integrated approach across all focus areas listed below:

1. Water Efficiency
2. Water Quality
3. Carbon Reduction
4. Biodiversity Retention
5. Waste Minimisation
6. Adaptation

## 5.1 Focus Area 1 – Water Efficiency

### 5.1.1 Background

In terms of water availability, the City operates within a constrained environment and indications are that this constraint will increase over time. Our public open space provision is dependent on licensed groundwater abstraction and there are many indications that suggest a higher level of management is to be expected to regain water balance in these groundwater systems. Given current growth in the metropolitan area, increasing demand for potable water is also being experienced within the integrated water supply. Declining rainfall due to climate change in the future is expected to bring additional pressure to this integrated water system providing a rationale to improve the efficiency of our water use.

In this situation, the City has two options. The City can continue to provide irrigated space utilising a reducing 'consumptive water pool'. However as a council, the scope of what we are able to deliver to our community from our groundwater allocation must inevitably decline.

The alternative is to strive for a higher standard of water efficiency within our facilities and within our communities. There is a large scope for innovation and improvement in this area and we have an opportunity to show leadership by undertaking improvement ourselves and by supporting improvement within our community.

As a major irrigator with licensed allocations of over three gigalitres per annum and more than 300 active meters and bores, water plays an intrinsic role in service delivery to the City community. It plays a major part in the aesthetic quality of our public areas and allows us to provide high quality active playing fields, local parks, streetscaping and aquatic facilities. However it is also true that the system from which we draw this asset is under pressure and that the City will face increasing constraints.

This requires the City to rationalise our water use and investigate innovative approaches to providing water to uses of high importance to our community. As a major irrigator, the City has a leadership responsibility to demonstrate best practice to our community in this focus area.

#### 5.1.1.1 Global Context

Globally, the imperative to improve water efficiency is recognised in the following Sustainable Development Goals.



#### 5.1.1.2 Legislative and Policy Context

- National Water Initiative
- Rights in Water Act 1914
- Land Use Compatibility in Public Drinking Water Source Areas [Policy]
- State Planning Policy 2.9 - Water Resources (Draft)
- State Planning Policy 2.7 - Public drinking water source.
- Gngara Sustainability Strategy (2007)
- Liveable Neighbourhoods
- Better Urban Water Management



## 5.1.2 Strategic Directions

The Water Efficiency Strategic Directions identified provide the high level directions that the City's policies, plans, associated actions and business functions are seeking to achieve. These Strategic Directions align with the outcomes and objectives identified in the City's Strategic Community Plan.

The Strategic Directions will be reported on annually through the City's corporate reporting program.

### 5.1.2.1 Informing Plans

SCP Outcome	SCP Objective	Water Efficiency Strategic Directions
<b>N1</b> Outcome - Sustainable natural resources	<b>N1.1</b> Protect our natural resources for future generations	Promote the sustainable management and protection of water resources through the application of efficient water management practice and controls.  Promote planning measures that encourage climate change adaptation and mitigation to ensure our communities are both resilient and liveable.

To meet the City's objectives in regards to Water Efficiency, the City will maintain a water efficiency approach which addresses the following:

- Investigate and implement opportunities for irrigation efficiency on City irrigated land.
- Work with developers to ensure all new City irrigated assets are efficient.
- Investigate and implement opportunities for potable water efficiency in City buildings.
- Encourage our community to implement water efficiency.
- Investigate opportunities with partners to divert suitable water to aquifer recharge.

Plan	Expected review timetable	Review Cycle
Waterwise Council Action Plan (Operational)	2027	Annually
City Landscaping Guidelines (Operational)	As required	As required

It is noted that there are various other policies, plans and business functions that contribute to the achievement of the Water Efficiency Strategic Directions.

### 5.1.2.2 Suggested Informing Plan measures

The City also collects various quantitative data which can be used to understand our progress and assist to achieve the outcomes and objectives of the Strategic Community Plan. For example, in regards to Water Efficiency we measure:

- Potable water usage (kL per annum)
- Non potable usage against allocation





## 5.2 Focus Area 2 – Water Quality

### 5.2.1 Background

Residents, visitors and the City of Swan through action and inaction affect the quality of surface and ground (sub-surface) water. There are several parameters of water quality: sedimentation, nutrification, bacteriological and algal blooms that affect drinking, recreational and aesthetic aspects of water. Given the City's proximity to the Swan River, its tributaries and the Gnangara Groundwater Mound, our responsibility to contribute to the 'stewardship' of these water systems is obvious. However, the management of water quality is complex and many agencies and stakeholders have an effect.

