

Waste Management Plan

2024



The Shire of Dardanup acknowledges the Noongar people as the traditional owners of the land upon which the Shire is situated. In doing this, we recognise and respect their continuing culture and contribution they make to the life of this region and pay our respects to their elders, past, present, and emerging.

Document Control

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THIS PLAN IS APPROVED FOR USE

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1.0. Executive Summary

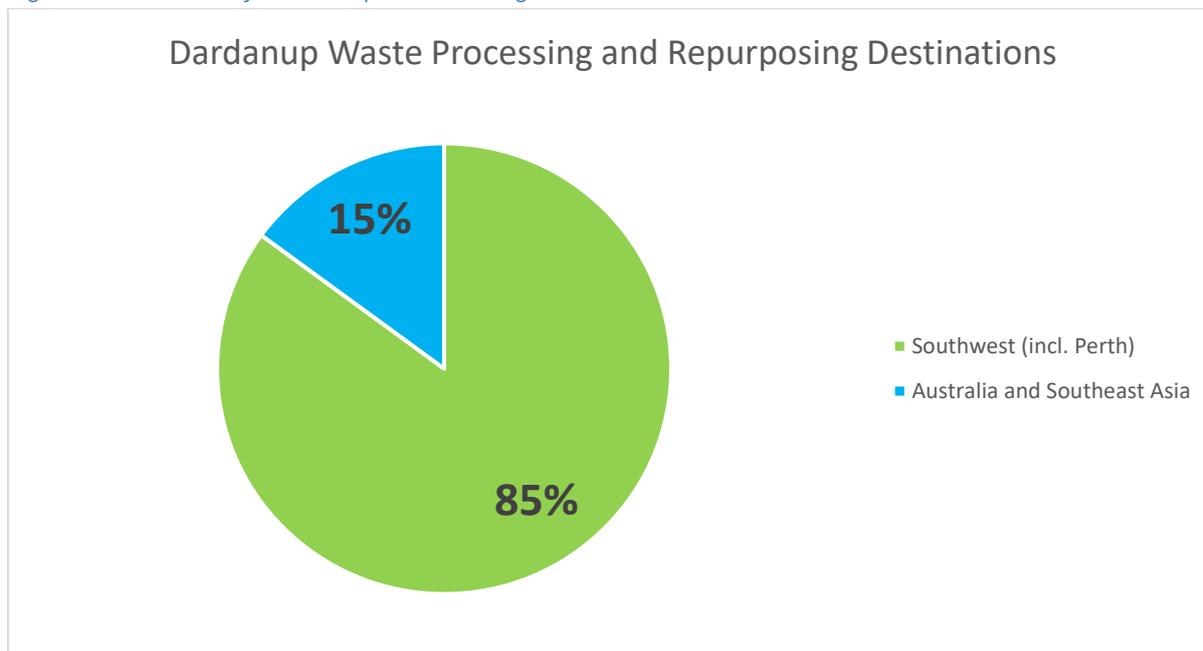
The Shire of Dardanup is committed to providing an overarching waste service that is efficient and effective, which meets the needs and expectations of the community and strives to divert as much waste from landfill as possible. This aligns with the Government of Western Australia’s material recovery targets, outlined within the Waste Avoidance and Resource Recovery Strategy 2030.

This Waste Management Plan discusses the Shire of Dardanup’s five overarching waste services, which are the weekly kerbside collections, the annual bulk verge-side collections, waste education, public parks and event bins, and a Waste Transfer Station. This plan focuses particularly on the Shire’s FOGO future (food organics and garden organics) and conscious downstream management.

The sustainable processing of the Shire’s waste is paramount to achieving crucial recovery targets set by the State Government. The Shire believes environmental stewardship towards recycling processing is critical to provide assurance to our community that the Shire is committed to the principles of circular economy. As such, the Shire expects a full chain of custody with all its contractors.

Upon analysis of the Shire of Dardanup’s entire municipal solid waste final destinations, as shown in Figure 1 below, most the Shire’s final waste destinations is estimated to remain within Western Australia’s Greater Southwest (85%), with national Australian markets and trade within Southeast Asia accounting for an approximate one sixth of the processing (15%). Once the full Federal export bans come into fruition, it is estimated that Australian markets will receive approximately 98% of Shire generated recycled material.

Figure 1. The Shire of Dardanup’s Processing Destinations



As the Shire of Dardanup’s population is set to experience a growth increase of 58% by 2041, this will lead to the Shire’s Waste Services needing to adapt to suit the growing community demographics.

The Shire strives to enhance the circular economy by adopting innovative and sustainable waste management solutions, with a greater focus on long-term waste management planning. This service must be balanced with our environment and focused on the circular economy. The Shire strives to achieve excellence in landfill diversion rates while constantly looking forward to new technologies. This service needs to be sustainable and provide value for money to our community.

2.0. Introduction

The Shire of Dardanup is committed to providing a waste service that meets the needs and expectations of the community while striving for excellence in landfill diversion rates. This aligns with the State Government’s targets outlined within the Waste Avoidance and Resource Recovery Strategy 2030. This Strategy has material recovery targets for municipal solid waste of 55% by 2025 and 60% by 2030 in major regional centres.

The Shire of Dardanup’s population is set to grow from 15,600 in 2023 to over 24,000 by 2041. This represents a 58% change increase. This is predicted to bring the total number of dwellings from 5709 to near 10,000. This will have a significant impact to the Shire’s waste management, which will have to adapt to suit the growing population and community demographics.

At the March 2021 Ordinary Council Meeting, Council endorsed the Shire’s Waste Management Plan. The Shire’s Waste Management Plan 2021 identified the delivery of waste services as an essential provision; and detailed the pre-FOGO waste service and (then proposed) FOGO options for Council consideration. The three bin ‘refuse, recycling and FOGO’ collection service commenced October 2021, and has subsequently achieved important landfill diversion targets.

The Shire’s Council Plan 2022 – 2032 recognises waste management services as an area for continuous improvement and innovation, identifying “*Outcome 6.2: Adopt innovative and more sustainable waste management solutions*”, with a review of the Shire’s waste management strategy due in 2023/24.

This Waste Management Plan 2024 acts to satisfy “*Outcome 6.2*” of the Council Plan, by highlighting the Shire’s current waste practices, streams, and quantities. This plan discusses future options for innovative solutions and recommendations to enhance waste operations sustainably into the future. Included in this Plan is a Confidential Appendix. This confidential attachment discusses FOGO processing and business options, the Waste Transfer Station’s current charges and facility relocation, and general waste contract timeframes and service costs. These documents provide guidance for continuous improvement and direction for the Shire’s waste services.

2.1. The Shire’s Ambition for Waste Management

The Shire’s waste management ambition is interpreted directly from the Shire’s 2050 Vision and Council Plan. This conveys the Shire’s goal to enhance the circular economy by adopting innovative and sustainable waste solutions, with a greater focus on long-term waste management planning.



2.2. The Shire's Waste Service

The provision of waste services is an essential and core responsibility. The Shire is committed to providing an efficient and effective waste service which meets community needs and expectations. This service must be balanced with our environment and focused on the circular economy. The Shire strives to achieve excellence in landfill diversion rates while constantly looking forward to new technologies. This service needs to be sustainable and provide value for money to our community.



3.0. Legislative Background

The management of waste is governed by Federal and State legislation, which regulates the industry and sets strict descriptions and obligations for the movement, storage, and treatment of waste. The provision of municipal solid waste services is primarily the responsibility of local governments, under the state government regulatory framework.

3.1. Federal Legislation

Relevant pieces of Commonwealth legislation regarded in the development of this Plan include:

- Recycling and Waste Reduction Act 2020
- National Environment Protection Council Act 1994
- National Greenhouse and Energy Reporting Act 2007; and

The National Waste Policy: Less Waste, More Resources (2018) acts as a guide in providing a framework for businesses, governments, communities, and individuals until 2030. The policy recognises five main principles as a foundation for waste management in a circular economy. These include:

1. Avoid waste.
2. Improve resource recovery.
3. Increase use of recycled material and build demand and markets for recycled products.
4. Better manage material flows to benefit human health, the environment, and the economy.
5. Improve information to support innovation, guide investment and enable informed consumer decisions.

The Shire of Dardanup considers these principles in implementing this Waste Management Plan.

3.2. State Legislation

The Shire of Dardanup has the crucial role of providing a community kerbside waste collection and recycling service, delivering waste education and awareness, and supplying and maintaining public bin infrastructure. This Plan adheres with the relevant Western Australian Acts and Strategies, with particular focus on aligning with the targets outlined in the Waste Avoidance and Resource Recovery Strategy 2030.

3.2.1. The WARR Act

The Waste Avoidance and Resource Recovery Act 2007 (WARR Act) is the principal legislation for waste management in Western Australia. Under this Act sits the WARR Regulations 2008.

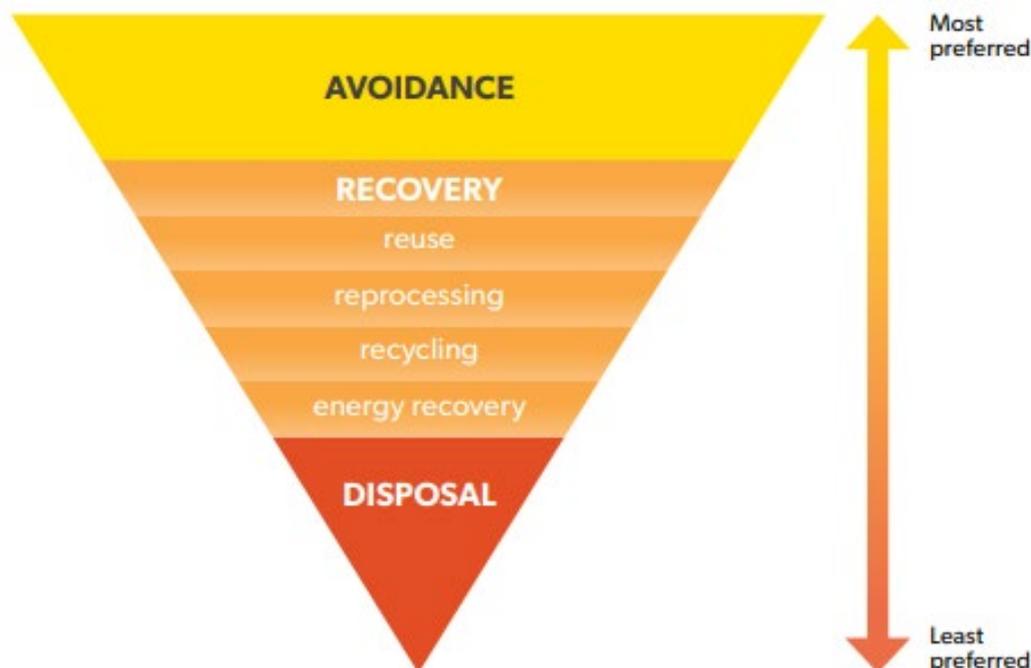
The primary objective of this Act is to contribute to sustainability, and the protection of human health and the environment. This objective aims to move towards a waste-free society by promoting the most efficient use of resources, including resource recovery and waste avoidance, and reducing environmental harm and waste pollution.

The WARR Act considers resource management options against a hierarchy of:

- i. avoidance of unnecessary resource consumption, followed by
- ii. resource recovery (including reuse, reprocessing, recycling, and energy recovery),
- iii. and finally, disposal.

The hierarchy detailed in the Act has informed the creation of the waste hierarchy featured within the Waste Avoidance and Resource Recover Strategy 2030 (WARR Strategy), as shown in Image 1.

Image 1. The State's Waste Hierarchy



(WARR Strategy 2030)

Additional to the WARR Act is the complementary Waste Avoidance and Resource Recovery Levy Act 2007 (WARR Levy Act), with corresponding WARR Levy Regulations 2008. This legislation creates a levy for all waste generated within the Perth Metropolitan Region, whether received at landfill premises inside, or outside, the Perth region.

3.2.2. Annual Returns

Under regulation 18C of the Waste Avoidance and Resource Recovery Regulations 2008, liable persons are required to lodge annual returns containing waste and recycling data to the Chief Executive Officer of the Department of Water and Environmental Regulation in accordance with approved procedures under Part 3A of the Waste Avoidance and Resource Recovery Regulations 2008.

