Towards Zero Waste Management Plan

2024-2028

Banyule
City Council

Acknowledgement of the Traditional Custodians
Banyule City Council proudly acknowledges the Wurundjeri Woi-wurrung people as the Traditional Custodians of the land on which we work and live. We pay our respect to all Aboriginal and Torres Strait Islander Elders, past, present, and emerging, who have resided in the area and have been an integral part of the region's history.

Banyule Diversity Statement
Our community is made up of diverse cultures, beliefs, abilities, bodies, sexualities, ages, and genders. We are committed to access, equity, participation, and rights for everyone: principles which empower, foster harmony, and increase the wellbeing of an inclusive community.

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Mayor's foreword

"We must stop treating it as 'waste' and start thinking about it as a resource that has real value."

I take great pleasure and pride in introducing Banyule's new Towards Zero Waste Management Plan, a four-year plan that charts our course towards a more sustainable and responsible future.

The management of waste is evolving, and so must our approach. It is clear we must move away from a throwaway culture epitomized by 'fast fashion' and single-use items. We must stop treating it as 'waste' and start thinking about it as a resource that has real value. The time for decisive action on managing waste is now and Banyule Council is ready for the challenge.

We proved this in our Towards Zero Waste Management Plan 2019 – 2023. Two major achievements were the introduction of our Food and Garden Organics (FOGO) collection program and improvements to e-waste recycling. But we know that there is still much more we can do.

Driven by a collective desire for more sustainable living, an increased awareness of the impacts of waste and the recognition of global waste management challenges, this plan is more than a set of actions. It is a shared vision that involves every member of our community.

Hundreds of Banyule community members provided valuable ideas and feedback to help develop the plan. They envision a cleaner, greener, and more sustainable community for generations to come. This policy is our commitment to them.

Banyule cannot do it on our own. It requires a united front of local, state and federal governments; local business; industry bodies and individuals. We are all stakeholders in this endeavor. Only by working together can we build a future where waste is minimised, resources are conserved and our environment flourishes.

Thank you for your support. Let's continue to move together towards a future where waste is a thing of the past.

Cr Tom Melican
Mayor

About the Towards Zero Waste Management Plan

Why we need a Towards Zero Waste Plan

Waste management is a crucial issue that affects us all, regardless of where we live or what we do. With the world's population growing rapidly and consumption increasing at an unprecedented rate, waste generation is also increasing at an alarming pace. The result is overflowing landfills, polluted rivers, and oceans, and a severe impact on our environment.

In 2024-28, Council is predicted to spend over $100 million on waste management services including household kerbside collections and disposal, providing, and emptying rubbish bins in streets, shopping centres and parks, managing dumped rubbish and litter, education to avoid and reduce waste and recycle correctly, and running the Waste Recovery Centre.

The cost of waste processing and landfilling continues to rise each year. Increasing fuel costs, an increased landfill levy, and the costs of Council's ongoing education programs directly impact on the cost of these services. The rising costs, negative environmental impacts of creating waste and sending it to landfill, as well as Victorian Government policy, Council policy and changing community expectations are all driving Council's goal: to motivate the community to achieve zero waste.

This plan follows the Towards Zero Waste Management Plan 2019 – 2023. Similar to the last plan, it challenges and reframes the thinking that items no longer of use are simply 'waste' to be discarded in a bin, and instead views waste as a resource that can be used in a variety of ways in our existing economy.

The Banyule community is highly engaged in waste and recycling issues, and Council is committed to providing continued support and education to the community to avoid, reduce, reuse, and recycle more effectively.

What is Zero Waste?

'Zero Waste' is shorthand for 'zero waste to landfill'. This is an aspirational target that means that nothing is deposited into landfill and all materials are recycled. Achieving zero waste involves many parties, with many steps along the way. Zero waste will require Council and the entire community to work and all the community to work together to rethink our purchasing decisions and use of materials. It involves rethinking how 'waste' is defined – if it is no longer of use to us does that mean it is destined for recycling or the landfill? Or can it instead be used in another way, or by someone else?

'Zero waste' means moving towards a circular economy (Figure 1), and away from a linear economy. A circular economy is a system designed to minimise waste and maximise the sustainable use of resources. In a circular economy, products, materials, and resources are kept in use for as long as possible through practices including reusing, repairing, and finally recycling. It means delaying disposal (either via landfilling or energy recovery) for as long as possible. This approach reduces environmental impacts and conserves resources by fostering a more sustainable and efficient way of managing resources and waste within a community.

