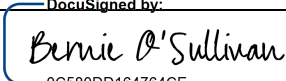




**Macedon
Ranges**
Shire Council

Waste and Resource Recovery Management Strategy 2021-2026



Strategic Plan Title:	Waste and Resource Recovery Management Strategy 2021-2026	
Date of Adoption:		
Adoption Method:	<input checked="" type="checkbox"/> Council	<input type="checkbox"/> Executive
CEO Signature:	<small>DocuSigned by:</small>  <small>0C580DD16A764CE</small>	Insert date of CEO's signature. 20-01-2022
Manager:	Gary Randhawa, Manager Engineering and Resource Recovery	
Department:	Engineering and Resource Recovery	
Unit:	Resource Recovery	
Term:	Five Year Strategy 2021-2026	
Nominated Review Period:	<input type="checkbox"/> Annually	<input type="checkbox"/> Biennially
Proposed Review Date:	November 2026	

Contents

1.	Introduction.....	2
2.	Strategic framework	3
2.1	Vision and plan	3
2.1.1	Waste and Resource Recovery Vision and principles	3
2.1.2	Council Plan 2021-2026.....	4
2.2	Victorian Government	4
2.2.1	Recycling Victoria: A new economy	4
2.2.2	Environment Protection Authority.....	6
2.2.3	Sustainability Victoria.....	6
2.2.4	Loddon Mallee Regional Waste and Resource Recovery Group.....	7
2.3	Commonwealth Government	8
3.	Where are we now	10
3.1	Council leadership and community engagement.....	10
3.1.1	Towards Zero Single-Use Plastics Study and Action Plan	10
3.1.2	Waste management at Council facilities	10
3.1.3	‘Let’s Get Sorted’ kerbside education campaign	10
3.1.4	Waste education and behaviour change	11
3.1.5	Face-to-face engagement activities	11
3.1.6	Online engagement	12
3.1.7	Wash Against Waste trailer.....	12
3.2	Waste and recycling services.....	12
3.2.1	Kerbside collection.....	12
3.2.2	Diversion from landfill.....	13
3.2.3	Bin contamination	14
3.2.4	Hard waste	14
3.2.5	Implementation of fortnightly general waste service and weekly FOGO service	15
3.2.6	Organics processing	15
3.2.7	Glass recycling	16
3.3	Waste facilities.....	17
3.4	Public waste and recycling.....	18
3.4.1	Public place recycling	18



3.4.2	Litter and illegal dumping	18
3.5	Performance.....	19
4.	Issues and opportunities	21
4.1	Waste management hierarchy	21
4.2	Waste avoidance and behaviour change	22
4.2.1	Council leadership	22
4.2.2	Community and business engagement	22
4.2.3	Reducing single-use plastic at events	23
4.3	Resource recovery	24
4.3.1	Transfer stations	24
4.3.2	Garden waste	24
4.3.3	Closing the loop on organics	25
4.3.4	Soft plastics	25
4.4	Other.....	26
4.4.1	Public place recycling	26
4.4.2	Litter and illegal dumping	26
4.4.3	Data collection	26
5.	Recommendations	27
5.1	Council leadership and waste education.....	27
5.2	Waste and recycling services.....	28
5.3	Waste facilities.....	28
5.4	Litter and illegal dumping	28
5.5	Measurement and review	29
5.6	2021-2026 Goals	30
6.	Action Plan 2021-2026.....	32

Abbreviations

CDS	Container deposit scheme
DELWP	Department of Environment, Land, Water and Planning
EPA	Environment Protection Authority
FOGO	Food organics and garden organics
FY	Financial year
L	Litre
LMWRRG	Loddon Mallee Waste and Resource Recovery Group
MRSC	Macedon Ranges Shire Council
Q	Quarter



1. Introduction

This Waste and Resource Recovery Management Strategy 2021-2026 supersedes the Council's previous Waste Management Strategy 2015-2020. The previous strategy was adopted in 2015 and spanned a period which saw significant changes to Australia's waste and resource recovery sector.

The Council undertook a review to ensure that the Waste Management and Resource Recovery Strategy 2021-2026 aligns with contemporary industry and community trends and needs. The review acknowledged completed actions in the 2015-2020 strategy and maps the Council's activities for the next five years.

The Waste and Resource Recovery Management Strategy 2021-26 provides sustainable solutions for the collection, disposal and resource recovery from waste generated within our community. It contains measurable targets and actions to be undertaken by the Council over the next five years.

Updates included in this strategy comprise of the following:

1. Where previous strategy actions are still relevant, and the Council can progress or improve, the new strategy continues these actions. The central focus of the new strategy is the diversion of waste from landfills. Despite significant progress in this area, there are still improvements to be made.
2. The strategy incorporates focus areas which align the Council's strategic goals with the waste management hierarchy and recent Victorian Government policy objectives. Education is essential in changing waste management attitudes and behaviours.
3. Updated objectives and goals to align with the current service provision, industry changes, new state policy and circular economy principles.

Waste and resource recovery services impact the entire community and account for approximately 10% of Council's total annual budget. The environmental impacts of collecting, transporting, processing resources and disposing of waste are a significant part of Council's carbon footprint.



2. Strategic framework

This section outlines relevant council policies and plans plus external policies and legislation that impact current and future waste and resource recovery activities.

Waste policy reform at both a Commonwealth and Victorian Government level has seen a renewed focus on the circular economy, the development of local markets for recycled products and restrictions on offshore processing of materials. This policy has led to an increased need for additional localised recyclable materials and organics processing capacity.

2.1 Vision and plan

2.1.1 Waste and Resource Recovery Vision and principles

The Macedon Ranges Shire Council's waste and resource recovery vision is:

The Macedon Ranges Shire Council provides leadership and empowers the community to create a sustainable future by avoiding and reducing waste, and increasing the re-use and recovery of material resources for improved productivity and environmental protection.

The following principles guide the development of the waste and resource recovery strategy.

Education

- Waste is a shared responsibility
- Empower the community to avoid and minimise waste and increase resource recovery as part of the Council's climate emergency response.

Transparency

- Build trust in recycling reliability and practice.



Council run schools information session



Resilience

- Utilise data, monitoring and evaluation of services to improve performance
- Partner with other councils and contractors to improve the waste and resource management practices for all waste streams.

Sustainability

- Phase out non-recyclable packaging and items including single-use plastics and 'biodegradable' plastics within Council operations
- Continue waste reduction and associated emissions reduction in all Council activities
- Provide leadership in waste management services and practices to build a sustainable community and economy
- Investigate local options for processing and re-using our resources and contribute towards the circular economy shift
- Local processing of organics
- Re-use of glass in local civil infrastructure projects.