The Shire has a long history of collecting data relating to its role in waste management. The Shire has reported annually to the Department of Water and Environmental Regulation since 2014. This collective waste management data has been utilised in the development of this Plan.

3.2.3. The WARR Levy Act

Waste Avoidance and Resource Recovery Levy Act 2007 and subsequent 2008 regulations, tasks as an economic tool to reduce waste to landfill by increasing landfill disposal rates. This levy generates funds for a variety of environmental and waste programs, aimed towards the management, reduction, reuse, recycling, monitoring, or measurement of waste. These funds also support the implementation of the WARR Strategy.

The application of the Waste Levy charges a fee on every tonne that is disposed into landfill. As of 2020, the waste levy was \$70 per tonne for material generated or landfilled in the Perth metropolitan region. The Levy is expected to encourage or create new markets that boost reprocessing, recovery, and avoidance outcomes.

In May 2023 the Department of Water and Environmental Regulation released a ‘Consultation Summary Report’ on the ‘Review of the Waste Levy’ which the Department undertook in 2020. This Consultation Summary Report recognises current findings for future potential reforms to the levy, including economic support towards a policy case for the introduction of a levy in major regional centres and nearby areas comparable to the Perth metropolitan area.

The WARR Strategy defines the City of Bunbury under the term ‘Major Regional Centre’. These Centres are “local governments outside the Perth and Peel region that have both a relatively large population and reasonable access to markets.” The WARR Strategy reserves the right for the Waste Authority to identify “other major regional centres” during the life of the Waste Strategy.

The Shire of Dardanup is adjacent to the City of Bunbury and has a growing residential population of over 12,000 people in the Eaton and Millbridge localities, as per the Australian Bureau of Statistics.

This proximity to the identified Major Regional Centre poses a financial risk to the Shire of Dardanup, should the levy be introduced to the Bunbury Regional Centre and extended along the coast to encompass all large residential developments of reasonable proximity to the Bunbury City.

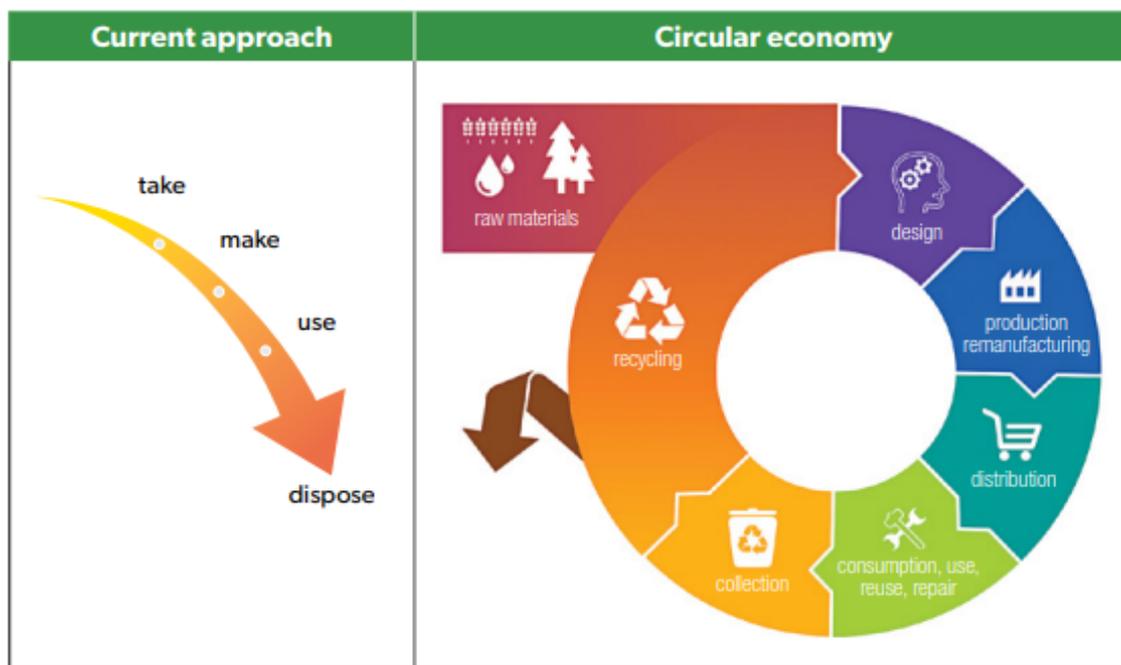
The Shire’s 2021 Waste Management Plan acknowledged the possible expansion of the Waste Landfill Levy to major regional centres. This is still a valid threat and a consideration for the Shire in this review.

3.3. State Strategy

In 2019 the Western Australian Government released the Waste Avoidance and Resource Recovery Strategy 2030 (WARR Strategy). The WARR Strategy’s vision is that “Western Australia will become a sustainable, low-waste circular economy in which human health and the environment are protected from the impacts of waste”. The Strategy also sets targets for waste reduction sent to landfill by 2030.

The Vision’s guiding concept of the circular economy model is demonstrated in Image 2. A circular economy refers to the flow of materials and energy, circulating in the market for as long as possible, and builds upon long-standing sustainability ideals, including lifecycle thinking and resource efficiency.

Image 2. The Circular Economy Model vs Current Approach



(WARR Strategy 2030)

Along with the vision, the WARR Strategy analyses how waste has been treated historically and sets clear objectives and targets for the future. In addition, the document looks at ways to encourage onshore processing through establishing new industries. This ensures recycling materials are no longer sent overseas, which is in line with the Commonwealth Government’s export bans on glass, plastic and fibre under the Recycling and Waste Reduction Act 2020 and subsequent rules.

The objectives of ‘Avoid, Recover and Protect’ provide distinct direction for managing waste, having waste avoidance as the most preferred outcome and disposal as the least preferred. These objectives reflect the guiding concept of the waste hierarchy, being the State Government’s primary decision-making tool, as set out in the WARR Act 2007.

Through these objectives the WARR strategy has set quantifiable targets for 2025 and 2030, as shown in Image 3. The Shire of Dardanup considers these targets seriously and takes the ‘Recover’ targets as a primary regard for this Waste Management Plan.

Image 3. WARR Strategy objectives of ‘Avoid, Recover and Protect’ with targets.

Further focus on the ‘Recover’ targets of the major regional centres.

Avoid <i>Western Australians generate less waste.</i>	Recover <i>Western Australians recover more value and resources from waste.</i>	Protect <i>Western Australians protect the environment by managing waste responsibly.</i>
<ul style="list-style-type: none"> 🕒 2025 – 10% reduction in waste generation per capita 🕒 2030 – 20% reduction in waste generation per capita 	<ul style="list-style-type: none"> 🕒 2025 – Increase material recovery to 70% 🕒 2030 – Increase material recovery to 75% 🕒 From 2020 – Recover energy only from residual waste 	<ul style="list-style-type: none"> 🕒 2030 – No more than 15% of waste generated in Perth and Peel regions is landfilled. 🕒 2030 – All waste is managed and/or disposed to better practice facilities
RECOVER TARGETS		
<ul style="list-style-type: none"> 🕒 2025 – Increase material recovery to 70% 🕒 2025 – All local governments in the Perth and Peel region provide consistent three bin kerbside collection systems that include separation of FOGO from other waste categories 🕒 2030 – Increase material recovery to 75% 🕒 From 2020 – Recover energy only from residual waste 		
Waste generators		Waste managers*
Community	Government and industry	Waste industry
<ul style="list-style-type: none"> 🕒 2020 – Increase MSW material recovery to 65% in the Perth and Peel regions, 50% in major regional centres 🕒 2025 – Increase MSW material recovery to 67% in the Perth and Peel regions, 55% in major regional centres 🕒 2030 – Increase MSW material recovery to 70% in the Perth and Peel regions, 60% in major regional centres 	<ul style="list-style-type: none"> 🕒 C&I sector – Increase material recovery to 70% by 2020, 75% by 2025, 80% by 2030 🕒 C&D sector – Increase material recovery to 75% by 2020, 77% by 2025, 80% by 2030 	<ul style="list-style-type: none"> 🕒 2030 – All waste facilities adopt resource recovery better practice
* Includes local government, private industry and state entities.		

A large proportion of the WARR Strategy looks at recovery of food organics and garden organics (FOGO), as this makes up a substantial part of the current waste stream, and thereby removing it from landfill would meet the vision and targets of resource recovery.

The Recover Targets for municipal solid waste in major regional centres of 55% by 2025 and 60% by 2030, has been achieved by the Shire of Dardanup, with the October 2021 introduction of the three bin (FOGO, refuse and recycling) kerbside collection system. As of the 2022/2023 financial year the Shire achieved a total resource recovery rate (FOGO and recycling) of 63.8%, excluding residual

contamination figures of the two waste streams. Therefore, the Shire has surpassed the WARR Strategy recovery targets for both 2025 and 2030 with a 3.8% surplus.

3.3.1. Local Government Waste Plans under the WARR Strategy

One of the headline strategies of the WARR strategy is the implementation of local government Waste Plans. The Strategy envisions Waste Plans will gather the distinctive aspects of local government waste management and provide local governments with an instrument that associates their waste services and contracts with the WARR strategy's better practice.

All Local Governments are encouraged to establish their own waste plans, however currently waste plans are only required for Perth and Peel Local Governments and Major Regional Centres. In 2021, The Shire of Dardanup took a leadership role in the greater Southwest Region and prepared its first Waste Management Plan, without a compulsory requirement. This identifies the Shire's proactive managing of waste then, now, and into the future.

Waste plan requirements and guidelines are developed by the Department of Water and Environmental Regulation in collaboration with the Department of Local Government, Sport and Cultural Industries and the Western Australia Local Government Association.

4.0. Council Strategic Framework

The Shire of Dardanup gives significant regard to sustainable waste management when considering community planning and decision making. This Waste Management Plan integrates with the Shire’s strategic framework hierarchy.

4.1. 2050 Vision

The Shire of Dardanup recognises that significant change through extensive growth will approach the region by 2050. The ‘2050 Vision’ was created as guidance for future decision making. This document’s principal vision is that “In 2050 the Shire of Dardanup will be a healthy, self-sufficient, and sustainable community that is connected and inclusive, and where our culture and innovation are celebrated”.

To achieve this vision of the future, the Shire welcomes growth through innovation and technology, and promotes sustainable outcomes through a circular economy. The 2050 Vision identifies five guiding aspirations that will drive these fundamental ambitions, with waste management actions featuring under two of these headlining aspirations, being ‘Sustainable’ and ‘Innovation’.

Aspiration 3: Sustainable

World-Class Waste Management Solutions

Objective	Establish a high-tech recycling and processing facility
Action	The Shire of Dardanup takes a Zero Waste approach whereby waste is seen as a by-product that can be a raw material for further use. Implementing this approach, the shire operates as a circular economy where inputs are sourced locally, and ‘waste’ outputs are utilised and/or processed locally. Innovative opportunities for recycling are integral to the success of this model. Space allocated for industrial expansion within the shire provides significant opportunities for development of new high-tech waste management, recycling, and processing facilities such as a waste to energy plant and other new technologies. Strategies encourage businesses to reduce and process their own ‘waste’ along with community education which reduces household waste.

Aspiration 5: Innovation

Energy Cluster

Objective	Harness the power of local energy production through a world-class energy industry and advanced manufacturing
Action	The industrial expansion in Waterloo Industrial Park is aimed at incorporating advanced manufacturing techniques and seeks to take advantage of the processing of lithium occurring nearby. An Energy Industry Cluster developed within the precinct maximises the use of raw materials mined and produced within WA and provides value added outcomes, a closed loop for waste and surplus resources while enhancing industry sustainability outcomes. Opportunities include waste to energy projects, coordination of downstream processing of lithium for battery manufacture with links to the high-tech recycling facility mentioned as a flagship project under Sustainability aspirations. These new opportunities complement growth in the shire’s more traditional industries of timber construction and manufacturing driving employment and contributing significantly to the local economy.

In 2050 the Shire of Dardanup aims to be leading the way in its commitment to sustainable living practices, showcased through a wide adoption of alternative energy supplies and a circular-style economy where waste is both limited and processed locally through world class technology for reuse and recycling.