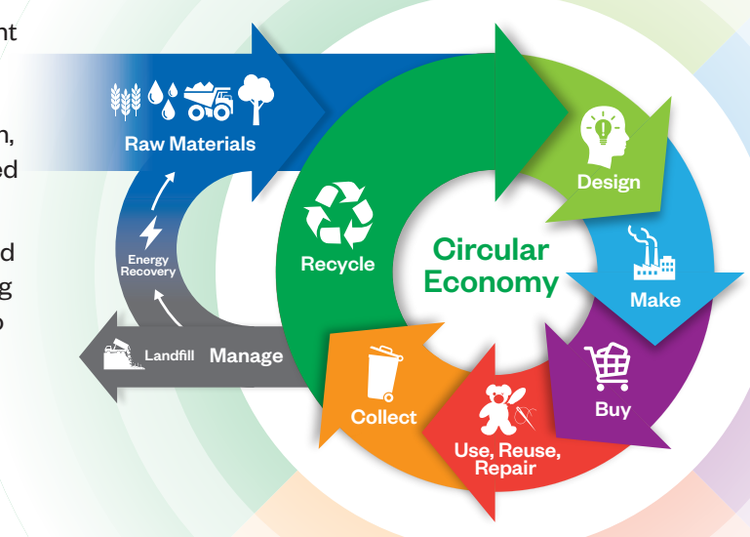


Figure 1: Circular Economy

Achieving zero waste to landfill provides significant benefits including;

- **Environmental:** reducing the release of harmful greenhouse gases and toxins associated with landfilling waste, thus mitigating climate change along with soil, water and air pollution.
- **Resource Conservation:** promotes resource conservation and encourages recycling and composting, which conserves valuable raw materials and reduces the need for virgin resources.
- **Economic:** generating jobs in recycling and waste reduction industries while minimizing the long-term financial burden of managing and maintaining landfills.

Council cannot achieve zero waste alone. It relies on high-level industry wide changes and supportive State and Federal government policies, legislation, and regulations. Examples include increased recycling opportunities, banning materials that cannot be recycled and reducing unnecessary packaging.

The introduction of new product stewardship schemes where manufacturers take responsibility for the entire lifecycle of their products from designing products that can be recycled through to disposal has proved very effective when introduced.

Achieving zero waste also requires the waste sorting and processing industry to find new ways to sort materials more effectively and reprocess a wider range of materials into new products. Governments, businesses, and individuals can all contribute and create ongoing market demand by increasing the purchasing of products with recycled content.

Council acknowledges that many of these factors are outside of its direct control and has developed the Towards Zero Waste Management Plan with a focus on actions that are within Council's control. In addition, the Plan includes a range of actions based on advocacy for change for factors beyond Council's control.

Key highlights of the Towards Zero Waste Management Plan 2019 – 2023

See appendix for detailed outcomes of the TZWMP 2019 – 2023.

Introduction of FOGO

From July 2022, Council introduced a new kerbside service; the Food Organics, Garden Organics (FOGO) service. Prior to FOGO, when food scraps, garden waste and organic matter were disposed of in the rubbish bin they were sent to landfill. In landfill, organic matter releases methane – a powerful greenhouse gas that contributes to climate change.

Instead of going to landfill, Banyule's food waste can now be placed in the FOGO bin, along with garden waste. FOGO waste is then composted and turned into nutrient dense soil fertilisers which can be used on farms, parks, and gardens.

Since the change, the tonnage of rubbish sent to landfill has decreased by approximately 4,500 tonnes compared to the year prior. This equates to over 10% increase in diversion from landfill, from 52% to 62.6%. An amazing achievement by Banyule!

E-Waste Evolution: Embracing Electronics in Hard-Waste Collections

To assist households with managing e-waste, Council introduced new collection and drop off options. This follows the Victorian State Governments ban on disposing of e-waste in landfills, which makes it illegal to place e-waste in any kerbside bin. From 1 July 2019 Council introduced the collection of electronic waste (e-waste) at Banyule's Waste Recovery Centre and included collection of e-waste in booked hard waste collections, ensuring valuable components of e-waste can be recycled.

Translation of waste brochures in nine languages!

To increase accessibility to waste education materials in our community, in 2022 Banyule's waste brochures were translated into eight of Banyule's most prevalent languages.

- Arabic
- Simplified Chinese
- Traditional Chinese
- Italian
- Macedonian
- Somali
- Greek
- Vietnamese

Scan me to view brochures

Waste Education

As part of the Towards Zero Waste Management Plan 2019 – 2023, Council developed a range of workshops to support the community with managing and reducing waste.

Reusable nappy workshops were a standout for new and expecting parents and carers looking for ways to reduce household waste and lower child rearing costs. The workshops dive into the various types of modern cloth nappies and helps to dispel myths about their use. Attendees received two reusable nappies to begin their journey, including a custom Banyule nappy design which features landmarks, flora, and fauna local to Banyule!

Council also ran composting workshops, to assist households looking to manage food waste at home. The workshops provided households with tips and tricks to make great compost and compared different composting options from different containers, worm farming and bokashi bucket, to ensure households had the knowledge to select the composting option that best suited their household and needs.