Advocacy

- Advocate for statewide and nationwide phase out of non-recyclable packaging and items, including single-use plastics and 'biodegradable' plastics.

2.1.2 Council Plan 2021-2026

Our Council Plan 2021-2026 includes the Community Vision Theme of "Healthy environment, healthy people". Which is particularly relevant to the waste and resource recovery strategy. The strategic objective under this theme states "We will take action to reduce waste in order to protect public health and the environment".

2.2 Victorian Government

2.2.1 Recycling Victoria: A new economy

The Victorian Government's 2020 *Recycling Victoria: A New Economy* is Victoria's circular economy policy and 10-year action plan to transform the way materials are managed. A circular economy can be defined as one that '*continually seeks to reduce the environmental impacts of production and consumption, while enabling economic growth through more productive use of natural resources*' (DELWP 2020).

A circular economy sees continual reuse and recycling of materials, reducing the need for extraction of virgin materials, the amount of waste disposed to landfill and our environmental footprint. It underpins waste and resource recovery planning at

both the state and federal level, and requires a national economic response for implementation.

The circular economy concept is illustrated in Figure 1.

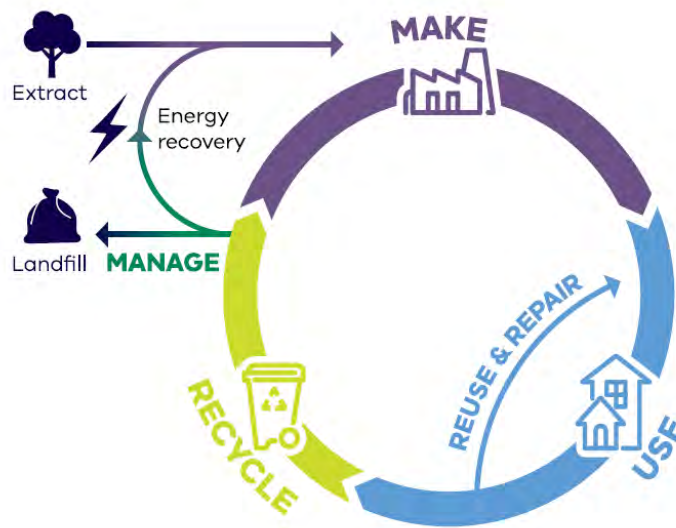


Figure 1 – The Circular Economy (Source: Recycling Victoria: A New Economy, 2020)

Applying the circular economy principles means developing a strategy that:

- encourages design, manufacturing and production processes that use recovered materials
- supports the reuse and repair of manufactured goods
- improves the separation of recyclable materials and diverts more valuable resources from landfill
- enables the community to support reuse and repair and make informed choices when purchasing goods
- establishes and/or advocates for development of new, improved recovery and recycling infrastructure that extracts the full value from materials
- identifies and supports the development of local markets for recovered materials
- participates in and advocates for procurement that supports markets using recovered materials.

Of most relevance to local government is Recycling Victoria's objective of kerbside reform which will see a standardised 4-bin waste and recycling system for households across the state by 2030. Macedon Ranges Shire Council is one of only a few councils currently leading the state in achieving the policy's kerbside reform objectives, having implemented kerbside glass and FOGO collection in

2020. The next step will be to further investigate local processing options for these waste streams.

2.2.2 Environment Protection Authority

The Environment Protection Authority (EPA) is responsible for oversight of Victoria's principal legislation for environment protection. New legislation (the *Environment Protection Act 2017* supported by various new regulations) came into effect on 1 July 2021¹ and shifts the focus from managing environmental impacts as they occur to preventing waste and pollution. Key changes introduced include:

- a general environmental duty, which holds anyone involved in activities with potential risk of harm responsible for removing and reducing environmental and human health risks
- a three-tiered permissions framework to replace the current EPA licence system
- a new waste classification system that categorises waste based on the risk that it poses
- increased penalties
- a requirement to make unrestricted environmental information available to all Victorians
- new community rights for those affected by alleged breaches of the environment protection laws.

Council has a number of new responsibilities under this legislation to address its waste management and resource recovery requirements.

2.2.3 Sustainability Victoria

In 2018, Sustainability Victoria released the Statewide Waste and Resource Recovery Infrastructure Plan (SWRRIP), Victoria's current roadmap to guide planning and investment in waste and resource recovery infrastructure to 2040. By identifying infrastructure needs across the state, the SWRRIP guides investment decisions made by the waste and resource recovery industry, local and state governments and influences land use planning, transport, and broader environmental policy.

The SWRRIP is currently under review by Sustainability Victoria, and is expected to shortly be replaced by the new Victorian Recycling Infrastructure Plan.

¹ The commencement date was deferred due to the COVID pandemic.

Sustainability Victoria has also released a number of other strategic documents including:

- the Victorian Market Development Strategy for Recovered Resources aims to stimulate markets for recovered resources by reducing barriers and supporting the right conditions for material and product markets to grow and mature
- the Victorian Waste Education Framework provides a coordinated approach to waste and resource recovery education in Victoria
- the Victorian Organics Resource Recovery Strategy outlines the goals, directions, outcomes and actions for improving the management and recovery of organic waste
- the Collaborative Procurement Framework outlines a consistent approach to identifying, assessing and planning collaborative procurement of waste and resource recovery infrastructure and services
- the Infrastructure Facilitation Framework provides a coordinated, consistent and long-term approach to promoting and facilitating waste and resource recovery investment opportunities locally and abroad.

2.2.4 Loddon Mallee Regional Waste and Resource Recovery Group

The Loddon Mallee Waste and Resource Recovery Group (LMWRRG) is a statutory authority regulated under the *Environment Protection Act 2017* and one of seven groups across regional Victoria. The LMWRRG facilitates a coordinated approach to planning and delivery of infrastructure and services for the region, ensuring alignment to Victorian Government policy. It supports its eight member councils to minimise waste to landfill and increase the re-use and recycling of waste materials.

The eight Councils are as follows:

City of Greater Bendigo	Buloke Shire
Gannawarra Shire	Loddon Shire
Mount Alexander Shire	Macedon Ranges
Mildura Rural City	Swan Hill Rural City

Under new Victorian legislation (planned to be introduced in late 2021-early 2022), a new statewide waste authority will replace all of the regional groups in Victoria from July 2022. It will also change the waste and resource recovery responsibilities of Sustainability Victoria.

The *Loddon Mallee Waste and Resource Recovery Implementation Plan* identifies the waste and resource recovery infrastructure needs of the Loddon Mallee region

to 2026. The plan includes strategic directions related to educating the community to reduce waste generation, enabling beneficial use of organics, increasing re-use and recovery rates across the region and encouraging innovation and research to develop new waste management solutions.

