CITY OF GOSNELLS



Sustainability in Action 2023

City of Gosnells Sustainability Action Plan



Document Set ID: 7702566
Version: 2, Version Date: 15/02/2023

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Introduction

The purpose of this document is to express the City's intention to minimise its environmental impact and to maintain and enhance existing environmental assets. By taking such actions the City will support a vibrant and sustainable community for the enjoyment of current and future generations.

The City's sustainability priorities are to:

- Aim for net zero corporate emissions
- Reduce waste and promote a circular economy
- Source environmentally responsible goods and services
- Support the community and local businesses to reduce emissions

The City's aim for net zero corporate emissions means that the amount of greenhouse gases being released as a result of the City's activities are equal to those being removed from the atmosphere. The best way to do this is to reduce corporate emissions.

The actions identified in this plan show how the City intends to progress towards a sustainable future by:

- Reducing energy consumption
- Switching to renewable energy sources
- Improving its natural environment





The City will track the progress of this plan by reporting on the success of the actions and monitoring corporate emissions on an annual basis. The City will also update and include more and more initiatives, as and when they are developed.

Once the impact of the actions has been measured, the City will be in a position to understand the volume of residual emissions that cannot be abated and how to best offset those emissions.

Carbon offsets are used by businesses to compensate for the emissions they produce and are generated through projects, such as reforestation, that reduce, remove or capture emissions from the atmosphere.

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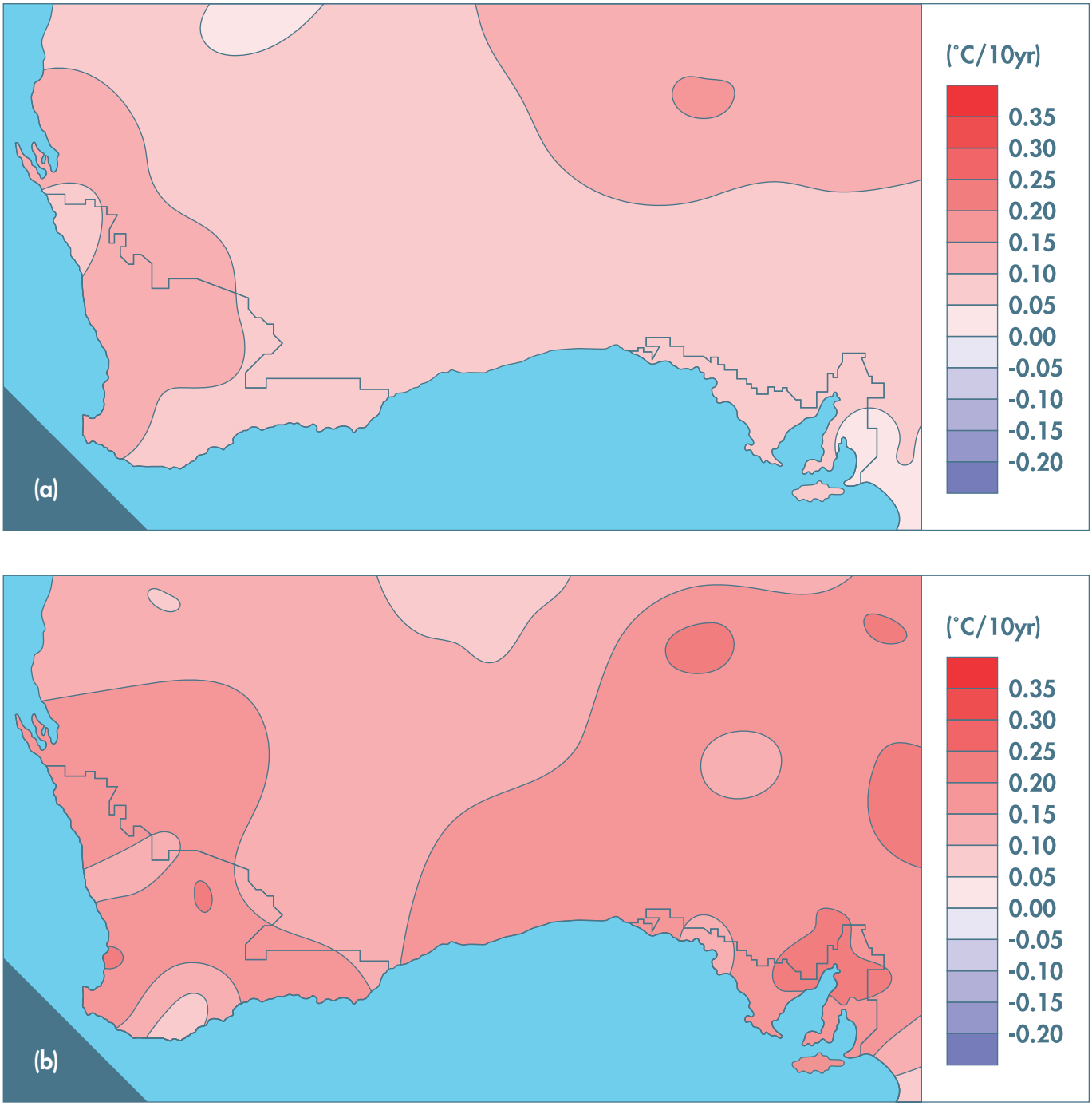
The problem

According to Climate Change in Australia projections[1], the south west of Western Australia will experience continuing increases in average temperatures in all seasons, more hot days, decreasing winter rainfall, increased intensity of extreme rainfall events and harsher fire-weather climate.

The following maps, (a) for the period of 1910 – 2013 and (b) for the period of 1960 – 2013, show mean temperature trends across the south west. The maps show that temperatures have increased over the past century and the rate of warming is higher since 1960. Due to the effects of further increases in greenhouse gas concentrations, it is expected that there will continue to be substantial increases in temperature.



Maps of trends in mean temperature (°C/10 years) for (a) 1910 – 2013 and (b) 1960 – 2013 (ACORN-SAT)

1 Hope, P et al, 2015, Southern and South-Western Flatlands Cluster Report, Climate Change in Australia Projections for Australia's Natural Resource Management Regions: Cluster Reports, eds. Ekström, M et al., CSIRO and Bureau of Meteorology, Australia

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According to the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the increase in greenhouse gas, as a result of human activity, has been the predominant cause of observed global warming since the mid-20th century.

The Intergovernmental Panel on Climate Change (IPCC) is the United Nations body for assessing the science related to climate change. According to the IPCC sixth assessment report (AR6):

> *"Human-induced climate change, including more frequent and intense extreme events, has caused widespread adverse impacts and related losses and damages to nature and people, beyond natural climate variability. Some development and adaption efforts have reduced vulnerability. Across sectors and regions, the most vulnerable people and systems are observed to be disproportionately affected. The rise in weather and climate extremes has led to some irreversible impacts as natural and human systems are pushed beyond their ability to adapt."*

As the IPCC notes, extreme weather events and high temperatures disproportionately affect the most vulnerable people in our community, who are the least able to prepare for and recover from the impact of these worsening climate conditions. People living in urban areas can be more vulnerable to heat exposure than those in nearby rural areas. Built up areas can experience higher temperatures than surrounding areas because built environments generally trap more heat than natural environments. This is known as the urban heat island effect. People older than 65 years and those with pre-existing medical conditions are at higher risk of the negative health impacts of exposure. Housing quality and overcrowding affects the capacity for individuals to be resilient to climate change. Further, the most vulnerable in our community are the least equipped to respond to displacement resulting from weather related disasters, such as bushfires.

In the context of the City of Gosnells, climate change means hotter streetscapes in the developing urban areas with increased hardscaping; drought; threatened ecology in our biodiversity and conservation assets (such as Mary Carroll Park and Brixton Street Wetlands); flash flooding; and an increase in the number and severity of bushfires in the foothills.

The City of Gosnells is faced with the prospect of these worsening climate conditions whilst also addressing the challenge and opportunity of supporting a growing population and increasing urban density.

Adapting to these conditions, installing air conditioning for example, can create a financial burden. Adaptation can also come with ongoing costs that are exacerbated by the increasing cost of living.

Many of the mitigation methods commercially available to the community, such as solar power, have the potential to save people money (as well as reducing emissions). Unfortunately, some people are unable to afford the upfront costs which means that their long term costs are higher. This further increases socioeconomic inequality and the disproportionate and growing impact on the vulnerable.

Adaptation
This means making changes to reduce the harmful effects of climate change.

Mitigation
This means making changes to reduce the emissions that cause climate change.

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Setting

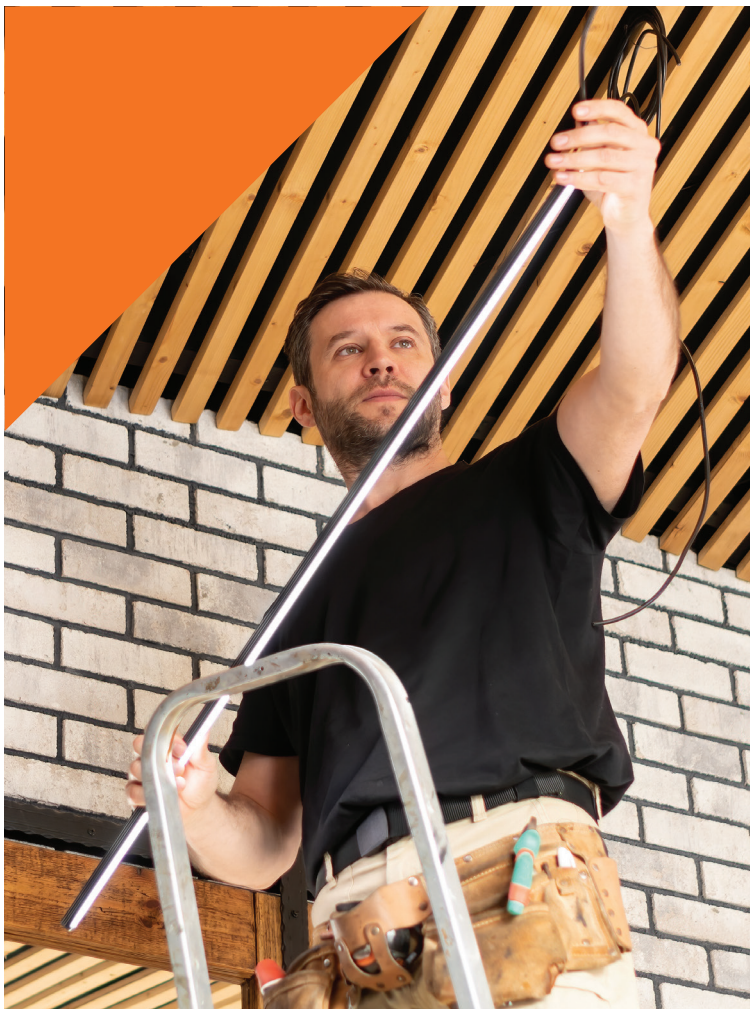
Australia is party to the Kyoto Protocol which, in short, operationalises the United Nations Framework Convention on Climate Change (UNFCCC) by committing industrialised countries to limit and reduce greenhouse gas emissions in accordance with agreed targets. The protocol was adopted in 1997 and came into force in 2005.

Australia is also one of 196 parties to the Paris Agreement, which was signed at the United Nations Climate Change Conference in 2015. The agreement is a legally binding international treaty on climate change with the aim of limiting global warming to well below 2°, preferably to 1.5°, compared to pre-industrial levels. Under the agreement, Australia must submit emissions reduction commitments know as Nationally Determined Contributions (NDCs).

The 2021 NDC update saw Australia commit to net zero emissions by 2050. Australia is due to submit its next NDC, including the post-2030 target, to the UNFCCC in 2025. However, the newly elected Federal Government has updated the United Nations on Australia's commitment to tackling climate change, pledging to reduce greenhouse gas emissions by 43% below 2005 levels by 2030. The pledge was conveyed to UNFCCC in June 2022, updating targets to the NDC.

The Western Australian Climate Policy, released in 2020, outlines the commitment of the Government of Western Australia to adapt to climate change and work with all sectors of the economy to achieve net zero greenhouse gas emissions by 2050. The State Government has an 80% emissions reduction target for State operations by 2030.

Whilst local government cannot drive the global change, there are many things the City of Gosnells does, and can do, to effect change on a local level and contribute to the Australian Government target of net zero by 2050.





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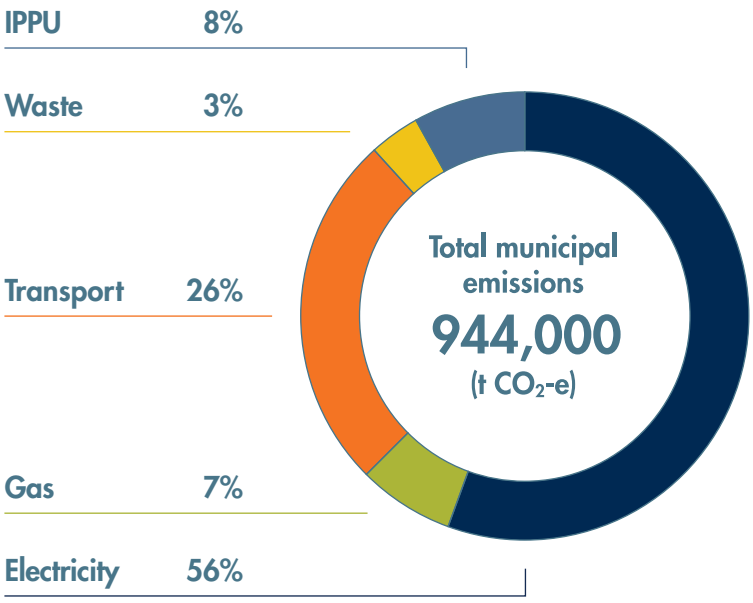
Identity

The City of Gosnells, covering almost 12,800 hectares, is a growing residential area with an estimated resident population of 131,000; substantial amounts of rural land and a developing commercial and industrial business base. The City has around 370 parks and 9 sporting reserves alongside a richness of flora and fauna, ranging from forests on the Darling Scarp to bushland, rivers and wetlands on the Swan Coastal Plain. The City's natural environmental assets set it apart from some other Perth metropolitan local governments.