Green Cone Biodigester Rebate Program

To support residents looking to compost their food waste at home, a green cone biodigester rebate program was made available to residents. The green cone is a completely natural system that decomposes food waste to its natural components of water and CO2.

More than 340 households took part in the program between 2019 and 2023. These households are now able to use a green cone to keep food waste out of their kerbside bins, and benefit from the nutrients of their food waste remaining in their own gardens!

From Disposable to Sustainable: Reusable Nappies in Childcare Centers

Banyule's Early Learning Centres have been reducing their waste and saving money, by introducing reusable nappies and cloth wipes in centres!

As a result, collection of disposable nappy waste has halved, moving from a weekly to fortnightly collection across all services. To further reduce waste, parents are also asked to supply a nappy for their child to go home in, which has prompted more families to give cloth nappies a go at home as well!

As an outcome, our centres have received an accreditation for the waste module in the CERES ResourceSmart Schools program. Well done, Banyule!

Current landscape

The vision and directions

Banyule's Vision for waste is:

Banyule is a community motivated to achieve zero waste to landfill by 2030.

To support this vision, a second four-year plan has been developed. This plan is based on key strategic directions:

1. **Avoid waste generation.**
2. **Build, support, and strengthen a community culture that is striving to be zero waste.**
3. **Deliver environmentally responsible and cost-effective recycling and waste services.**
4. **Advocate to other levels of government to avoid waste, reduce waste to landfill and increase recycling.**

The plan supports circular economy principles and is based on the waste management hierarchy (Figure 2), which is the foundation of waste policies in Australia. It outlines the preference for waste management where avoiding waste is the most preferred option, and disposing of waste to landfill is the least preferred option.

Figure 2: Waste Management Hierarchy

Key focus areas

This plan follows on from Banyule's Towards Zero Waste Management Plan 2019-23. This plan provides the next 4-year waste action plan for Council, that focuses primarily on municipal solid waste generated by households and Council operations. The plan also covers issues regarding dumped rubbish and litter and incorporates Council's Dumped Rubbish and Litter Plan. See Table 1 for key focus areas of this plan.

Table 1: Focus Areas of Towards Zero Waste Plan	
Infrastructure	• Waste Recovery Centre (WRC)
	• Kerbside bins
	• Public bins
Collections	• Recyclables
	• Food Organics Garden Organics (FOGO)
	• Rubbish
	• Booked hard waste and bundled branches
	• Dumped rubbish and litter
	• Commercial
	• Multi-unit developments (MUDs)
	• Shopping centres
	• Parks & gardens
	• Sporting facilities
Services	• Community engagement
	• Community education
	• Customer services
Data	• Waste stream quantities
	• Population growth
	• Service data
Strategic Framework	• Council Plan and other plans
	• Victorian Government
	• Australian Federal Government
Challenges & Opportunities	• Sorting materials into the correct bin
	• Introduction of a separate glass kerbside service
	• Increase in multi-unit developments
	• Business recycling
Innovation opportunities	• New technologies
	• New facilities
Advocacy	• Product stewardship and producer responsibility
	• Banning of specific materials
	• Community leadership

Government roles and responsibilities

The Federal Government, Victorian Government, and Councils must collaborate to create a comprehensive waste management system that balances environmental protection, public health, and community needs. Each level of government plays distinct roles in managing waste to ensure that it is disposed of, recycled, and managed in an environmentally sustainable manner.

The Federal Government

The Federal Government is responsible for setting the overall policy framework for waste management in Australia, including

- **Policy Development:** The Federal Government is responsible for developing and implementing national policies related to waste management and product stewardship. These policies often aim to reduce waste generation, encourage recycling, and promote responsible disposal methods.
- **Environmental Protection:** The Federal Government establishes national environmental protection laws, such as the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). These laws provide a framework for protecting the environment and managing activities that may impact it, including waste management.
- **Regulatory Framework:** The government can establish regulations and standards related to waste management and recycling practices. For example, it can set standards for the collection and disposal of hazardous materials and promote recycling targets.
- **Funding and Research:** The Federal Government may provide funding for research, innovation, and waste management projects. They may also offer grants to support initiatives aimed at reducing waste and improving recycling.
- **Product Stewardship Schemes:** The Federal Government provides guidelines, and supports initiatives to promote responsible waste management and recycling practices through these schemes.

National Waste Policy: Less waste, more resources

The 2018 National Waste Policy provides a framework for collective, national action on waste management, recycling, and resource recovery to 2030.

The policy emphasises key themes and priorities, including:

Circular Economy: Promoting a circular economy is a central theme. The policy encourages the reduction, reuse, and recycling of materials to minimise waste generation.

Waste Hierarchy: The policy prioritises waste avoidance, resource recovery, and disposal as a last resort.

