

Environment *Strategy* 2024-2034



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City of Kwinana kadiŋj kalyakool moondang-ak kaaradj midi boodjar-ak ngala nyininy, yakka wer waabiny, Noongar moort. Ngala kadiŋj baalap kalyakoorl nidja boodjar wer kep kaaradjiny, baalap moorditj nidja yaakiny-ak wer moorditj moort wer kadiŋj Birdiya wer yeyi.

City of Kwinana acknowledges the traditional custodians of the land on which we live, work and play, the Nyoongar people. We recognise their connection to the land and local waterways, their resilience and commitment to community and pay our respect to Elders past and present.

Contents

Mayor's Message	4
Executive Summary	5
Introduction	6
Purpose	6
How the Strategy was developed	6
Kwinana Today	8
Our Approach	10
Strategic Outcome	10
Climate Lens	10
Key Directions Overview	11
Our Key Directions	12
1 – Liveability	13
2 – Decarbonisation	18
3 – Biodiversity	22
4 – Circularity	26
Delivering the Strategy	29
Monitoring and Evaluation	29
References	29

Mayor's Message



I am proud to present the City of Kwinana Environment Strategy 2024–2034. Our strategy underscores our commitment to preserving Kwinana's unique blend of bushland, industry, and coastline while addressing the challenges of climate change, population growth, and industrial expansion.

Our vision is to ensure a naturally beautiful environment that is enhanced and protected. This strategy outlines key directions—Liveability, Decarbonisation, Biodiversity, and Circularity—each with specific goals and actions to create a resilient and sustainable community.

Liveability focuses on creating greener spaces, protecting cultural heritage, and improving active transport. Decarbonisation commits us to achieving Net Zero corporate emissions by 2035 and becoming a Net Zero city by 2050. Biodiversity aims to protect and restore our natural habitats, while Circularity promotes sustainable practices and reducing waste.

This strategy reflects our shared aspirations and values, developed through extensive consultation with the community and stakeholders. The City of Kwinana is dedicated to leading by example, fostering partnerships, and engaging residents to achieve our environmental goals.

Thank you for your support and commitment. Together, we can ensure Kwinana remains a place of natural beauty and sustainability for generations to come.

Peter Feasey
Mayor of Kwinana

Executive Summary

The City of Kwinana Environment Strategy draws together various council initiatives to deliver our Strategic Community Plan's key objective:

A naturally beautiful environment that is enhanced and protected.

This strategy sits above and coordinates a range of existing and developing plans and strategies to ensure that our environmental work is delivered in a coordinated and effective manner. The Environment Strategy was developed through a review of existing strategies and consultation with staff as well as key external stakeholders.

The work set out in this strategy is grouped under four Key Directions each with its own set of goals:

- **Liveability** – strengthen our communities' resilience to the projected impacts of climate change, create a greener city, protect the cultural heritage of Kwinana and increase active transport access for all our community.
- **Decarbonisation** – achieve Net Zero corporate emissions by 2035 and become a Net Zero city by 2050.
- **Biodiversity** – protect, enhance and restore our region's biodiversity and manage water systems in an environmentally responsible manner.
- **Circularity** – drive the creation of a circular economy for our community.

Crucially, the actions in the Environment Strategy are to be viewed through a lens of a changing climate, including both the threats to how we live and work as well as opportunities arising from our response to climate change.

The Environment Strategy will be delivered through a rolling Implementation Plan that reflects the activities undertaken in the supporting work plans and strategies. The Implementation Plan will be updated annually, and the Environment Strategy will undergo a minor review every two years and a major review after six years, to align with the next Strategic Community Plan.

Introduction

Purpose

This Environment Strategy is designed to deliver the environmental objectives of the City of Kwinana Strategic Community Plan.

The Strategic Community Plan objectives to be delivered through this strategy are:

Retain and improve our streetscapes and open spaces, preserving the trees and greenery that makes Kwinana unique.

and

Maintain and enhance our beautiful, natural environment through sustainable protection and conservation.

Together, these will result in a naturally beautiful environment that is enhanced and protected.

In 2023, the Strategic Community Plan was reviewed and identified the following key environmental priorities: sustainable practice, climate change, biodiversity conservation, general waste and recycling services, streetscapes, urban forest canopy, verges, and environmental management.

The City of Kwinana also adopted its Sustainability Framework in 2023, which has been designed to support the outcomes of the Strategic Community Plan in a responsible manner while aligning with the United Nations Sustainable Development Goals. It addresses the four sustainability pillars – environment, social, economic and governance – and establishes principles and priority areas to guide operations and decision-making.

The Environment Strategy provides direction and synthesises existing operational plans for key focus areas that support strategic direction and provide operational guidance. In doing so, it helps prioritise resources and inform Council's environmental work plan within the Sustainability Framework.

The Environment Strategy also informs and is informed by other major over-arching strategies, including the Local Planning Strategy, Infrastructure Strategy and Social Strategy and, in turn, informs the operational plans of relevant business units, as set out in Figure 1. The Environment Strategy will be reviewed every two years with a comprehensive review after six years to align with the development of a new Strategic Community Plan. The Strategy will annually inform our Corporate Business Plan and budget development processes.

The Environment Strategy not only coordinates internal council operations but also tells a story for our community. Kwinana is a unique environment undergoing the pressures of change, including a growing population and shifting industrial trends.

Meeting our strategic objectives will be vital to ensure we protect, maintain and support the environment that we all value in Kwinana.