Many assets are in secure conservation reserves, particularly on the Scarp, where National and Regional Parks cover a large proportion of the area. The City manages almost 1,400 hectares of natural areas, ranging from the 600 hectare Ellis Brook Valley, to parts of the foreshore reserve along the Canning and Southern Rivers.

According to the Snapshot community climate tool, developed by Beyond Zero Emissions Inc and Ironbark Group Pty. Ltd, the 2020/21 emissions snapshot for the the entire district of the City of Gosnells (i.e. total community and industrial emissions, including City corporate emissions) is as follows:



Source	Sector	Emisions (t CO_2-e)
Electricity	Residential	168,000
	Commercial	106,000
	Industrial	252,000
Gas	Residential	34,000
	Commercial	7,000
	Industrial	23,000
Transport	On road	243,000
	Rail	1,000
Waste		33,000
Industrial Processes and Product Use		77,000

Snapshot emissions profile
Ironbark Sustainability and Beyond Zero Emissions

- The total emissions were 944,000 tonnes of carbon dioxide equivalent (t CO_2-e).
- The main emissions source was electricity consumption (56%) with the majority of this coming from industrial electricity consumption followed by residential.
- Transport (26%), largely automotive, was the second biggest emissions source, followed by gas (7%).
- Waste accounted for 3% of emissions.

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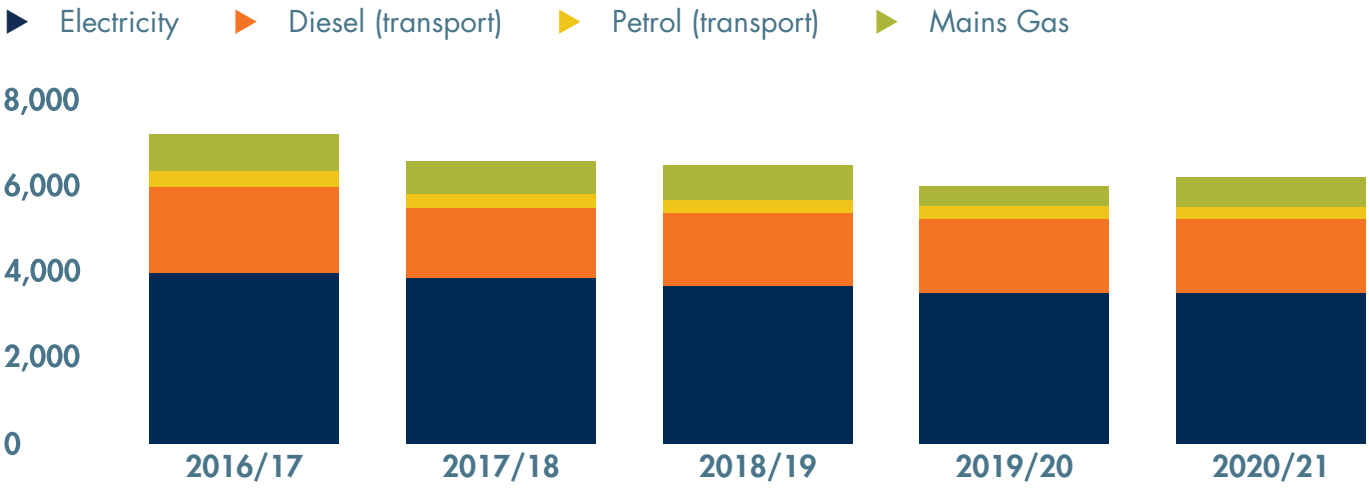
Corporate emissions profile

In 2020/21 the City of Gosnells recorded corporate emissions were 6,100 tonnes of carbon dioxide equivalent (t CO_2-e); less than 0.6% of total emissions for the municipality. Recorded emissions include currently available data on Scope 1 and Scope 2 emissions. For reference, corporate waste (Scope 3) is not currently accounted for but is estimated at 200 t CO_2-e. Scope and inclusions are explained in more detail on the following page. The City is continuing to work on capturing and refining data on all sources of emissions. It is expected that the baseline of emissions will increase slightly, once all of this information has been collected.

Financial Year	Emissions (†CO_2e)	Year on Year Change
2016/17	7,100	
2017/18	6,500	-8%
2018/19	6,400	-2%
2019/20	5,800	-9%
2020/21	6,100	5%

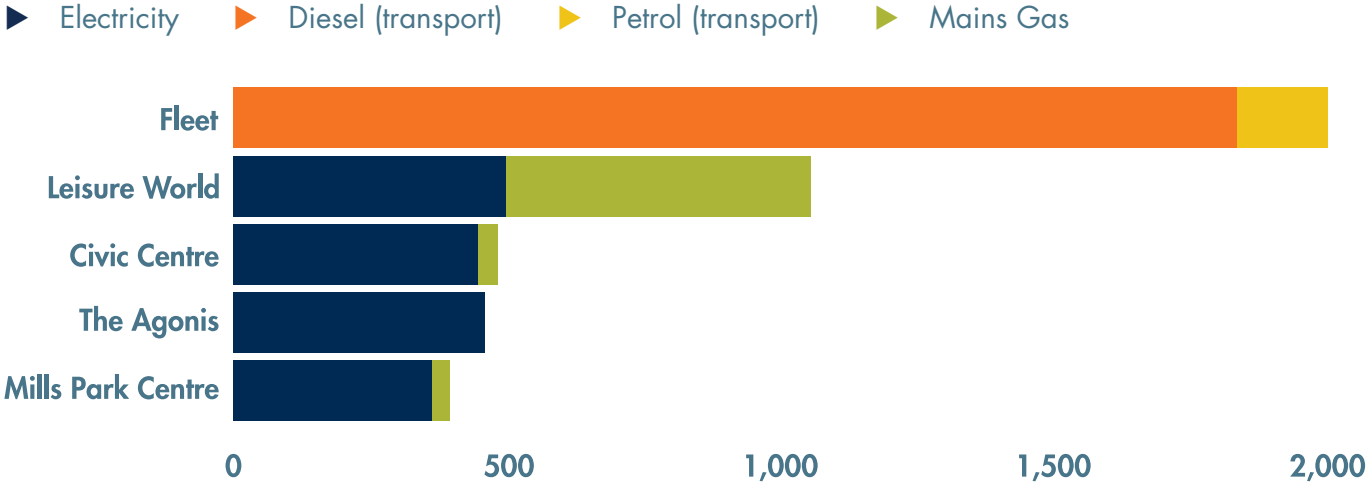
Corporate emissions have generally been reducing steadily since 2016/17 although a slight increase was seen between 2019/20 and 2020/21. Overall, emissions in 2020/21 are down 14% compared to 2016/17. The breakdown of emissions sources are shown below.

Coporate emissions activity (t CO_2-e)



The following data, sourced from Azillity (the City's platform for managing energy consumption) relates to the 2020/21 financial year and shows which City assets are responsible for the most emissions.

Top emitting assets (t CO_2-e)



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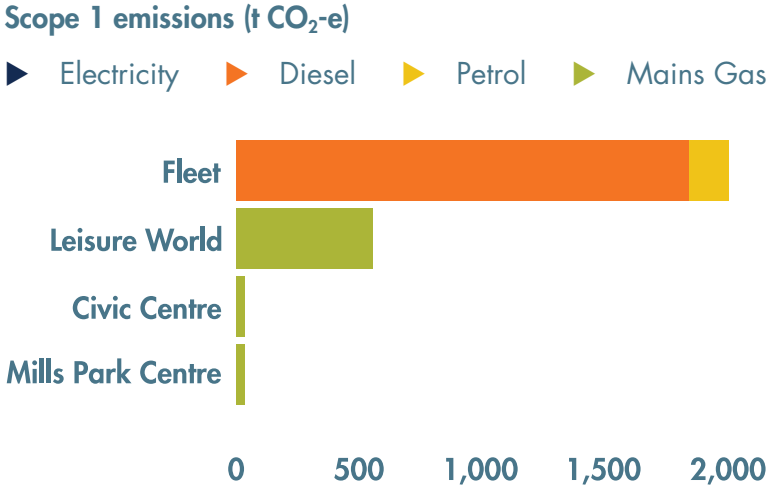
Scope

Scope refers to the source of emissions and the different ways emissions are categorised to help explain whether emissions are a result of operational activities or the wider supply chain.

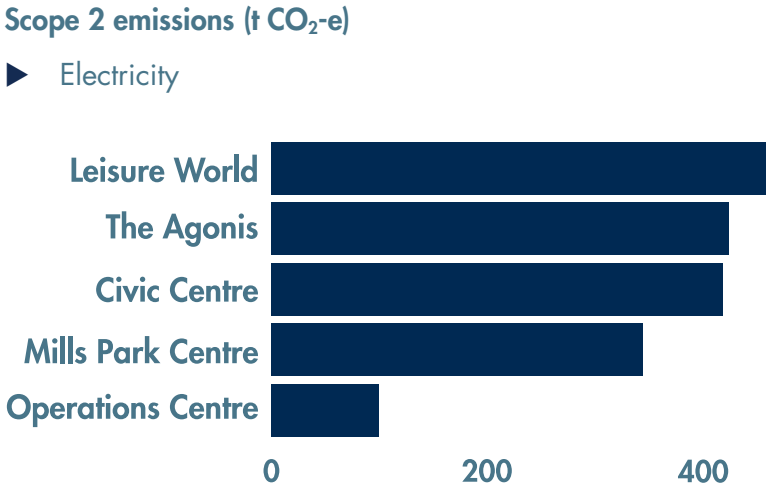
Scope 1

Sometimes referred to as direct emissions, Scope 1 covers emissions that result directly from the activity of the City.



Scope 2

Indirect emissions created by the making of electricity purchased and produced on behalf of the City.



Scope 3

Supply chain emissions and emissions not directly in the control of the City are not included in the emissions profile.

Scope 3 includes streetlights owned by Western Power. In 2020/21 emissions from streetlights in the City of Gosnells, but not owned by the City of Gosnells, equated to 4,400 t CO_2-e.

The City's corporate waste is also considered Scope 3 as it is processed externally. The City does not currently have accurate data on the volume of waste it creates separate to all refuse collected by the City. In the interim it has been estimated at 200 t CO_2-e.

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Key achievements to date

The City has a long history of taking action to minimise its environmental footprint and reduce greenhouse gas emissions. Some key initiatives include:

- Formation of the South East Regional Energy Group (SEREG), with the City of Armadale and the Shire of Serpentine-Jarrahdale. SEREG has been working to reduce the carbon footprint of its local government members and their communities since 1999. The group developed the award-winning Switch your thinking program to help partner councils and the community reduce their greenhouse gas emissions.
- Commission of three buildings whose sustainable development initiatives and notable energy efficiency have set benchmarks for local government capital works:
  - The Agonis building in the Gosnells Town Centre is a two-storey community facility that houses the Knowledge Centre, Lotteries House and Business Station. It was the first Western Australian building project to be the subject of a Building Greenhouse Rating Scheme Commitment Agreement.
  - The Civic Centre, which houses the City's administrative and Council offices, achieved its design target of five out of a possible six stars under the Green Star rating program by incorporating innovative technologies.
  - The Mills Park Centre, in Beckenham, is Australia's first 6 star Green Star rated public facility.
- Participating in a WA-first renewable energy agreement led by the WA Local Government Association (WALGA) to source renewable energy from WA based wind farms. The agreement has resulted in 24 of the City's highest energy-consuming sites being powered entirely by renewable energy as of April 2022 under a Power Purchase Agreement (PPA).