Product Stewardship: It calls for extended producer responsibility and product stewardship schemes where manufacturers are responsible for the entire lifecycle of their products, including recycling.

Plastics: There's a focus on reducing plastic waste, including phasing out single-use plastics, and increasing plastic recycling rates.

Food Waste: Tackling food waste is a priority, with initiatives aimed at reducing food waste in households, businesses, and the supply chain.

E-Waste: Managing electronic waste is addressed through strategies to improve e-waste recycling and reduce its environmental impact.

Waste Infrastructure: The policy promotes investment in waste infrastructure to support recycling and resource recovery.

The Victorian Government

The Victorian Government is responsible for developing and implementing waste management policies and regulations across the state like the kerbside provisions and landfill levies. Its role includes:

- **Legislation and Regulation:** The Victorian Government enacts state-level waste management legislation and regulations. This includes the Environmental Protection Act 1970 and the Environment Protection Authority (EPA) Victoria, which regulates waste management activities, issues permits, and monitors compliance.
- **Waste Infrastructure:** The Victorian Government supports the development of waste infrastructure, such as recycling facilities and landfill sites, through planning and investment.
- **Waste Strategy and Planning:** Victoria's Government develops waste management strategies and plans to guide waste reduction, recycling, and resource recovery efforts within the state. These plans set targets and priorities for waste management.
- **Education and Awareness:** The Victorian Government may run educational programs and campaigns to promote waste reduction, recycling, and responsible waste disposal practices among residents and businesses.

Victorian Framework

The Victorian Circular Economy (Waste Reduction and Recycling) Act 2021 provides regulations for Victoria's recycling and waste sectors. The Act promotes Victoria's transition to a circular economy with the aim of improving reuse and recycling of products, and minimising waste (overall), with a focus on reducing waste to landfill.

Key actions of the framework include:

Establishment of Recycling Victoria (RV): A dedicated state government business unit to oversee and provide strategic leadership for the waste and recycling sector. RV deliver state-wide stewardship, planning, regulatory and market oversight functions to support the development of a circular economy.

Embedding a state-wide Container Deposit Scheme (CDS): Commencing in November 2023, the program allows Victorians to exchange eligible recyclable drink containers for a 10-cent refund.

The introduction of a state-wide four-stream kerbside waste service: As part of the Act, Councils are required to provide all households with a four-stream kerbside waste service including recyclables, rubbish (landfill), food and garden organics (FOGO) service by 2030 and a dedicated glass service by 2027.

Victorian waste levy

In 2022 under the Environment Protection Act, a levy was introduced for each tonne of waste disposed of at a licensed landfill in Victoria. From July 2021, Victoria's landfill levy was renamed to waste levy.

One of the key purposes of the waste levy is to provide an incentive to reduce the amount of waste that is sent to landfill. The levy funds the activities of EPA Victoria, Sustainability Victoria and the waste and resource recovery groups, helping to establish waste management infrastructure, industry waste reduction programs, education programs, regulatory controls, and enforcement.

The Victorian Government

Emerging technology – waste to energy

Turning waste into energy is an opportunity to extract value from waste that would otherwise be disposed to landfill. Generating energy from waste adds to Victoria's energy mix and helps to reduce the reliance on landfill, which generates more potent greenhouse gas emissions.

Waste to energy is important as landfills readily accessible to south east Melbourne suburbs are nearly full (end-of-life) which would require long-haul cartage of waste to remaining landfills located in the north and west of Melbourne or requires the opening of new landfills further east.

The current State view on waste to energy is that only those wastes than cannot be recovered by other means (recycled, composted etc.) should be eligible to be sent to a waste to energy facility.

For this reason, the State has imposed a tonnage cap on the amount of waste that can be converted to energy with the Department of Energy, Environment and Climate Action managing the allocation of the cap to the private sector to commission and operate these facilities.

It is expected within the life of this plan that the option of sending waste to a Waste to Energy Facility may become available to the majority of metropolitan Melbourne Councils.

Materials that pose challenging to recycling

In recent years, we have seen changes in packaging that pose significant challenges for the recycling sector. Materials of note include:

- **Compostable and biodegradable packaging:** Compostable packaging must be disposed of via the rubbish bin, however it is often disposed of in either the FOGO or recyclables bins where it causes issues. This occurs as:
  - FOGO waste is processed using a rapid and highly specialised process called in-vessel composting, which takes an average of ten days to be composted. Unlike food and garden waste, compostable packaging can't break down in such a short process. Some can take months, even years to break down, even in an industrial composting facility.
  - Compostable packaging often looks like other recyclable packaging like paper, cardboard, plastic however it is made from organic material that is not recyclable. This contaminates recycling streams.
- **Liquid paperboard (LPB) and composite plastics:** LPBs and composite plastics are challenging to recycle as they are made up of layers of different materials sandwiched together like plastic, aluminium, and paperboard. This is problematic for the recycling facility as it is difficult, energy-intensive, and costly to try and separate these layers, which all require different treatments. This can compromise the quality of other recyclable materials. Examples of items made up of composite materials include take away coffee cups, juice boxes and long-life milk containers.
- **Expanded polystyrene (EPS):** Polystyrene is notorious for being challenging to recycle due to its low density and lack of demand for recycled polystyrene products. It's often not economically viable to recycle, resulting in substantial waste build-up in landfills or the environment.