The *Loddon Mallee Regional Organics Strategy 2019-2025* sets a zero organics to landfill vision through reducing food waste, maximising organics diversion from households and industry, and providing the necessary processing facilities and end markets throughout the region.

2.3 Commonwealth Government

The 2018 *National Waste Policy: Less Waste, More Resources* provides a framework for collective action by businesses, governments, communities and individuals. The policy identifies five overarching principles underpinning waste management in a circular economy. These include:

- avoid waste
- improve resource recovery
- increase the use of recycled material and build demand and markets for recycled products
- better manage material flows to benefit human health, the environment and the economy
- improve information to support innovation, guide investment and enable informed consumer decisions.

Targets and actions to implement these strategies are defined in the *National Waste Policy Action Plan 2019*, which includes national targets to:

- ban the export of waste plastic, paper, glass and tyres (phased in between 2021-2024)
- reduce total waste generated in Australia by 10% per person by 2030
- 80% average resource recovery rate from all waste streams by 2030
- significantly increase the use of recycled content by governments and industry
- phase out problematic and unnecessary plastics by 2025
- halve the amount of organic waste sent to landfill by 2030
- make comprehensive, economy-wide and timely data publicly available to support better consumer, investment and policy decisions.

The *Recycling and Waste Reduction Act 2020* legislated some of these strategies (including the waste export bans), as well as a revised national framework for product stewardship schemes.



3. Where are we now

This section reviews the current status of waste management in Macedon Ranges Shire.

3.1 Council leadership and community engagement

3.1.1 Towards Zero Single-Use Plastics Study and Action Plan

Throughout 2019-2020 an internal study was undertaken on using single-use plastics within Council operations to understand the quantity and types of single-use plastic items purchased, used and disposed of due to day-to-day operations. The study involved consultation with representatives across all Council departments in developing an action plan. While all departments across Council generate some single-use plastic waste, this investigation focused on identifying the avoidable, unnecessary and replaceable single-use plastic items used.

The study was to undertake an audit of single-use plastics. However, due to the risks involved with handling waste and disruptions to staff working arrangements during the COVID-19 pandemic, a weight-based audit of single-use plastic and a staff survey was postponed. Officers will undertake these tasks when it is appropriate and safe to do so.

3.1.2 Waste management at Council facilities

Four-bin sorting stations are ready to be installed at each of Council's administration centres and selected other facilities. The four-bin stations will enable staff and other users of Council facilities to separate waste into four waste and recovery streams. The roll-out of further sorting stations is a priority action following the easing of restrictions.

3.1.3 'Let's Get Sorted' kerbside education campaign

To support the change in waste and recycling services and the introduction of FOGO (food organics and garden organics collection), Council launched the *Let's get sorted* waste education campaign in January 2020. The goals of this campaign were to inform residents of the four bin system changes and educate around what should and should not go in each bin, while empowering the community to take action in sorting their waste.

Materials were developed following statewide best practice recommendations to support the campaign including the following:

- a new waste and recycling guide – *Let's get sorted*

- FOGO user guide for household and customised user guide for hospitality businesses
- corflute signs, pop-up banners and practical activities for face-to-face engagements
- website updates, social media campaigns and updates.

3.1.4 Waste education and behaviour change

In 2019, Council's first waste education officer commenced work in the resource recovery team. The new role is a vital step towards improving the level of community engagement and education on sustainable waste management practices and promoting better use of Council's waste services.

It will be important to build on the progress made over the past 18 months in developing and implementing the Let's Get Sorted campaign to support the new four-bin system. A supplementary Waste Minimisation and Resource Recovery Education and Engagement Plan will be developed to guide the implementation of the waste education actions set out in this strategy.

3.1.5 Face-to-face engagement activities

In the lead up to the four bin system and during the launch phase, the resource recovery team attended numerous community events and held pop-up information stalls across the larger townships. These events provided an opportunity to share information, gather feedback and engage face-to-face with the community.

Events have included an open day at the Council depot, attendance at fairs, festivals and agricultural shows, and a number of information sessions.



Local Farmers Market July 2021



3.1.6 Online engagement

Online education campaigns are an essential component of Council's efforts to facilitate responsible waste management practices, and have been particularly useful when face-to-face engagement opportunities are limited. A range of digital initiatives have been implemented to gather community feedback and provide education opportunities:

- ongoing service change updates through the MRSC website and social media platforms
- a business waste and recycling survey
- production of a FOGO video with the Mayor
- International Compost Awareness week campaign and competition
- updates to Council's website including waste reduction tips for households, business waste and recycling information and how to responsibly manage waste such as donating to op shops and managing waste through the pandemic
- introduction of a quarterly waste e-newsletter.

3.1.7 Wash Against Waste trailer

The Wash Against Waste trailer is a result of the *Wash Against Waste* initiative undertaken in collaboration with the Macedon Ranges Sustainability Group. The trailer is available to event organisers who wish to reduce waste at their events. A reduction in disposable packaging occurs, particularly single-use plastics, by providing reusable crockery and cutlery at events.

The trailer is available to event organisers subject to current pandemic restrictions.

3.2 Waste and recycling services

3.2.1 Kerbside collection

Council's kerbside collection service has undergone significant changes with the introduction of the four bin system as follows:

- a weekly food organics and garden organics (FOGO) service collected in a 240 L bin with a lime green lid
- a fortnightly recycling service collected in a 240 L bin with a yellow lid
- a four-weekly glass-only service collected in a 140 L bin with a purple lid



- a fortnightly general waste service collected in a 140 L bin with a red lid².

Council's objective is to minimise the recoverable material going to landfills by providing a best value waste collection service to ratepayers.

3.2.2 Diversion from landfill

Figure 2 compares the monthly landfill diversion rates over the three previous financial years. Before the new four-bin service model, the 2019-20 diversion rate was slightly below the 2017-18 and 2018-19 figures. This increase in waste to landfill occurred due to significant quantities of kerbside comingled recyclables going to landfills following the closure of SKM in July 2019³.