This includes:

- **Addie Mills Centre**
- **Civic Centre**
- **Alexandria Boulevard Reserve**
- **Amherst Village Community Centre**
- **Bev Bridson Pavilion**
- **Castlewood Parkway**
- **Central Park Avenue Reserve**
- **Don Russell Performing Arts Centre**
- **Elgin Road Reserve/ Cambridge Promenade Reserve**
- **Emergency Operations Centre**
- **Langford Oval**
- **Leisure World**
- **Mills Park Centre**
- **Mills Park irrigation**
- **Operations Centre**
- **Sutherlands A Reserve**
- **Sutherlands E Reserve**
- **The Agonis**
- **Thornlie Community Centre**
- **Thornlie Football Club / Berehaven Avenue Oval**
- **Thornlie Library**
- **Tom Bateman Pavilion 2 change rooms**
- **Tom Bateman Reserve**
- **Tom Bateman Pavilion 1 and change rooms**

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Journey

1999 Formation of the South East Regional Energy Group (SEREG)

2001 Perth Environment Awards – Best Local Government

2002 SEREG formed the Switch your thinking sustainability program

The first WA building project to be the subject of an Australian Building Greenhouse Rating scheme Commitment Agreement – The Agonis

2004 Transport Awards – Local Government Innovation

National Awards for Local Government – Local Greenhouse Action (Renewable energy from a load of old rubbish)

2006 WA Environment Awards – Government Leading by Example and Community Energy Efficiency (SEREG)

2007 Switch your thinking sets up 'Green House', a temporary demonstration home in Maddington

ICLEI Local Governments for Sustainability – Accelerating Now, Decade of Achievement

2008 Sustainable Cities National Finalist

WA Sustainable Cities Youth Environment Award (Engage not Enrage)

National Awards for Local Government – Outstanding Achievement (Switch your thinking)

2010 WA Sustainable Cities – Environment Innovation Award (SEREG)

Premier's Award – Sustainable Management of the Environment (SEREG – Switch your thinking)

National Awards for Local Government – Local Greenhouse Action (Switch your thinking)

WA Sustainable Cities – State Winner

WA Sustainable Cities – Water Conservation Award (The Green House)

2011 Council endorses a new Street Tree Policy (CP2.3.9)

City of Gosnells Biodiversity Conservation Management Plan is endorsed by Council

WA Environment Awards – Resource and Waste Management Award (SEREG – Switched on Business and Industry)

The Civic Centre achieves 5 Star Green Star rating

2014 Council adopts a new policy 'Retention, Rehabilitation and Revegetation of Natural Areas' (CP 6.2.2)

2015 17kW Solar PV installed at Addie Mills Centre

30kW Solar PV installed at the Civic Centre

6 Star Green Star rating – Mills Park Redevelopment

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2016

25kW Solar PV installed at Amherst Village Community Centre, 30kW at Mills Park Centre and 25kW at Thornlie Library

National Growth Areas Alliance – Designing for the Future Award (Mills Park)

2017

12kW Solar PV installed at Don Russell Performing Arts Centre

United Nations Association of Australia – Environment Action Award, finalist (Switch your thinking)

National Energy Efficiency Awards – Best Residential Energy Efficiency Project (Switched on Homes)

Four year revegetation of Yule Brook at Mills Park begins

2018

100kW Solar PV installed at Leisure World

The City expands the range of services available online to reduce cost and environmental impact

The City adopts a new Strategic Community Plan

2019

The City launches its new Public Open Space Strategy

The City increases tree planting numbers from about 500 per year to around 2,500 (including young and advanced trees)

2020

Council adopts new 'Street Lighting' Policy (CP 2.4.25)

Stormwater Western Australia Awards for Excellence – Excellence in Integrated Stormwater Design (Robinson Park)

City commences switching new light fleet to hybrid

25kW Solar PV installed at Thornlie Park Centre

Leisure World recognised as a Gold Waterwise Aquatic Centre

Council release a position statement encouraging Western Power to be more proactive in replacing its street light fittings

Signing of the Power Purchase Agreement to purchase green energy for 24 of the City's sites

2022

Council endorses new 'Trees and Urban Canopy' Policy (CP 2.3.19) and the Greening Gosnells Strategy

2021

Energy audit undertaken at Leisure World (Switch your thinking)

The City implements the use of a new app to monitor tree planting and maintenance

The City adopts the Cat Amendment Local Law 2020, prohibiting cats from environmentally significant areas

The City revises the 'Retention, Rehabilitation and Revegetation of Natural Areas' Policy (CP6.2.2)

Council adopts new 'Enhancing the Canning and Southern Rivers' Policy (CP 1.1.4)

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Emissions reduction

By reducing energy use and switching to renewable energy, the City will reduce emissions. The following table outlines the major commitments that can be quantified. The City will monitor and report on emissions annually, to better understand the impact of all of the actions contained within the plan.

Emission Source	2020/21 Annual Emissions Baseline (t CO_2-e)	Actions to Reduce Emissions	Estimated Reduction in Annual Emissions (t CO_2-e)	Estimated Residual Annual Emissions (t CO_2-e)
Electricity	3,400	Sourcing renewable energy through the Power Purchase Agreement	2,600	0
		Purchasing green power for the remaining sites	800	
Fleet	2,000	Hybrid light fleet	100	1,900
Gas	700	Not currently quantified	0	700
Scope 1 and 2 Corporate Emissions	**6,100**		**3,500**	**2,600**

The quantifiable actions in the above table represent a 57% reduction in emissions. On a per capita basis, using the current population data, that equates to a reduction from 47kg CO_2-e per person under the baseline scenario to 20kg CO_2-e per person under the residual emissions scenario. As the population continues to grow, per capita emissions will continue to fall to 17kg CO_2-e based on population forecasts for 2030.

It is the City's aim to continue to implement sustainability initiatives, improve data collection and strive to reduce corporate emissions. The above table is reflective of what is currently known. It is anticipated that the baseline figures in this plan will increase slightly as the City works to capture and refine all sources of emissions data. The context of a growing population and increasing demands on service delivery should also be taken into consideration but have not been accounted for. However, as technology, science and innovations advance in the lead up to 2030, the City will introduce additional measures which will further reduce emissions beyond what has been predicted above.

In addition to reducing energy use and switching to renewable energy, the City plants about 1,500 advanced trees per year. Not only do these trees provide amenity, shade, habitat, clean air and cool the environment, they also help offset residual emissions by sequestering carbon.

The amount of carbon a tree sequesters varies significantly dependent upon factors such as species, location and growth rate. According to Carbon Positive Australia (a project provider under the Australian Government's Emissions Fund), using the Full Carbon Accounting Model developed by CSIRO, it can take anywhere from three to 15 trees 25 years to sequester 1 tonne of CO_2-e.

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Sustainable Development Goals



The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for sustainability.

Some of the goals most relevant to the Sustainability Action Plan, such as Affordable and Clean Energy (7); Industry, Innovation and Infrastructure (9); Sustainable Cities and Communities (11); Responsible Consumption and Production (12) and Climate Action (13); can be seen throughout this document, demonstrating the connection between the City and the global goal of achieving a better and more sustainable future for all.



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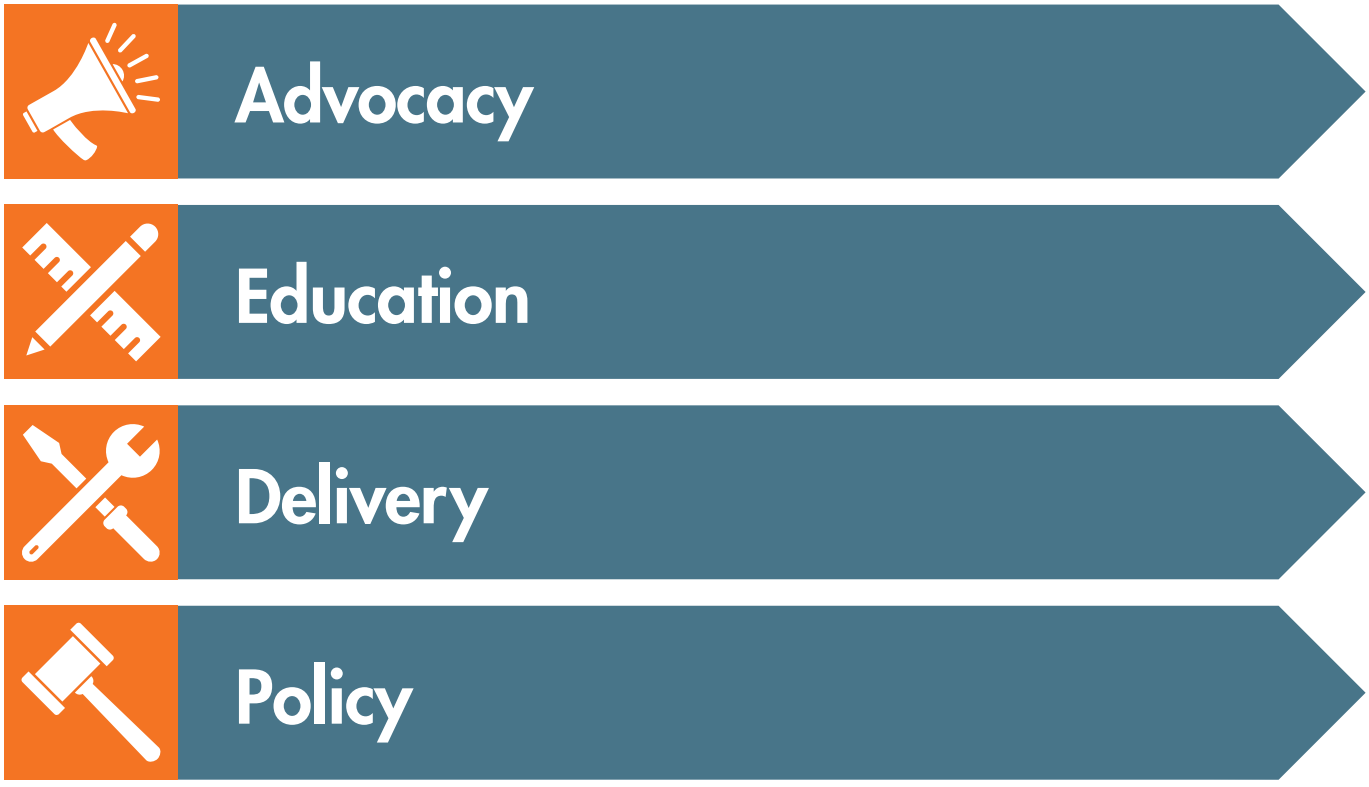
Sustainability in action

The following sections include tables that detail the actions planned for or being undertaken by the City of Gosnells to address sustainability, followed by information on how these actions are or will be recorded and monitored. This information will be used to report on the progress of the plan. There are also case studies demonstrating the outcome of some of the existing sustainable practices. Where relevant, there is information about future plans or next steps.

Seven key sustainability areas have been identified:

- Biodiversity
- Climate
- Energy
- Infrastructure
- Transport
- Waste
- Water

Each action is identified under a category heading:



The tables within the sections highlight if an action is **corporate** or **community**, i.e. undertaken directly by the City as part of corporate operations or indirectly supporting and influencing the activities of the community.

Many actions can be a mix of sustainability areas and cover both corporate and community sectors. For the purpose of this document, they are categorised where most relevant or prominent.

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Biodiversity

CORPORATE

Advocacy | Education | Delivery | Policy

Subject	Details	Action
Bush Forever Sites	The City will continue to maintain and enhance approximately 1,000 ha of protected 'Bush Forever' land, as identified by the State Government.	
Habitat Corridors	The City will develop a network of corridors, through strategic planting, that will reconnect foraging habitats once mature, with a focus on enhancing black cockatoo foraging, roosting and breeding habitat.	
Habitat Restoration	The City will continue to work on restoration projects that enhance habitats and prevent any further river bank or sediment loss.	
Public Open Space Strategy	The City will continue to implement the Public Open Space Strategy to enhance the effectiveness of POS.	
Greening Gosnells Strategy	The City will implement the Greening Gosnells Strategy, which aims to identify locations devoid of canopy, reduce the urban heat island effect and improve amenity for residents	
Management of Conservation Areas	The City will continue to manage and enhance its natural areas, each of which has been ranked using State guidelines for biodiversity.	
Pest Management	The City will continue to utilise pest management programs, reducing the number of feral species on the City's properties, including plants.	
Cat Local Law	The City will seek ways to encourage more responsible pet ownership and reduce the impact of cats on native fauna.	
Street Tree Policy	The City will continue to implement the Street Tree Policy objectives, to guide planning for maintenance of street trees.	
Trees and Urban Canopy Policy	The City will continue to implement the Trees and Urban Canopy Policy objective of expanding tree canopy on City land.	
Canopy	The City will monitor urban canopy and tree planting to understand canopy changes and guide strategic planning.	
Natural Areas Policy	The City will continue to implement the Retention, Rehabilitation and Revegetation of Natural Areas Policy (CP6.2.2), to guide planning for and maintenance of natural areas in current or future control of the City.	
Bird Waterers	The City will continue to install bird waterers to supply clean water sources for birds all year round.	
Green Space Planning	The City will continue to implement hydrozoning and ecozoning to reduce the amount of irrigated turf and increase the areas of mulched tree planting.	

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Biodiversity

COMMUNITY

Advocacy | Education | Delivery | Policy

Subject	Details	Action
Community Planting Days	The City will continue to host and support community planting events.	
Local Planting Guide	The City, with the Armadale Gosnells Landcare Group, will continue to produce guidance material for residents to assist in appropriate plant selection and maintenance, specific to location and soil types.	
'Friends of' Groups	The City will continue to support the work of volunteer groups in the management of natural areas and will prepare a Friends Group manual.	
Volunteer Groups	The City will support volunteer groups that aim to conserve local biodiversity.	
Key Community Environmental Support Groups	The City will continue to work with its long-standing key partner in community based natural resource management – Armadale Gosnells Landcare Group (AGLG).	
Key Community Environmental Support Groups	The City will continue to work with the South East Regional Centre for Urban Landcare (SERCUL), an independent Natural Resource Management body.	
State Government Partnerships	The City will continue to work in partnership with State Government agencies to enhance and maintain biodiversity assets in the City of Gosnells.	
Free Verge Trees	The City will continue to run its annual program of promoting, providing and planting free verge trees in response to resident requests.	
Grants	The City will continue to apply for and lobby for grants from State and Federal Governments to support tree planting, urban canopy development and biodiversity focussed revegetation programs.	
Tree Sponsorship	The City will explore the viability of introducing a tree sponsorship program.	
Waterwise Verges	The City will create Waterwise demonstration gardens in public open space, to display best practice.	