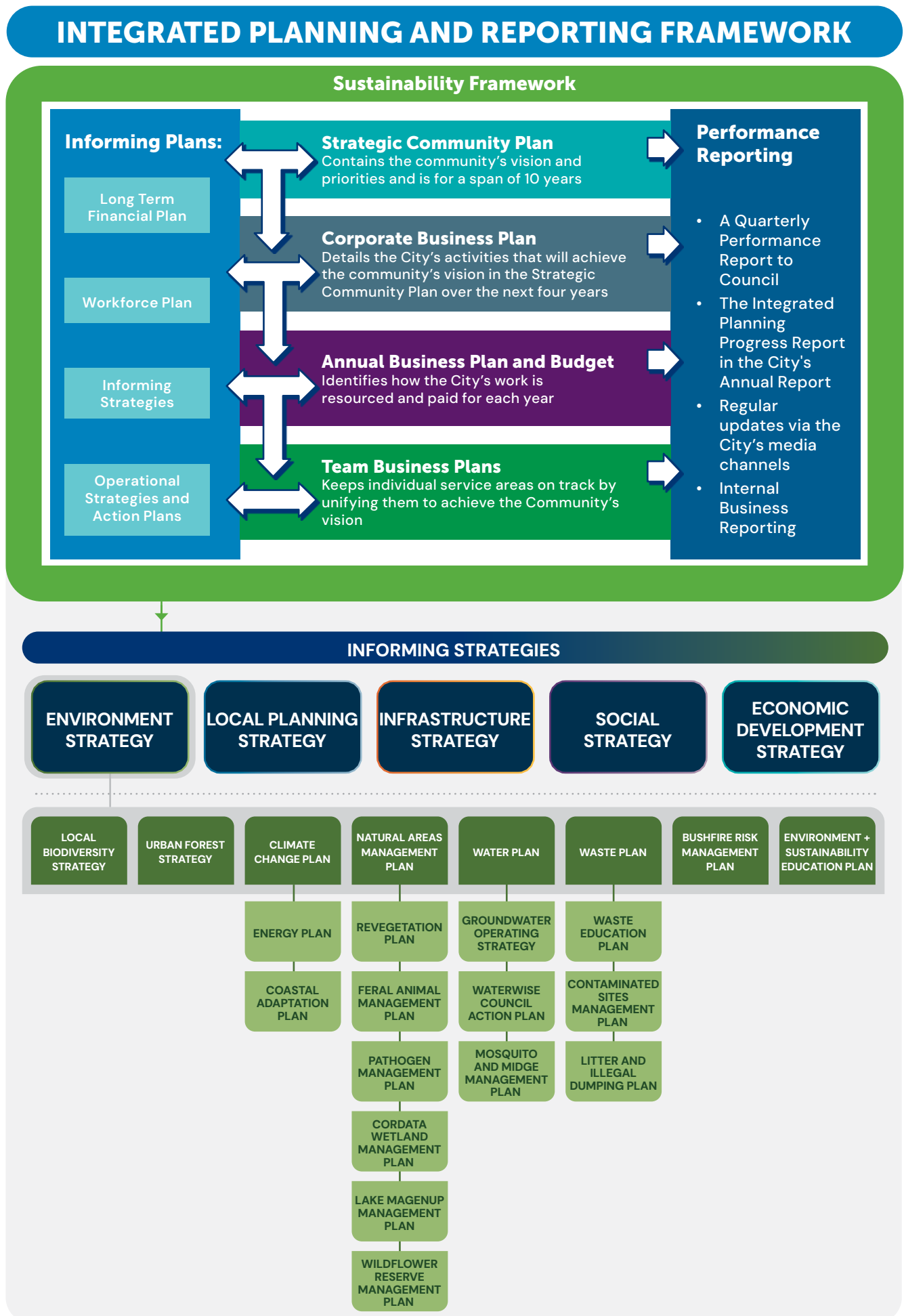
How the Strategy was developed

This strategy has been developed through:

- the development and application of a benchmarking framework to assess current City of Kwinana environmental strategies against a national database of local government strategies and best practice actions, plans and practices,
- a desktop review and gap analysis of City of Kwinana strategies and plans,
- consultation with identified responsible business units on Council environmental strategies, plans and practices, and
- consultation with key stakeholders from the community and business in Kwinana, as well as relevant State Government departments and agencies.

Development of this strategy took place between December 2023 and May 2024.

Figure 1: Relationship of Environment Strategy to sector specific plans



Kwinana Today

The City of Kwinana is located in the south of the Perth metropolitan area.

Our home is a unique combination of bushland, industry, coast, and rapidly growing suburbs. Our population is forecast to grow by approximately 45,000 people and reach a total of 85,000 by 2036ⁱ. This will occur mainly in our growth areas, such as Wellard, Wandi and Mandogalup, but will also have an impact on our existing towns and rural living areas.

Our industry is projected to continue to grow, which makes maintenance of our buffer areas for residents even more crucial. We'll see more traffic on our roads not only from population growth but also through the development of major projects, such as the Outer Harbour development.

The environment we live in is valued by our residents. We enjoy access to bushland, local parks, unique coastal environments, and a quality of life that is supported by our environment. The City of Kwinana plays a key role in managing these natural assets, increasing urban canopy cover, and maintaining ecological linkages to ensure the sustainability of our biodiversity. We are also preparing for the growing impacts of climate change, which will create additional stress for our environment.

The City of Kwinana is working to ensure we protect what we have and assist people to live in a more sustainable manner.

Snapshot graphic of key environmental indicators (2022/23):