This Waste Management Plan 2023 captures the essence of the 2050 Vision by adopting the principle of the circular economy, and promoting sustainability through innovation, both operationally and strategically through our chosen contractors. Creating and fostering opportunities that advance the Shire’s sustainability objectives.

4.2. Council Plan 2022-2032

The Shire of Dardanup's Council Plan 2022-2032 identifies waste as an essential service area of continuous improvement. This document outlines the Shire's 10-year plan and combines the past Strategic Community Plan and Corporate Business Plan into one succinct approach.

The Council Plan acknowledges the global priorities under the United Nation's Sustainable Development Goals, with waste management and the circular economy captured under the environmental goal of 'responsible consumption and production' and the community goal of 'sustainable cities and communities'.

The Council Plan highlights local priorities of 'sustainability' and 'waste collection services' as areas requiring continuous improvement as indicated through a 2021 community survey. The community would like more innovative and sustainable waste management solutions, and greater involvement in long-term waste management planning to ensure decisions are in the best interests of residents.

The Council Plan have five performance aspirations, which vow to deliver and improve on a range of services and facilities. Under the 'Environment' aspiration, the Council Plan notes the recent achievement of 'more waste diverted from landfill' through the October 2021 introduction of the 3 bin FOGO service. This success helps accomplish greater sustainability in waste services.

Under the 'Environment' aspiration of the Council Plan, Objective 6.2 highlights the need to adopt innovative and more sustainable waste management solutions, with two priority projects.

Objective 6.2

Adopt innovative and more sustainable waste management solutions

6.2.1	Review the long-term waste management strategy to ensure plans are in the best interests of the local community.
6.2.2	Undertake one waste education campaign per annum to encourage the adoption of more sustainable behaviours.

The priority project of 6.2.1 requires a "review the long-term waste management strategy to ensure plans are in the best interests of the local community." This Waste Management Plan 2023 acts to satisfy this goal.

The Shire achieves the priority project of 6.2.2 through its current waste collection contractor, which delivers an assortment of waste education days with local schools as a part of an annual education schedule. This school's syllabus aligns with the State's Government's 'Great Sorts' program. Additionally, the Shire's own communication and media team create an array of community education and awareness notifications and messages through the Shire's media platforms.

This Waste Management Plan 2023 provides open operational transparency, to better empower the community through knowledge and awareness. The Objectives of the Council Plan 2022-2023 and the guidance of the Community Values and Guiding Aspirations of the Vision 2050 form the direction to achieving and exceeding the Waste Avoidance and Resource Recovery Strategy 2030 recovery targets.

4.3 Waste Local Law

The Waste Avoidance and Resource Recovery Act 2007 (WARR Act) consolidated old provisions that were in the Health Act 1911, effectively updating, and transferring the provisions away from the Health Act concerning the waste management services provided by local government. Under Section 61 of the WARR Act, Local Governments are provided with the power to make Local Laws so that they can perform their functions under the Act.

The Shire of Dardanup does not presently have a Waste Local Law, rather still implementing the Health Local Law, made under Section 342 of the Health Act 1911. The Shire's current Health Local Law discusses very briefly the prescribed areas for waste collection; however, this requires updating to reflect the nomenclature of the Shire's Dardanup West rural residential development.

It is recommended for investigate that this section of the Health Local Law be removed concurrently with the creation and adoption of a Waste Local Law.

4.4 Council Policy CP069 – Waste Management Policy

This policy was last reviewed in September 2022 and does not mention:

- the Shire's FOGO service,
- the extent of Dardanup West's waste service, or
- the new Ferguson Valley voluntary service.

This policy should act as a guide for waste collection prescribed areas and additional bins services. This policy will be reviewed during the 2024/2025 financial year policy review timeline.

5.0. Shire of Dardanup Waste Management

The Shire of Dardanup's population is set to grow from 15,600 in 2023 to over 24,000 by 2041. This represents a 58% change increase. This is predicted to bring the total number of dwellings from 5709 to near 10,000. This will have a significant impact to the Shire's waste management, which will have to adapt to suit the growing population and community demographics.

Currently the Shire provides a kerb-side waste collection, a waste education program, bulk verge-side collection, public park and event bins, and a waste transfer station. The Shire does not own or operate a landfill site for the disposal of household waste. Similarly, the Shire does not own or operate a waste fleet. The collection and disposal of municipal waste is entirely contracted out. Table 1. Below presents the entire Shire municipal solid waste volume in tonnes for the 2022/2023 financial year.

Table 1. 2022/2023 Entire Volumes in Tonnes.

Waste Origin	Service Type	Tonnes Collected	Tonnes Disposed	Tonnes Recycled	Total Percentage	Processing & Repurposing Destination
Kerbside (73.5%)	Refuse General waste transported to landfill	1,968.44	1,968.44	0.00	26.6%	Shire of Dardanup
	Recycling - General Commingled dry recycling	953.00	219.19	733.81	12.9%	Australia & Southeast Asia
	Recycling - FOGO Combined food organics and garden organics	2,522.31	94.52	2,427.79	34.1%	Southwest & Perth
Vergeside (5.6%)	Refuse - Bulky Domestic hard waste	221.02	221.02	0.00	3.0%	Shire of Dardanup
	Recycling – Green Domestic garden green waste	195.00	0.00	195.00	2.6%	Shire of Dardanup
Waste Transfer Station (20.9%)	Refuse General waste drop-off transported to landfill	1,214.70	1,214.70	0.00	16.4%	Shire of Dardanup
	Recycling – General Dry recyclables drop-off (includes commingled, cardboard, and separated items) *	144.66	0.00	144.66	2%	Southwest, Perth, Australia & Southeast Asia
	Recycling - Green waste Garden waste drop-off	185.94	0.00	185.94	2.5%	Southwest & Perth
	Recycling - Resale Items recovered for sale at the "Recycle Shop"	2.00	0.00	2.00	0.03%	Southwest & Perth
TOTAL		7,407.07	3,717.87	3689.2	100%	

*Itemised recycling weights of Waste Transfer Station within Table 9 of Section 5.4

5.1. Total Waste Service 'Plan on a Page'

Table 2 below provides an outline of the Shire of Dardanup's different waste services, detailing which individual waste solutions benefit the different localities within the district. Table 3 on the following page presents the Shire's 'Plan on a Page', the entire Total Waste Management undertaken by the

Shire. This encompassing matrix lists the individual waste streams and how they are managed, to keep a transparent view of the Shire’s circular economic future.

Table 2. Whole Waste Service Matrix

Whole Waste Service Matrix		LOCALITIES			
		Eaton, Millbridge, Townships of Burekup & Dardanup, and ‘small holdings’ of Dardanup West & Crooked Brook,	Rural – Parts of: Henty, Paradise, Waterloo, Wellington Mill & the Ferguson Valley	Rural - General	Picton East - Light Industry
Kerbside Weekly Collection	General Refuse	✓	✓	▬	✓
	Recycling	✓	✓	▬	✓
	FOGO	✓	▬	▬	▬
Verge-side Annual Collection	Bulk Hard Waste	✓	▬	▬	▬
	Bulk Green Waste	✓	▬	▬	▬
General Services	Waste Transfer Station	✓	✓	✓	▬
	Public Bins	✓	✓	✓	▬
	Waste Education	✓	✓	✓	✓

Table 3. 'Plan on a Page' - Total Waste Management Practice

Shire Operations		Waste Management		
		Service	Catchment/Availability	Processing and Final Destination
Kerb-side collection service	(1) General refuse	2-bin Service: WEEKLY 3-bin Service: FORTNIGHTLY Includes bin delivery and maintenance	2-bin service: Picton East, part of Crooked Brook, Henty, Paradise, Waterloo, and Ferguson Valley. 3-bin service: Eaton, Millbridge, Dardanup West, Burekup & Dardanup townships	LANDFILL - SOUTHWEST
	(2) Recycling	FORTNIGHTLY Includes bin delivery and maintenance	As above	MIXED RECYCLING FACILITY, PERTH Materials are separated into type and recycled back into the market for reuse into new products.
	(3) FOGO	WEEKLY Includes bin delivery and maintenance	3-bin service: Eaton, Millbridge, Burekup & Dardanup townships	CROOKED BROOK/DARDANUP. Composted in windrows and aerated to reach pasteurization. The end screened product is sent to labs to test against Australian Standard (AS4454-2012). Product is then sold in Australind or in bulk
Verge-side bulk annual collections	hard waste	ANNUALLY Collected from residential verges by a contractor	Eaton, Millbridge, and Townships of Burekup, Dardanup	LANDFILL - SOUTHWEST
	Bulk green waste	BIANNUALLY Collected from residential verges by a contractor	Eaton, Millbridge, and Townships of Burekup, Dardanup	SOUTHWEST Processed externally to wood chip and/or mulch
Waste Transfer Station	Recycle Shop	As above	On site. Shire wide catchment	Reuse within the Shire, to Shire residents. Items such as furniture, garden equipment, books, and kitchen utensils.
	Mattresses	Removed by contractors as required	On site. Shire wide catchment	PERTH. Material is sorted into steel springs for metal roofing/local scrap metal industry, timber bases for mulching, and foam for carpet underlay. Recycles up to 75% of all mattress components. Future hopeful to send textile component to Perth Waste to Energy facilities and reach 100% reduction from landfill.
	Agricultural chemical drums	Removed by stewardship program as required	On site. Shire wide catchment	AUSTRALIA. The drumMUSTER containers are collected and transported by processors and delivered to materials recovery centres where they are recycled into items such as wheelie bins, fence posts, irrigation pipes, bollards, and garden stakes.
	Fridges, freezers & aircons	Removed by contractor as required	On site. Shire wide catchment	SOUTHWEST All grades of non-ferrous and ferrous scrap metal for processing and redistribution

	Construction & demolition waste	Removed by contractor as required	On site. Shire wide catchment	SOUTHWEST local processor
	Tyres	Removed by contractor as required	On site. Shire wide catchment	PERTH. Tyres are processed to become new road surface, soft fall surfaces, brake pads and tyre derived fuel.
	e-waste	Removed by contractor as required	On site. Shire wide catchment	SOUTHWEST and PERTH. Onsite e-waste sorting and packing at the Waste Transfer Station. These materials are then delivered to a recognised National Computer and Television Recycling Scheme product stewardship provider.
	Car batteries	Removed by contractor as required	Site specific location. Shire wide catchment	SOUTHWEST
	Green waste	Removed by contractor as required	Site specific location. Shire wide catchment	CROOKED BROOK/DARDANUP. Composted in windrows and aerated to reach pasteurization. The end screened product is sent to labs to test against Australian Standard (AS4454-2012). Product is then sold in Australind or in bulk
	General recycling	Removed by contractor as required	Site specific location. Shire wide catchment	PERTH Materials Recovery Facility
	General refuse	Removed by contractor as required	Site specific location. Shire wide catchment	LANDFILL SOUTHWEST
	Cardboard	Removed by contractor as required	Site specific location. Shire wide catchment	MIXED RECYCLING FACILITY, PERTH Materials are separated into type and recycled back into the market for reuse into new products.
	Scrap metals	Removed by contractor as required	Site specific location. Shire wide catchment	SOUTHWEST All grades of non-ferrous and ferrous scrap metal for processing and redistribution
	Lightbulbs	Removed by contractor as required	Site specific location. Shire wide catchment	PERTH Recycling centre
Waste Education	Schools program	Waste education based on industry consistent communications, WALGA and the Waste Authority's 'WasteSorted' program	Primary school workshops, vacation and OOSH groups, childcare centres, and community events within the Shire of Dardanup	Waste education helps to reduce waste contamination in the Shire's 3 bin kerbside system. Low contamination leads to efficient and cost-effective processing and reduces recycling waste to landfill.
Public Bins in our parks and gardens	General waste	Weekly	Location specific	LANDFILL - SOUTHWEST

5.2. Kerbside Collection Service

The Shire is committed to providing diverse waste disposal and processing options including General Waste, Recycling and FOGO (food organics/garden organics) services to minimise waste going to landfill. This is in line with the Western Australian Government’s WARR Strategy objectives and material recovery targets of 55% by 2025 and 60% by 2030 for municipal solid waste in major regional centres.