This is why this Strategy seeks to define a specific role for the City in water quality management and to clearly identify the partners who support and guide this role.

As a major land and infrastructure manager, the City has a large scope of influence in water quality management. Many of our activities (and those of our community) have immediate and ongoing impacts on water quality within City boundaries. Activities that affect our communities range from pollution and storm water along our roads and excessive residential fertilizer use.

The City is aware of its corporate and operational impacts on water quality such as drainage design and construction, approvals for subdivisions in high watertable areas, as well as park irrigation and fertilizer use. The City has actively planned to design out and reduce its impacts, retrofit its assets, and monitored its lakes to improve water quality.

For this purpose, the key policy considerations are to:

- Improve the quality of water discharge to drains, basins and waterways.
- Improve the quality of water for aquifer recharge.

#### 5.2.1.1 Global Context

In Western Australia, water quality is primarily a regional and local issue with both our surface and groundwater catchments existing wholly within our state boundary. As a result there is minimal global guidance in this policy area.

However globally, the imperative to improve Water Quality is recognised in the following Sustainable Development Goals.







### 5.2.1.2 Legislative and Policy Context

- The following legislation and policy is relevant to water quality protection in the City:
- Environment Protection and Biodiversity Conservation Act 1999
- Metropolitan Water Supply Sewerage and Drainage Act 1909
- Environmental Protection Act 1986
- Australian and New Zealand Environment and Conservation Council (ANZECC) & Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ), Water Quality Guidelines (2000)
- Australian and New Zealand Water Quality Management Framework (2018)
- Guideline for the Determination of Wetland Buffer Requirements (for public comment) 2005
- Environmental Protection (Unauthorised Discharges) Regulations 2004
- Land Use Compatibility in Public Drinking Water Source Areas [Policy]
- State Planning Policy 2.7 - Public drinking water source
- State Planning Policy 2.9 - Water Resources (Draft)
- State wide Policy No. 5: Environmental Water Provisions Policy (2000)
- Liveable Neighbourhoods
- Better Urban Water Management framework
- Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulations 1974
- Aboriginal Heritage Act 1972
- Aboriginal Heritage Act 2020/21 (currently in draft)
- State Planning Policy 2.2 - Gnamangara groundwater protection
- Various Water Quality Protection Notes and Guidelines (DEWR)

## 5.2.2 Strategic Directions

The Water Quality Strategic Directions identified provide the high level directions that the City's policies, plans, associated actions and business functions are seeking to achieve. These Strategic Directions align with the outcomes and objectives identified in the City's Strategic Community Plan. The Strategic Directions will be reported on annually through the City's corporate reporting program.

SCP Outcome	SCP Objective	Water Quality Strategic Directions
<b>N2</b> Outcome - Sustainable natural environment	<b>N2.3</b> Reduce adverse impacts on biodiversity	<b>1.</b> Advocate for and protect waterways and groundwater systems through appropriate land management practices

To meet the City's objectives in regards to Water Quality, the City will maintain its Waterwise Council Action Plan which addresses the following:

- Continue program of foreshore rehabilitation in consultation with partners.
- Investigate and implement natural in-catchment and end-of-pipe treatment of storm water discharge in keeping with Water Sensitive Urban Design principles wherever feasible.
- Effectively manage fertiliser use on City managed land.
- Work with partners to encourage effective fertilizer use and riparian revegetation in the community.
- Implement appropriate design, sediment and waste control measures in the development process.
- Manage non nutrient pollution through effective land use planning and compliance.

### 5.2.2.1 Informing Plans

Plan	Expected review timetable	Review Cycle
Waterwise Council Action Plan (Operational)	2027	Annually

It is noted that there are various other policies, plans and business functions that contribute to the achievement of the Water Quality strategic directions.

### 5.2.2.2 Suggested Informing Plan measures

The City also collects various qualitative data which can be used to understand our progress and assist to achieve the outcomes and objectives of the Strategic Community Plan. For example, in regards to Water Quality we can demonstrate achievement through:

- Project completion reports including photographs
- Water quality data provided by the City
- Water quality data provided to the City
- Participation rates in community workshops
- Length/area of foreshore restoration
- Condition assessments





## 5.3 Focus Area 3 – Carbon Reduction

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### 5.3.1 Background

The issue of human induced global warming has risen in the public agenda in recent years and local governments across Australia have been among the first to move on mitigation actions. In recent times local governments have also led the way in clarifying targets and developing plans to meet those targets. These approaches have been supported by programs such as the City Power Partnership (CPP) and the Global Covenant of Mayors for Climate and Energy.