55.5 tonnes

greenhouse gas emissions per capita

85,000

population forecast to grow to by 2036

32

conservation reserves
managed by the City

19.8%

tree canopy cover

16,891t

of waste generated per year

3,775t

of recycled waste collected per year

629

street trees planted per year
for the past 3 years

353 ha

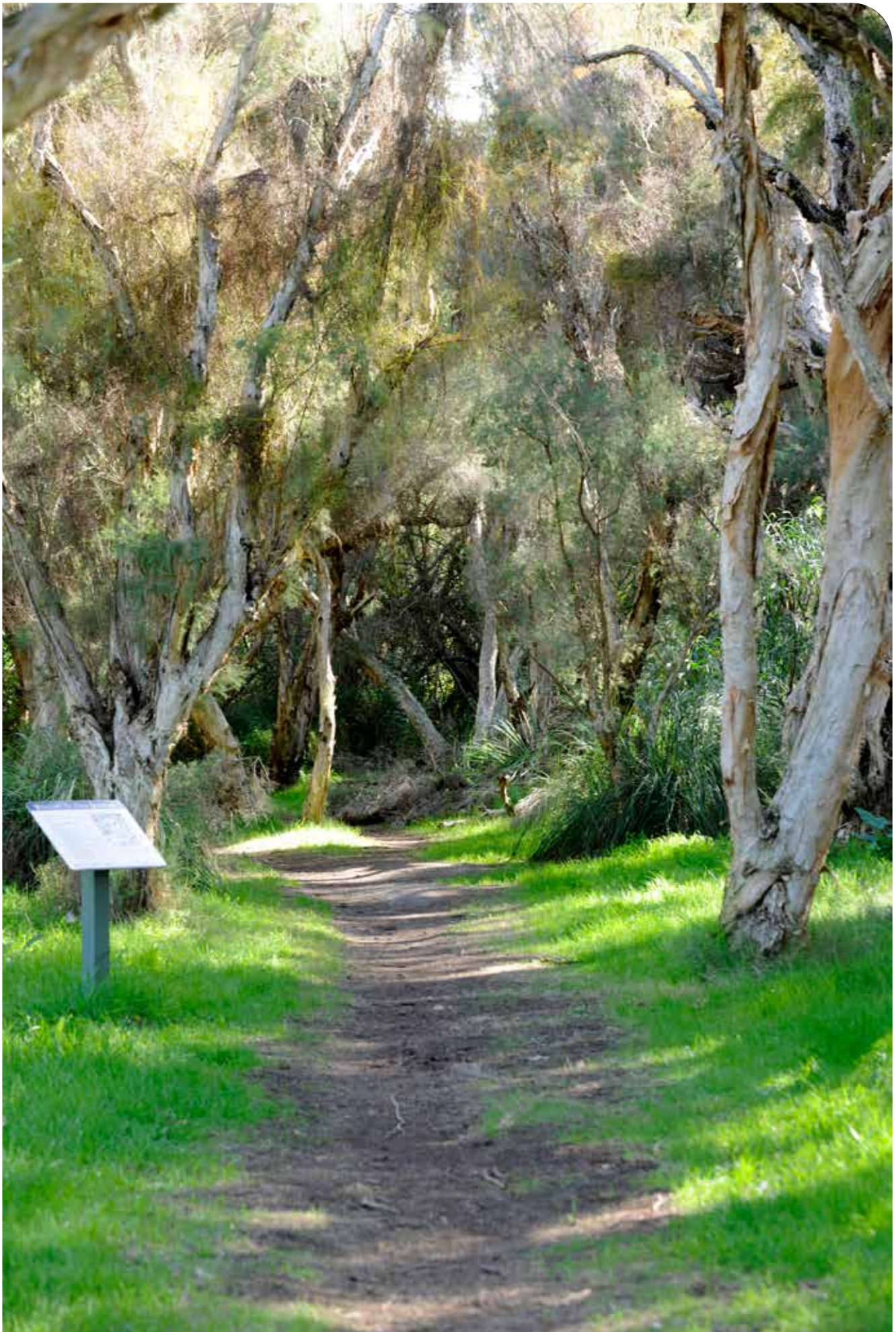
of City-managed natural reserve

2,900

subsidised native seedlings
offered to the community each year

75.83kL

of water per capita used by residents



Our Approach

Strategic Outcome

The Environment Strategy is designed to deliver the City of Kwinana's Strategic Community Planⁱⁱ key strategic outcome:

"A naturally beautiful environment that is enhanced and protected."

Climate Lens

While the City of Kwinana has developed and is delivering a specific Climate Change Plan, it is also necessary to recognise that the social, economic, and environmental changes wrought by climate change impact across all the City's work.

This includes preparing for projected impacts of climate change upon both City assets and operations, and upon the communities of Kwinana. The Kwinana region is

forecast to become hotter and drier, with an associated increase in dangerous fire conditions, and will experience more intense storms and extreme rainfall events and increased coastal erosion and inundation from rising seas^{iv}.

Kwinana is also at the forefront of societal and technological changes responding to climate change, notably the shift from a dependence upon fossil fuels to renewable sources of energy, including wind, solar and hydrogen. This takes the form of projects, such as the H2Kwinana Hydrogen Hub, the Kwinana Battery Energy Storage Systems, the Waste to Energy facility and the Kwinana Renewable Fuels project.

In developing this Environment Strategy, we are viewing the future through a climate lens and thinking about what it means for how we will live and work.



ⁱⁱ (City of Kwinana 2021)

ⁱⁱⁱ (City of Kwinana 2023b)

^{iv} (CSIRO 2024)

Key Directions Overview

To achieve this, we have established four Key Directions, each with goals and links to Sustainability Principles in our Sustainability Frameworkⁱⁱⁱ.

LIVEABILITY



Goals

- Strengthen our communities' resilience to the projected impacts of climate change
- Create a greener city
- Protect the cultural heritage of Kwinana
- Increase active transport access for all our community

DECARBONISATION



Goals

- Net Zero corporate emissions by 2035
- Become a Net Zero city by 2050

BIODIVERSITY



Goals

- Protect, enhance and restore our region's biodiversity
- Manage water systems in an environmentally responsible manner

CIRCULARITY



Goals

- Drive the creation of a circular economy for our community

Our Key Directions

A key part of the Environment Strategy is the organisation of our work around key directions to ensure collaboration and more effective delivery of policies and programs.

The selection of these directions is a result of an analysis of previous and current environmental activities and a response to the likely pressures on the local environment.

These include accommodating the rapidly growing population of Kwinana in a sustainable manner, reducing overall greenhouse gas emissions to lessen our contribution to climate change, protecting and enhancing our local biodiversity and reducing and managing the waste produced within the community.

In each key direction, we explain why this body of work is important, tell the story of what we have already been doing, establish goals which will guide our work and set out future actions to achieve those goals.



KEY DIRECTION

1

Liveability

SOCIAL INCLUSION



COMMUNITY WELLBEING

GENERATIONAL
VALUE CREATIONRESILIENT AND
ADAPTABLE
COMMUNITIESINTEGRATED AND
TRANSPARENT
DECISION-MAKINGTHRIVING LOCAL
ECONOMY

Why the environment is important for a Liveable City

Liveability means having convenient access to everything our community needs. This includes activity centres that provide shops, entertainment, health services and social connection, recreation facilities to provide a healthy lifestyle, employment opportunities, diverse housing options, safe efficient and effective movement networks linking places and green spaces.

It's about creating a sense of community within place. It involves opportunities for our community:

- to express their own identity, culture, and stories,
- to take environmental action: and
- protect local heritage and character

Kwinana is undergoing rapid change. Over the past decade, our population has almost doubled to around 50,000^v, a trend that's expected to continue. Meanwhile, the Western Trade Coast (including the Kwinana Industrial Area) is changing as industry begins to reform to respond to changing energy requirements, social and environmental obligations and will expand further with the development of the Westport Outer Harbour.

Underpinning all this is the environment in which we live and work. The City is working to ensure we can meet our liveability objectives and protect our natural environment.

Environmental actions undertaken by the City of Kwinana are not only a model of leadership for the community

and business to follow but are vital to maintain the environment we enjoy. In particular, there is a need for the City to manage its assets, which are valued at more than one billion dollars. Climate change impacts pose a challenge to the management of these assets and associated operations, including:

- damage to or accelerated ageing of infrastructure due to an increase in the number of hot days and heat waves, more frequent and severe bushfires, extreme weather events, with associated damaging wind speeds and localised flooding,
- increased frequency of flooding, with a corresponding community expectation that drainage systems will be upgraded to increase capacity,
- more frequent extreme storm events, resulting in increased building damage from wind and water,
- a decrease in the quality of vegetation across public space due to reduced rainfall and water availability, and
- an increase in the number of hot days and heat waves will increase the need for mechanical cooling in public spaces (such as the library, aquatic centre or community centres).

Community engagement to create meaningful and productive relationships, partnerships and practices has also been at the forefront of Council's work to deliver on the aspirations of the community.



What we already do

The City of Kwinana undertakes a range of environmental initiatives to support liveability for the community.

SUSTAINABILITY FRAMEWORK

Our Sustainability Framework seeks to meet the goals of the Strategic Community Plan, through addressing all four pillars of sustainability: environment, social, economic and governance.

SOCIAL STRATEGY

The City's Social Strategy helps meet the social objectives of the Strategic Community Plan and the Local Planning Strategy, that will guide the growth and development of our community over the next 15 years.

LOCAL PLANNING STRATEGY

Council has adopted a Local Planning Strategy that outlines the strategic directions and actions for land use planning and development until 2036. The strategy covers housing diversity, urban design, community infrastructure, employment and the provision of a hierarchy of activity centres, while seeking to maintain a balance between development and conservation to ensure the needs of future generations are met.

ENGAGING THE COMMUNITY

The Love My Kwinana engagement approach was developed when writing our 2021 Strategic Community Plan and ensures community participation sits at

the heart of Council's decision-making process. We also work to encourage and support households and businesses to achieve environmental objectives, guided by the Environment and Sustainability Education Plan^{vi}.