These materials are often perceived to be recyclable, however they do not currently have easily economically scalable circular outcomes and need to be disposed of via the rubbish bin. Addressing these challenges requires a concerted effort from manufacturers, consumers, and waste management systems to develop sustainable packaging solutions and improve recycling infrastructure.

Local Government

Local Councils are responsible for managing waste collection and disposal services within their communities. They also play a large role in educating the community. Councils' roles include:

- **Waste Collection Services:** Local Councils organize and provide waste collection services to residents, which can include rubbish, recycling, FOGO, glass, and hard waste collections.
- **Waste Disposal:** Councils manage local waste disposal facilities, such as transfer stations and landfill sites, ensuring that waste is disposed of safely and in compliance with regulations.
- **Community Engagement and Education:** Local Councils engage with their communities to promote recycling, waste reduction, and sustainable practices. They provide information about waste disposal guidelines and recycling programs.
- **Waste Bylaws:** Councils may enact local bylaws related to waste management and regulate issues like bin placement, collection schedules, and managing illegal dumping.

Universal challenges

Challenging properties

While Council strives to provide kerbside services to as many properties as possible, this is not always possible; some properties receive a partial service while others receive no service at all. A range of factors can impact this including;

- **Nature stripe size:** whether the property has sufficient nature strip frontage to accommodate the number of bins required or is located in the bowl of a cul-de-sac.
- **Accessibility:** in some locations, access to a dwelling is not compatible with the collection vehicles Council operates, for example basement storage in multi-unit developments. Parked cars can also prevent a waste truck from accessing a bin for collection.

In the event that a Council kerbside service cannot be provided, the property is required to receive waste collection services via another provider. Properties most likely to require private waste collections include multi-unit apartment buildings, large townhouse developments, gated communities / properties accessible only by private roads, and some battle-axe properties. As the population grows, Council expects to see an increase in these types of dwellings.

Where are we now?

Councils existing Plans

Councils waste vision aligns with Banyule's Community Vision 2041:

"We in Banyule are a thriving, sustainable, inclusive, and connected community. We are engaged, we belong, and we value and protect our environment."

More specifically, it aligns with the priority theme:
Our Sustainable Environment.

Figure 3: Banyule Community Vision

Council has developed policies and plans including the Community Climate Action Plan, Urban Forest Strategy, Water Strategic Plan, and the Towards Zero Waste Management Plan which aim to create a more sustainable and resilient future including emphasising resource recovery and waste reduction. These efforts reflect a broader shift towards a more circular and responsible approach to waste.

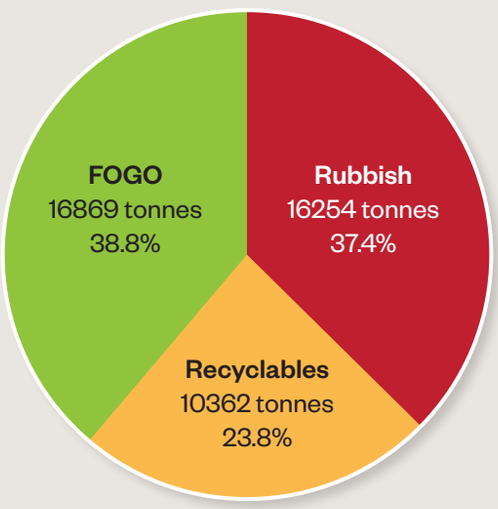
The Towards Zero Waste Management Plan will help achieve Councils Plan 2021 – 2025 strategic objective of becoming a progressive and innovative leader in protecting, enhancing, and increasing the health and diversity of our natural environment, where we all commit to playing an active role in achieving environmental sustainability, waste, and carbon emissions reduction. More specifically, the plan will assist with achieving key objectives including

- Avoid waste generation and encourage and support the community to be motivated to achieve zero waste to landfill by 2030.
- Empower and educate the community and businesses to take actions to achieve positive environmental and climate change outcomes.
- Minimise stormwater pollution and the impacts of flooding and maximise Council's water conservation to transition to a water sensitive City.

Waste at Banyule

A snapshot of Banyule's waste

In 2023, over 43,000 tonnes of waste was collected from households in Banyule. Of this 62.6% of recyclables and food and garden organics (FOGO) were recovered for recycling, and 37.4% was landfilled.