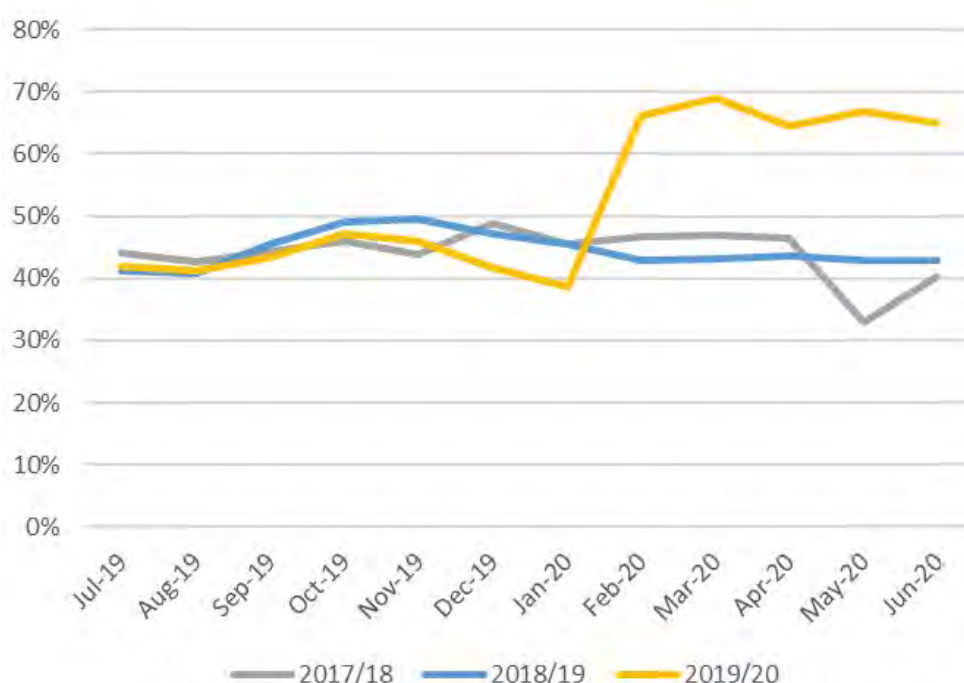


Figure 2 - Landfill diversion per year (2017-18 to 2019-20)

Since implementing the four-bin kerbside collection service, the Shire's monthly landfill diversion rate increased from 39% in January 2020 to 65% (or greater) each successive month, peaking at 69% in March 2020. This result is significantly better than the average Victorian municipal diversion rate of 41% recorded for 2017-18⁴. Officers anticipate further improvements as the remaining areas of the Shire receive the four-bin service in July 2021.

² Note some older bins still have a dark green lid. These will be phased out through the bin replacement program.

³ The former SKM facilities were subsequently purchased by Cleanaway and reopened in late 2019.

⁴ Victoria Recycling Industry Annual Report 2017-18



3.2.3 Bin contamination

Bin contamination is an ongoing issue. Contamination is the quantity of materials as a percentage by weight that does not belong in a particular bin.

The most recent kerbside bin audit in December 2018 found that the contamination rate for the recycling bin was 16.9% by weight⁵. This rate was slightly above the state average of 14.8%.

Since implementing the four bin collection service, bin inspections and contractors reports note recycling contamination as high as 30%⁶ in some areas. This figure highlights the importance of a focused education campaign to improve people's recycling habits.

In recent years, there has been confusion regarding what items are and are not recyclable, particularly for the wide range of plastic items and composite packaging materials. Council's latest waste management guide, issued to residents at the start of 2020, provides clear and straightforward information on what items belong in each kerbside bin.

A bin inspection program and recycling campaign that commenced in 2020 has reduced the number of contaminated recycling bins. Council's new waste compliance officer has progressed the bin inspection program. Targeted community education activities are also undertaken to reduce the contamination of recyclables further.

Contamination of the FOGO bin has been consistently low at less than 1%, indicating that people are using the service as intended.

Council will provide ongoing education and behavioural change campaigns utilising clear and consistent information to reduce bin contamination.

3.2.4 Hard waste

Council does not operate a hard waste collection service. There is interest in this service, but factors such as distance between townships and safety concerns make this challenging. Officers will provide a report to Council on opportunities and issues in delivering this service.

Councils providing a hard waste collection report the following issues:

- increased dumping of waste on kerbsides outside of scheduled collections
- scavenging of valuable and resalable items before collection

⁵ MRSC Kerbside Waste Audit Report, Blue Environment 2019

⁶ Increase in contamination following removal of glass from the recycling can be attributed, in part, to the reduced weight of the bin (glass equates to 30% by weight). Contaminants therefore make up a greater proportion of the remaining bin contents as a % by weight.



- scattering of stacked waste materials, causing safety concerns for pedestrians and drivers
- high costs of collection (labour, fleet and disposal costs)
- ratepayers subsidising a costly service potentially used by only a small percentage of the community (after an initial high uptake for the initial collection, the service demand decreases)
- minimal reduction in cases of illegal dumping following implementation of a hard waste collection.

Introducing a hard waste service would increase the waste service charge (part of the Council rates notices) as waste is a user-pays service. There are some other options for consideration, such as an 'at-call' service (more suited to metropolitan regions) or private services.

The transfer stations provide a location for the community to take their hard rubbish for disposal under a more equitable user-pays basis.

3.2.5 Implementation of fortnightly general waste service and weekly FOGO service

Industry best practice and research into human behaviour have shown that restricting the capacity of the general waste bin coupled with a separate organics and recycling service reduces the amount of general waste produced by a community. Conversely, providing oversized bins or more regular collections for general waste disincentivises recycling efforts and results in higher per-household waste generation.

In February 2020, the Council rolled out its fortnightly garbage and weekly FOGO service to approximately three-quarters of its residents. The result has been a 32% decrease in per general household waste⁷. Further reductions will occur as the service rolls out to the remaining areas of the shire from 1 July 2021.

3.2.6 Organics processing

Material collected through Council's kerbside FOGO service is bulk-hauled to the Biomix composting facility in Stanhope (northern Victoria) where it is processed into compost. The Biomix facility is approximately 120 km from the Shire and requires a 4-hour round trip with each load.

Several loads of compost have been transported back to the Shire for use by Council's parks and gardens team with some success. Further investigation into both Council's ongoing need for compost and interest amongst the community to

⁷ Average monthly waste per household over 5 months post-FOGO service vs 5 months pre-FOGO service

purchase compost is needed before an ongoing back-hauling arrangement is established.

Given the increase in organic materials being collected through the FOGO collection service, Council commenced investigating alternative options for management and processing of organic material. A feasibility study was prepared in 2020 by the resource recovery unit to begin exploring a number of options. Urban EP consultants were engaged to conduct a review of the feasibility study to assess the adequacy of the characterisation of potential technologies and options for management and processing of its organic waste. They also provided guidance on the regulatory and planning considerations associated with siting of a facility.