The Shire of Dardanup provides a weekly, year-round, kerbside waste collection service to residential and select rural areas. The collection, transport, material recovery processing and refuse disposal of household waste is currently fully outsourced. This waste service includes:

- 3-bin residential and 2-bin rural collection service (bin configuration details in Table 4 below)
- Recycling processing
- Waste education service
- Bin maintenance and repair
- Public bins and events service

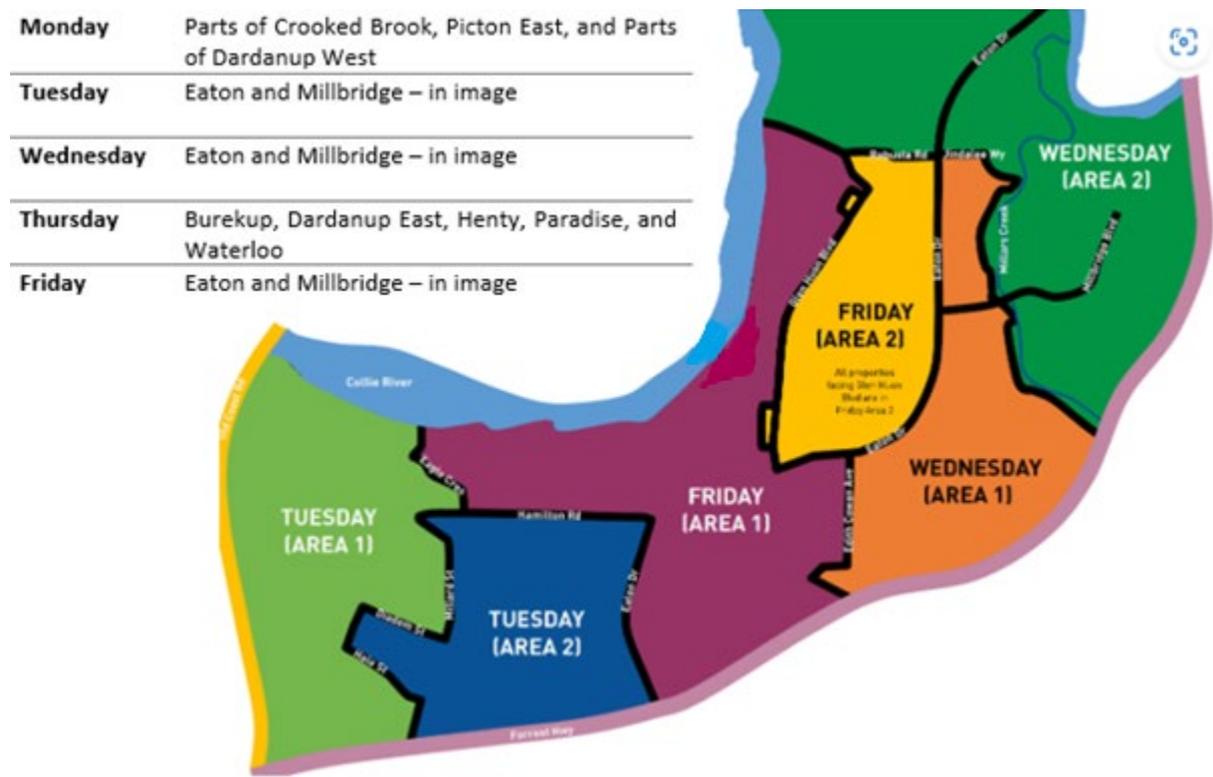
Table 4. The 3-bin and 2-bin collection service – general bin configuration

<p>3-bin residential collection service</p> <ul style="list-style-type: none"> • weekly 240L bin FOGO collection • fortnightly 140L bin general refuse collection • fortnightly 240L recycling collection 	
<p>2-bin rural collection service</p> <ul style="list-style-type: none"> • weekly 240L bin general refuse collection • fortnightly 240L bin recycling collection • FOGO service is <i>not available</i> in industrial and rural collection areas. 	

Ratepayers can request additional services to upgrade or add extra bins to the standard bin configuration of their collection area. Where additional bins are approved under the corresponding Administrative Policy, ratepayers will be charged per the Shire’s adopted Schedule of Fees and Charges. There is no opt out of the FOGO service in residential areas, as the 3-bin collection service is the minimum standard.

Weekly kerbside collections occur to the schedule detailed in Table 5; with an Eaton and Millbridge collection service diagram to clarify the areas. The Eaton and Millbridge localities are enclosed within Old Coast Road to the west, Forrest Highway to the east and south, and Collie River the north and east.

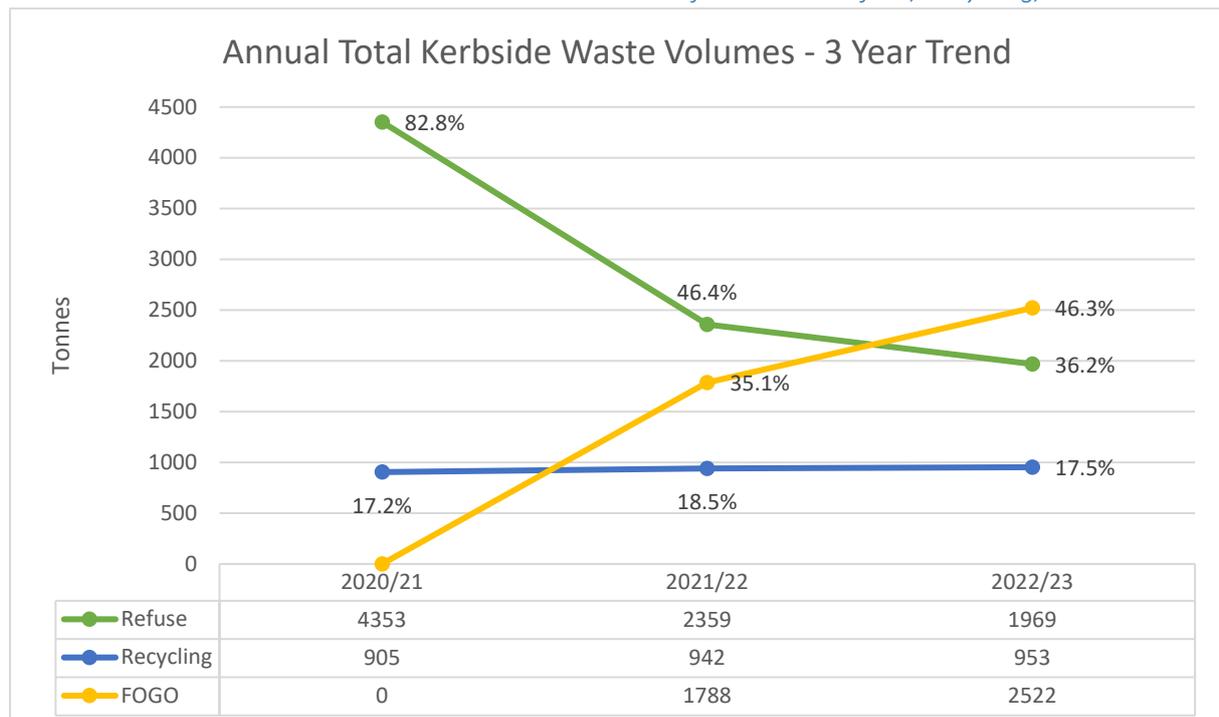
Table 5: The Kerb-Side Weekly Collection Schedule



5.2.1. Kerbside Data

Detailed in Chart 1 is the annual kerbside waste collection volume trend over the last three financial years. Please note, October 2021 saw FOGO introduced to the kerbside collection. From the pre-FOGO 20/21 figure to the 22/23 total, there has been a 54.8% decrease in general refuse waste to landfill.

Chart 1. Three Year Annual Kerbside Waste Volume Trend for General Refuse, Recycling, and FOGO



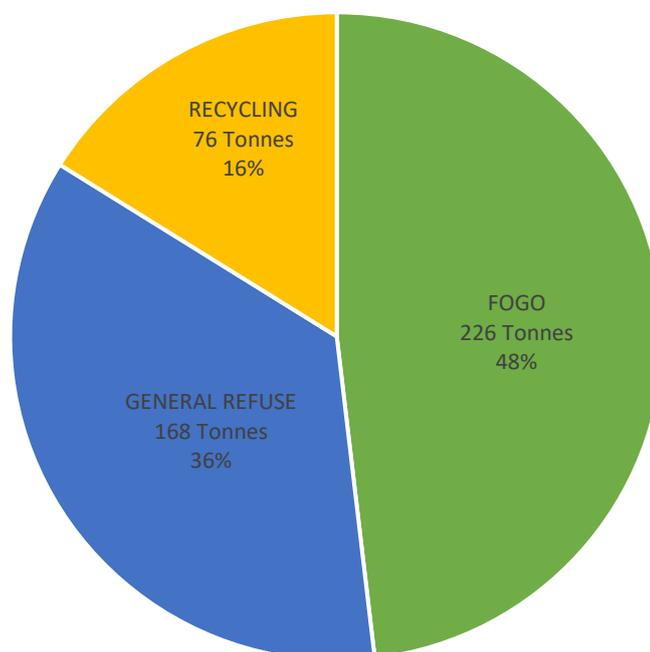
Most of the kerbside waste volumes collected are from residential origin, however, a slight portion is collected from the Shire's light industrial properties. These zoned properties receive the 2-bin configuration. From the 2022/2023 financial year, these industrial properties accounted for 3.2% of recycling and 7.1% general refuse.

In the 2022/2023 financial year, the total recovered waste percentage fed back into the circular economy was 63.8% (recycling and FOGO), with only 36.2% waste to landfill.

Focusing on the recent monthly trend, Chart 2 below presents current data of the 23/24 first quarter monthly average volumes. This chart details the monthly average total being 470 tonnes, comprising FOGO at 48%, general refuse at 36%, and recycling with 17%, respectively.

Chart 2. 2023/24 First Quarter Monthly Average of Kerbside General Refuse, Recycling And FOGO.

Monthly Average Kerbside Waste Volumes First Quarter 23/24



The Waste Authority's 2020 Position statement on FOGO collection systems states that typically, organic material makes up more than half of household generated waste. High-performing three-bin services can achieve total recovery rates of about 65 percent. From Chart 2 above, we can see the first quarter of 22/23 saw a 1.7% increase of the FOGO waste proportion to 48%, marked from the last 22/23 financial year figure of 46.3% total FOGO, demonstrated in the previous Chart 1.

As of the 22/23 financial year the Shire achieved a total resource recovery rate (FOGO and recycling) of 63.8%, excluding residual contamination figures of the two waste streams. Therefore, the Shire has surpassed the WARR Strategy regional recovery targets for both 2025 and 2030 with a 3.8% surplus.

Further in line with the Waste Authority's State Targets, the Shire of Dardanup aims for the FOGO ratio to increase to a standard of 50% while maintaining the recycling ratio at a 15% minimum, which will create a baseline total achieved 65% annual recovery rate.

The Shire is committed to accomplishing best-practice in the circular economy and aspires to maximise material recovery from the municipal waste stream.