As a local authority with a large number of community, recreation and operational buildings, there is a substantial opportunity to pursue both energy efficiency and alternative energy production within these buildings as demonstrations to our community. Similarly, our vehicle fleet provides a visual and continual reminder of our corporate environmental ethos.

Energy prices are experiencing a rising trend leading to increasing utility costs being passed on to ratepayers. Which can limit the City's capacity to provide other services and infrastructure. This situation, and the moral obligations associated with addressing global warming, provides a strong rationale for ambitious approaches in this focus area.

Many local authorities with understanding of the gravity of the emission reduction challenge, have seen fit to adopt an emission target to clarify their ambition in this focus area.

To provide the required structure to the City's emission reduction journey, the City of Swan has adopted a carbon target to produce **Net zero emissions by 2050**.

This target will be supported by an Emission Reduction Plan, detailing the activity required to maintain the required emission reduction trajectory and transparent emission reporting procedures within the City of Swan. This Emission Reduction Plan will incorporate a broad range of carbon reduction opportunities to reduce utility costs and greenhouse gas production.

There is also a continuing scope through partnership, to incorporate community education activities into our management approach to this focus area.

### 5.3.1.1 Global Context

Carbon reduction has emerged as the key global environment policy challenge which does not recognize sovereign borders. It is incumbent on the City to make our best effort to reduce our carbon footprint and to lead our community in this direction as well.

Globally, the imperative to pursue carbon reduction is recognised in the following Sustainable Development Goals and International Conventions.

International Conventions:

- Kyoto Protocol (1995)
- Copenhagen Accord (2009)
- Paris Agreement (2016)



### 5.3.1.2 Legislative and Policy Context

- National Greenhouse and Energy Reporting Act 2007
- Clean Energy Future (Clean Energy Bill 2011)
- Renewable Energy (Electricity) Amendment Bill (2009)
- State Sustainability Strategy
- Perth and Peel @ 3.5 million
- Western Australian Climate Policy (2020)

## 5.3.2 Strategic Directions

The carbon reduction strategic directions provides the high level directions that the City's policies, plans, associated actions and business functions are seeking to achieve. These Strategic Directions align with the outcomes and objectives identified in the City's Strategic Community Plan. The Strategic Directions will be reported on annually through the City's corporate reporting program.



SCP Outcome	SCP Objective	Carbon Reduction Strategic Directions
<b>N1 Outcome</b> - Sustainable natural resources	<b>N1.1</b> Protect our natural resources for future generations	<b>1.</b> Lead by example in the efficient use of energy, the use of renewable energy where possible, and the use of alternative modes of transport to the car.

To meet the City's objectives in regards to carbon reduction the City will maintain an approach consisting of annual CPP pledges (informed by the operational Emission Reduction plan) and a Cycle Plan which address the following:

- Target building energy efficiency and effective energy monitoring for construction by the City.
- Investigate opportunity for increased building efficiency in City building renewals.
- Investigate opportunity to promote building energy efficiency for non-residential construction within the City.
- Develop a program to utilise alternative energy generation in the City.
- Investigate opportunity to support an orderly transition to clean energy generation through energy procurement.
- Continue to support alternative transport through the development of cycling and pedestrian networks through the City.
- Continue to develop the City's capacity to monitor and report energy use.
- Improve fleet efficiency through effective management of vehicle efficiency and fleet size.
- Plan and manage an orderly transition to a non-fossil fuelled vehicle fleet.
- Continue to investigate the potential of waste to energy projects.

### 5.3.2.1 Informing Plans

Plan	Expected review timetable	Review Cycle
Cycle Plan (Council endorsed)	2025	5 yearly
CPP Pledges (Council endorsed)	June 2022	Yearly
Emission Reduction Plan (Operational)	June 2022	5 yearly

It is noted that there are various other policies, plans and business functions that contribute to the achievement of the Carbon Reduction Strategic Directions.