The feasibility study identified several options to pursue regarding future management of organics that align with circular economy principles:

- commence recovery of compost material processed at Biomix for use within the Shire
- explore haulage options for composted FOGO material
- explore optimisation and improvement of current and future contractual arrangements for FOGO processing and end-product access under business-as-usual
- engage with and determine the appetite of neighbouring Council, regional, commercial and/or state and federal government stakeholders to partner in new local and/or regionally scaled organics processing solutions
- pursue development of a co-owned business case with key partners to determine commitment to collaboratively procure and/or co-investment in the most appropriate long term solution.

3.2.7 Glass recycling

Glass collected through the kerbside glass-only service is currently taken to a processor where it is crushed for use as an aggregate in construction projects such as road base, bedding material and concrete.

In conjunction with the roll-out of the glass collection service, a study into local glass processing opportunities was undertaken in early 2020. Blue Environment was engaged to undertake the study to identify and assess options for the future management of source-separated glass recovered by MRSC via glass-only kerbside collection and community drop-off facilities.

The report investigated both container-to-container recycling options and alternative uses in infrastructure construction and recommended the following actions to develop opportunities for local glass processing:



- seek expressions of interest from suppliers for the provision of equipment or contract services for the management of source-separated glass; existing operators at Tylden and Monegeetta should be invited to submit an expression of interest
- seek expressions of interest from glass manufacturers and beneficiation facilities for the receipt of source-separated glass
- use information received through the expressions of interest processes to identify the most cost-effective options for future glass management
- develop opportunities to seek external funding support for infrastructure for the transport and processing of glass within Macedon Ranges Shire
- consult the community and EPA about the appropriateness of proposed glass recovery options in any proposed location, and modify proposals where possible to accommodate concerns.

Due to the current limitations associated with glass container-to-container recycling, this will be sidelined until market conditions make this option viable. The more immediate option is to establish a glass crushing operation within the Shire and utilise the crushed material in local infrastructure construction such as roads and footpaths. Council has recently commenced a new contract for its quarry operations at Monegeetta including options for glass crushing at the quarry. Further work is required to establish a glass storage area at the quarry and ensure all legislative and permitting requirements are met prior to commencing this option.

3.3 Waste facilities

Council owns and operates three transfer stations located in Romsey, Kyneton and Woodend. The Kyneton transfer station operates a re-sale shop (or 'tip shop') selling recovered items to the public. There are also plans to establish a similar tip shop at the Romsey transfer station in the 2021-22 financial year, focusing on recovering waste building materials for re-sale.



Four stream event bins provided by Council



3.4 Public waste and recycling

3.4.1 Public place recycling

Public place recycling in our open spaces and township streets is currently not in practice in the Macedon Ranges, though Council do currently provide general waste, co-mingled recycling, glass and FOGO bins for public events.

In 2017, a trial was conducted to gather data on the feasibility of introducing public place recycling by providing co-mingled recycling bins at a number of the sporting grounds within the Macedon Ranges. This was met with a high level of contamination and resulted in all of the bin contents over the 6 month trial period being sent to landfill, after all loads were rejected by recycling processors.

As there are issues of contamination in public place recycling bins in the Macedon Ranges and other local government areas, consideration needs to be taken as to the location of the bins as well as the education campaigns that need to accompany the installation of the bins.

3.4.2 Litter and illegal dumping

The pre-strategy community survey results placed litter and illegal dumping as a key issue of concern. Litter and illegal dumping of waste remain ongoing issues for Council despite recent measures taken to identify frequent littering and dumping 'hotspots' and installation of a number of cameras.

Littering and dumping incidents are responded to by Council's resource recovery unit and, where sufficient evidence is obtained, prosecutions carried out by the local laws team.

Incidents of illegal dumping and littering are recorded and data is used to assess locations for camera installation. Information such as location, date, type of waste and quantity are recorded in Sustainability Victoria's statewide *DumplnData* database.

Council installed 12 cameras in 2018, funded through a grant from Sustainability Victoria, as well as signage to deter illegal dumping and monitor known hotspots. Due to the time required to monitor camera footage a dedicated waste compliance officer position was created in the 2020-21 budget to be responsible for monitoring cameras and supplying evidence for prosecuting offenders.

Council also provides assistance to charity stores and op-shops by supplying anti-dumping signage warning of the consequences of dumping items not suitable for re-sale.

3.5 Performance

Council's 2015-2020 waste management strategy developed goals for ongoing measurement of progress in delivering the vision and principles of the strategy. The table below summarises current performance against these goals.

Table 1 – Goals

	Goals	Baseline position (2015)	Current Position (2020)
1.	Decrease the quantity of waste going to landfills per household. (Sustainability)	2015 baseline – 505 kg of waste to landfills from households	Current 2020 position - 429 kg, a decrease of over 15%.
2.	A decrease in the contamination rate in bins. (Sustainability)	Baseline 2015 – Unknown 2018 baseline – 16.9% contamination by weight	Unknown – Audit will be conducted late 2021
3.	Council has reliable data on quantities, emissions, costs and benefits of waste and recycling systems (Resilience, Transparency)	Incomplete and unreliable data due to manual information systems	Mandatory monthly and annual reporting requirements using data from all material streams
4.	Council is a leader in the community concerning waste reduction and recycling (Sustainability)	There was industry uncertainty regarding the recycling industry reliability and a lack of trust that recycling was going to recycling facilities	Council showing leadership having implemented its four-bin service ahead of the state government's kerbside reform initiative. Council's annual environmental report contains performance metrics on waste and recycling.
5.	Community events adopt best-practice waste reduction and resource management (Education, Sustainability)	A baseline figure on waste generation at key events was to be determined in 2015 (currently unknown)	Council provides bins for the four waste streams (FOGO, recycling, glass and general waste) for public events.
6.	Local communities and businesses have identified and implemented improved material efficiency and resource exchange opportunities. (Education, Sustainability)	The baseline is unmapped and unmeasured.	Several feasibility studies were undertaken on opportunities for increased resource recovery in local industry sectors. Further work required to assess and develop preferred options.





Four stream event bins provided by Council



4. Issues and opportunities

The issues and challenges facing waste management and resource recovery in Macedon Ranges Shire are discussed below, as well as the potential opportunities to address them.

4.1 Waste management hierarchy

The waste management hierarchy (shown in Figure 3) continues to form a fundamental element guiding the Council's future approach to waste management. The hierarchy is articulated in environmental legislation and establishes an order of preference for waste management practices.