5.2.2. General refuse disposal

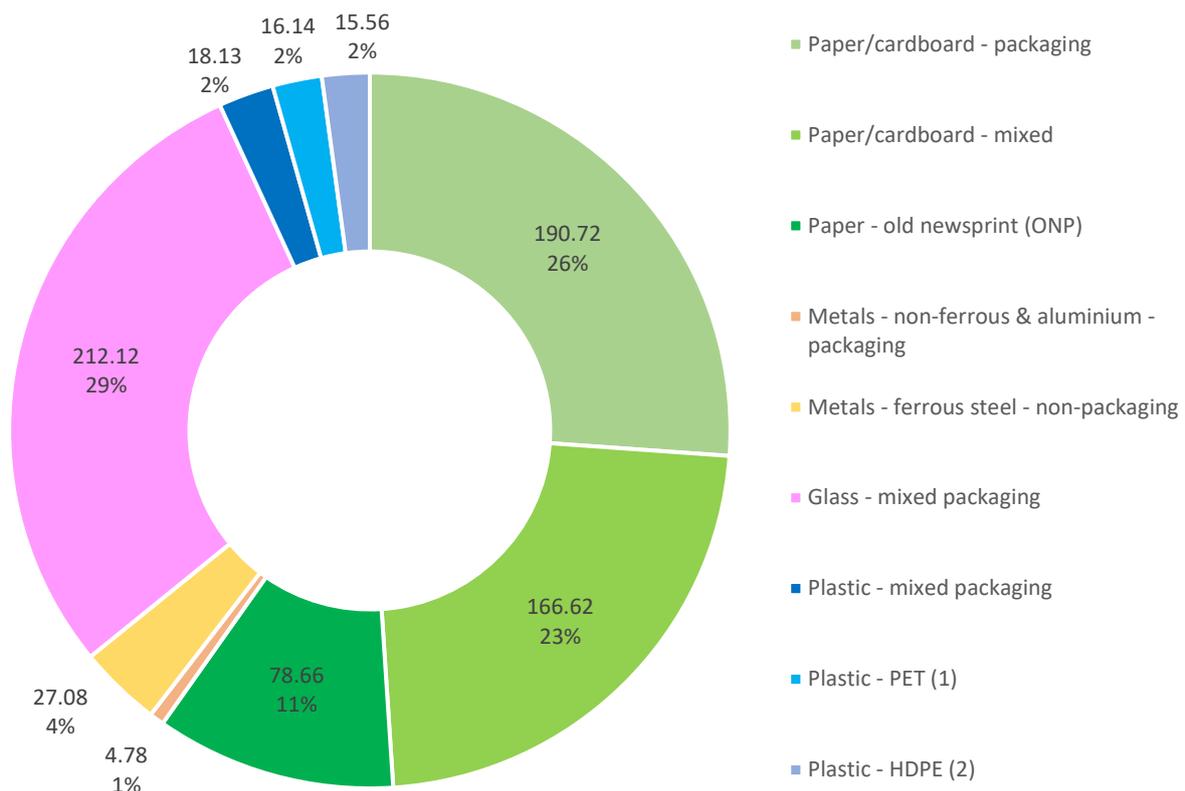
Collected general refuse material is taken via the collection contractor to landfill. The Shire has a current landfill contract for an agreed price and guaranteed receipt service. The latest snapshot data from Chart 2 above shows monthly general refuse averages 168 tonnes, representing 36% total volume for that quarter. This was collected with a 96% presentation rate (bins presented on kerb).

5.2.3. Recycling processing

Collected recycling material is retained by the collection contractor at their depot and bulk transported to their own Perth based Material Recovery Facility for sorting and recovery. This processing cost is included within the contract. The 23/24 first financial quarter recycling data shows the monthly average weight at 76 tonnes, representing 16% of the total average volume for that quarter. This was collected at a presentation rate of 81% (bins presented on the kerb). Chart 3 below details the 2022/2023 total material breakdown types, volumes, and rates. In this figure we can see that paper/cardboard materials had the highest recovery rate at 60%, followed by glass packaging at 29% recovered.

Chart 3. 2022/2023 Kerbside Recycling Recovery and Volumes. Total recycled was 729.81 tonnes.

2022/23 Kerbside Recycling Recovery Volumes (tonnes)



Once recovered, all recycled material is sent to individual recycling companies to transform the product into a particular form to be remanufactured. The collection contractor ensures the ethical downstream flow of materials and requires purchasers to comply with a wide range of auditable company processes.

In March 2020, the former Council of Australian Governments (COAG), which consisted of the Australian, State and Territory Governments, and the Australian Local Government Association, agreed that the export of waste plastic, glass, paper, and tyres be regulated by the Australian Federal Government. Additionally, the COAG agreed to create a National Response Strategy, designed to create a coordinated platform to implement the waste export bans and support development of Australian markets to grow the local recycling industry, as part of a move towards a circular economy.

As such, the federal parliament passed legislation in late 2020, banning the export of unprocessed waste through the Recycling and Waste Reduction Act 2020. The legislation incorporates the existing Product Stewardship Act 2011, to encourage businesses to accept greater accountability for their waste, including better product design solutions and increased waste material reuse and recovery.

Each type of waste has its own export requirements and relevant rules. Glass, plastic, and tyres exports were regulated in a staged approach throughout 2021. However, there has been a temporary 12-month exemption to the plastic export ban, announced in May 2023, due to stockpiling issues and lack of domestic processing capacity. Paper and cardboard are due to begin regulation in July 2024.

Table 6 lists the recycling material types and the general commodity market and end processing destination.

Table 6. General Recycling Types and their Respective Commodity Markets.

Recycling Types	Commodity Market	End Destinations
Metals – non-ferrous & aluminium	Aluminium is recycled back to ingots. Can be sheet pressed for new beverage containers or converted to deox pucks for steel mills to remove oxygen from liquid steel.	Malaysia & South Korea
Metals – ferrous steel	Recycled back into general steel however it is only accepted in minimal steel mills around the world due to the tin content.	Australia & India
Cardboard & Mixed Paper	Recycled back to paper reels. Used to manufacture cardboard boxes.	Malaysia & Vietnam
Plastic - PET (1)	Recycled back into a PET container.	Indonesia
Plastic - HDPE (2)	Received at a recycling plant where it is granulated, washed, and extruded back to a pellet form. From there, the recycler could sell it to a manufacturer of plastics pallets, crates, piping, etc. It could also be recycled back into a drink container if recycled in a particular way.	Australia
Glass	Cycled back into the glass market	Australia
Plastics - Other	Materials recovered for numerous applications. Due to general nature of residual plastic, depends on plastic quality and composition.	Market dependant

Through the kerbside recycling recovery process, the contractor separates the beverage containers eligible under the ‘Containers for Change’ Container Deposit Scheme. The Collections Contractor then pays the Shire of Dardanup an equal share of the financial benefit realised; net of any verifiable costs incurred in administration.

Chart 4 below demonstrates month snapshot, with a detailed breakdown of November 2023. Once the paper and cardboard ban comes into place July 2024, it is estimated that Australian markets will receive approximately 96% of Shire generated recycled material (roughly: paper 60%, glass 30%, plastic 6%). Metals will be the remaining material unregulated for export, however 38% of the metal generated in kerbside recycling are already processed within Australian markets, and the actual total metals generated sits under 6% of the total recycling material volume.

Chart 4. November 2023 Recycling Data and Destination Snapshot

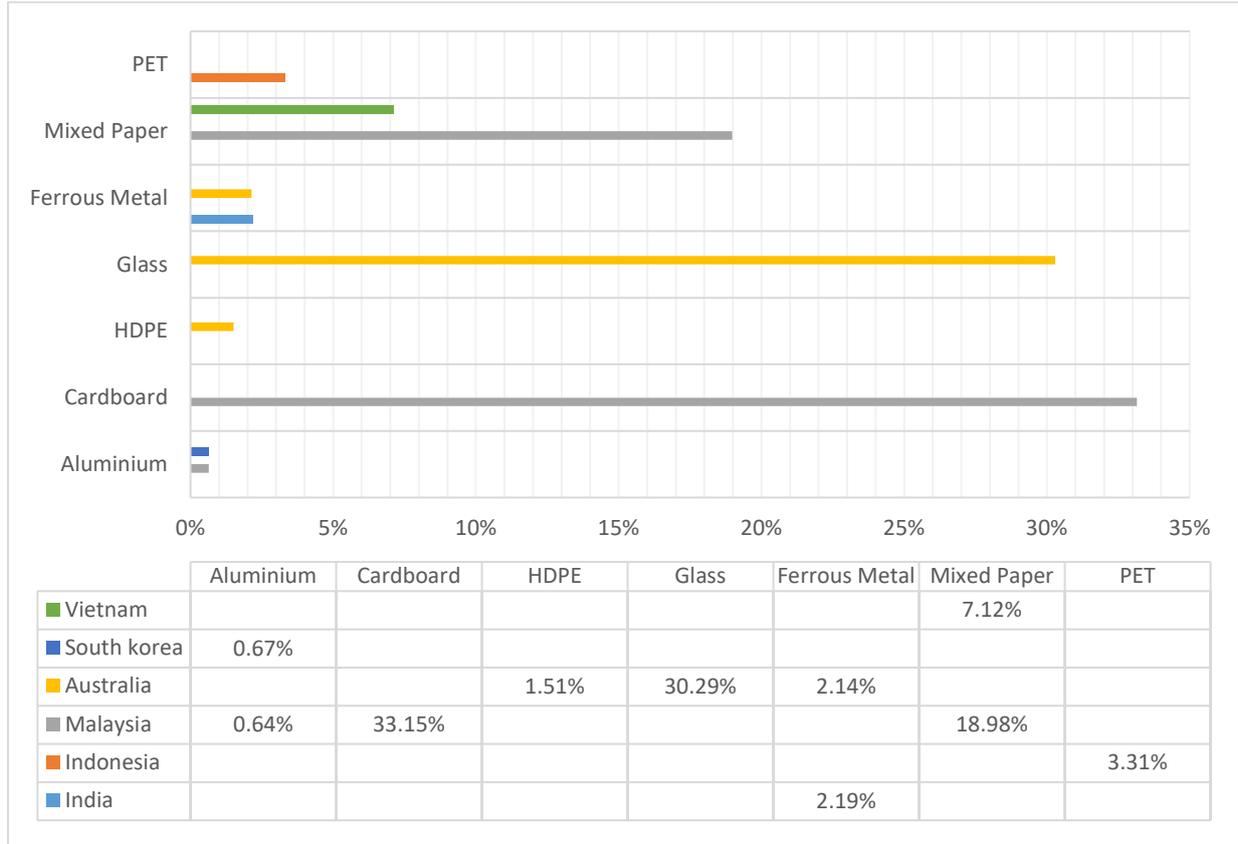
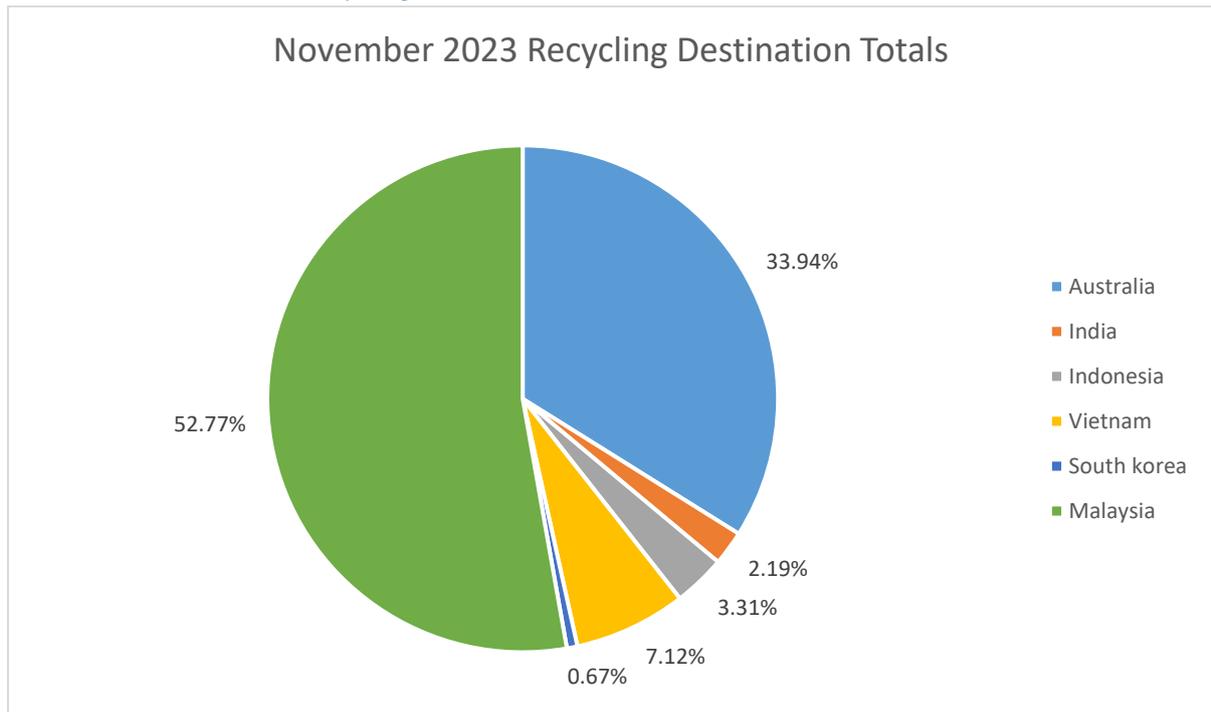


Chart 5 below pieces the total November 2023 snapshot into destinations. Malaysia received 53% of processed recycling, consisting almost entirely of cardboard and paper, with 1% being aluminium. Australia was the second largest receiver at 34%, which consisted mostly of glass at 30%, with small amounts of HDPE plastic and ferrous steel.