### 5.3.2.2 Suggested Informing Plan measures

The City also collects various quantitative data which can be used to understand our progress and assist to achieve the objectives of the Strategic Community Plan. For example, in regards to Carbon Reduction we measure:

- Total Carbon emissions against target (tCO<sub>2</sub>e)
- Distance of Cycle path constructed per annum
- Distance of Footpath constructed/renewed



## **5.4 Focus Area 4 – Biodiversity Retention**

### **5.4.1 Background**

The retention of biodiversity is important to the City of Swan residents and visitors for many reasons. Healthy biodiversity provides many ecological services often taken for granted such as drinkable water, clean air, flood retention, pollination, lower ambient temperatures and fertile soils. Plants purify our water, control water tables, stabilize soils, extract excess nutrients and provide habitats for animals and insects that act as pollinators, seed dispersers and predators/ parasites that control pests. Loss of biodiversity, ecosystems, populations, species, or groups of species even from a local area, can upset normal function and disrupt these services.

As a local authority, the City must protect biodiversity and it is important we view biodiversity loss as not just a risk to the natural aesthetics but as a threat to the intrinsic balance of the ecosystem we live in and enjoy in the City as well as to our own health. Of paramount consideration to the City of Swan is the retention and protection of areas of remnant bushland and old growth local species trees.

There are many aspects of human settlement within the City that impact on biodiversity, such as vegetation clearing during land development and the subdivision process. Issues such as eutrophication, Dieback, weed invasion, feral animals, lack of buffers and inappropriate waste disposal practices affect both terrestrial and aquatic environments. For a local government expecting significant population growth, the objective of biodiversity retention is to minimise the impacts of these issues. In the longer term, a warming climate is also expected to result in further biodiversity loss, requiring appropriate City planning and management.

Through its corporate and operational activities, the City is directly responsible for the monitoring and management of a large area of natural estate. We also need to support landholders to conserve and protect biodiversity assets in private ownership. Information regarding these assets can be found in the City's Local Biodiversity Plan.

The City's actions such as vegetation clearing for road and community facility construction, fertilizer use in parks, as well as less directly through our development planning and approvals affect biodiversity retention and needs to be carefully managed. This Strategy provides direction to enable the City to reduce its biodiversity impacts at both a community and corporate level.



### 5.4.1.1 Global Context

Australia is one of seventeen countries described as being 'megadiverse'. This group of countries has less than 10% of the global surface, but supports more than 70% of the biological diversity on earth.

The City sits within the unique biogeographic region of southwest Australia, which stretches from Shark Bay in the north to Israelite Bay in the south, covering over 300,000 square kilometres and is recognised as an international biodiversity hotspot.

Separated from the rest of the continent by desert, the plants and animals in the hotspot have evolved in isolation for millions of years resulting in an area that is teeming with unique endemic species. These species include the majestic Marri, Karri and Tuart eucalypt trees that can grow from 30 to 70 metres. Within this hotspot and the City is the home of the endangered Western Swamp Turtle and three threatened black cockatoo species.

Land clearing, salinity, feral animals, weeds and the root-rot fungus *Phytophthora cinnamomi* (commonly known as Phytophthora Dieback) threaten the biodiversity values of the hotspot.

Globally, the imperative to preserve biodiversity is recognised in the following Sustainable Development Goals and International Conventions.



International Conventions.

- International Convention on Biological Diversity (1992)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- Convention on the Conservation of Migratory Species of Wild Animals (CMS)
- International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)
- World Heritage Convention (WHC)
- International Plant Protection Convention (IPPC)
- Ramsar Convention on Wetlands (1971)
- ROKAMBA, JAMBA, CAMBA Migratory Bird Agreements
- The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)
- Agreement on the Conservation of Albatrosses and Petrels (ACAP)
- East Asian - Australasian Flyway Partnership
- United Nations Declaration on the Rights of Indigenous Peoples (2008)
- International Society of Ethnobiology code of ethics (2006)



### 5.4.2 Legislative and Policy Context

The following legislation and policy is relevant to biodiversity retention in the City:

#### **Commonwealth**

- Environment Protection and Biodiversity Conservation Act (1999)
- Biodiversity Conservation Strategy 2010–2030
- Natural Resources Management (Financial Assistance) Act (1992)

#### **State**

- Biodiversity Conservation Act 2016
- Biosecurity and Agriculture Management Act 2007
- WA Environmental Protection Act (1986)
- Waterways Conservation Act (1976)
- Conservation and Land Management Act (1984)
- Swan and Canning Rivers Management Act (2006)
- Planning and Development Act 2005 (WA)
- Local Government Act 1995
- Bushfires Act 1954 (amended 2016)
- Contaminated Sites Act 2003



### 5.4.3 Strategic Directions

The Biodiversity Retention strategic directions identified provide the high level directions that the City's policies, plans, associated actions and business functions are seeking to achieve. These strategic directions align with the outcomes and objectives identified in the City's Strategic Community Plan.