Population growth in Banyule

In 2022 the Banyule community comprised of 126,236 living in 53,025 dwellings. With populations set to increase over coming years. Council needs to ensure they are prepared to provide waste services to the growing community. Some key considerations include:

- **Increased waste generation:** as the population grows, so too does the amount of waste generated. This includes household, commercial and construction waste. More people produce more waste, leading to higher collection and disposal costs.
- **Demographic distributions:** the distribution of age in residents can shift as populations increase.
- **Dwelling types:** mix of detached homes, medium and high density living which effects provision / collection of kerbside bins. Higher density homes are more likely to have cars parked at the front of the property, which can prevent Council from collecting bins.

Contamination

When an item goes in the wrong bin, it is known as contamination. Contamination compromises the sorting of materials and results in recoverable (recyclable or compostable) waste being sent to landfill. Some examples of common contaminants in the Recyclables bin includes bagged waste (both recyclables and general waste), soft plastics and textiles. Common contaminants in the FOGO bin include bagged waste (including the use of compostable liners). Rubbish bins can also be contaminated, which can have negative environmental consequences.

Research indicated that causes of contamination can be for a range of reasons. Households may believe they are sorting correctly but not fully understanding what is accepted, some people simply do not care or are unwilling to separate materials, others may have a full bin and they place the overflow in another bin, or other unknown factors.

Contamination makes the bin collection service more expensive for residents and ratepayers, as the cost to remove contamination and dispose of this waste to landfill is much more expensive. Between 2019 and 2022 (prior to the introduction of FOGO) the cost of contamination in the garden organics bin was approximately $1.5 million. It is less costly to provide education that avoids contamination than to remove it at the processing facility.

Kerbside Contamination Management Policy

Did you know that in 2023, Council adopted the Kerbside Contamination Policy? The policy aims to reduce contamination in all kerbside bins through a 6-step process of awareness, education, and support for residents. The kerbside contamination policy will be implemented and embedded as part of the 2024 / 2028 TZWMP.

Dumped rubbish & litter

Between 2022 – 2023, Council responded to 3048 reports of dumped rubbish around the municipality. Maintaining a clean city involves preventing litter in the first place, providing a range of services such as street bins for people to dispose of their waste when they are on the go, street sweeping to keep the streets clean and cleaning up dumped rubbish and litter when it occurs.

Litter and dumped rubbish can result in environmental damage, be harmful to humans, animal, and aquatic life, and causes flooding by blocking drains. Litter and dumped rubbish has a negative impact on the amenity of public places and open spaces. The loss of recyclable items and clean-up, diverts funds that would be better spent elsewhere.

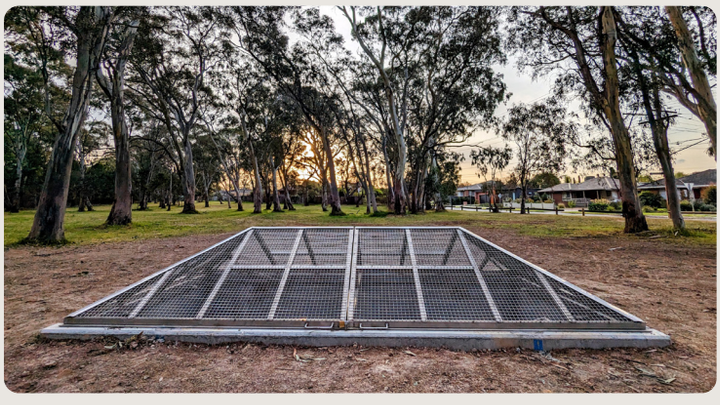
Council strives to implement best practice programs and service to reduce dumped rubbish and litter and continue to build a culture of shared responsibility that rejects dumped rubbish and litter.

Managing waste in waterways

Litter in waterways is a significant environmental issue, not only for the impact on amenity but for the impact it has on wildlife such as water birds and platypus. A 2021 study (Serena , M and Williams G in Australian Mammalogy 44(1) 81-86) found that more than a third of known individuals in platypus populations in some urban streams had been entangled at least once in their life, and that 4% in live trapping surveys were encircled by rubbish in Greater Melbourne.

Banyule has more than a dozen litter traps (also known as Gross Pollutant Traps or GPTs) in the municipality to try to catch litter before it gets to local creeks and streams and is reviewing new sites annually. Our Water Plan has a target of 50 tonnes of litter removal via these traps per year.

However, the best litter trap is your hand! Picking up litter, properly depositing litter in bins, and ensuring that loops of plastic are cut before disposal all help improve the beauty of open spaces and waterways and reduce impact on wildlife.



Litter trap in action!