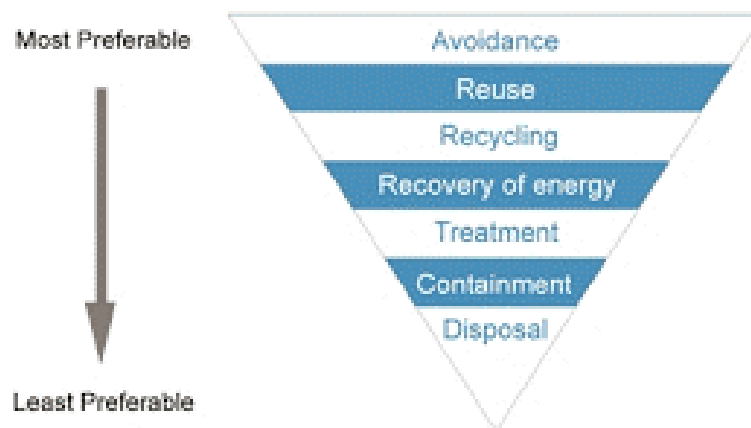


Figure 3 – Waste management hierarchy (Source: EPA Victoria)

Waste avoidance is a key focus of the strategy. Reducing the amount of waste produced is the most effective means of reducing both the cost and environmental impact of collection, treatment, processing and/or disposal of waste. The waste management hierarchy reflects this by placing waste avoidance above all other management options. Therefore, this strategy seeks to provide the community with the necessary information and resources to avoid waste generation through education and by demonstrating leadership in using resources more efficiently and reducing the environmental impacts of waste.

Council officers engaged with the community and internal stakeholders and identified a range of issues and opportunities. These are discussed in the following sections.

4.2 Waste avoidance and behaviour change

4.2.1 Council leadership

Council could further its community leadership role by integrating sustainable procurement within Council's procurement policy. This would include preferential purchase of products with recycled content. Sustainable procurement takes into account the full life cycle of goods and services. This ensures that purchasing decisions are based on a wider range of factors in addition to the upfront costs such as environmental and social risks and benefits, and broader social and environmental implications. Councils Procurement Policy currently includes environmental and social factors but it is at the discretion of officers as to how heavily these factors are weighted in tendering processes. By incorporating sustainability-related targets into Council's purchasing processes council can help to drive the circular economy.

Council could provide best practice infrastructure in all Council offices and facilities to support the four-bin system. This would include exploring waste stream solutions, for example, introducing TerraCycle boxes for used stationery.

Council currently sells some single-use plastic products across its facilities, for example, water bottles and coffee cups. By switching to sustainable alternatives, Council could remove these problematic items and lead by example.

Staff waste disposal behaviour is a significant area of single-use plastic generation across Council. Targeted behaviour change campaigns such as Plastic Free July and Plastic Oceans Australasia's EPIC business program could reduce waste and encourage better habits in the workplace and home.

4.2.2 Community and business engagement

Council could promote practices that avoid waste generation by running information sessions on minimising food waste, worm farms and FOGO, re-using items, shopping at the tip shop or op shops, etc.

Council could develop a targeted business campaign (for example *Waste Wise Business* or *Proudly Plastic Free*) that assists businesses to reduce plastic and adopt more environmentally friendly practices. This could promote and celebrate community and Council achievements.

There is an opportunity to continue the existing education campaign on kerbside reform. This would involve ongoing delivery of the *Let's get sorted* education campaign to support the shire-wide roll out of the four bin system to support increased resource recovery, reduced waste to landfill and reduced contamination levels.



Council could re-establish face-to-face education opportunities at community events and public places when appropriate to do so in line with COVID-19 restrictions. This would include increased engagement with businesses, schools and early learning centres.

Council could continue development of website resources and activities, whilst exploring and introducing new digital engagement opportunities such as webinars, online workshops and videos.

There is also an opportunity to implement community and staff waste reduction behaviour change initiatives such as Plastic Free July and recognised national campaigns such as Clean Up Australia Day, International Compost Week and National Recycling Week that address littering and waste minimisation.

4.2.3 Reducing single-use plastic at events

Council could provide the four-bin collection service to events run in the Shire to promote better sorting and recycling while increasing waste diversion. This would enable compostable packaging to be provided by vendors. The Wash Against Waste trailer will also assist with reducing reliance on single-use plastic at events. The provision of Council's event bins and recycling stations at events run across the Shire will assist in better waste sorting and increase recycling and waste diversion, including single-use plastics for example water and soft drink bottles. Through best practice recommendations and working with event organisers, single use plastics can be reduced and eliminated by initiatives such as single-use plastic free policies and the requirement of using certified compostable items such as cutlery and take away food packaging. Hiring of the Wash Against Waste Trailer will also assist in events reliance on single-use plastics.



4.3 Resource recovery

4.3.1 Transfer stations

Only one attendant operates each of the Council's transfer stations. Weekends are the busiest time of the week; the attendant operates the site alone despite the higher throughput of people and waste and recyclables.

The number of customers at the transfer stations has increased significantly (20% increase in 2019-20 in just one year); this may reflect the COVID-19 pandemic.

The attendants are unable to monitor customer movements due to the high number of customers and increased traffic. Additional weekend resourcing at each transfer station would enable attendants to provide a better customer experience and advice to ensure that materials are separated and that people move around the transfer station safely.

Officers need to undertake a staffing level review to match the customer demand for a more efficient and effective service, to ensure that waste and recycled materials are adequately separated and that people behave safely.

Due to high customer levels at the smallest site (Woodend transfer station, with users at levels more than double that of the other two sites), consideration needs to be given to the introduction of an additional or replacement transfer station.

4.3.2 Garden waste

Residential customers can drop-off domestic quantities of garden waste for free at the transfer stations. This service encourages good fire prevention and provides an alternative to burning of garden waste. This arrangement results in the receipt of large quantities of garden waste with a high mulching cost. There is no revenue stream to cover the processing costs.

There is an opportunity to review pricing options to ensure cost recovery, whilst still providing a cost-effective solution for residents to manage their garden waste. A more balanced arrangement may be to offer a free drop-off service immediately before the declaration of the fire season through to the end of the fire season (late spring to end of summer) and charge a fee for the remainder of the year. This may generate a small income to offset rising costs. The alternate is to increase the waste and resource charge to cover the increasing costs and keep the gate prices zero.

4.3.3 Closing the loop on organics

The efficiencies gained through back-loading the FOGO trucks make the buy-back option a cost-effective method of sourcing compost at a reduced cost for use in parks and gardens, road maintenance and landfill rehabilitation works. Community consultation would also be necessary to assess the level of interest in purchasing compost and to determine a price point for re-sale.



Display items at Council for public events

4.3.4 Soft plastics

Some supermarket chains currently accept soft plastics via the RedCycle program. RedCycle collects post-consumer soft plastic, and provides it to processors who recycle it into products such as park benches, wheel stops and bollards, as well as high-grade asphalt additive for road construction.