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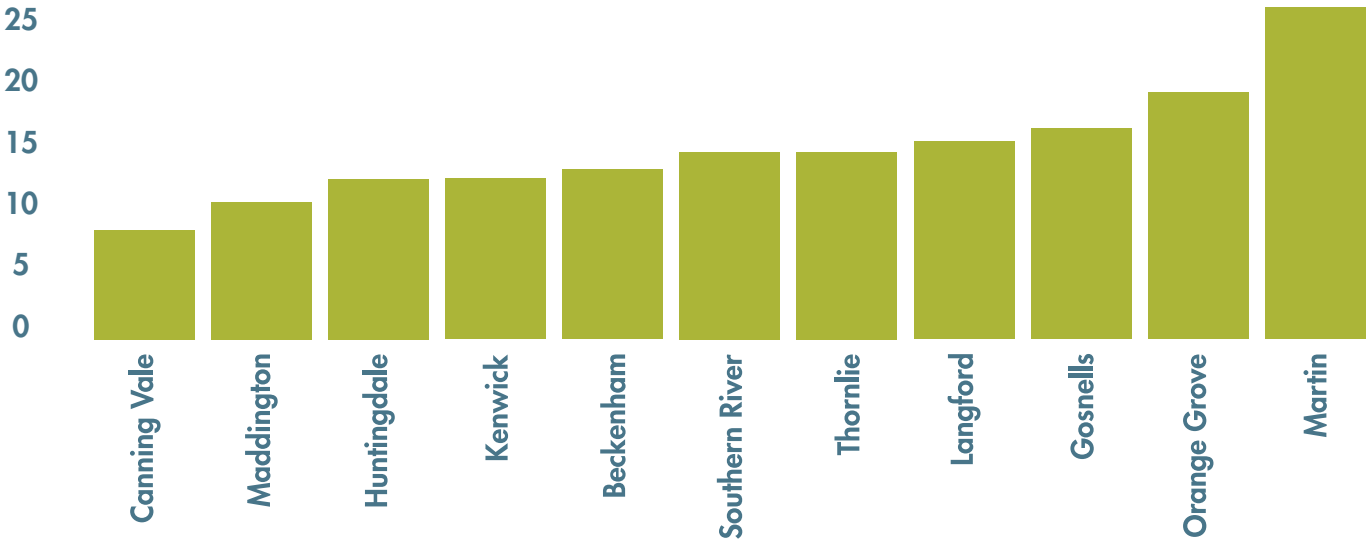
Biodiversity

MONITORING

Total tree canopy (%)







Tree canopy coverage in parks (%)

Suburb	2014	2016	2018	2020
Kenwick	8%	8%	10%	10%
Huntingdale	17%	17%	20%	19%
Orange Grove	26%	26%	25%	21%
Southern River	14%	14%	20%	22%
Beckenham	18%	20%	29%	25%
Langford	19%	22%	27%	25%
Maddington	26%	29%	32%	29%
Martin	30%	32%	30%	29%
Canning Vale	27%	26%	28%	31%
Thornlie	26%	29%	32%	32%
Gosnells	34%	37%	40%	38%

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Biodiversity

MONITORING

Tree canopy coverage in street blocks (%)

Suburb	2014	2016	2018	2020
Canning Vale	5%	5%	6%	6%
Maddington	9%	9%	9%	7%
Thornlie	8%	9%	9%	9%
Beckenham	11%	11%	11%	10%
Huntingdale	9%	9%	10%	10%
Langford	9%	10%	10%	10%
Kenwick	12%	11%	13%	11%
Gosnells	12%	13%	13%	12%
Southern River	9%	9%	11%	12%
Orange Grove	18%	20%	22%	19%
Martin	24%	26%	26%	24%

Tree canopy coverage in roads (%)

Suburb	2014	2016	2018	2020
Southern River	3%	3%	4%	4%
Canning Vale	3%	4%	4%	5%
Huntingdale	5%	6%	6%	6%
Maddington	8%	9%	9%	8%
Beckenham	7%	7%	9%	9%
Kenwick	8%	8%	9%	9%
Langford	7%	9%	9%	9%
Thornlie	7%	8%	9%	9%
Gosnells	10%	11%	12%	11%
Martin	14%	16%	17%	16%
Orange Grove	16%	18%	19%	16%

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Biodiversity

CASE STUDY

Nicholson Road Wetlands Management Plan 2021

A management plan was prepared for the Nicholson Road Wetlands, in Canning Vale, in 2021 and recommends revegetating 2.16 hectares of degraded land with up to 66,000 plants.

The southern end of the reserve contains 1.44 hectares of federally listed Threatened Ecological Community (TEC) 'Banksia Woodlands of the Swan Coastal Plain' in mostly 'excellent' condition, plus two priority flora species, Schoenus benthamii and Jacksonia sericea. Three significant fauna species were recorded: the endangered Carnaby's Black Cockatoo, the vulnerable Forest Red-tailed Black Cockatoo and a very high density Quenda population that is of high local significance.

New fencing and a dual-use footpath were installed in 2021. This has improved the recreation experience for the community and controls access into the reserve. An extensive revegetation program, in line with the management plan, commenced in winter 2022. The City will also continue to manage weeds, litter, feral and domestic animals and dieback at the reserve.



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Biodiversity

NEXT STEPS

Greening Gosnells Strategy

At its Ordinary Council Meeting on Tuesday 12 April 2022, Council resolved to develop an urban forest strategy.

The Greening Gosnells Public Tree Strategy was adopted by Council at the beginning of the 2022/23 financial year.

The strategy is designed to support the City's strategic priorities and goals and further 'green' Gosnells. The strategy identifies clear actions for the planning and maintenance of trees in the City's parks and streetscapes and aims to maximise the many benefits of trees for the environment and community.

This includes a target of planting approximately 2,500 trees per year on verges and in parks and monitoring urban canopy statistics.



According to data sourced from the Department of Planning, Lands and Heritage, as of 2020, the district of the City of Gosnells has a tree canopy of 15%, or approximately 1,700 hectares.

The strategy identifies both the challenges and opportunities of growing urbanisation and sets out City plans to maximise the sustainability of trees within the control of the City.

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Climate

CORPORATE

Advocacy | Education | Delivery | Policy

Subject	Details	Action
Green Buildings	The City will continue to build infrastructure that incorporates green building design.	
Bushfire Mitigation	The City, in partnership with the Department of Fire and Emergency Services, will continue to implement fire mitigation strategies to reduce the fire risk within the district.	
Emergency Operations Centre	The City will continue to support the Emergency Operations Centre, which houses Gosnells Bush Fire Brigade and Gosnells State Emergency Service.	
Local Emergency Management Committee	The City will maintain an active Local Emergency Management Committee to plan for the management of and recovery from unexpected disasters and emergencies.	
Reporting	The City will include climate, emissions and sustainability relevant metrics as part of its program of annual reporting.	

Climate

COMMUNITY

Subject	Details	Action
Bushfire Mitigation	The City will continue to enforce the Bush Fires Act 1954, in relation to preventing and responding to bushfires, and the City of Gosnells Public Health Local Law 2017, which prescribes the offences related to the burning of rubbish, refuse or other material.	
Bushfire Mitigation	The City will continue to issue Annual Fire Hazard Reduction Notices and conduct firebreak and fire hazard inspections.	
Planning Policy	The City will continue to support the State Government in the implementation of State Planning Policy 3.7 'Bushfire Prone Areas'.	





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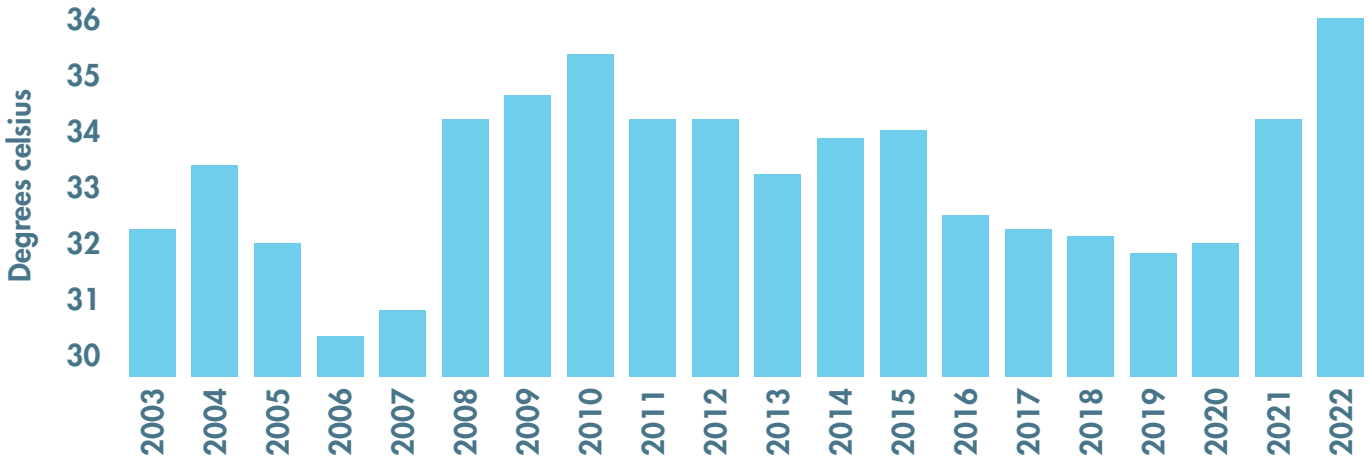
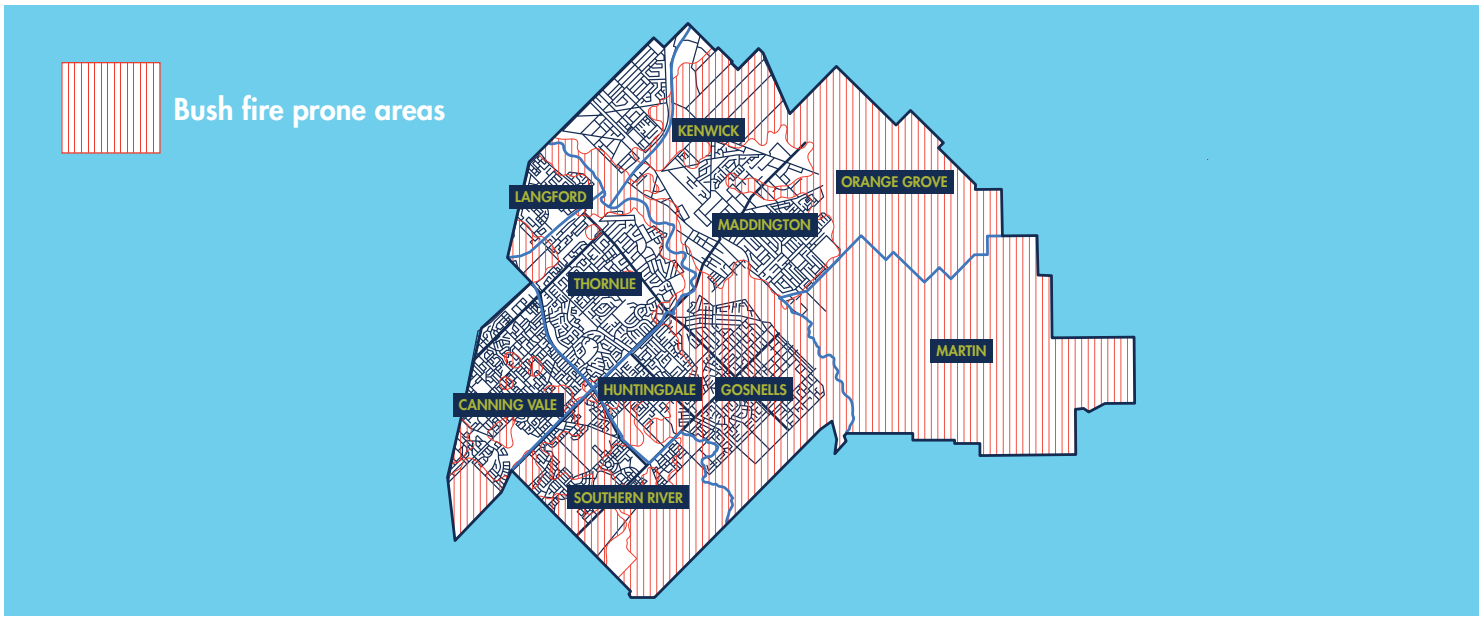
Climate