The latest litter trap installed above Greswell Forest Nature Conservation Reserve in Bundoora has a unique design -The mesh top lets passers-by see the amount of litter it catches – even after a single storm. The Urban Stormwater Best Practice Environmental Management Guidelines (CSIRO, 1999) suggest a target of 70% litter removal, and this unit is designed to remove 95% of litter in the drain it services.

Performance and achievements

Some of the key actions and achievements by Council in 2023 included:

- Providing rubbish collections to over 53,400 households and over 800 commercial properties
- Providing Recycling and FOGO collections to over 53,400 households
- Providing almost 26,000 booked hard waste and bundled branch collections
- Recovering 62.6% of the combined total of garbage, recycling, and garden organics from kerbside collections

Kerbside collections

	FOGO	Recyclables	Rubbish	Hard Waste / Bundles Branches	Commercial
Bin collection frequency	Weekly	Fortnightly	Fortnightly	2 per year	Weekly
Bin size	120L	240L	140L	Hard waste: 1 cubic metre Bundled branches: 12 bundles up to 150 cm long and 30 cm wide; 2 cubic metres	240L
Options	240L for additional charge	No additional options	240L for additional charge	No additional options	Additional 240L bins charged
Properties serviced 2022 - 2023	53,478	53,478	53,478	53,478	807

Waste Generation and Recycling

In 2022-23, over 43,000 tonnes of waste were collected from households in Banyule. Of this:

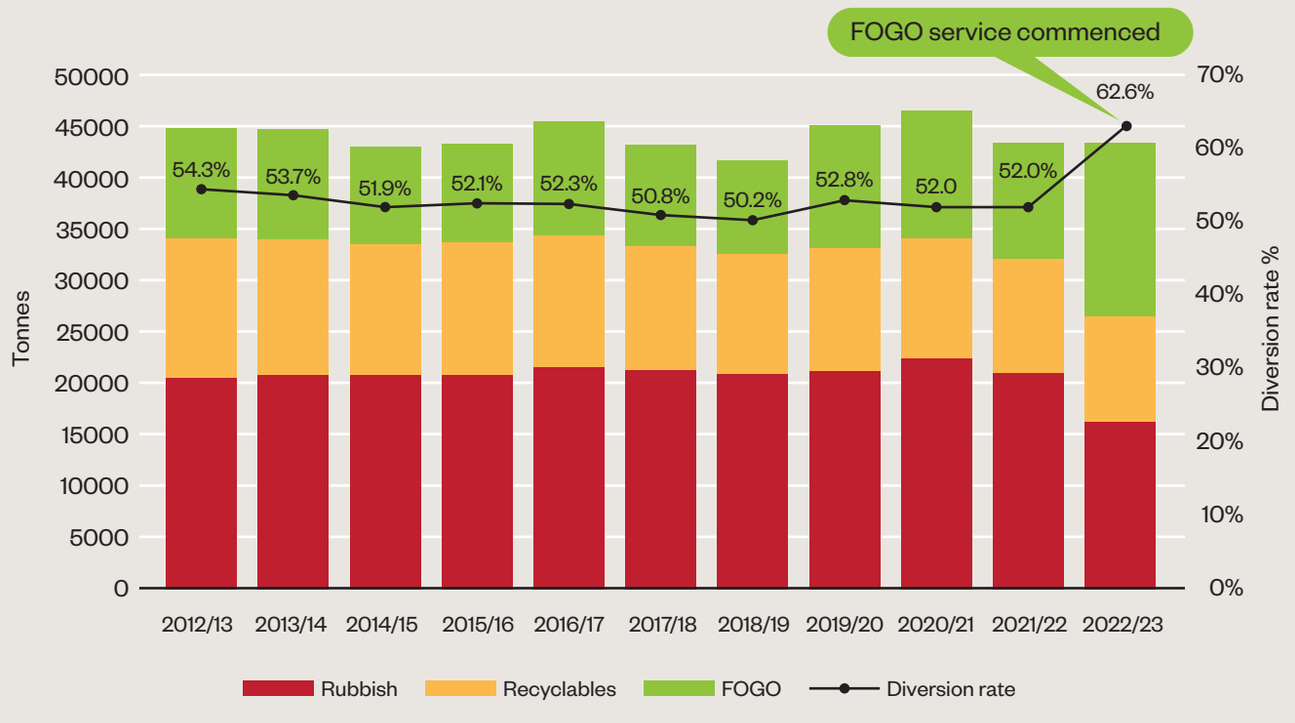
- Over 16,254 tonnes of waste were deposited in landfill.
- Over 10,362 tonnes of recyclable materials were recovered for recycling.
- Over 16,869 tonnes of food and garden organics were recovered for reprocessing.
- 62.6% of the total waste collected was recovered for recycling.