The Kwinana community has displayed high levels of concern about waste issues and the destruction of local habitat. The City delivers a range of community environmental education and engagement opportunities, delivered through City events and programs to ensure that our environmental concerns are integrated into all that we do in city life.

ACTIVE TRANSPORT

The City continues to deliver upgrades to walking and cycling paths and facilities as set out in our City's Bike and Walk Plan. This will build a safe network of cycle routes and walking paths that are convenient for people of all ages and abilities to ride or walk to local destinations such as schools, shops, parks, bushland, bus stops and train stations. This includes recreational facilities, such as the Kwinana Loop Trail, which has attracted State Government funding to upgrade the quality of the path. The intention is to create communities where cycling and walking are the preferred choices for short trips and everyone has the opportunity to choose a healthy lifestyle. The City is also developing a new Active Transport Plan.

Our Goals

Actively encourage community participation in decision-making and embrace engagement to act and be resilient in the face of projected climate impacts.

Establish and maintain an urban forest that will achieve 22.6 per cent canopy cover for the council area, to support local biodiversity and reduce urban heat impacts.

Maintain and enhance our beautiful natural environment through sustainable protection, rehabilitation and conservation.

Build a local transport system that allows residents to move safely and sustainably around our city using active forms of transport, such as walking, cycling and public transport.



^{vi} (City of Kwinana 2024, Urban Forest Strategy 2024-2044)



Your Move Kwinana

Your Move is a Western Australian government program designed to promote active transport, such as walking, cycling, scooting and public transport, replacing unnecessary car trips.

The City of Kwinana has established an Active Travel working group and was one of only six local governments to receive funding from the State Government for an Active Travel Officer. Our work to improve walking and cycling has included road skills training for children at Calista Bike Skills Track and the establishment of a bike library at Orelia Primary School.



Bushfire Management

Our Bushfire Risk Management Plan coordinates efforts to protect assets at risk from bushfire. This includes the Industrial Zone, Residential Zone, and Rural Area. Each zone has its own unique risk profile, land management objectives, and future treatment options based on the assessment of risk factors such as density of population, fuel structures, assets, rural-urban interface, suppression response times, and suppression strategies. Land clearing to reduce the threat of bushfires is undertaken in a manner that considers the biodiversity values of the area and seeks to protect them as much as possible.

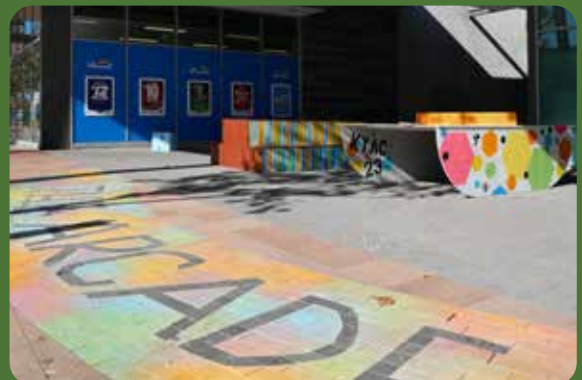


Wellard 7-Day Makeover

The Wellard 7-Day Makeover brought the community together to discuss how to improve and then make over the Wellard Village in just a week.

The City of Kwinana partnered with RAC through its Reconnect WA program and worked with locals to come up with ideas, plan how they could put them in place, and then made those plans happen over seven consecutive days in 2023. The project also had a specific youth element to help young people plan and deliver their own projects.

The makeover identified opportunities for further improvement, including upgrading street lighting along The Strand, the main shopping district in Wellard, developing wicking beds and formalising no parking areas. The project has formed a working group which continues to deliver improvements within Wellard.



What we'll do

PLANNING FOR OUR ENVIRONMENT

The Local Planning Strategy provides long-term strategic direction to provide innovative and quality development in a sustainable manner. The Strategy includes relevant environmental actions, including:

- advocate to the Federal and/or State Government for the protection, and where appropriate, management of nationally or regionally significant areas,
- implement the Local Biodiversity Strategy to prioritise natural areas requiring conservation, and protect significant landscape features and ecological linkages.
- use the Local Planning Scheme to protect environmental values, significant landscape features, significant trees and ecological linkages,
- review all public open space under the management of the City of Kwinana to ensure vesting is consistent with conservation objectives,
- develop planning mechanisms to ensure high quality bushland remnants are prioritised for retention as part of any structure planning for new areas,
- require all new industrial and commercial developments to retain existing trees and plant mature trees where appropriate, and
- develop measures for ecological corridors, outlining revegetation, restoration and landscaping standards expected of developers, and requirements for other landscape elements to strengthen connections.

ACTIVE TRANSPORT

Like other outer suburban areas in Perth, residential and commercial development within the City of Kwinana is low density and Kwinana's residents are largely dependent on private vehicles to travel to schools, shops, services, places of employment and recreation. The challenge is to ensure that local centres, neighbourhood centres and the Kwinana City Centre can be accessed conveniently by pedestrians, cyclists and public transport in order to reduce the reliance on private vehicles.

This requires a safe, high-quality and integrated multi-modal transport network to create a well-connected community. Smart transport services make it easy and safe for our community to access activity centres, schools, services, recreation, and entertainment facilities. This includes a focus on encouraging active forms of transport, such as walking, cycling and scooting, for short trips, as well as a switch to lower emissions vehicles,

such as electric and hydrogen cars and supporting charging and fuelling infrastructure. The City is updating its Bike and Walk Plan and expanding it into an Active Transport Plan^{vii}.

AN URBAN FOREST STRATEGY

The City will develop and adopt an Urban Forest Strategy. The purpose of the Urban Forest Strategy is to provide a clear plan to guide the City's management of its urban forest canopy. This will be undertaken through the acquisition and analysis of quantitative data and the qualitative interpretation of the data to inform and facilitate a coordinated and holistic approach to conserve, expand and manage the City's urban forest on both public and private land.

The strategy will map and measure the urban forest canopy providing an analysis of the existing urban forest benchmarked against best management practices, and provide recommendations to achieve and maintain a sustainable urban forest now and into the future.

This will include a centralised database of all City planted, removed and replaced street trees. We will continue street tree infill planting programs throughout the City, as set in annual works plans, and develop and implement processes that ensure the protection of City managed trees through relevant local laws and policies. We will also encourage and support landowners to plant and maintain trees on their properties.

ENVIRONMENTAL EDUCATION

We will develop community education programs to engage households and businesses on:

- the value of electrifying homes and businesses to reduce a reliance on gas, as part of the transition to renewable energy,
- the benefits of active transport, especially for short trips within Kwinana,
- electric and hydrogen vehicle's, and associated charging and fuelling infrastructure,
- the value that street and private trees provide to urban areas, including reducing the need for additional air conditioning on hot days,
- the ecological value, rehabilitation and protection of Local Natural Areas (privately owned bushland with high biodiversity values).

We will also continue to deliver our annual program of environment and sustainability focused workshops and events.