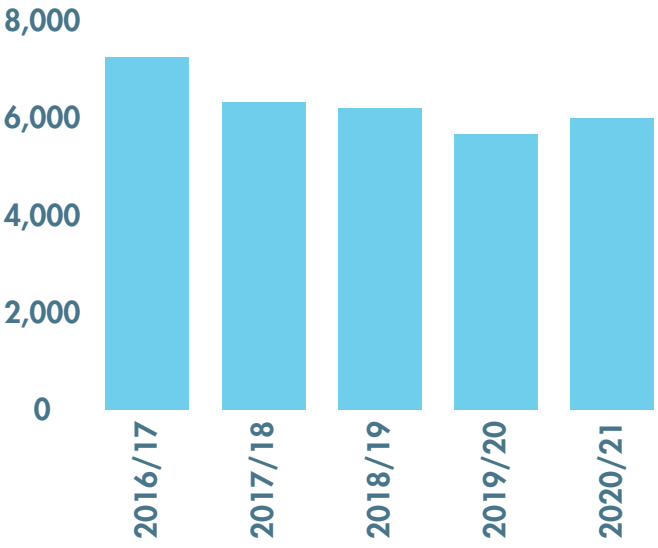
MONITORING

Average maximum daily temperature in January – Gosnells Bureau Station

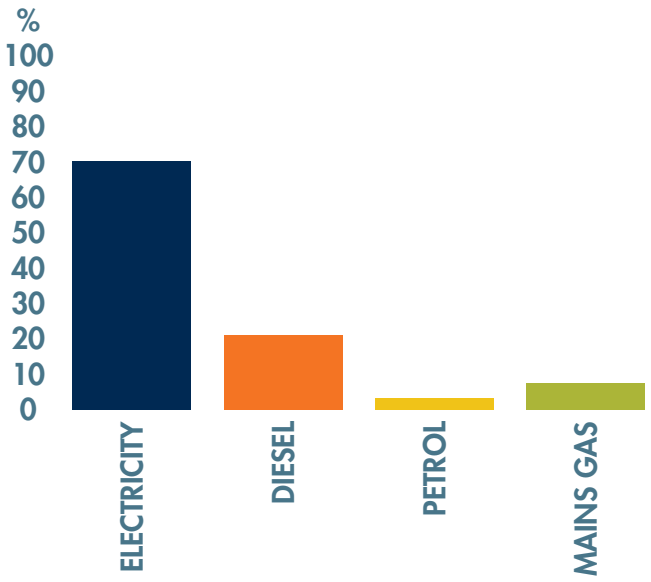




Annual emissions (t CO_2-e)



Emissions activity 2021/22



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Climate

CASE STUDY

Mitigation Activity Fund Grants Program

The City has undertaken extensive bushfire mitigation activities over the past two years, including works on fire access tracks, mechanical works to create buffers, access control through the installation of gates and fences and prescribed burns. The City has received State Government grants of almost $1 million to undertake some of this work. An example is shown in the photograph below.





Climate

NEXT STEPS

Operations Centre

The City proposes to relocate its Operations Centre from Maddington to the City's remediated waste site at Kelvin Road, Orange Grove, opening up opportunities for transit orientated residential development in and around Maddington Train Station.

An area of 29 hectares to the north-east of the new Operations Centre will be developed as public open space, funded by the proposed development of the nearby former trotting track into rural residential lots. A conservation reserve will be established as part of the trotting track subdivision to ensure the protection of significant vegetation, consisting of a threatened ecological community and threatened flora. The 7.3 hectare Operations Centre site will be surrounded by a 13.5 hectare buffer zone that the City will plant with local tree species, as an arboretum.

The design of the new Operations Centre is proposed to include the following sustainability measures:

- Solar panels to ensure that it is a net exporter of energy to the grid.
- Solar-passive orientation, pale coloured roof, maximum insulation and low-e glass window fittings.
- Recycling of effluent system water to use in the reticulation of the vegetated buffer and green areas.
- All stormwater captured and recycled.
- Vehicle cleaning will be a mixture of recycled water and scheme water.
- A significant new forest canopy will be established.

Further, the potential for green hydrogen at the Operations Centre site is currently being investigated.

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Energy

CORPORATE

Advocacy | Education | Delivery | Policy

Subject	Details	Action
Street Lights	The City will continue the systematic replacement of City owned mercury vapour, metal halide, compact fluorescent and high pressure sodium street light fittings with energy efficient LED.	
Smart Meters	The City will progressively introduce smart meters across its facilities to digitally measure energy use and remotely report readings. Smart meters also provide access to a wider range of services, including battery storage.	
Solar Photo Voltaic (PV)	The City will continue to look for opportunities to expand PV on City infrastructure, on top of the eight PV systems currently installed on buildings and facilities.	
Solar Inventory	The City will carry out a solar inventory of buildings and facilities to determine the optimum system capacities.	
Storing Energy	The City will investigate opportunities to store PV generated energy and utilise Virtual Power Plants (a network of connected batteries).	
Energy Saving Infrastructure	The City will continue to seek viable opportunities to retrofit energy saving measures in its facilities, such as LED lighting and motion sensors.	
Hydrocarbon Refrigerants	The City will explore the feasibility of retrofitting all AC units with natural hydrocarbon refrigerants.	
Energy Monitors	The City will fit real-time energy monitors to high energy using facilities and equipment.	
Power Purchase Agreement (PPA)	The City will continue to source renewable energy from WA based wind farms, through the WA Local Government Association's PPA, for its large energy using (contestable) sites.	
Power Purchase Agreement (PPA)	The City will support the extension of the PPA to non-contestable sites and street lighting.	
Waste to Energy Agreement	City waste will generate significant amounts of electricity through the Waste to Energy plant.	
Energy Audits	The City will continue to undertake energy audits of its facilities.	
Hybrid Fleet	The City will switch its light fleet vehicles to environmentally friendly hybrid models at replacement and continue to investigate the feasibility of a low emissions heavy fleet.	
Battery Powered Tools	The City will continue to consider the feasibility of battery powered tools and monitor new energy efficient developments for opportunities.	
Renewable Hydrogen	The City will conclude a Renewable Hydrogen Feasibility Study to explore the potential for hydrogen-based solutions at the future Operations Centre.	
Electric Vehicles	The City will explore cost effective opportunities to introduce electric vehicles into the fleet.	

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Energy

COMMUNITY

Advocacy | Education | Delivery | Policy

Subject	Details	Action
Switch Your Thinking	The City will continue to support Switch your thinking to inspire sustainable action in the community.	
Switched on Business Awards	The City will continue to support Switched on Business, which celebrates sustainability actions in local business.	
Community Solar Batteries	The City will continue to support community solar battery opportunities in cooperation with Western Power.	
Peak Load Warnings	The City, through Switch your thinking, will continue to offer free energy efficiency tips and peak load warnings for residents through SMS.	
Rewards for Residents	The City will continue to negotiate discounts on solar PV, battery storage, energy audits and rainwater tanks for local communities, through Switch your thinking.	
Construction Codes	The City will continue to enforce National Construction Codes that include provisions for energy efficiency for Class 1 and certain Class 10 buildings.	
Buildings	The City will prepare and promote guidelines relating to sustainable building construction.	
Leased Facilities	The City will continue to work with users of leased City facilities to explore options to reduce energy use.	
Energy Meters	The City will continue to provide a power usage meter, available for loan, at Thornlie Library.	
Street Lights	The City will continue to advocate for Western Power to be more proactive in replacing its mercury vapour street light fittings with LED, in accordance with Australian Standard 1158.	
Street Lights	The City will continue to encourage developers to provide energy efficient lighting infrastructure in accordance with CP 2.4.25 'Street Lighting Policy'.	

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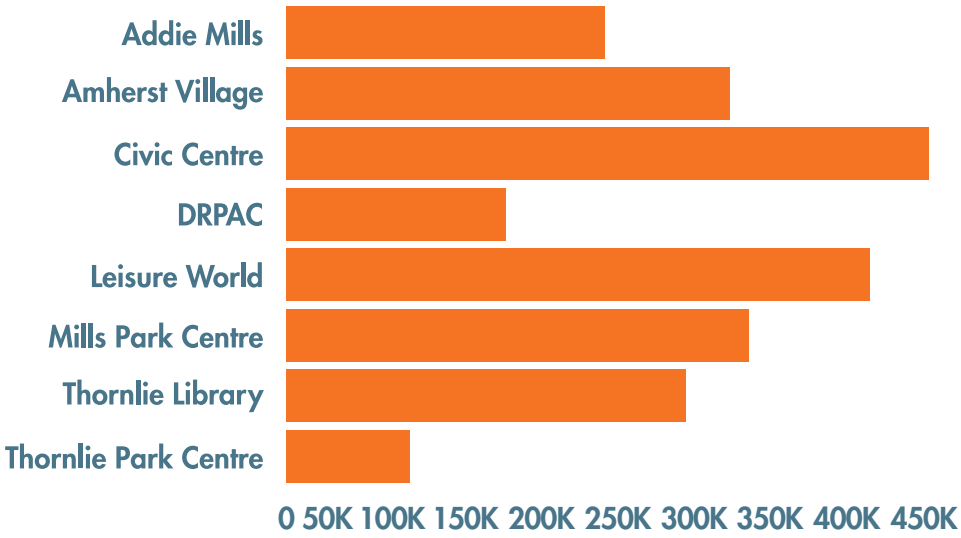
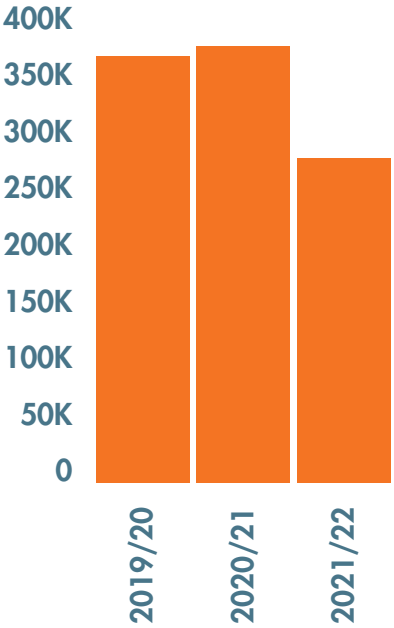
Energy

MONITORING

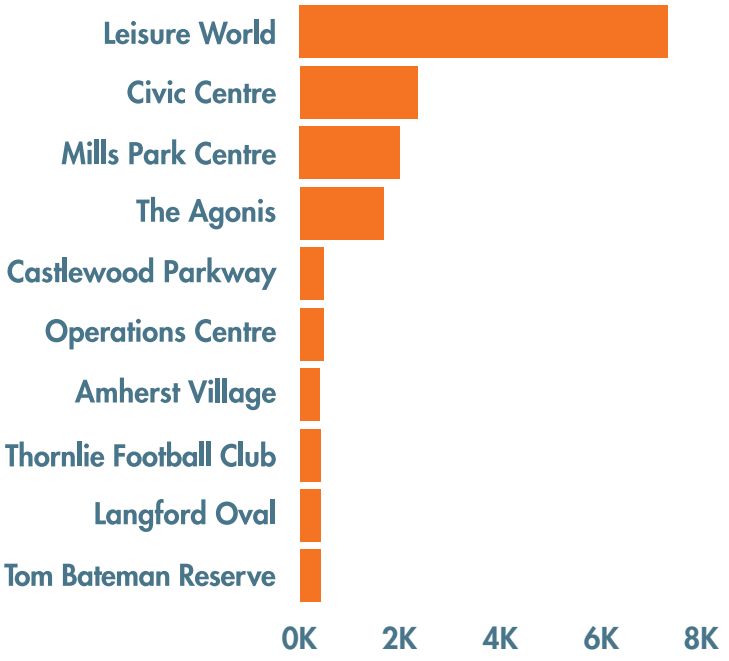
Total solar PV production to date (kWh)



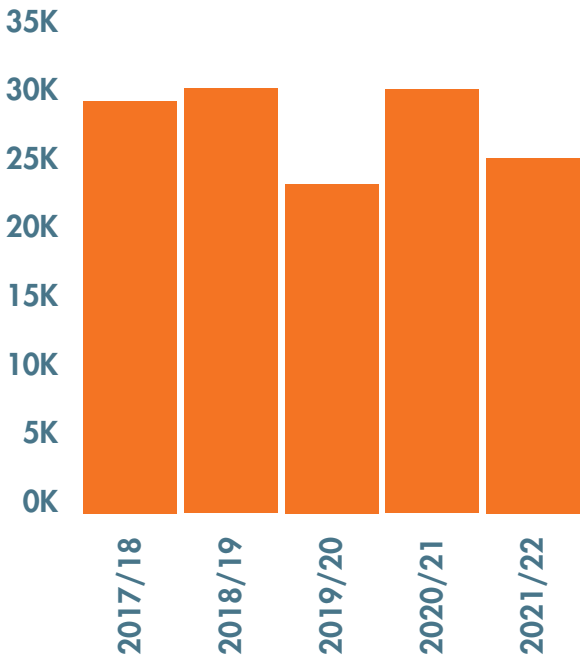
Annual solar production (kWh)



Top energy consuming assets (GJ)



Annual energy consumption (GJ)



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Energy

CASE STUDY



Energy Saving Infrastructure

Leisure World has LED lighting in pool areas and all offices. Carbon dioxide and motion sensors are installed in offices and public areas to switch off lighting and air conditioning when rooms are not in use.

Variable Speed Drives (VSD) are installed on pool pumps to reduce energy consumption and pool pumps are turned down overnight to reduce energy consumption in quiet times. Leisure World has also obtained Waterwise gold accreditation by utilising filters that limit backwash, implementing the use of floor scrubbers rather than hosing of the pool deck and change rooms and through water saving shower heads and fittings.

In 2021 Leisure World underwent a level two energy audit. The City is using the results of the audit to consider the feasibility of further energy saving measures.