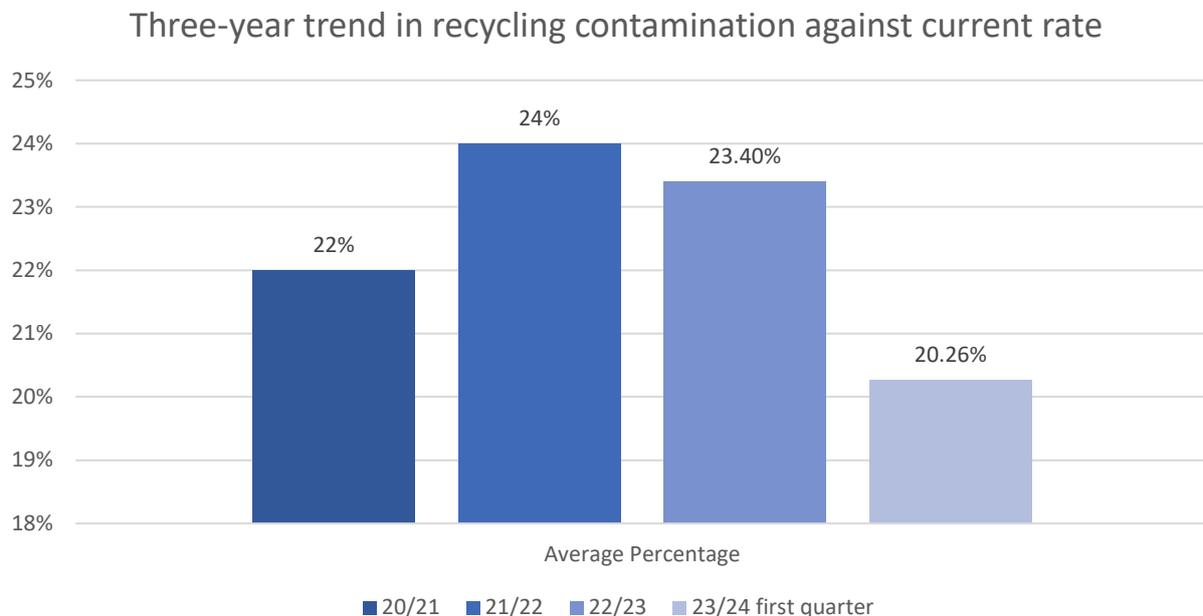
Chart 5. November 2023 Recycling Destination Totals



5.2.4. Recycling contamination

The kerbside recycling contamination rate currently sits at 20.26% for the first quarter of 23/24. The yearly trend demonstrated in Chart 6 indicates have recycling contamination rates hover between the 20-25% mark. These percentage figures are not of concern as they are on a consistent trend, however continuous improvement is always a priority.

Chart 6. Three-year trend in recycling contamination against current rate



5.2.5. FOGO processing

Collected FOGO material is taken via the collection contractor to a local composting facility, in Crooked Brook. The composting processes occurs in windrows, which are aerated to reach pasteurization. The end screened product is sent to labs to test against Australian Standard (AS4454-2012). Product is then sold commercially or in bulk to the agricultural industry.

The first financial quarter of 2023/24 data shows the FOGO monthly average weight was 226 tonnes, representing 48% of the total average volume for that quarter. This was collected at a presentation rate of 68%. This presentation rate is the lowest of the three waste streams (refuse 96% / recycling 81%), however FOGO has the highest volume at 48%, nearly half the total weight. This indicates that the FOGO service has great potential to increase tonnage as presentation rates grow over time. This will lead to a greater diversion of putrescible waste from landfill, achieving key circular economy goals.

In general, a shadow has grown over the success of the Shire's FOGO roll out. This relates to compliance matters surrounding the processing contractor, which has marred public opinion. Additionally, community complaints regarding odour and dust emanating from the Composting Facility, has deepening disapproval. These concerns have place scrutiny on the Shire of Dardanup to work to resolve these issues with the Facility, the State Government and affected residents.

Without FOGO, the Council would not be able to meet the State Government's WARR Strategy objectives and targets. Therefore, it is crucial to keep FOGO processing competitive, viable and lasting. The Shire of Dardanup is committed to advocate for, and continuously support, current and emerging FOGO and/or waste alternative processors.

FOGO processing is discussed further in the Confidential Appendix, Section 1.0.

5.2.6. FOGO Contamination

FOGO contamination events can be a cost issue, as penalty rates apply to >5% contaminated FOGO truck loads entering the contracted FOGO Processing Facility. This penalty fee can exceed three times the normal per tonne rate for processing. This contaminated determination is currently based on a visual assessment on site after the truck has discharged.

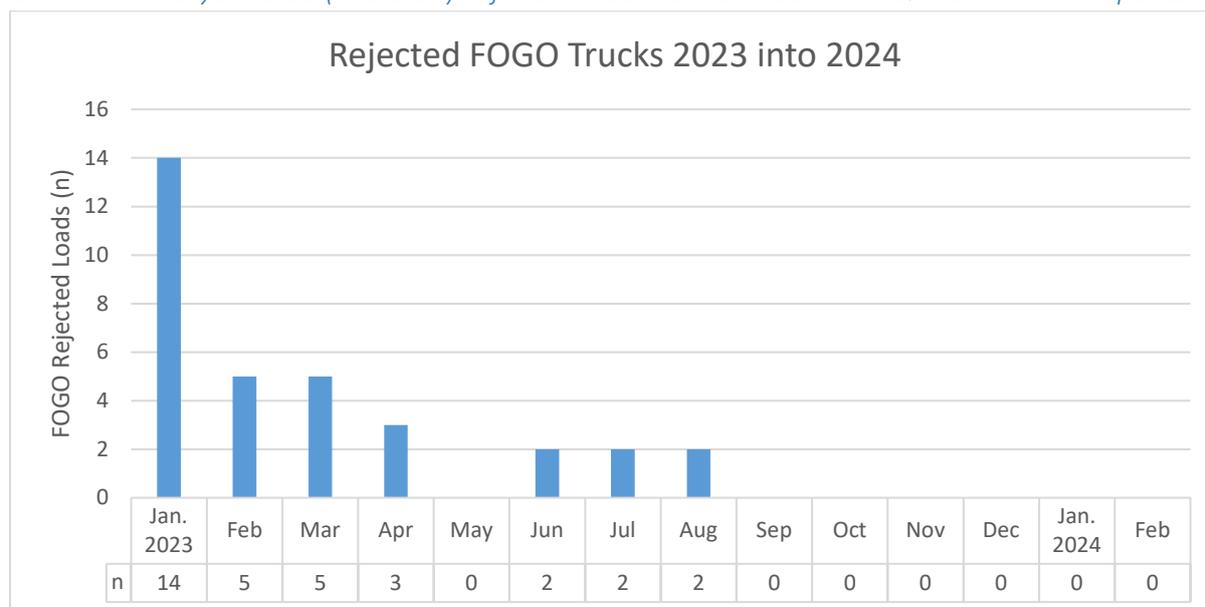
The Shire of Dardanup is working closely with the collection contractor, to keep contaminated load occurrences down with the aim for zero. This is being achieved through a FOGO contamination ‘Action Plan’ of mixed awareness initiatives, positive reinforcements, and direct programs as seen in Table 7.

Table 7. FOGO contamination ‘Action Plan’ of mixed education and support campaigns.

Action	Details	Status	Who
Media Campaign	Focus on biodegradable vs compostable FOGO bin liners, eliminating food packaging, and current successes	Ongoing	Shire
‘Great Sorts’ Competition	Rewarding residents who are ‘great sorts’. Includes a mailbox thank-you pack and \$100 supermarket voucher	Ongoing	Contractor
Targeted Letter Program	Aimed at properties with high FOGO bin contamination. Includes discrete, informative bin stickers and warning letters. There is a 5-strike step process before possible \$50 fee for ongoing contamination and month suspension.	Ongoing	Contractor & Shire
Free Bin Liners	Available over the Eaton office front counter.	Ongoing	Shire
Education Program	Targeted at primary schools and local library/events	Ongoing	Contractor
Audit of FOGO Truck Loads	Audit in April 2023 to determine contamination rates and key contaminants. This audit can occur again as required.	As required	Contractor & Shire

The targeted letters came into operation February 2023 with great effect. This Action Plan is directed at understanding the contamination trends, key contaminants, and ongoing recidivist contaminators. All information helps structure ongoing media campaigns and the Shire’s waste education. The successful effect the Action Plan has had on contamination rates is displayed in Chart 7, which shows the total contaminated truck loads rejected by the composting processor in 2023, and early 2024.

Chart 7: Annual year 2023 (into 2024) Rejected FOGO Truck Loads Due to >5% Contamination per Load



This decrease in FOGO contamination correlates to the Shire’s media campaign launched in February, centring on the ‘Great Sorts’ mailbox thank-you packs and \$100 supermarket voucher competition (provided by collection contract), and education clarifying biodegradable vs compostable FOGO bin

liners. Concurrently, the collection contractor also launched a targeted letter program aimed at known recidivist contaminating properties, warning of a possible \$50 fee for ongoing contamination.

In summary, the Shire’s FOGO contamination is low. Reducing contamination at source is the main priority, as preventative measures are the most cost-effective course of action. Fostering sustainable behaviour changes in the community can create lasting attitude changes. FOGO plays an important part in diverting waste from landfill. Its adoption by the community and achieved outcomes, including low contamination levels, should be considered a success story, to be celebrated and reinforced.

5.2.7. Rural service extension

At the May 2023 Ordinary Council Meeting (OCM), Council was presented with a petition from the community requesting a Rural Rubbish service, in particular servicing parts of Ferguson, Henty & Wellington Mills. Council requested a report be presented to the July 2023 OCM regarding the capability for delivering an expanded rural waste collection service and the potential associated costs.

Following this request, Officers released an expression of interest open to all rural residents seeking interest in receiving a 2-bin waste service, comprising of a general refuse red lid bin weekly collection and a yellow lid recycling bin fortnightly collection. The expression of interest was advertised for a period of two weeks ending on the 14th of June 2023. The Shire continued accepting late submissions.

Following the July 2023 OCM Resolution, Council requested a report following the completion of the investigations to formalise the establishment of the expanded service and any related charges.

The Shire of Dardanup is exempt from requiring a permit to collect waste in the first instance, under Part 6, Division 1 — Section 50 (2) of the Waste Avoidance and Resource Recovery Act 2007 (WARR Act). However, Division 2, Section 56, states that Department of Water and Environmental Regulation (DWER) may issue Waste Collection Permits to private companies to collect Local Government Waste, if a local government does not collect the local government waste specified in the waste collection permit in that district or part of that district. Furthermore, if a Waste Collection Permit to a private company to collect Local Government Waste in a district or part of a district is in force, a local government must not collect that Local Government Waste without written approval from DWER.

Following enquiries, DWER Officers were unable to locate any record of a Waste Collection Permit being issued under Section 56 of the WARR Act within the Shire of Dardanup. Therefore, the Shire did not need to apply for written approval to conduct a service in the proposed rural service extension.