^{vii} (City of Kwinana 2018 - Bike and Walk Plan 2018)

KEY DIRECTION

2

Decarbonisation

DECARBONISATION

RESILIENT AND
ADAPTABLE
COMMUNITIES

Why reducing our emissions is important

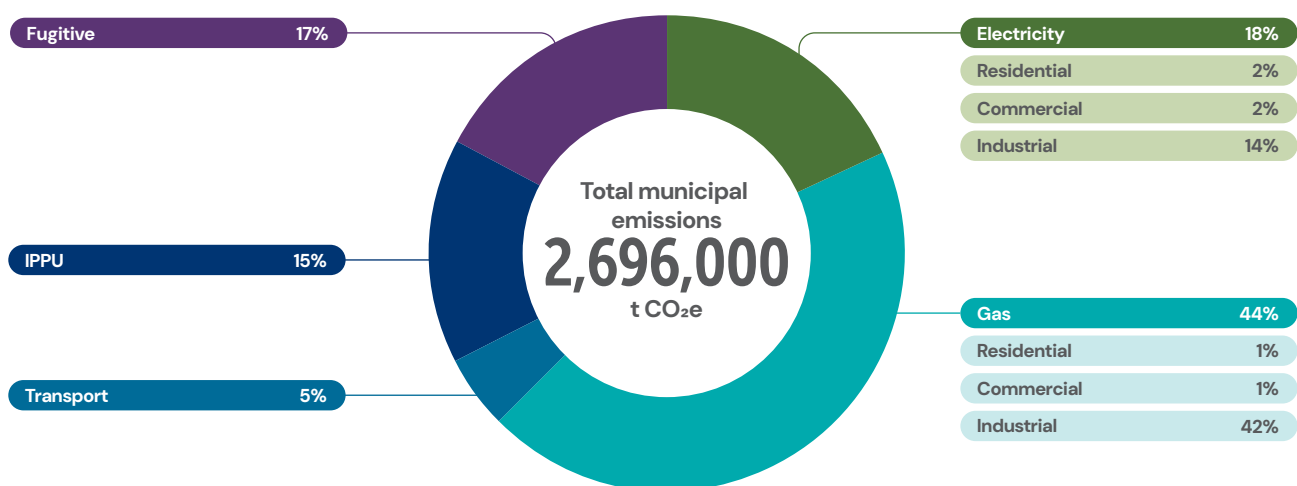
More than 60 per cent of Kwinana's community emissions¹ come from electricity and gas, with a further five per cent of emissions from transport (Figure 2). As such, transitioning to sustainable energy sources and encouraging responsible consumption will be key to reducing the municipality's emissions.

This transition also comes with benefits, including reduced energy and fuel bills for households and businesses. It can foster job opportunities in new and emerging sectors and build community resilience to

climate change by reducing energy poverty. Lowering gas and transport emissions will also improve air quality and mitigate health risks.

While Kwinana's corporate emissions (those arising from its own operations) contribute only a small proportion of the municipality's emissions, it is nonetheless important for the City to take action to demonstrate leadership and encourage action in the broader community. Acting also has important co-benefits such as reducing costs and future-proofing the City's assets.

Figure 2: Kwinana Local Government Area's community emissions by sector, including electricity, gas, transport, industrial processes, and product use (IPPU) and fugitive emissions.



Source: <https://snapshotclimate.com.au/>

What we already do

The City has an [Energy Plan](#) that drives its energy and emissions reduction activities. Actions the City has already undertaken include:

- installing solar photovoltaic (PV) systems on many City-managed buildings, totalling more than 220kW in capacity,
- undertaking energy audits and efficiency upgrades at many City-managed facilities,
- commenced transitioning its fleet to electric vehicles,
- switching power sources for the top 12 energy-using sites to the renewable energy WALGA Power Purchase Agreement (PPA),
- developed a Green Building Guideline for the design of City-managed facilities,
- implementing a digital energy monitoring system that tracks and reports performance,
- monitoring its annual corporate emissions for the past 15 years and
- delivery of an annual program of workshops and events for residents, which includes information on how to reduce energy usage.

The City will commit to a target of Net Zero community-based emissions by 2050.

¹ Community emissions are those attributable to the entire local government area, as opposed to corporate emissions, which are those arising from a city or shire's operations. For example, community electricity emissions include those from all of the residents and businesses in the LGA, while corporate electricity emissions include only those from the City's own buildings.

Our Goals

Reduce the City of Kwinana 2020/21 corporate emissions levels by 80 per cent by 2030, and to Net Zero by 2035.

What we'll do

The City of Kwinana's [Climate Change Plan](#) recognises that the Government of Western Australia's target of Net Zero emissions for Western Australia by 2050 will only be possible if all sectors contribute towards emissions reduction, with local governments uniquely placed to contribute to this given their role at the interface between government and community. The City will also act as a voice for our community to advocate to the State and Federal Governments for greater policy and funding support to encourage the transition to renewables.

MEASURING OUR EMISSIONS

We will monitor energy usage patterns and emissions for each site by energy type, and use this data to report our greenhouse gas inventory annually and inform energy-related decision making, expanding this to include more emissions sources.

REDUCING OUR ENERGY EMISSIONS

The City intends to continue to procure renewable energy for its contestable sites and will consider Natural Power in the future for non-contestable sites. The City will transition its gas-powered equipment to electric and work towards removing gas from its operations completely.

A NEW APPROACH TO DECARBONISATION

The City will review its existing Energy Plan and transform it into a Decarbonisation Plan. This will encourage the City to examine not only the emissions it directly generates through its operations, but also those associated with the assets and services provided to the council. These Scope 3 emissions (non-Council emissions) can be reduced through the influence of the City in its procurement choices.

INCREASING SELF-GENERATED RENEWABLE ENERGY USING SOLAR

The City will install more solar, establish a Solar PV System Management Plan and continue to implement cost-beneficial energy efficiency/renewable energy upgrades for all the City's building assets.

GREENER OPERATIONS

We will establish a standardised formal process for assessing whole of life costings, projected energy demand and emissions when planning for capital asset



expenditure, including facility renewals and upgrades. As part of this we will implement industry-leading sustainable road/footpath construction and repair specifications, including the use of recycled materials in road construction and, where possible, drawing upon bottom ash products from our local Waste to Energy Facility. We are also shifting to using plastic piping for drainage, instead of concrete, reducing embodied emissions.²

The City will transition its fleet to electric and hydrogen powered vehicles and plan for a staged conversion of public lighting to light emitting diode (LED) lighting, including a pilot project and will investigate installing smart lighting.