7 AFFORDABLE AND CLEAN ENERGY

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

Green Power Partnership

The City of Gosnells is part of a Western Australian initiative to source renewable energy from WA based wind farms through the WA Local Government Association's Power Purchase Agreement.

The agreement has resulted in 24 of the City's highest energy-consuming sites being powered entirely by renewable energy as of April 2022.

Powering these sites with renewable energy is expected to reduce the City's greenhouse gas emissions by 24 per cent, or approximately 2,600 tonnes of carbon dioxide each year.

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Energy

NEXT STEPS

Hybrid Fleet

In 2019, light passenger and commercial vehicles produced over 62,000 Mt CO_2-e, which accounted for 62 per cent of emissions from the transport sector and over 12 per cent of all greenhouse gas emissions produced in Australia.

The City is switching to a hybrid light fleet. All new and replacement light vehicles will be energy efficient hybrid models with the expectation that the City will ultimately progress to a fully electric light fleet. It is expected that the fleet will be replaced within five years.

The National Transport Commission's Carbon Dioxide Emissions Intensity for New Australian Light Vehicles 2020 report found that the average emissions intensity of passenger cars and light SUVs is lower in hybrid vehicles than those with a traditional petrol engine.

When comparing a 2022 Toyota Camry with a 2022 Toyota Camry Ascent hybrid, the former has combined CO_2 tailpipe emissions of 155g/km, while the latter is 96g/km. Using the Camry as an example and based on average annual kilometres in WA, switching to hybrid could reduce the City's emissions by approximately 724kg per car per year. That's a 38 per cent reduction in light fleet emissions (www.greenvehicleguide.gov.au).

Streetlights

In 2020/21 emissions from streetlights in the City of Gosnells, but not owned by the City, equated to 4,400 t CO_2-e.

Where the City installs lighting to public areas, policy dictates a preference for the use of LED lighting, which requires less energy and reduces emissions. The City is also systematically replacing mercury vapour street light fittings from its own light poles with the aim of replacing all fittings by 2024.

The City will continue to encourage Western Power to be more proactive in replacing its mercury vapour street light fittings with LED fittings. Not only will this reduce the expense of streetlight electricity supply (currently costing the City around $2.5 million per year), this will also significantly impact emissions. It is estimated that changing to LED could halve streetlight emissions.

Further, the City is continuing to encourage the State Government to allow contestability in the supply of electricity for street lighting. This will allow street lighting to be considered similarly to other large local government facilities and sites that consume electricity. If street lighting is made contestable, there is potential for the City to utilise renewable energy to power the lights.



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Southern and Canning River Confluence Foreshore Management Plan 2021

A four-year management plan is being implemented to restore the 10 hectares of foreshore between Burslem Drive Bridge and Corfield Street in Thornlie, where the Southern River meets the Canning River.

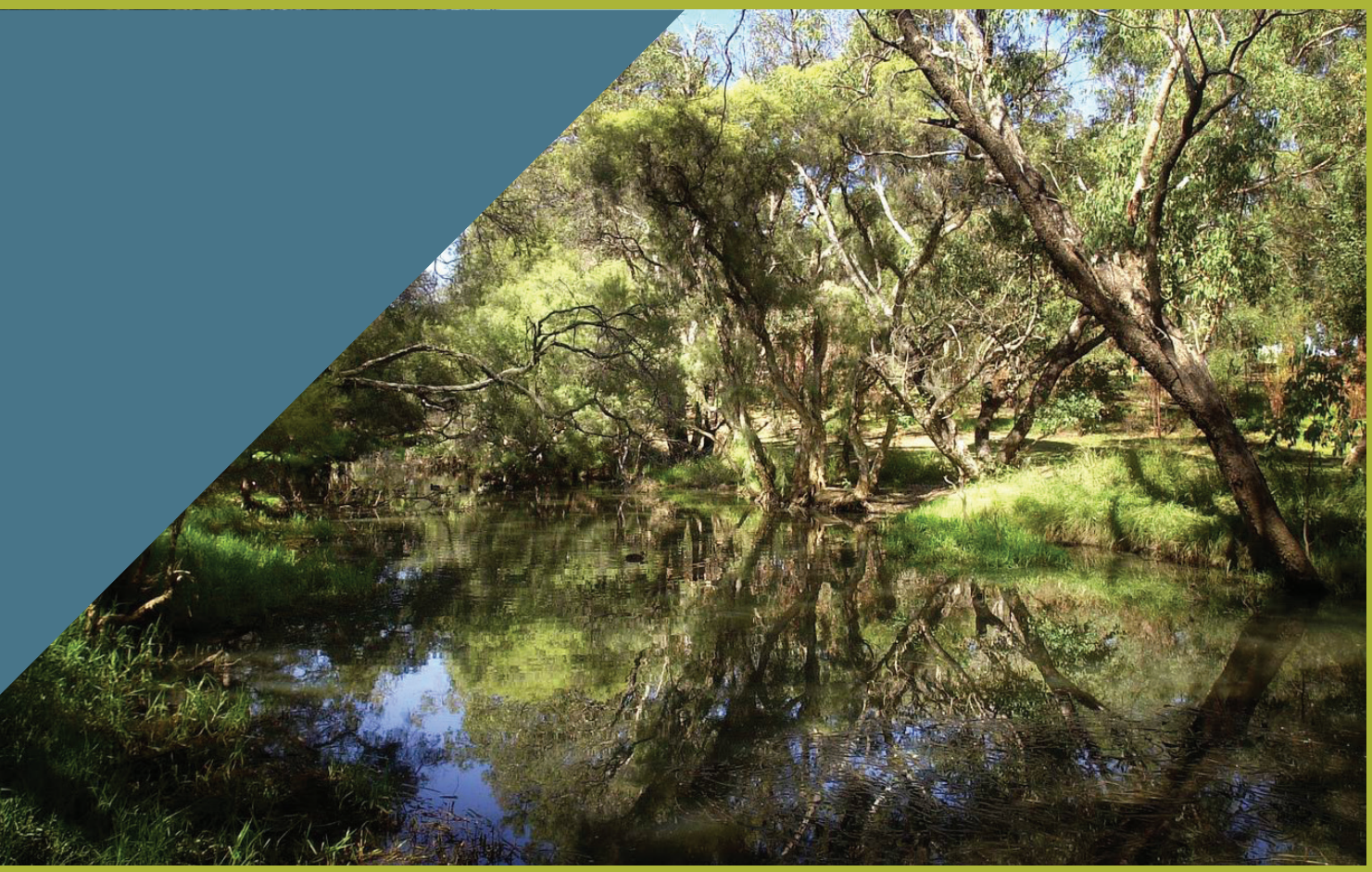
This area is known as the Southern and Canning River Confluence Foreshore Reserve. The management plan aims to restore the site to a natural environment that:

- Contains 80% endemic vegetation
- Improves the quality of water entering the Canning River
- Provides habitat for native fauna
- Produces a system that is tolerant to high and low water flows
- Promotes natural regeneration and is resilient to weed invasion

The City is receiving $257, 050 (ex. GST) from the Department of Biodiversity, Conservation and Attractions (DBCA), under the Southern and Canning River Urban Forestry funding stream to implement Stage 1 which will take place over an 18-month period from July 2022 to end-December 2023. The City will be running the project and contributing funds through its Capital Works Program.

The Armadale Gosnells Landcare Group (AGLG) rehabilitated two sections of the site between 2016 and 2020, with funding from DBCA, the City of Gosnells and the Western Australian Planning Commission. This agreement was one of the first collaborative approaches undertaken by all agencies. It has greatly enhanced the site.

The implementation of the plan will now bring the site back to its full potential.



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Infrastructure

CORPORATE

Advocacy | Education | Delivery | Policy

Subject	Details	Action
Shade Sails	The City will continue to install shade sails in playgrounds that lack natural shade and provide shelters in its parks and recreational spaces.	
Drainage Pipes	The City will continue, where applicable, to use plastic drainage pipes in lieu of concrete, requiring less energy to fabricate, transport and install.	
Drainage Solutions	The City will, where possible, utilise functional landscape treatments in public open space to support drainage systems without pipes.	
Pavement Recycling	The City will continue to implement, where applicable, foam bitumen stabilisation in lieu of new pavement reconstruction.	
Pavement Recycling	The City will continue to, where applicable, utilise recycled building and construction waste in lieu of new pavement construction.	
Stormwater Drainage	The City will continue to assess the option of drainage pipe re-lining in lieu of removal and installation of new pipes.	
Sustainable Procurement	The City will continue to utilise procurement policies with whole of life purchase considerations.	
Video Conferencing	The City will continue to provide resources to staff to support online meetings and reduce the necessity for commuting and in-person meetings.	
Drainage Retrofits	The City will continue to retrofit drainage outlets through water sensitive urban design measures, to improve water quality entering sensitive wetlands and waterways.	

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Infrastructure

COMMUNITY

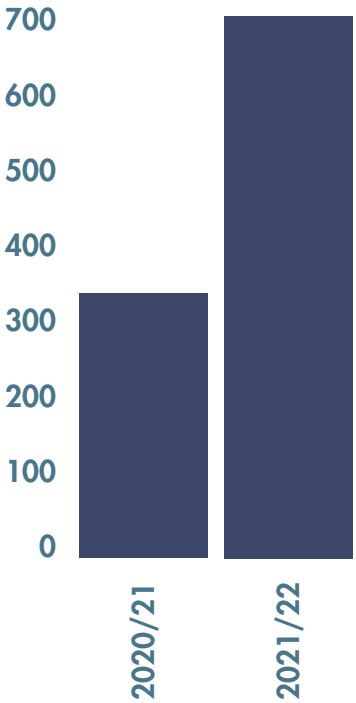
Advocacy | Education | Delivery | Policy

Subject	Details	Action
Local Planning Policy 4.7	The City will continue to implement Council's Local Planning Policy LPP 4.7 Public Open Space and Streetscapes requiring developers to provide new street trees (or pay a levy for the City to plant them) for all new lots in the City and prioritising the retention of existing trees in Public Open Space and streetscapes.	
State Planning Policy 7.3	The City will continue to implement State Planning Policy 7.3 'Residential Design Codes' Volumes 1 and 2. The introduction of Volume 2 in 2019 requires minimum tree planting areas for apartments in areas coded R40 or higher. Modifications to Volume 1 in 2021 require minimum tree planting areas for single house, grouped dwellings and multiple dwellings in areas coded less than R40.	
Cool Roofs	The City will advocate for pale coloured roofs and other low energy/low cost building measures to be prioritised in new residential developments.	

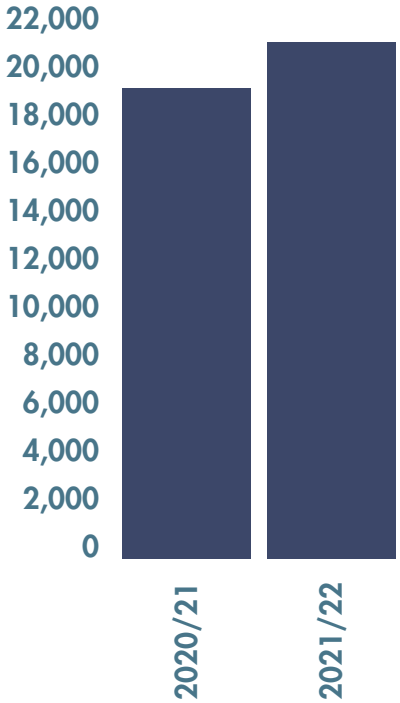
Infrastructure

MONITORING

Annual pipe relining (m)

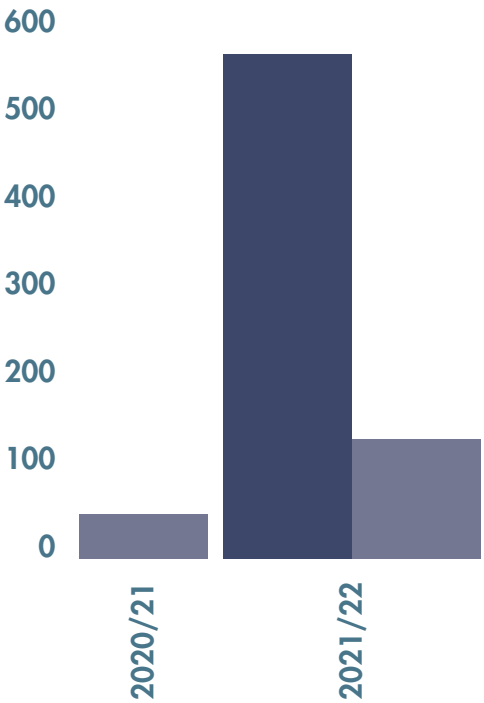


Annual foam bitumen restabilisation (m^2)



Trees resulting from planning policy

- Trees acquired through developments
- Trees from the street tree levy



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Infrastructure

CASE STUDY

Foam Bitumen Stabilisation

Foam bitumen stabilisation is used to improve the strength of failed pavements and increases the capacity of the pavements to sustain high traffic loads. The process includes pulverising the existing pavement and then injecting the material with a mix of bitumen, water and air to create a 'foam'. This acts as a binder and forms a new raw asphalt pavement to replace the existing pavement.

Foaming of bitumen allows the pavement material to be evenly distributed throughout a base, to form a structurally improved pavement. Foam stabilisation reuses the existing bitumen, which would ordinarily be wasted, by recycling it into the base.