RedCycle provides a convenient drop-off location for most residential customers however it does not cater for larger quantities of soft plastic generated through farming (e.g. bale wrap) or other businesses. Council receives regular enquiries from small business operators and farmers asking where they might take large quantities of plastic film. Officers will explore further options for recovery of soft plastics from these sources.

4.4 Other

4.4.1 Public place recycling

The availability of public space recycling stations allows residents and visitors to the area an option to recycle rather than place all waste in the landfill bin. For this to occur, officers will need to consider education campaigns, locations of the bins and signage to ensure minimum contamination occurs.

4.4.2 Litter and illegal dumping

Through better use of data obtained through cameras and online database Council will be in a position to proactively manage littering and illegal dumping within the Shire. Engaging with the community on the issue of illegal dumping will create a sense of collaboration on this issue.

4.4.3 Data collection

Council will continue to collect waste audit and other data that can accurately help us to show upward and downward trends in behaviour change. This will allow achievements against Council goals to be measured and reviewed.



Waste audit conducted by Council Offices

5. Recommendations

The following recommendations are a result of the review of the issues and opportunities.

5.1 Council leadership and waste education

1. Develop a sustainable procurement policy or alternatively incorporate sustainable procurement principles into Council's existing procurement policy
2. Introduce sorting stations at Council offices for general waste, recycling, glass, FOGO and soft plastics
3. Deliver a staff education and behaviour change campaign to reduce waste and increase resource recovery at council workplaces and facilities
4. Engage with business, schools and community groups to understand their waste and resource recovery requirements and deliver tailored education programs. Information will inform a commercial collection service review.
5. Support and promote programs and campaigns that facilitate the re-use, re-purpose, and repair of homewares like furniture, appliances and textiles.
6. Develop the Waste Minimisation and Resource Recovery Education and Engagement Plan
7. Facilitate and support programs and services to avoid the generation of organic waste, for example, support statewide campaigns through Sustainability Victoria, promote the benefits of home composting and mulching, and encourage local initiatives like Food Swaps.
8. Develop and implement a Shire-wide education and behaviour change campaign focusing on:
 - waste minimisation and reduction
 - problem wastes (e.g. nappies, soft plastics, composite packaging)
 - reducing contamination
9. Develop a communications and education campaign targeting single use plastic usage by the community and business
10. Implement Towards Zero Single-Use Plastics Action Plan
11. Implement Towards Zero single-use plastics education campaign

5.2 Waste and recycling services

1. Roll out weekly FOGO and fortnightly general waste service to remaining areas of the Shire by July 2021.
2. Provide Council with a briefing paper on hard waste collection and tip vouchers.
3. Establish an arrangement for recovery of compost material from Biomix by buying back the material for use within the Shire. Consult community on demand for compost. Review internal usage requirements.
4. Explore options for local and/or regional partnerships for scaled organics processing solutions. Develop a business case for recommended option.
5. Establish a closed-loop glass collection, processing and re-use option within the Shire.
6. Introduce public place recycling, complementing the Victorian Government container deposit scheme.

5.3 Waste facilities

1. Review the transfer station staffing levels to meet increasing customer demand
2. Review the potential for an additional transfer station in the south of the Shire
3. Explore market options for the collection and processing of soft plastics from transfer stations and play a role in facilitating the recovery of a wide range of agricultural plastics, to reduce disposal at landfill. Trial collection and collect data on quantity and quality of material to determine ongoing viability.

5.4 Litter and illegal dumping

1. Develop a Littering and Illegal Dumping Management Plan to proactively address the issues of littering and illegal dumping
2. Utilise data obtained on dumping incidents to better plan for and proactively manage dumping
3. Undertake a community anti-littering campaign targeting problem areas and encouraging the community to report littering
4. Review numbers and locations of public place bins to assess need for additional bins in problem areas
5. Continue to support op-shops in managing dumping of non-resalable waste items at charity bins and stores.

5.5 Measurement and review

1. Evaluate and review data to ensure positive behaviour change in the community and within Council operations.
2. Audit the use of single-use plastics across council operations and events to establish a baseline.
3. Use bin audit data to target areas for educational campaigns to reduce contamination, increase landfill diversion and reduce disposal costs
4. Review garden waste pricing structure and consider adding a fee in the waste service charge to reduce ongoing costs. Trial preferred pricing structure, monitor and collect data for further review and evaluation.



Council's Waste Compliance Officer daily bin audits

5.6 2021-2026 Goals

Ongoing goals for achievement during the term of the Waste and Resource Recovery Strategy 2021-2026 are outlined in the following table.

Goals	Updated Goal 2021-2026
1. Decrease the quantity of waste going to landfills per household (Sustainability)	<p>Increase Landfill Diversion rates from 54% in FY 2019/20 per household per year to 80% by 2030 and an interim target of 65% by 2025</p> <p>Advocate for local solutions to items currently not being recycled in Australia to increase items diverted from landfill (such as milk and juice cartons).</p>
2. A decrease in the contamination rate in bins (Sustainability)	A decrease in the contamination rate in bins for recycling and glass. Maintain a contamination rate below 1% in the FOGO bin.
3. Council has reliable data on quantities, emissions, costs and benefits of waste and recycling systems (Resilience, Transparency)	<p>Utilise data and provide publically available data for community use by March 2022.</p> <p>Council uses data to guide future service planning, contracts and operational improvements.</p>
4. Council is a leader in the community concerning waste reduction and recycling (Sustainability)	<p>Supported by ongoing education campaigns and service improvements of the four bin system, Council will continue to show leadership in the community with regards to waste, recycling and the circular economy, through increased landfill diversion, increased participation in FOGO usage, reduced contamination across all recycling streams.</p> <p>The key measurable outcomes:</p> <ul style="list-style-type: none"> - sales at Kyneton Tip Shop, thus diverting materials from landfill and repurposed - participation in waste education events and engagement activities - tonnages disposed of at transfer stations and volumes diverted from landfill - overall downward trend in tonnages to landfill, higher tonnages of materials diverted into FOGO, glass and recycling streams. Recycling tonnages have declined due to the introduction of the glass bin.



Goals	Updated Goal 2021-2026
5. Community events adopt best-practice waste reduction and resource management (Education, Sustainability)	Support events in responsible waste management at events through best practice recommendations alongside Council event bins and recycling stations. Collect data on waste collected at public events to create a baseline to increase diversion in future.
6. Local communities and businesses have identified and implemented improved material efficiency and resource exchange opportunities (Education, Sustainability)	Further investigation to take place to inform the introduction of a dedicated commercial service to better support local businesses with tailored, responsible waste management services.