COMMUNITY TRANSITION TO RENEWABLE ENERGY

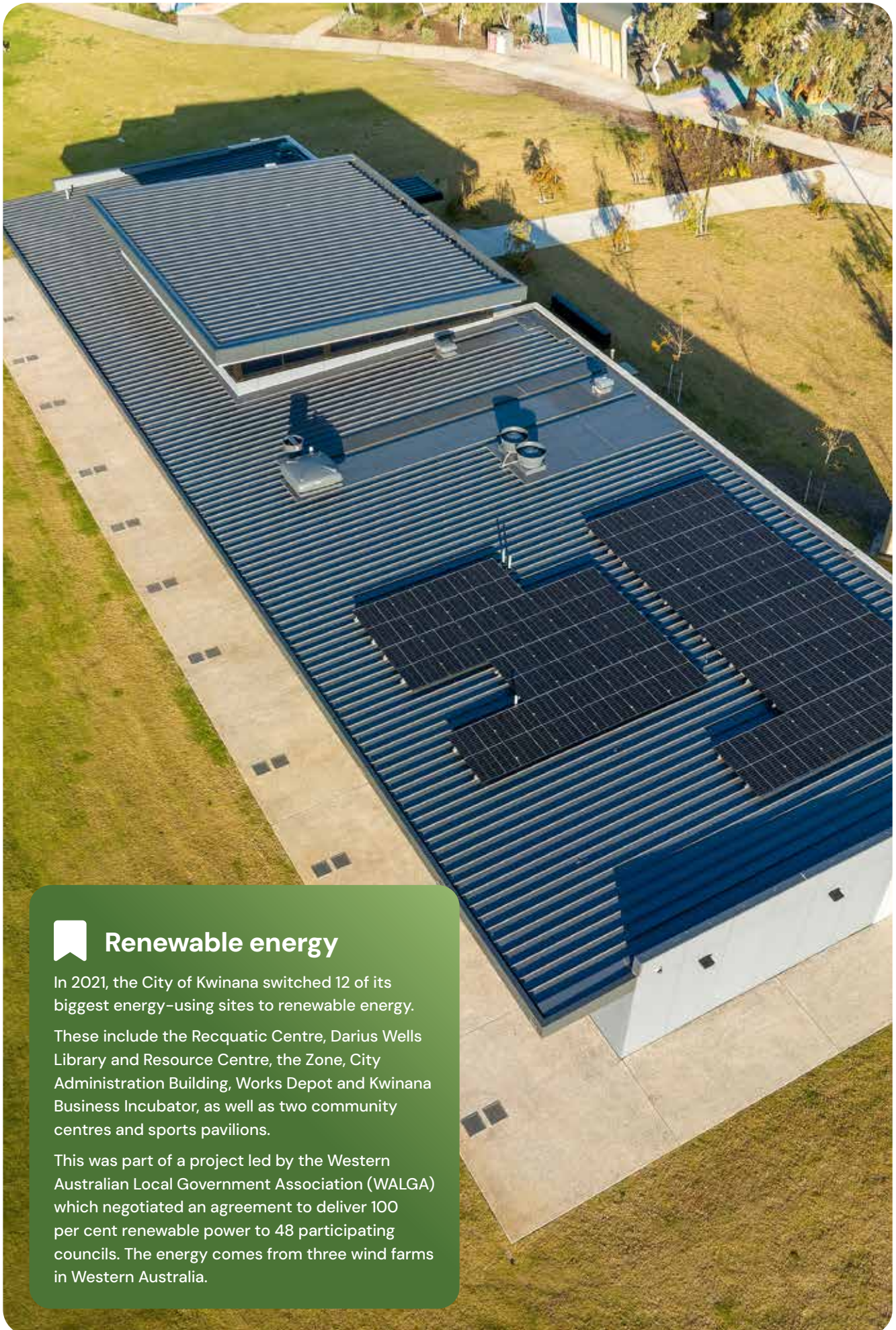
The City will facilitate programs that increase community access to energy efficient appliances, renewable energy and electrification, for example: education, bulk buy or subsidy programs. We will also investigate the potential for the City to support Virtual Power Plants (VPP) and Community Batteries and facilitate the establishment of a Power Purchase Agreement for renewable energy for businesses in the City.

We will advocate for local investment in renewably sourced hydrogen and trial it as a fuel source. This is likely to be particularly important for heavy vehicles, such as waste collection trucks.

A VOICE FOR OUR COMMUNITY

The City will advocate to the State Government to change policies to make it easier for the Kwinana community and businesses to adopt sustainable practices. This includes advocating for a Building Upgrade Finance mechanism to be created under the Western Australian [Local Government Act 1995](#) that would allow local governments to encourage energy efficient building upgrade activities. The City will also push for requiring all new developments to have active transport and electric vehicle infrastructure, and improved sustainability requirements in the West Australian planning scheme to enable local governments to require better energy performance from new dwellings and commercial buildings.

² Certain studies state that adopting best practice product selection can reduce emissions by as much as 60%.



Renewable energy

In 2021, the City of Kwinana switched 12 of its biggest energy-using sites to renewable energy.

These include the Recquatic Centre, Darius Wells Library and Resource Centre, the Zone, City Administration Building, Works Depot and Kwinana Business Incubator, as well as two community centres and sports pavilions.

This was part of a project led by the Western Australian Local Government Association (WALGA) which negotiated an agreement to deliver 100 per cent renewable power to 48 participating councils. The energy comes from three wind farms in Western Australia.

KEY DIRECTION

3

Biodiversity

ENVIRONMENTAL
STEWARDSHIP

Why biodiversity is important

Biodiversity is the sum and diversity of all living things within our environment. It's a key part of ensuring we have self-sustaining vegetation communities, supportive habitats for our local fauna, soils, clean water and fresh air.

Kwinana is part of a global biodiversity hotspot in the south-west of Australia, one of 36 globally, and contains a variety of landforms, including dune systems, wetlands such as The Spectacles, and banksia woodlands. It also includes managed reserves and regional parks, and eleven Bush Forever sites within the City.

Our biodiversity faces several threats including weed invasion, fragmentation, and loss of habitat through land clearing, increased fire frequency, changes to

groundwater, de-watering, plant pathogens, feral animals, degradation of natural areas through illegal dumping, vandalism, illegal off-road driving, and climate change. In particular, the rapid development of housing and commercial buildings puts pressure on the natural environment.

The City of Kwinana prioritises action to preserve our biodiversity through its Local Biodiversity Strategy^{viii}, Natural Areas Management Plan^{ix}, Coastal Adaptation Plan^x, Bushfire Risk Management Plan^{xi}, Litter and Illegal Dumping Plan^{xii}, and Water Plan^{xiii}.



Biodiversity protection

The City of Kwinana provides a range of opportunities for people to get involved in biodiversity protection. Each September, we run events during National Biodiversity Month, such as training residents how to spot turtle tracks and lodge these in the Turtle Sat app. This citizen science is important to support threatened species, like the Snake Necked Turtle.

National Biodiversity Month also includes wildflower walks and breakfast with the birds, to learn how to identify local species.