The strategic directions will be reported on annually through the City's corporate reporting program.

SCP Outcome	SCP Objective	Biodiversity Retention Strategic Directions
<b>N2</b> Outcome - Sustainable natural environment	<b>N2.1</b> Protect our green environment	<b>1.</b> Improve our urban forest and streetscapes
	<b>N2.2</b> Enhance, preserve and protect local ecology and biodiversity of natural ecosystems	<b>2.</b> Partner with our community through education and volunteering in the protection and enhancement of our natural environment
	<b>N2.3</b> Reduce adverse impacts on biodiversity	<b>3.</b> Assess and rehabilitate the City's natural area asset <b>4.</b> Promote the protection of flora and fauna through appropriate local planning scheme provisions.

To meet the City's objectives in regards to Biodiversity Retention, the City will maintain its Biodiversity Plan and Urban Forest Plan which addresses the following:

- Influence the planning process to integrate appropriate biodiversity retention into all levels of the planning process.
- Appropriately manage and rehabilitate our natural areas with assistance from community volunteers
- Retain, develop and appropriately manage our Urban Forest in urban areas of the City.
- Work with our community to encourage preservation of biodiversity on private land.

#### 5.4.3.1 Informing Plans

Plan	Expected review timetable	Review Cycle
City of Swan Biodiversity Plan (Council endorsed)	2022	5 Yearly
Urban Forest Plan (Council endorsed)	2027	5 Yearly

It is noted that there are various other policies, plans and business functions that contribute to the achievement of the Biodiversity Strategic Directions.

#### 5.4.3.2 Suggested Informing Plan measures

The City also collects various quantitative data which can be used to understand our progress and assist to achieve the objectives of the Strategic Community Plan. For example, in regards to Biodiversity Retention we measure:

- Tree canopy coverage (Target: 1% growth (1,200 trees) from baseline per annum in urban street trees planted)
- Hours spent in environmental land management – City staff, contractors and volunteers



## 5.5 Focus Area 5 – Waste Minimisation

### 5.5.1 Background

A typical household or business can generate a large amount of waste and this waste must be properly managed to meet public health standards. Local Government plays a primary role in this task. Historically the preferred destination for waste in WA has been to landfill but this has changed in recent years. Considerations of available airspace, water quality, biodiversity loss, methane production and community amenity has necessitated the development of many waste diversion and education programs. The objective of these programs is to control the quality and reduce the volume of waste to landfill.

Local government has a significant role to play in partnering with landfill operators to develop innovative programs and pricing structures that support our community to change waste behaviour.

There is also substantial development and innovation in the area of ‘waste to energy’ technology. This represents an opportunity for the City and our partners, to investigate the role of waste as a future energy source and to understand our role in this scenario.

As the primary residential waste collector, the City makes substantial investment in both waste collection and waste diversion within the City. For this reason waste management programs are an essential component of any environmental strategy.

The City manages its own vehicles and staff to perform waste and recycling bin collection services for residents and businesses. Given that the City has the largest area of any Council in the metropolitan area, the City has been active in developing transfer station/recycling centres in Bullsbrook and Malaga.

Over the next decade, as landfill space diminishes and costs of waste disposal and collection services increase, the City is aware of the need to optimise the efficiency and effectiveness of its waste services. With this in mind, the City is committed to developing and/or supporting new and innovative approaches to waste management such as bin tagging, containers for change, waste to energy and in time, food and garden organic (FOGO) diversion.



### 5.5.1.1 Global Context

Globally, the imperative to improve waste management is recognised in the following Sustainable Development Goals.



### 5.5.1.2 Legislative and Policy Context

- Waste Avoidance and Resource Recovery Act 2007

## 5.5.2 Strategic Directions

The Waste Minimisation Strategic Directions identified provide the high level directions that the City's policies, plans, associated actions and business functions are seeking to achieve. These Strategic Directions align with the outcomes and objectives identified in the City's Strategic Community Plan.

The Strategic Directions will be reported on annually through the City's corporate reporting program.