This treatment has been applied on Kelvin Road (and numerous other roads), through the industrial area, where heavy transport occurs. It is expected the road will now have an increased life.



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Infrastructure

NEXT STEPS

Pipe Analysis and Relining

The City has embarked on an annual pipe relining program to proactively address tree root intrusion, structural issues and rehabilitate drainage systems. Cured-in-place drainage pipe relining is a trenchless rehabilitation method to repair drainage pipes quickly, efficiently and with much less interference than traditional pipe replacement.

The process involves running a continuous liner through the pipe that has been soaked with resin and expanded under pressure to adhere to the walls. Once in place, a UV light is used to cure the resin and form a permanent repair. This method of pipe rehabilitation has been applied at Shere Street, Kenwick, and other locations across the City.

The next phase of the program will be the purchase of a drainage inspection van that has been specially fitted and equipped to undertake detailed analysis of pipe conditions using robotic cameras. This approach will assist the City in the early identification and management of issues in the City's extensive network of over 900km of drainage pipes.







Maddington Town Centre Vision

By moving the City's Operations Centre, the vision for Maddington Town Centre as a Transit-Oriented Development (TOD) can be realised. TOD is an effective way to create sustainable neighbourhoods and walkable communities, through smart design and planning. TOD can reduce energy consumption and emissions by supporting people to walk, cycle or take public transport rather than relying on cars.

The plan is to transform the area of Maddington next to the train station into a dynamic town centre, with pedestrian links that integrate into the surrounding area, including the Canning River and the associated parks and reserves. By redeveloping the public land adjoining the train station, the City will create an accessible urban centre that provides opportunities for TOD as well as improved amenity and a connection to nature and green spaces.

The high quality urban centre will incorporate the following design elements:

- The provision of a formal civic space at the entrance to the train station.
- A large expanse of generously proportioned open space along Lower Park Road that will provide an active recreation focus as well as serving as a visual and acoustic buffer to the industrial land use activities to the north of the town centre.
- Boulevard connection between the Maddington train station and the open space that provides a series of pedestrian friendly moments including a piazza.
- Canning Avenue heritage interpretation and retention of existing mature trees that provides a strong connection from the boulevard to the town centre's Education Precinct.





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Transport

CORPORATE

Advocacy | Education | Delivery | Policy

Subject	Details	Action
Fleet Management	The City will continue to adopt an approved vehicle list based on emissions (t CO_2-e), as well as fleet management practices and logistics to minimise superfluous movements.	
Planning Policy	The City will continue to implement local planning policies to create future developments that are transit oriented.	
EV Charging Infrastructure	The City will seek opportunities to develop solar powered electric vehicle charging stations at its facilities.	
Alternative Path Treatments	The City will explore opportunities to use alternative path treatments, such as raised boardwalks, to prevent damage to trees. This approach is being used for the new dual use paths adjacent to the Armadale Rail Line.	
Bike Plan	The City will finalise and implement the City of Gosnells Bike Plan.	
Electric Bikes	The City will continue to provide a bike fleet that includes traditional and electric bikes that are available to staff for commuting, work trips and recreation.	

Transport

COMMUNITY

Subject	Details	Action
Public Transport	The City will continue to advocate for improvements in access to public transport.	
Cycling Groups	The City will continue to support the development of community cycling groups.	
Walking Groups	The City will continue to support community walking groups.	
Active Transport	The City will continue to promote both active transport and TravelSmart opportunities for residents.	
Electric Charging Stations	The City will advocate for electric vehicle charging stations in the district.	

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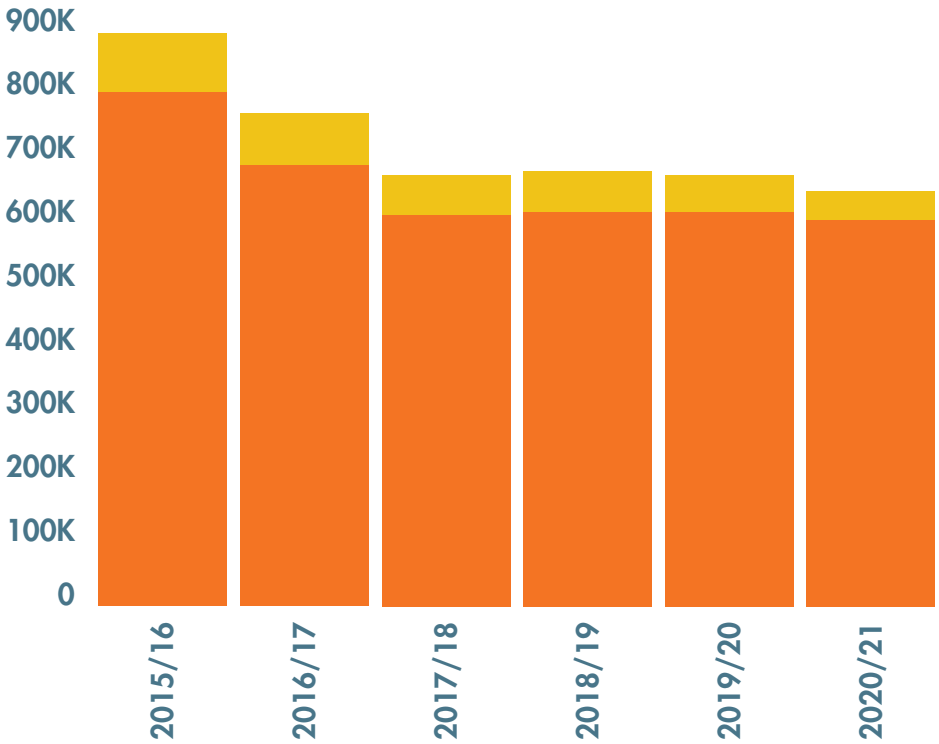
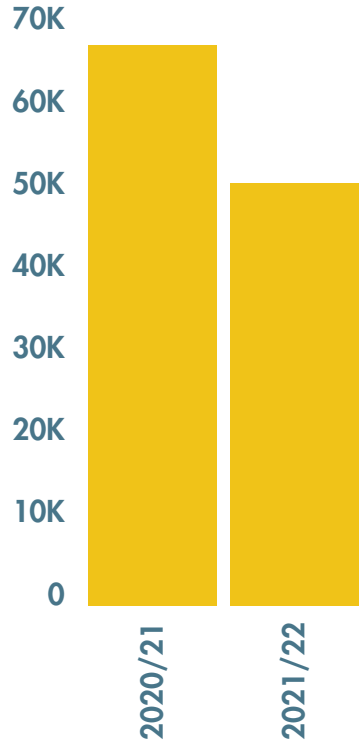
Transport

MONITORING

Annual fuel consumption (L) ▶ Diesel ▶ Petrol



Walking group participants



Transport

CASE STUDY







Principal Shared Path Expansion Program

Expansion of the principal shared path network is a key action of the Western Australian Bicycle Network Plan. In the City of Gosnells, that means completing the missing links in the path that runs parallel to the Armadale Line railway.

The project is jointly funded by the Department of Transport and the City of Gosnells.

Some of the works have required larger verges and narrower roads so that the shared path can be installed without removing significant numbers of mature Marri trees.

These trees along the railway reserve act as a green screen to the railway line and provide important foraging habitat for endangered Carnaby's Black Cockatoos and other native birdlife.

Further, sections of the path were designed to weave through the trees and to be elevated to avoid damage to tree roots.

Transport

NEXT STEPS

City of Gosnells Bike Plan

The City is developing a new City of Gosnells Bike Plan to guide investment in cycling and shared path infrastructure over the next 10 years. Following community consultation, the draft plan will be available for public comment. The Bike Plan will use the State Government's Long Term Cycle Network (LTCN) as its basis and work in conjunction with the Department of Transport.

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Elkhorn Avenue, Edencourt Drive and Tiger Circle Reserves

In late 2020, the City began major improvements to the Elkhorn Avenue, Edencourt Drive and Tiger Circle Reserves in Southern River.

These reserves have high conservation value and form part of a buffer to Balannup Lake, which is a Bush Forever Site. The City manages 4.26 hectares of natural area reserves that border Balannup Lake which provide an important recreational space for the local community's enjoyment.

The protection and enhancement of these reserves is imperative for the long term conservation of Balannup Lake. The City has been progressively enhancing the reserves since 2020, including ongoing weed control and revegetation of degraded areas.

To date, over 35,000 native seedlings and 229 native advanced trees have been planted at Edencourt Drive Reserve. Approximately 60 per cent of the native advanced trees are suitable for foraging, breeding or roosting by threatened black cockatoos that visit the site.

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Waste

CORPORATE

Advocacy | Education | Delivery | Policy

Subject	Details	Action
Construction Material Screening	The City will continue to screen materials from construction activities for re-use as back-fill.	
Disposal of Surplus Assets Policy	The City will continue to implement Policy, 4.1.15 'Disposal of Surplus Assets Valued at Less than $20,000', which enables the reuse of surplus assets, to minimise unnecessary waste.	
Community Events	The City will continue to incorporate environmental sustainability elements in the delivery of relevant community events, including capitalising on opportunities to educate attendees, suppliers and contractors on ways to practise reducing, reusing and recycling.	
Digital Marketing	The City will continue to seek opportunities to reduce printed marketing collateral and replace with digital where viable.	
Waste to Energy	The City will meet its contractual relationship with Avertas Energy, for household waste to be converted to energy rather than go to landfill.	



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Waste

COMMUNITY

Advocacy | Education | Delivery | Policy

Subject	Details	Action
Adopt-a-Spot	The City will continue to partner with keep Australia Beautiful WA (KAB WA) to support the Adopt-a-Spot litter program.	
Clean-up Days	The City will continue to support the Armadale Gosnells Landcare Group's (AGLG) facilitation of local clean-up days.	
School Waste Education	The City will continue to provide the Cleanaway school education program, a contractual agreement in which Cleanaway delivers a program that improves children's knowledge of waste streams and how to minimise waste.	
Resource Recovery Facility	The City will seek to establish a resource recovery facility for public use in the near future.	
Waste Education	The City will continue to provide relevant information to improve residents' knowledge of waste streams and recycling options to minimise waste.	
Green Waste	The City will continue to manage green waste in two streams. Stream one is material that is collected and turned into mulch for use on City's reserves. Stream two is material that is collected from residents' properties and is recycled for commercial use by contractors.	
Recycling	The City will continue to provide a recycling bin collection service to enable appropriate products to be recycled where possible.	
Verge Collection	The City will continue to provide a verge collection service. Where possible, recyclable materials are separated at the verge and recovered to minimise the amount of bulk materials sent to landfill.	
Litter	The City will continue to encourage residents and visitors to help keep the environment clean and litter free. Littering is an offence under the Litter Act 1979 and the City's Rangers will issue fines to offenders where identified.	
Public Waste	The City will continue to improve the facilities for collecting public waste at its parks and buildings.	
Recycling Points	The City will continue to provide collection points in City libraries to enable the recycling of specific products.	
Loan Collections	The City will continue to support libraries, which provide a sustainable system of sharing and circulating materials that reduce waste.	
Food Vendors	The City will continue to work with food vendors at City events to avoid single use items and utilise compostable event production materials (cutlery, plates, cups, packaging etc).	

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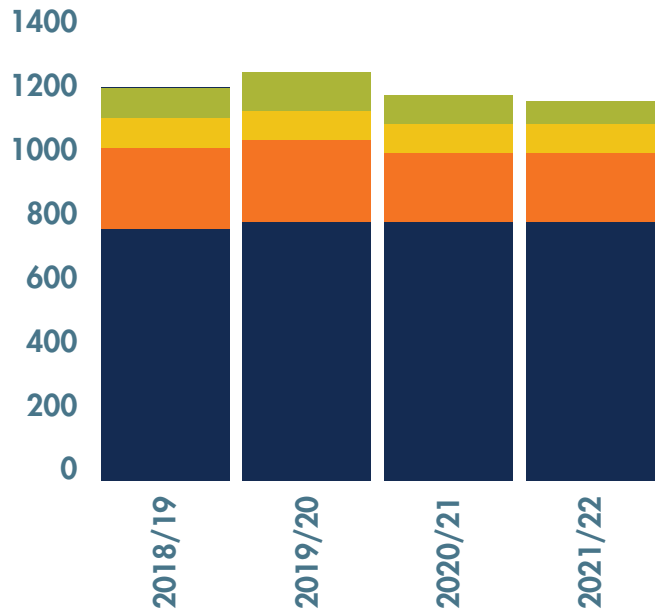
Waste

MONITORING

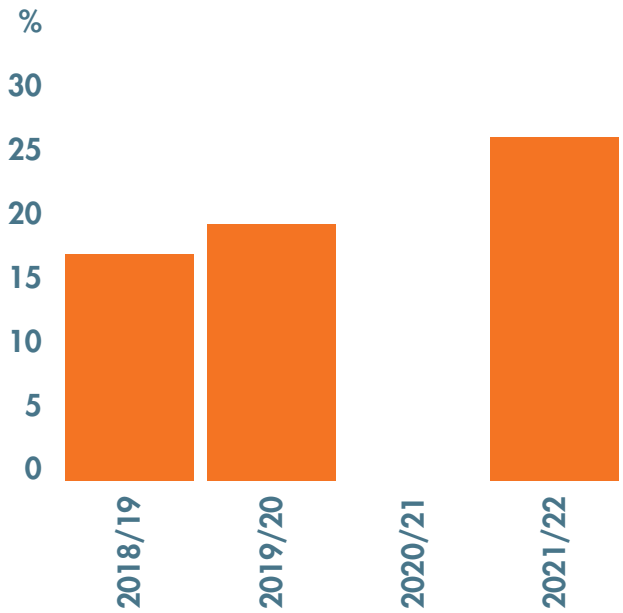
Domestic waste per rateable dwelling (kg)

- Residual waste
- Recyclables
- Hard waste
- Green waste



Recycling comtamination rate

Recycling contamination rate is not available for 2020/21 as a result of a fire at the facility



Waste

CASE STUDY

Waste to Energy

The City of Gosnells is one of a number of local governments that have agreed to supply waste to a new waste to energy plant in Kwinana, the first such plant in Australia. The plant will receive household waste that would otherwise have been sent to landfill.