The Biodiversity Stewardship Program identifies and targets high value Local Natural Areas that are in private ownership and seeks to engage land-owners to support, educate and rehabilitate these areas.



viii (City of Kwinana 2024a)

ix (City of Kwinana 2024b)

x (City of Kwinana 2016)

xi (City of Kwinana 2020)

xii (City of Kwinana 2023a)

xiii (City of Kwinana 2024c)

What we already do

The City has developed a Local Biodiversity Strategy to provide a planning framework for the protection and management of significant local natural areas (LNAs). The Local Biodiversity Strategy seeks to:

- increase the protection status of significant biodiversity in the City, including on local government managed or owned lands, and on private land,
- reduce identified threats to LNAs,
- increase the viability and resilience of LNAs by establishing or enhancing buffers and regional and local ecological linkages,
- achieve long-term community engagement in local biodiversity management, and
- embed the consideration of biodiversity as standard in all decisions and activities of the City.

The City's Natural Areas Management Plan outlines comprehensive strategies and programs to preserve and enhance City-managed natural areas. The Plan encompasses a range of natural area management programs, including:

- the Weed Control Program that maps and controls weed species present in the City,
- the Reserve Fencing Program to secure natural reserves against illegal access, damage and dumping,
- retention, regeneration or revegetation of natural areas, according to their condition
- the Fire Management and Fuel Reduction Program to decrease bushfire impacts through fuel management,
- the Pest and Biosecurity Program to control feral fauna, insect and plant pathogen threats to the City's natural areas, and
- the Community Education and Volunteer Program to engage the community into conservation.

To ensure that the programs continue to meet their targets, the City increases resources allocated to its natural environment operations as they grow

through the addition of ceded assets resulting from development. The council manages 31 natural reserves and is set to gain three more in the near future ceded for management through the state government planning process. The City manages natural areas on a rolling schedule according to their prioritisation level, which is based on their public and ecological value.

The City's Coastal Adaptation Plan was developed in collaboration with the Cockburn Sound Coastal Alliance and covers work to be done by both the City and the State Government. The key areas of work identified for the City of Kwinana are:

- preparing management plans for coastal reserves, such as Wells Park, including dune management and revegetation,
- engaging with the community on coastal risks, impacts, values, and the adaptation plan,
- monitoring, analysis and assessment of risk of coastal hazards associated with sea level rise, and
- reviewing regional planning documents to support decisions regarding long-term managed retreat.

The City of Kwinana carries out remedial works on coastal erosion which includes substantial volunteer work through a partnership with Perth NRM. This contracted work seeks to engage up to 2,000 residents per annum to deliver projects across the coastal reserves.

The City of Kwinana has also been implementing our Water Plan, which has included the installation and use of data loggers to identify leaks and consumption patterns, the use of drainage nets to collect litter, revegetation projects and participation in Clean Up Australia Day. Council has also participated in the Waterwise Council Program, administered by the Water Corporation and Department of Water and Environment Regulation, for the past 13 years. This program requires Councils to develop and maintain infrastructure that ensures efficient water usage and adapts to a changing climate.

Our Goals

Work together with the community to protect and enhance our region's biodiversity, retaining 30 per cent or more of pre-European level vegetation in Local Natural Areas.

Deliver a bushfire management regime that reduces risk to people and places, while also considering beneficial conservation outcomes.

Improve the state of our natural areas by controlling and reducing weeds and pests, reduce illegal dumping of

waste, improve degraded areas through revegetation and applying regeneration principles.

Work with the community to be environmentally responsible in our water use, maintaining scheme water use within 5 per cent of 2016–2017 levels until 2027, keep residential water use below the Waterwise Perth Action Plan's target of 110kL/capita until 2027 and maintain groundwater use efficiency at 2016–17 levels until 2027.

What we'll do

PROTECT OUR BIODIVERSITY

The City of Kwinana will create an inventory of Local Natural Areas to improve the management of these areas and reach our retention targets. We will avoid or minimise further clearing of these areas and plant new vegetation to offset potential clearing on private land. All developments that may affect these areas must respect protection criteria. The City will seek to increase vegetation close to ecological linkages and buffers on public and private property. The large areas of 'Special Rural' and 'Rural Resource' zoned land on the eastern side of the Kwinana Freeway, represent an opportunity to retain biodiversity and maintain the rural living lifestyle. It is important that clearing and degradation of bushland is limited in these areas to maintain biodiversity.

We will undertake long-term community engagement, seeking feedback on biodiversity management issues, incentivising and supporting conservation actions on private land.

MITIGATING BUSHFIRE RISK

We will develop and implement a fire management regime that maximises biodiversity while ensuring protection for identified assets. The treatment schedule will be developed in collaboration with key stakeholders and endorsed by Council. Protection will be delivered through identification of the bushfire risk associated with different assets, and the development and delivery of appropriate treatments. These include fuel and ignition management, increased preparedness, forward planning and community engagement.

NATURAL AREAS MANAGEMENT

We will work to maintain and improve the state of our natural areas such as bush and coastal reserve using a variety of actions. These include the reduction of the number and diversity of weed species, the control of populations of pest species, the management and containment of dieback-affected areas, restoration of degraded areas, seed collection as part of a revegetation strategy and rehabilitation of bushland to a high standard. The City will also identify and manage declared rare flora, protected fauna and threatened ecological communities where required.

We will encourage the community to interact appropriately with our natural environment through education on the value of the natural areas managed by the City.

A WATER SENSITIVE CITY

The City's Water Plan sets out actions to reduce unnecessary scheme, groundwater and community water consumption to respond to a drying climate. Council will seek to ensure its own efficient water management by setting up tracking systems on City water meters and bores to identify leaks and respond to them. We will work to encourage residents and private developers to adopt waterwise principles by planting waterwise verges and gardens. The City will develop a surface water monitoring scheme for areas that may be affected by disease vector mosquitoes.



KEY DIRECTION

4

Circularity

ENVIRONMENTAL
STEWARDSHIP

DECARBONISATION

RESILIENT AND
ADAPTABLE
COMMUNITIESGENERATIONAL
VALUE CREATION

Why circularity is important

Circularity refers to how we avoid and manage waste within the City of Kwinana.

As the City grows, there is a need to educate a greater number of residents on how to avoid producing waste and material resource recovery, and to manage a greater volume of waste.

As the second fastest growing local government in Western Australia, the City of Kwinana delivers a

comprehensive waste collection service, which is rated as a high priority by the community. In 2023-24 we collected 20,699 tonnes of material and recycled 3,721 tonnes of waste.

The City of Kwinana is moving to a three-bin collection service in 2024-25, with a third bin for organic garden waste.

What we already do

The City of Kwinana's circularity management is guided by our [Waste Plan](#) which aligns with the *State Government's Waste Avoidance and Recovery Act 2007* and the *Waste Avoidance and Recovery Strategy 2030*. Our approach to circularity is guided by three principles:

- Avoid – generate less waste
- Recover – recover more value and resources from waste
- Protect – protect the environment by managing waste responsibly

The Waste Plan is also supported by a Waste Local Law and a [Litter and Illegal Dumping Plan](#).