6. Action Plan 2021-2026

Recommendation	Timeframe	Indicative cost	Responsibility	Relevant goals
Council leadership and waste education				
1. Develop a sustainable procurement policy or alternatively incorporate sustainable procurement principles into Council's existing procurement policy	2021	In-house External consultant fees \$10,000-\$15,000	Resource Recovery Unit Governance Team	1, 3, 4, 6
2. Introduce sorting stations at Council offices for general waste, recycling, glass, FOGO and soft plastics	2021	In-house	Resource Recovery Unit	1,2,3
3. Deliver a staff education and behaviour change campaign to reduce waste and increase resource recovery at council workplaces and facilities	Commenced in 2020 – To occur annually	In-house	Waste Education Officer	1, 4
4. Engage with business, schools and community groups to understand their waste and resource recovery requirements and deliver tailored education programs. Information will inform a commercial collection service review.	Annually	In-house	Resource Recovery Unit Waste Education Officer	1, 4, 6



Recommendation	Timeframe	Indicative cost	Responsibility	Relevant goals
5. Support and promote programs and campaigns that facilitate the re-use, re-purpose, and repair of homewares like furniture, appliances and textiles.	Annually	In-House	Resource Recovery Unit Waste Education Officer	1,2,4,6
6. Develop the Waste Minimisation and Resource Recovery Education and Engagement Plan	2022	In-House	Resource Recovery Unit Waste Education Officer	1,2,4,6
7. Facilitate and support programs and services to avoid the generation of organic waste, for example, support statewide campaigns through Sustainability Victoria, promote the benefits of home composting and mulching, and encourage local initiatives like Food Swaps.	Annually	In-House	Resource Recovery Unit Waste Education Officer	1,4
8. Develop and implement a Shire-wide education and behaviour change campaign focusing on: - waste minimisation and reduction - problem wastes (e.g. nappies, soft plastics, composite packaging) - reducing contamination	Annually	In-house \$20,000 currently in annual budget for printed education materials and graphic design	Resource Recovery Unit Waste Education Officer	1, 2, 4
9. Develop communications and education campaign targeting single use plastic usage by the community and business	2021	In-house	Resource Recovery Unit Waste Education Officer	1, 4
10. Implement Towards Zero Single-Use Plastics Action Plan	Ongoing	Several actions with varying costs	Resource Recovery Unit Various departments	1, 3, 5



Recommendation	Timeframe	Indicative cost	Responsibility	Relevant goals
11. Implement Towards Zero single-use plastics education campaign	2021 - 2026	In-house (\$10,000-\$15,000 for collateral)	Waste Education Officer	1, 4, 5
Waste and recycling services				
1. Roll-out weekly FOGO and fortnightly general waste service to remaining areas of the shire	Q1 FY21/22	Within existing budget for FY2020-21	Resource Recovery Unit	1, 4
2. Provide Council with a briefing paper on hard waste collection and tip vouchers	October 2021	In-house with consultant to complete external report	Resource Recovery Unit	1,2,3
3. Establish an arrangement for recovery of compost material from Biomix by buying back the material for use within the Shire. Consult community on demand for compost. Review internal usage requirements.	2021	In-house Haulage cost dependent on quantity – to be determined through demand analysis	Resource Recovery Unit	1, 4
4. Explore options for local and/or regional partnerships for scaled organics processing solutions. Develop business case for recommended option.	FY 2022-23	\$50,000-\$80,000	Resource Recovery Unit	1, 4, 6
5. Establish a closed-loop glass collection, processing and re-use option within the shire	FY 2022-23	In-house \$20,000-\$30,000 consultant fees	Engineering and Resource Recovery Department	1, 4



Recommendation	Timeframe	Indicative cost	Responsibility	Relevant goals
6. Introduce public place recycling, complementing the Victorian Government container deposit scheme.	Commencing FY 2021/22 Annually	In-house (existing Capital budget)	Resource Recovery Unit	2,3,4
Waste facilities				
1. Review transfer station staffing levels to meet increasing customer demand.	FY 2021/22 Annually	In-house Additional staff costs to be determined	Resource Recovery Unit PCP team	1
2. Review the potential for an additional transfer station in the south of the shire	FY 2022/23	In-house Additional funds will be required for long term solution	Resource Recovery Unit	1,4
3. Explore market options for collection and processing of soft plastics from transfer stations and play a role in facilitating the recovery of a wide range of agricultural plastics, to reduce disposal at landfill.	FY 2021/22	\$5,000-\$10,000	Resource Recovery Unit	1, 6
4. Trial collection of soft plastics at Council transfer stations and collect data on quantity and quality of material to determine ongoing viability.	FY 2021/22	\$5,000-\$10,000 per annum	External contractor	2021-2022
5. Open a Resale Shop at the Romsey Transfer Station	FY 2022-23	In-house, \$40,000 (in operating budget)	Resource Recovery Unit	1,2,3



Recommendation	Timeframe	Indicative cost	Responsibility	Relevant goals
Litter and illegal dumping				
1. Develop a Litter and Illegal Dumping Management Plan to proactively address the issues of littering and illegal dumping	FY 2021/22	In-house	Resource Recovery Unit	1, 4
2. Utilise data obtained on dumping incidents to better plan for and proactively manage dumping	Annually	In-house	Resource Recovery Unit	1, 3, 4
3. Undertake a community anti-littering campaign targeting problem areas and encouraging the community to report littering	FY 2022/23	In-house \$25,000-\$30,000 communications budget	Resource Recovery Unit Communications Team	1, 4
4. Review numbers and locations of public place bins to assess need for additional bins in problem areas	Annually	In-house	Resource Recovery Unit	1
5. Continue to support op-shops in managing dumping of non-resalable waste items at charity bins and stores	Annually	In-house Increase in disposal costs may require additional budget – to be reviewed.	Resource Recovery Unit Economic Development	1, 4, 6



Recommendation	Timeframe	Indicative cost	Responsibility	Relevant goals
Measurement and review				
1. Evaluate and review data to ensure positive behaviour change in the community and within Council operations.	Annually	In-house	Waste Education and Waste Compliance Officers	1,2,3,6
2. Audit of single-use plastics across council operations and events within the Shire to establish a baseline	2021	\$20,000-\$30,000	Resource Recovery Unit	1, 5
3. Use bin audit data to target areas for education campaigns to reduce contamination, increase landfill diversion and reduce disposal costs	Annually	In-house (see Waste Education for campaign budget)	Resource Recovery Unit	3
4. Review garden waste pricing structure to reduce ongoing costs. Trial preferred pricing structure, monitor and collect data for further review and evaluation.	FY 2021/22 Review FY 2022/23 Trial	In-house Potential for cost saving	Resource Recovery Unit Finance team	3





Kerby, our bin mascot