SCP Outcome	SCP Objective	Waste Minimisation Strategic Directions
<b>N1</b> Outcome - Sustainable natural resources	<b>N1.1</b> Protect our natural resources for future generations	<b>1.</b> Reduce waste through reduction, re-use and recycling of waste products
	<b>N1.2</b> Minimise waste to landfill	<b>2.</b> Educate and partner with community to develop understanding of reuse, repurpose and recycling of waste

To meet the City's objectives in regards to Waste Minimisation, the City will maintain its Waste Management Plan which addresses the following:

- Support improved waste separation amongst staff and within the community through waste education and the provision of improved waste sorting facilities.
- Implement appropriate waste control measures through the development process.
- Continue to investigate the potential of waste to energy projects.
- Support and develop the Containers for change initiative.
- Support and develop implementation of a Food Organics Garden Organics (FOGO) system in the City.

### 5.5.2.1 Informing Plans

Plan	Expected review timetable	Review Cycle
Waste Management Plan (Council endorsed)	2022	5 Yearly

### 5.5.2.2 Suggested Informing Plan measures

The City also collects various quantitative data which can be used to understand our progress and assist to achieve the objectives of the Strategic Community Plan. For example, in regards to Waste Minimisation we measure:

- % Recycling vs landfill waste



## 5.6 Focus Area 6 – Adaptation

### 5.6.1 Background

There is a growing acceptance that a level of human-induced global warming is already “locked in”. This fact underlines the need to adapt our settlements to cope with expected change in, temperature, rainfall, bushfire and storm events in the longer term. There is a growing body of information from credible organisations providing evidence of change. Some examples of this include:

- Long-term temperature records showing an accelerated warming trend.
- Ice core sampling showing long-term increases in atmospheric carbon dioxide levels.
- Reductions in observable ice coverage by satellite imagery.
- A visible increase in the frequency and intensity of bushfire events.

The City has the potential to mitigate the effects of climate change through:

- Our planning and building functions.
- Our land management and infrastructure functions.
- Our bushfire response infrastructure and plans.
- Our emergency response functions.
- Environmental Health services.

In keeping with accepted risk management practice, the identification of these future risks subsequently requires the City to undertake reasonable steps to mitigate the risk and implement potential actions. This focus area seeks to suggest reasonable directions for the City to follow to mitigate these risks in coming years.

### 5.6.2 Global Context

Some of these effects are already being experienced in south west land division of Australia including:

- declining rainfall
- loss of the shoulder season “windows” for hazard reduction
- increasing average temperatures

Elsewhere in Australia and the world, these effects have been displayed in stark terms through catastrophic fire and storm events in recent years. It is inevitable that these effects and risks will continue to accumulate in the City. In the response to this known risk, it is incumbent on the City to take all reasonable steps to reduce the risk and to assist our community to be resilient to future change. This is the purpose of this focus area.





## 5.6.3 Legislative and Policy Context

State Planning Policy 2.6 - Coastal Planning

State Planning Policy 3.7 - Planning in Bushfire Prone Areas

## 5.6.4 Strategic Directions

The Adaptation strategic directions identified provide the high level directions that the City's policies, plans, associated actions and business functions are seeking to achieve. These Strategic Directions align with the outcomes and objectives identified in the City's Strategic Community Plan. The Strategic Directions will be reported on annually through the City's corporate reporting program.

SCP Outcome	SCP Objective	Waste Adaption Strategic Directions
<b>N1</b> Outcome - Sustainable natural resources	<b>N1.1</b> Protect our natural resources for future generations	<b>1.</b> Ensure planning measures encourage climate change adaptation and mitigation to ensure our communities are both resilient and liveable.

To meet the City's objectives in regards to Adaptation, the City will:

- Develop and appropriately manage our Urban Forest in urban areas of the City
- Embed outcomes of Corporate Climate Change Risk Assessment 2018 within the planning processes
- Continue to develop our understanding of flood risk in the City.
- Continue implementation and development of bushfire planning approach in compliance with State Planning Policy 3.7 – Planning in Bushfire Prone Areas
- Continue to evolve and improve our capability in response to emerging climatic threat such as fire, flood and heatwave.
- Advocate for the development of sustainable and resilient communities through the development process

### 5.6.4.1 Informing Plans

The City's approach to adaptation consists of ongoing planning and activity in the key climate risk areas detailed above. This activity is integrated into the ongoing business of council, and it is considered that there is no need to develop a separate informing plan for this focus area at this time.

### 5.6.4.2 Suggested Informing Plan measures

The City also collects various qualitative data which can be used to understand our progress and assist to achieve the outcomes and objectives of the Strategic Community Plan. For example, in regards to Adaptation we can demonstrate achievement through:

- Measures associated with the development and retention of urban forest in the City
- Successful community engagement

[www.swan.wa.gov.au](http://www.swan.wa.gov.au)



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