The City has a long history of active work to meet its guiding principles in circularity, including:

- the development and implementation of best practice behaviour change programs,
- regular bin audits to assess contamination and missed opportunities for recycling,
- contracting to supply materials to a regional waste to energy plant,
- support for the community to engage in composting and worm farming and cloth nappy, through free education and subsidised equipment,
- raising awareness about the impacts of littering and illegal dumping on our environment, and
- enhancing enforcement measures, including increased surveillance and penalties for offenders.

Our Goals

We will educate and work with the community to reduce unnecessary waste, keeping waste generation below 816kg annually per household and bin contamination below 10 per cent in all collections.

The City will roll out its third bin collection service, anticipating an increased material recovery rate of 55 per cent by 2030 while re-directing residual waste to Waste to Energy facility located in Kwinana

The City of Kwinana will continue to use waste in our assets, such as recycling road pavement materials, promoting a local, circular economy

The City of Kwinana will work with the community to reduce illegal dumping of waste, decreasing 2023 tonnage by 30 per cent by 2028.



What we'll do

HELPING THE COMMUNITY

We will continue to educate and engage with the community to ensure they have all the information, skills and equipment to reduce the amount of waste we produce, recycle as much as possible and dispose of waste properly. This includes implementing our Waste Education Plan including building the capacity of residents to better manage their waste and to provide incentives for good waste management.

AN EVOLVING SERVICE

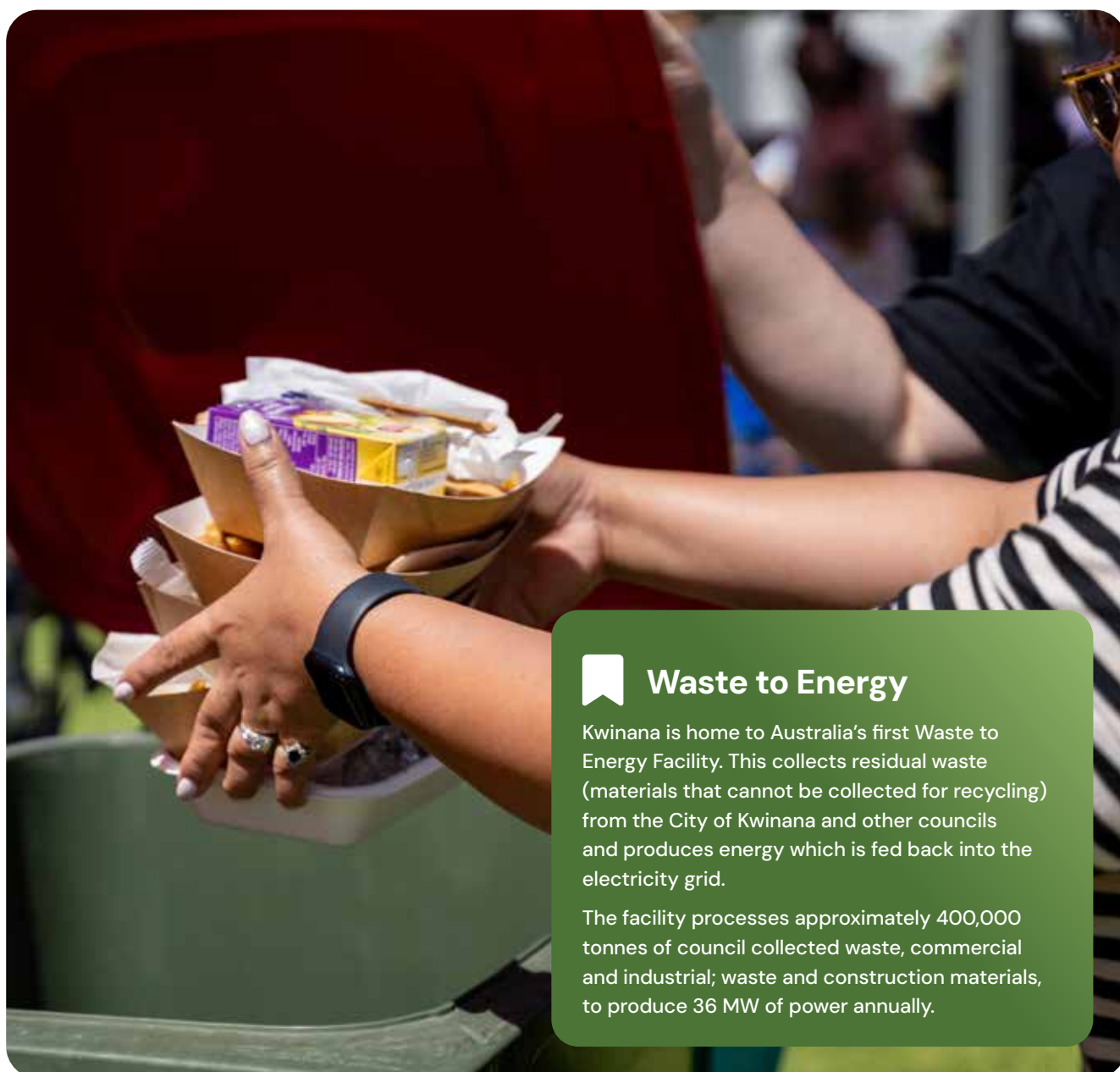
Our circularity management service will continue to evolve to meet the growing needs of our community. This includes delivering residual waste to the new Waste to Energy facility for recovery, successfully rolling out our third-bin collection service, a pre-booked collection

service for bulk verge waste and including performance measures in contracts with service providers to recover more waste. The City is conducting a review of its waste management services to determine whether improvements can be made to better serve our community while safeguarding our natural resources.

COUNCIL STRATEGY AND OPERATIONS

The City will continue to make better use of recovered materials in our operations, such as recycling road pavement materials and using recycled materials in civil projects.

The City will also continue to investigate new and innovative opportunities to improve the City's waste service and increase recycling rates.



Waste to Energy

Kwinana is home to Australia's first Waste to Energy Facility. This collects residual waste (materials that cannot be collected for recycling) from the City of Kwinana and other councils and produces energy which is fed back into the electricity grid.

The facility processes approximately 400,000 tonnes of council collected waste, commercial and industrial; waste and construction materials, to produce 36 MW of power annually.

Delivering the Strategy

The City of Kwinana Environment Strategy will be delivered through a rolling Implementation Plan that reflects the activities undertaken in the supporting work plans and strategies. The first two-year Implementation Plan is attached as an appendix to this Environment Strategy.

The Implementation Plan will be updated annually through existing internal environmental governance systems. This will follow the development of each of the annual work plans and strategies covering the specific environmental issues.

The Environment Strategy will undergo a minor review every two years and a major review after six years, to align with the next Strategic Community Plan.

Monitoring and Evaluation

Each of the actions in the Implementation Plan will be assessed annually as to the success of their development and delivery, and the outcomes they achieved. An annual report will be presented to the community on the outcomes of our actions.

In addition to the annual updating of the Implementation Plan, the City of Kwinana will also conduct a biennial review of the Environment Strategy to reflect changed conditions, updated data and delivery of actions in the Implementation Plan. The City will use the biennial review to assess what has been learned from the implementation of the actions to meet the Environment Strategy's goals.

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