When commissioned, the plant will provide a practical solution to two big community challenges – disposing of significant quantities of household rubbish and providing additional secure and uninterrupted renewable energy.

Avertas Energy will use world-class technologies to process 460,000 tonnes of waste per year and significantly reduce CO_2 emissions. The plant will have the capacity to export 36MW of baseload electricity to the grid. These outcomes are the equivalent of powering 71,000 households every year.



Waste

NEXT STEPS

Waste Transfer Facility

The City's proposed Operations Centre will include a waste transfer facility. The purpose of the waste transfer facility is to provide a clean, efficient and effective mechanism to transfer all waste to the Avertas facility for processing. The transfer facility is part of the City's waste management plan to achieve over 90 per cent resource recovery from City waste. The City is also seeking to establish a community resource recovery facility for residents, with a tip shop, in the near future.

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Water

CORPORATE

Advocacy | Education | Delivery | Policy

Subject	Details	Action
Irrigation Efficiencies	The City will continue to monitor and minimise water usage through flow meters on bores.	
Irrigation Efficiencies	The City will trial the application of wetting agents through sprinkler systems to improve delivery and reduce water usage.	
Irrigation Efficiencies	The City will continue to utilise technology to control irrigation systems remotely. This allows rapid adjustments to irrigation programs to respond to changing weather conditions and reduce unnecessary watering.	
Bore Renewals	The City will continue to implement a replacement program for old bore equipment to achieve greater efficiencies in water and energy use.	
Stormwater Drainage	The City will continue to install environmental stormwater treatment features that trap litter in manholes and prevent it from entering streams and wetlands.	
Stormwater Drainage	The City will continue to convert open drains to sustainable living streams and encourage the Water Corporation to do the same with its assets.	
Stormwater Drainage	The City will continue to implement at-source treatments within basin water catchments, such as gross pollutant traps for litter collection.	
Stormwater Drainage	The City will investigate further water sensitive drainage and end of pipe stormwater treatments that improve the condition of water being discharged into the Canning and Southern Rivers.	
Subsurface Storage	The City, where practical, will utilise subsurface water storage within public open space to decrease reliance on ground and scheme water.	
Water Consumption	The City will continue to monitor and minimise the water usage at its buildings and facilities.	
Waterwise Parks	The City will continue to design parks and reserves to minimise the use of water, through ecozoning, hydrozoning and waterwise species selection.	
Waterwise Council	The City will continue to work with the Water Corporation and the Department of Water and Environmental Regulation to maintain its Waterwise Council endorsement.	
Water Audits	The City will undertake water audits for key facilities and incorporate viable recommendations.	
Stormwater Harvesting	The City will explore opportunities to harvest stormwater for irrigation use.	
Compensation / Retention Basins	The City will consider opportunities to convert existing compensation and retention basins into wetland systems.	
Managed Aquifer Recharge	The City will investigate managed aquifer recharge opportunities.	

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Water

COMMUNITY

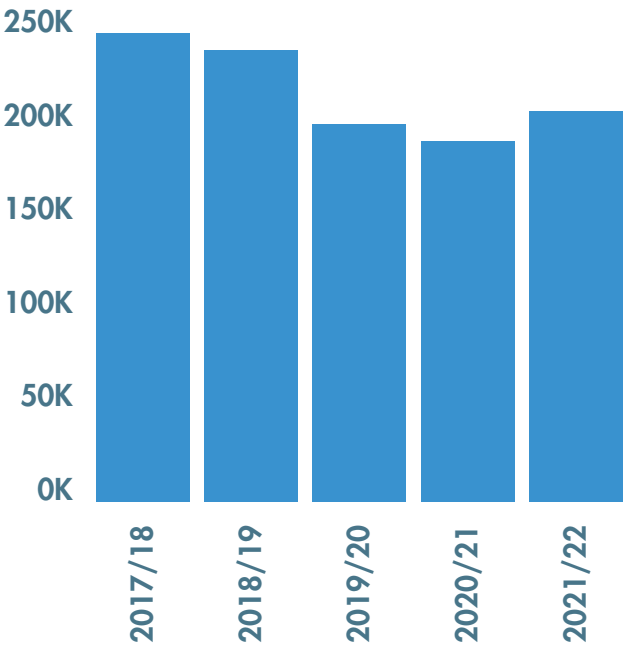
Advocacy | Education | Delivery | Policy

Subject	Details	Action
Stormwater Drainage	The City will continue to implement the Local Planning Policy which details how new developments should manage stormwater effectively, and assess stormwater management plans for all new developments.	
Waterwise Verge	The City will continue to produce Waterwise Verge Guidelines for residents.	
Groundwater Contaminant Reduction	The City will continue its Light Industry Program partnership with the Department of Water and Environmental Regulation, focussing on proactive audits to ensure contaminants are not intentionally or inadvertently entering the rivers through stormwater drains.	
Decentralised Water Balancing	The City will consider opportunities for decentralised water balancing (the process of collecting, treating and dispersing or reusing wastewater on a local scale) and greywater reuse schemes at the subdivision level.	

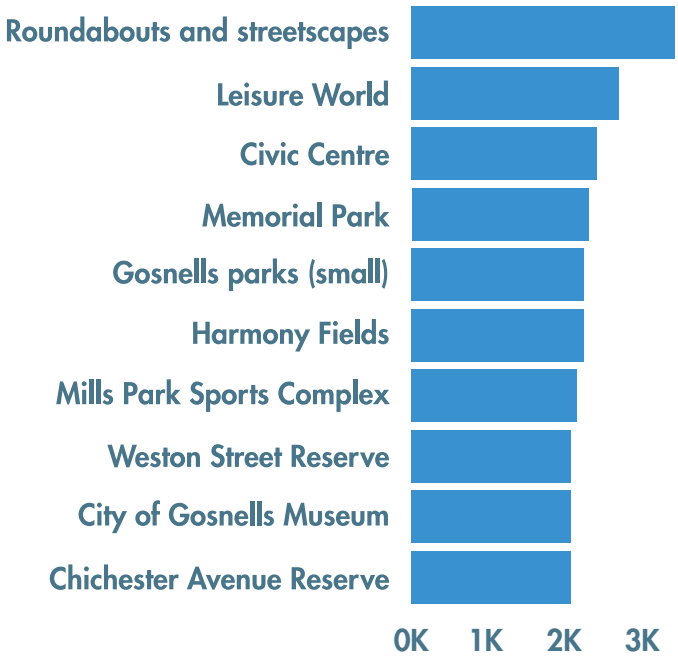
Water

MONITORING

Annual water consumption (kL)



Highest water consuming assets (kL)



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Water

MONITORING

Highest increase in water consumption (kl)

Assets	Water usage (kl)	Year on year change
Harmony Fields	5,710	851%
Thornlie Avenue Park	1,440	730%
Chichester Avenue Reserve	4,900	154%
Hovea Place Reserve	1,930	153%
Weston Street Reserve	5,000	130%
Langford Community Centre	2,230	120%
Peace Court Reserve	3,520	60%
Civic Centre	8,650	52%
Memorial Park	5,830	51%
Leisure World	11,920	13%

Water

CASE STUDY

Living Streams

The City has been working on the conversion of open drains to sustainable living streams, such as Mandarin Road and Dunnell Park. These living streams improve amenity and create recreational opportunities, reduce the detrimental nutrients and pollutants entering the rivers, recharge stormwater into the groundwater system and increase the habitat and biodiversity value.



Yule Brook circa 2011



Yule Brook circa 2022

6 CLEAN WATER AND SANITATION

11 SUSTAINABLE CITIES AND COMMUNITIES

14 LIFE BELOW WATER

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Water

NEXT STEPS

Restoring our Rivers Campaign

The City of Gosnells, along with the Cities of Armadale and Canning and the Town of Victoria Park – who together represent the South East Corridor Councils Alliance (SECCA) – joined the Armadale Gosnells Landcare Group (AGLG) and the South East Regional Centre for Urban Landcare (SERCUL) to seek significant Federal Government funding for the Canning and Southern Rivers in the lead up to the 2022 Federal Election. The Restoring our Rivers campaign was designed to reduce the environmental impact of urbanisation on the rivers in the south east corridor.

In response to the campaign, the newly elected Federal Labor Government committed to investing $15 million into restoration and rehabilitation works on the Swan and Canning Rivers, as part of its election pledge. According to Mayor Lynes:

"This is a valuable opportunity to work with the other SECCA councils and local environmental and community groups to raise awareness of declining river health and secure funding to improve our river systems."



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Reporting

The City will incorporate monitoring of the actions identified in this plan into the regular reporting schedule for the City, providing a mechanism to track the success of the actions.

A final report will be developed to comment on the success of the action plan. A new action plan will be considered as a result of the 2030 final report.

With special thanks

The City of Gosnells would like to acknowledge the significant partnerships that contribute to the City's sustainability and environmental goals.

Switch your thinking

The City of Gosnells, City of Armadale and the Shire of Serpentine-Jarrahdale, through the South East Regional Energy Group, work together to develop partnerships with business, industry and residents to encourage energy efficient, water-wise and waste reducing behaviour.

Switch your thinking engages our community to take actions to reduce greenhouse gas emissions through workshops, projects and incentives.

Rewards for Residents is a program available to residents of Switch your thinking Councils and supports people to make their homes more sustainable. Through partnerships with local businesses, residents can access discounts on products that help cut waste and reduce energy and water use.

Armadale Gosnells Landcare Group (AGLG)

The Armadale Gosnells Landcare Group is a community led group that coordinates landcare planning, river restoration, bushland management, community action and community awareness and behaviour change programs. The AGLG has been running since 1998 and consists of four staff members jointly funded by the Cities of Armadale and Gosnells and supported by community groups, local residents, landowners and volunteers. AGLG is a partnership which supports environmental volunteers to:

- Implement on-ground restoration and revegetation projects, focusing on the riverparks
- Educate the community about local landcare issues
- Plant native seedlings
- Remove priority environmental weeds
- Provide technical advice and advocate for the environment

South East Regional Centre for Urban Landcare (SERCUL)

SERCUL was formed in 2003 as an independent Natural Resource Management body to bring together the community, business and government in the south of Perth to improve the health of local waterways and ecosystems. It covers Djarlgarra (the Canning River), the Southern-Wungong River and their tributaries, and parts of Derbarl Yaragan (the Swan River). SERCUL is involved in:

- Community and partnership projects
- Landcare and restoration
- Environmental education

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The Friends of Mary Carroll Wetlands

The Friends of Mary Carroll Wetlands are a committed group of community members who work with the City of Gosnells to manage the wetlands and its surrounds. The aim of the group is to rehabilitate, conserve and maintain the natural environment of the wetlands and to promote community awareness of their important values. The Group undertakes many activities including:

- Revegetation and weed control
- Education
- Litter clean up
- Seed collection
- Turtle and frog watch
- Yellow fish drain stencilling
- Eco Walks and Talks

The Friends of Ellis Brook Valley (Inc.)

The Friends of Ellis Brook Valley (Inc.) is a dedicated and determined team that has completed many successful conservation projects at Ellis Brook Valley Reserve. The principal aim of the group is the conservation and preservation of the Reserve and to foster a greater understanding and enjoyment of the Reserve by the general public. The group undertakes many activities including:

- Providing advice on future developments
- Revegetation
- Erosion control
- Rubbish and graffiti clean up
- Sourcing funding
- Keeping records and inventory of species and fungi
- Conducting Eco Walks and Talks program

Friends of Astley Street

The Friends of Astley Street work on the foreshore along the eastern banks of the Canning River in Gosnells. The group meets regularly to plant native species, manage weeds and water native plants during summer.

Friends of Brixton Street Wetlands

The Friends of Brixton Street Wetlands community group was formed by local residents who are keen to protect the biodiversity of the Brixton Street Wetlands. The site is managed by the Department of Biodiversity, Conservation and Attractions and sits within the City of Gosnells. Collectively, the group holds an immense amount of knowledge about the wetlands. The group works closely with universities and holds community wildflower walks.

Active community members

There are also members of the community active in supporting biodiversity and rehabilitation in locations along the Canning and Southern Rivers, including Thornlie River Park and at Hume Road Wildlife Reserve.

If would like to learn more about the actions you can take to become more sustainable in the community, such as joining a community landcare group, participating in Adopt-a-Spot or attending a Switch your thinking workshop, contact the City by emailing council@gosnells.wa.gov.au or phoning 9397 3000.

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