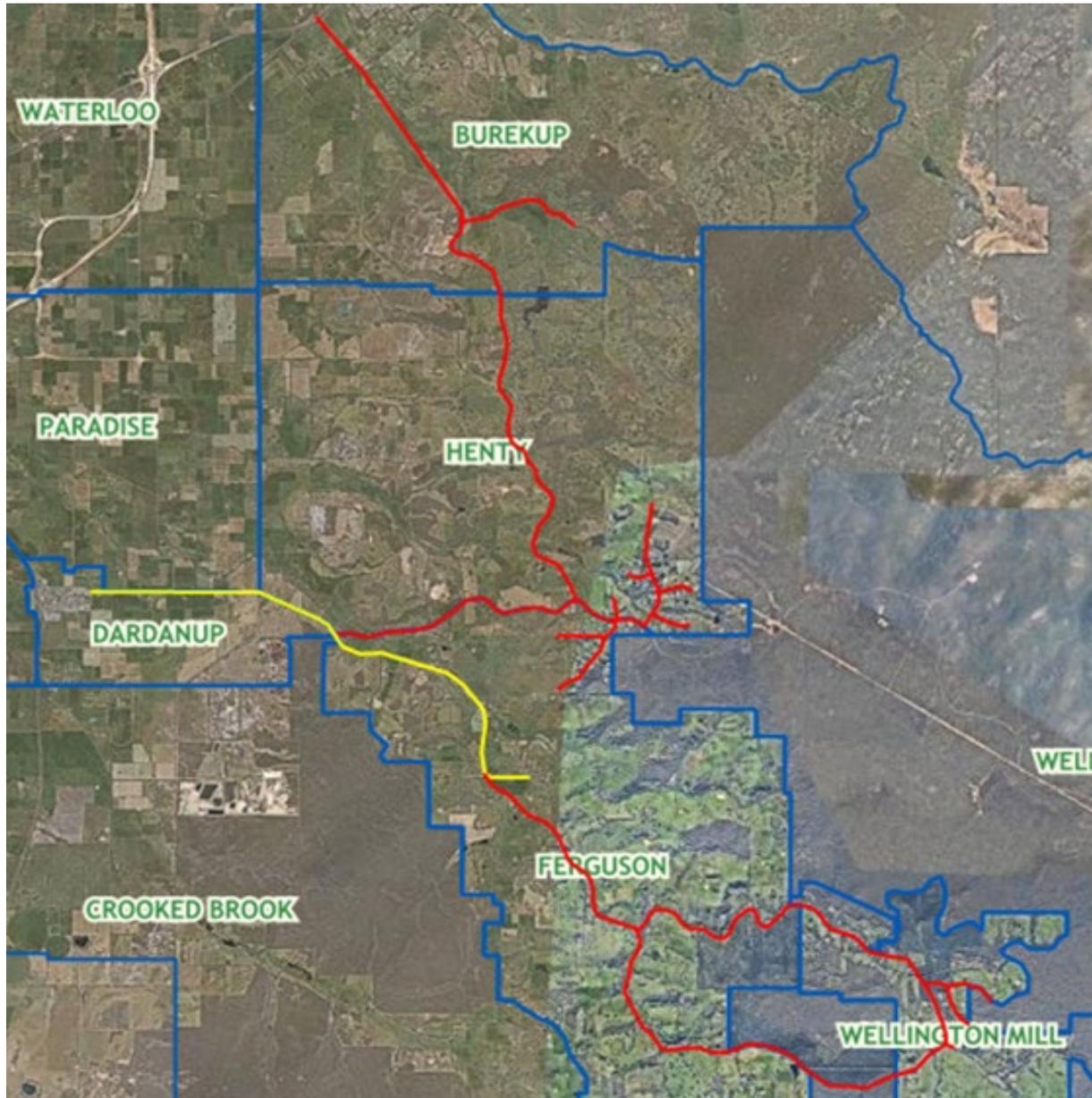
At the October 2023 Ordinary Council Meeting, the Council resolved to approve a voluntary two bin rubbish collection service to the Dardanup rural area within the following localities and streets:

Burekup	Henty Road
	Lennard Road
Henty	Pile Road between Ferguson Road and Gardincourt Drive
	Eastern Rise
	The Dress Circle
	Nyleeta Close
	Greenwood Heights
	Gardincourt Drive
	Seaview Heights
Ferguson	Pfennig Place
Wellington Mill	Ferguson Road from the Ferguson Hall to Wellington Mill Road
	Wellington Mill Road
	Japonica View
	King Tree Road to Lot 51

The October 2023 Ordinary Council Meeting resolved to inform residents that engage this service, that the waste charge will be analysed in the annual Fees and Charges Review, as part of annual budget considerations. This may increase charges significantly depending on service take up, or the service may be discontinued if not considered viable at any point in time.

Image 4 shows the entire additional service on aerial imaging. Note the red line is the service extension and the yellow line is a preexisting route.

Image 4. Rural Rubbish Kerbside Service Extension Area (red line)



Additional community road service requests are being considered on merit under Council Policy 069, section 3.2.3, under CEO delegation. Road generally considered within the policy must have a shared T-junction with an approved route road section.

Once the current kerbside collection contract is discharged. It is recommended that a feasibility case be investigated for the rural service to encompass the entire Shire of Dardanup Road network.

5.3. Verge Side Bulk Collection Service

The Shire of Dardanup's verge side bulk collection service is provided to residential and semi-rural areas. This service is currently not available to rural areas due to the risks associated with waste being placed on rural road verges and its collection on high-speed roads or areas of poor sight distances.

Council announces the week(s) of collection, however, is unable to provide exact collection times. All waste must be placed on the verge prior to the collection week. The property owner is responsible for maintaining the waste piles in a safe condition and in a manner that does not cause litter. Streets are only serviced once. Waste presented after the collection date or uncollected remains the responsibility of the resident to remove.

The collection, transport and disposal of bulk hard waste and bulk green waste is currently fully outsourced. The Shire has a contract for annual hard waste collection (August) and bi-annual green waste collection (May and October). This contractor undertakes these collections usually with a skid-steer loader, labour, and waste trucks. Hard waste collected is disposed via landfill under a current disposal contract. Green waste collected is currently disposed via a local mulch business, free of charge.

The three-year annual data presented in Table 8 indicates that the verge-side collection is a valued and utilised service to the community. Total annual volumes sit steadily within the 400-500 tonnes range, with the 2021/22 period demonstrating an increase of green waste verge presentation.

Table 8: Bulk Verge-Side Waste Collection 2020/21, 2021/22, and 2022/23

Waste Type	2020/2021	2021/2022	2022/2023
Hard waste	171	213	221
Green waste	246	273	195
TOTAL	417 tonnes	486 tonnes	416 tonnes

5.3.1. Hard Waste

The Hard Waste Collection is conducted over a two-week period, with the Eaton and Millbridge collection occurring during the first week, and Dardanup and Burekup townships occurring the second week. All waste collected is disposed. The current contractor does salvage scrap metal from the hard waste collection at their own impetus for reward. Additionally, a proportion of bulk hard waste placed on verges is salvaged voluntarily by the general public prior to the contractor arriving.

This collection includes:

- Washing machines and dryers.
- General furniture, including bedding, lounges, cupboards, etc.
- Fridges, freezers, and air-conditioners (doors removed). The contractor de-gasses onsite.
- General junk - material less than 1.5 metres in length.
- Garden furniture and barbecues.

This collection does not include:

- Bricks, rubble, or asbestos.
- Household food waste.
- Flammable liquids, hazardous chemicals.
- Cars, car tyres, mattresses, or batteries.
- Oils, paints, solvents, or liquids.

5.3.2. Green Waste

This Green Waste Collection is conducted over a week period within Eaton, Millbridge, Dardanup and Burekup townships. All green waste collected is processed into either wood chip, mulch, or compost.

The collection includes:

- Tree and shrub cuttings up to 2 cubic metres.
- Maximum length 1.5m.
- Maximum diameter 200mm.

The collection does not include:

- Lawn clippings or roll on turf.
- Green waste placed in bags or boxes.
- Hard waste including timber.
- Stumps.
- Excessively large piles of green waste (greater than 2 cubic meters).

For safety and asset protections, all residents are reminded prior to collection that all green waste must be clear of reticulation, water mains, electrical domes, footpaths, street signs and street corners.

5.4. Waste Transfer Station

The Shire operates a Waste Transfer Station (WTS) at Lot 81 Marginata Close, Crooked Brook. The premises is licensed under the Environmental Protection Act, Part IV as a Category 62 Solid Waste Depot, receiving and sorting solid waste pending final disposal or reuse, compliant with license number L8888/2015/1. This site is leased from a private entity.

The WTS is open 8.30am to 4.00pm Monday, Wednesday, Friday, Saturday, and Sunday. The facility is open public holidays except New Year's Day, Good Friday, Easter Sunday, ANZAC Day, Christmas Day, and Boxing Day. The WTS accepts residential waste only; commercial volumes or materials of commercial/industrial origin are not accepted. All loads are inspected upon arrival. The facility has an open-door policy, welcoming residents, and non-residents alike.

The Shire provides this service for domestic residential waste. General refuse waste is removed for final disposal, while green waste is removed for compost processing. Recycling and cardboard are removed for processing, and salvageable items are on-sold through the Recycle Shop. Gate fees apply for waste received as per the *Schedule of Fees and Charges*. Specific fees relate to special recycle items such as tyres, mattresses, and fridges. The collected material generally falls under the following types:

- Mattresses
- Fridges, air conditioners and freezers
- Light vehicle tyres (max 4 per entry)
- General waste
- General recycling – no soft plastics
- Green waste
- E-waste - general
- Construction and demolition waste of bricks, cement, and concrete only. No asbestos or ceramic tiles.
- Old furniture
- Fluorescent tubes and bulbs.
- Cardboard
- Car batteries
- Used motor oil (up to 40L)
- Scrap metals
- Household batteries (proposed)
- Agricultural chemical drums (empty and washed, lids removed) – declared upon arrival.

The WTS has a general ethos of sourcing and engaging with environmentally and/or socially responsible contractors for the waste stream removals and processing. This practice follows the principles of maintaining the circular economy. These contractors include recognised stewardship program providers and social enterprise not-for-profits.

Over the 2022 period, the Shire of Dardanup collected, processed, recovered, and disposed of 1,544.923 tonnes of waste (See Table 9).

Table 9: Waste Transfer Station Tonnages for 2022-2023

WASTE TYPE	TONNAGE
General Refuse	1214.7
Green Waste	185.94
Commingled Recycling and cardboard	25.66
Tyres	6.835
Mattresses	11.309
Waste Oil	6.549
Car Batteries	4.48
Scrap Metals	89.45
Construction and demolition	0*
TOTAL	1,544.923 tonnes

- *Construction and demolition waste was collected on site, though it wasn't removed within this financial year.*

The Waste Transfer Station does not accept household hazardous waste, with exception to household fluorescent tubes and globes. The Shire is working towards including household batteries within its current licence, to better service the community.

The facility cannot accept all other household hazardous waste, such as aerosols, asbestos, household and pool chemicals, paint, pesticides, engine coolants and glycols, fire extinguishers, smoke detectors, flares, and medical waste. Additionally, truck and tractor tyres and soil/fill are not accepted.

The facility has two Waste Attendants and a weekly bobcat contractor for general site maintenance.

5.4.1. Waste Removal Contracts

At the April 2023 Ordinary Council Meeting, Council resolved to move weekly essential waste streams into current collection and disposal contracts, to guarantee the WTS service to residents and reduce the risk of waste being uncollected. These contract amendments were completed by November 2023.

5.4.2. E-Waste Service

The Western Australian Government introduced a 2024 statewide ban on e-waste disposal to landfill. The State Government is currently in the consultation phase for the draft of the Waste Avoidance and Resource (e-waste) Regulations 2023. The regulations have been developed under the Waste Avoidance and Resource Recovery Act 2007. The e-waste to landfill ban also supports the recovery and protection objectives in the Waste Avoidance and Resource Recovery Strategy 2030

The Shire has secured \$24, 123 grant through the Department of Water and Environment Regulation (DWER) E-Waste Infrastructure Grants, for a dedicated e-waste sorting shed, shelving, and storage cages at the Shire's Waste Transfer Station. Additionally, the Shire purchased a sea container for e-waste storage, transport, and processing to Perth e-waste recyclers, through the recognised National Computer and Television Recycling Scheme product stewardship scheme for Western Australia.

5.4.3. E-Waste Licence Amendment

The Shire of Dardanup has achieved amending the Waste Transfer Station Category 62 Solid Waste Depot licence to include e-waste and household batteries. An application to amend licence L8888/2015/1, under Part V Division 3 of the Environmental Protection Act 1986, for the addition of an e-waste shed, e-waste storage and to store household batteries for recycling was received by the DWER on 25 August 2023. This licence amendment was approved on the 8 December 2023.

5.4.4 Waste Transfer Station Relocation

Officers are currently investigating the feasibility of relocating the WTS against a cost benefit analysis of a 'stay vs go' scenario. This investigation aims to detail options surrounding the risk and rewards of developing a new transfer station over spending money to revamp the current location, with possible further business partnership and tender options. These investigations are early stage and ongoing.

5.5. Public Bins and Community Events

The Shire of Dardanup has a condition within the kerbside collection contract with the awarded contractor to conduct public bin waste collection and asset maintenance. Included in this contract is the requirement for additional services during and after nominated community events.

5.5.1. Public bins

As a part of the kerbside general waste service, the collection Contractor services public place bins. During summer months, the foreshore and riverside park area bins are collected twice per week due to increased usage of these areas, otherwise these bins are serviced once per week during all other times of the year. There was a total of 75 tonnes of public place waste collected in the 22/23 financial year.

5.5.2. Community Events

The Shire of Dardanup has an agreed schedule of annual community events, detailed in Table 10, which service as a part of the waste collection and processing contract. The community event service requires a minimum of one collection the day before commencement of the event and one collection the day following the conclusion of the event. At the conclusion of the community event, the removal of all bins delivered is required.

Table 10. Schedule of community events serviced within the waste collection and disposal contract.

EVENT	LOCATION	FREQUENCY	240L GENERAL REFUSE BINS	240L RECYCLE BINS
Spring Out	Eaton	Annual	4	4
Buy it Back Fair	Eaton	Annual	4	4
Walk on the Wild Side	Eaton	Annual	4	4
Movies by Moonlight & Summer Sounds	Eaton	Annual	3	3
Natures Wonderland	Eaton	Annual	2	2
Australia Day Breakfast	Eaton	Annual	10	6
Eaton Foreshore Festival	Eaton	Annual	50	20
Movies by Moonlight & Summer Sounds	Dardanup	Annual	3	3
Australia Day Breakfast	Dardanup	Annual	6	4
Christmas Carols	Dardanup	Annual	2	0
Movies by Moonlight & Summer Sounds	Burekup	Annual	3	3

From time to time, the shire may request the Contractor to provide additional services at special community events such as festivals and shows. Services at these events will include the delivery, emptying and disposal of material from within general waste bins at a minimum; and processing of material from within recycling bins (if specified). At the conclusion of the special event, the removal of all bins delivered will be required.

5.6. Waste Education and Awareness

The Shire of Dardanup works closely with the collection contractor to keep recycling and FOGO kerbside contamination low, with the aim for zero. This is being achieved through the contractor Waste Education Program and the FOGO contamination 'Action Plan' as discussed in the Kerbside Collection Service section of this document. The annual Waste Guide provided by the collection contractor and sent through the Shire's rates annual package is included within the education service.

The Shire has a dedicated media campaign centred on waste contamination. Included is the "Great Sorts" mailbox thank-you packs and \$100 supermarket voucher competition, provided by the collection contractor.

Additionally in April 2023, an audit of the Shire's FOGO waste truck load was conducted to determine contaminants and volume by weight of contamination.

5.6.1. Education workshops

The Shire contracts out part of its waste education function as a part of its kerbside collection service. In the month of March 2023, seven workshops with local primary schools aimed specifically on FOGO and composting. In June and August 2023, the collection contractor also completed 16 local primary school workshops focusing on 'closing the loop' and 'smart shopping'. The last two years for workshops are detailed in Table 11 below.

Table 11. School and Community Waste Education Program Deliverables

	Date	Organisation	Activity	Audience	Workshops
2022	22-24 March	Eaton Primary School	Rubbish To Resource	Pp-6	15
	28-29 June	Our Lady Of Lourdes	Rubbish To Resource	K-6	8
	3-4 August	Our Lady Of Lourdes	World Beneath Our Feet	K-6	8
	20 July	Eaton Primary School	Waste Station Grand Opening - Assembly	School, Government, and Businesses.	1
	20 July	Shire Of Dardanup	Pratt Road, Eaton-House Visit	Two Residents	1
	10 October	Shire Of Dardanup	Library - Rubbish To Resource	Adults	1
	9-10 November	Dardanup Primary School	Rubbish To Resource	Pp-6	8
	10 November	Dardanup Primary School	Truck Visit	Mixed	1
	TOTAL				43
2023	8, 9 March	Eaton Primary School	World Beneath Our Feet	Pp-2	7
	April	Shire of Dardanup	FOGO Truck Audit	Shire of Dardanup	1
	20, 21 June	Eaton Primary School	Smart Shopping	3-6	8
	16 17 August	Our Lady Of Lourdes	Closing The Loop	P-6	8
	TOTAL				24

5.7. Litter and Illegal Dumping

Littering and the illegal dumping of waste can have serious environmental, social, and economic impact. The cost of cleaning up litter and illegally dumped waste is borne by the community.

Litter can take many forms, such as:

- Rubbish thrown from a moving vehicle or by pedestrians.
- Household bulk and green waste placed on verges outside of the verge-side collection times.
- Dumped shopping trolleys.
- Improper disposal of used syringes.
- Abandoned vehicles.
- Placing advertising materials on vehicle windscreens.
- Disregarded cigarette butts.

Table 12 shows a two-year trend of litter and illegal dumping data, with a notable increase from the 21/22 period to the 22/23 financial year.

Table 12. Litter and illegal dumping data

	COMPLAINTS RECEIVED	INFRINGEMENT NOTICES ISSUED	ILLEGAL DUMPING SITES
21/22	50	2	2
22/23	177	10	11

Rangers enforce the Litter Act 1979 in the Shire of Dardanup and penalties may apply if litter is not disposed of appropriately. Rangers can only infringe or prosecute an offence where they have sufficient evidence and are able to identify the person or person(s) responsible. Sufficient evidence may take one or more following type(s) of information:

- description of the type of waste dumped.
- date, time and place the offence was committed.
- description of the offender(s).
- vehicle registration details.
- make, model and colour of the vehicle.
- photographic or video evidence of the offence.

The Shire treats reports of illegal dumping confidentially and does everything to maintain the anonymity of the person reporting the alleged offence. Should matters proceed to Court the ability to prove the offence may depend on the witness testimony of the initial reporting person.

6.0 Recommendations

Below is a summary recommendations table from the Waste Management Plan and Confidential Appendix.

Table 13. Summary of recommendations.

Item	Summary	Officer Recommendation
1 FOGO Processing	<p><u>Discussed in Section 1 of the WMP Confidential Appendix.</u></p> <p>Officers have detailed within Table 1. of the Appendix, business considerations for the Shire’s FOGO processing, listing eight options to considered.</p> <p>Further to Table 1. are the predicted costs of each option, which is contained within Table 2. This second table also details logistical notes regarding the transport and business opportunities.</p>	<p>It is the Officer recommended that Option 1 of Table 1 within the Confidential Appendix be preferred for the 2024/2025 financial year.</p> <p>While utilising BHRC, the Shire can apply heavy advocacy in the State Government sphere for better support to BHRC and the region.</p>
2 Waste Transfer Station Relocation	<p><u>Discussed in Section 2.3 of the WMP Confidential Appendix.</u></p> <p>The Waste Transfer Station (WTS) is located on leased land. As the Shire’s population grows, and State Government recovery expectations increase, the Shire may need to consider expanding/redesigning the current WTS location or relocate to a Shire owned site and rebuild the facility with enhanced functionality and design flow.</p> <p>Officers are currently investigating the feasibility of relocating the WTS against a cost benefit analysis of a ‘stay vs go’ scenario. This investigation aims to detail options surrounding the risk and rewards of developing a new transfer station over spending money to revamp the current location, with possible further business partnership and tender options.</p> <p>There are five options described within Table 3 of the Confidential Appendix. This table is not exhaustive; however, Officers intend to achieve Council sentiments on the facility’s operations. All costs associated with each option listed will need further investigation as the Shire is only within the initial concept stage.</p>	<p>It is the Officer recommended that Option 1 of Table 3 within the Confidential Appendix be preferred at this point of time, with Council continuing to investigate the future viability of Option 2.</p> <p>This recommendation is to continue operations on the current site and extend the lease agreement with the Lessor. Future feasibility studies are encouraged toward the viability of relocation.</p>

3 Waste Local Law

Discussed in Section 4.3 of the Waste Management Plan

The Waste Avoidance and Resource Recovery Act 2007 (WARR Act) consolidated old provisions that were in the Health Act 1911, effectively updating, and transferring the provisions away from the Health Act concerning the waste management services provided by local government. Under Section 61 of the WARR Act, Local Governments are provided with the power to make Local Laws so that they can perform their functions under the Act.

The Shire of Dardanup does not presently have a Waste Local Law, rather still implementing the Health Local Law, made under Section 342 of the Health Act 1911. The Shire's current Health Local Law discusses very briefly the prescribed areas for waste collection; however, this requires updating to reflect the nomenclature of the Shire's Dardanup West rural residential development.

It is recommended that a Waste Local Law be investigated.

Once/if adopted, concurrently the Health Local Law should be amended to remove municipal waste management services provided by local government.

7.0. Conclusion

The Shire of Dardanup is committed to providing an overarching waste service that is efficient and effective, which meets the needs and expectations of the community and strives to divert as much waste from landfill as possible. This aligns with the Government of Western Australia's material recovery targets, outlined within the Waste Avoidance and Resource Recovery Strategy 2030.

This Waste Management Plan discusses the Shire of Dardanup's five overarching waste services, with focus on FOGO. This material represents 46-48% of the Shire's kerbside collection, and accounts for 34.1% of the Shire's total municipal solid waste. The sustainable processing of this material is paramount to achieving crucial recovery targets set by the State Government.

The Shire is currently displeased with the existing FOGO processing arrangement, as discussed in the confidential appendix of this plan. The Shire expects a full chain of custody regarding environmental stewardship towards sustainable FOGO processing and end-product creation. Currently the Shire's FOGO processing is without a contractual agreement and is processed through a gate fee system. It is recommended that the Shire call a tender for ≥\$250,000 per annum for the FOGO processing with/without transportation options. This tender would be advertised with a contract length of four years, with possibility to extend by one year, and again, another one year. This tender should detail the level of certification around the treatment and end destination of the FOGO material, with strict documentation and process controls, to provide assurance that the product is dealt in an environmentally sound manner that furthers the circular economy.

This Waste Management Plan also discusses the future of the Shire's Waste Transfer Station (WTS) operations. Officers are currently investigating the feasibility of relocating the WTS against a cost benefit analysis of a 'stay vs go' scenario. This investigation aims to detail options surrounding the risk and rewards of developing a new transfer station over spending money to revamp the current location, with possible further business partnership and tender options.

This Plan examines the Shire's recovered kerbside recycling material, and considers the ethical downstream flow of resources, in line with circular economy principles. Currently 33.94% of materials are retained within the Australian market, with the rest going to Southeast Asia. Once the full Federal export bans come into place by July 2024, it is estimated that Australian markets will receive approximately 96% of Shire generated recycled material (roughly: paper 60%, glass 30%, plastic 6%). Metals will be the remaining material unregulated for export, however 38% of the metal generated in kerbside recycling are already processed within Australian markets, and the actual total metals generated sits under 6% of the total recycling material volume.

As the Shire of Dardanup's population is set to grow to over 24,000 by 2041, it is predicted to bring the total number of dwellings from 5700+ to near 10,000. This will have a significant impact to the Shire's waste management, which will have to adapt to suit the growing population and community demographics. The Shire strives to enhance the circular economy by adopting innovative and sustainable waste solutions, with a greater focus on long-term waste management planning.

8.0. Monitoring and Review of this Plan

This Waste Management Plan is to be reviewed in 2028, prior to calling tenders for the Shire's waste collection and processing services contract.

In the 2028 review of this Waste Management Plan, Council may consider broadening the kerbside collection service to consider more localities, or the Shire in its entirety. Currently the kerbside waste collection and processing services contract collects from townsites, small holding/rural residential zonings, and major tourist routes such as main roads within the Ferguson Valley.