Figure 4 shows the tonnes of garbage, recycling and FOGO collected between 2013 and 2023. It also shows the 'diversion rate' which is calculated by dividing the tonnes of recyclables and garden organics recycled, by the tonnes of recyclables, FOGO and garbage collected.

Since 2013, diversion rates have been relatively constant until recently in 2022, when Council introduced the FOGO service. The addition of food waste into the garden waste bin saw an increase in diversion by over 10% in its first year (2022 – 2023). This highlights that changes in collection systems can significantly increase diversion rates and resources recovered.

The next change to the kerbside bin service will occur when Council introduces the fourth glass bin. The Victorian State Government has legislated that all Councils must introduce a glass service to households by 2027. As glass is currently collected via the recyclables bin this is not predicted to have an effect on the diversion rate, however it will create a cleaner stream for glass to maximise recovery and allow for a higher order of use.

Figure 4: Waste Generation by collection streams, 2013 - 2023



The Victorian Government's Kerbside Reform

The Victorian Government announced Kerbside reforms as part of The Victorian Circular Economy (Waste Reduction and Recycling) Act 2021. This included a direction for local government to roll out a new four-bin system to all households in Victoria including:

1. **Food and garden organics (FOGO)**
2. **Recyclables (combined paper, plastic, and metals)**
3. **Seperate glass**
4. **Residual waste (rubbish / landfill bin)**

Along with standardising bins (including bin lid colours), and kerbside services (including items accepted) across Victoria, the four-bin system will simplify household recycling, backed by a state-wide education program.

Standardised recycling services will look different in metropolitan, regional, and rural areas. A standard four-bin service may not be suitable for some communities or dwelling types such as large apartment buildings or more remote areas, where alternative arrangements, such as transfer stations, local drop-off points, home composting support or worm farms might be more appropriate.

The program commenced in 2021 with a requirement for all Victorians to have a new glass bin or access to glass services by 2027 and for food and garden organics recovery services to be available to households by 2030.

Figure 5: Household yield (kg) for garbage, recycling, and garden organics, 2013-23

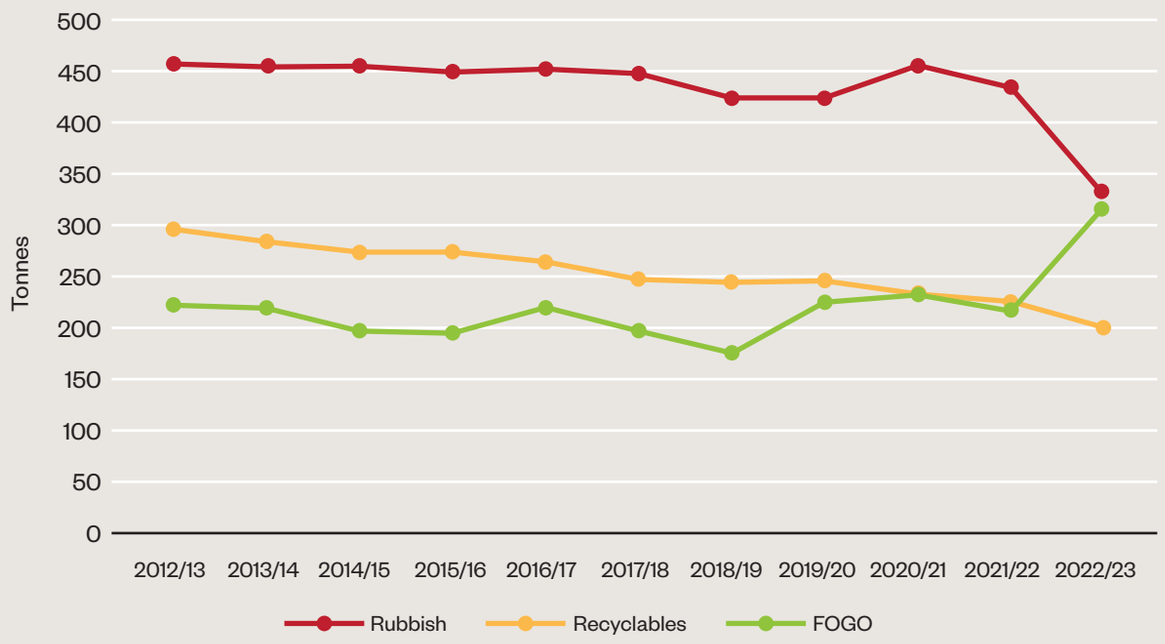


Figure 5 shows the average number of kilograms households generated each year between 2013 and 2023. With the introduction of FOGO, rubbish has declined significantly as food waste moved into the FOGO bin. Similarly, we can see a significant increase in FOGO with the addition of food waste.

Over time, we can see a steady decline of recyclables by weight. Interestingly, observed volumes have increased. This decrease in recycling by weight but an increase in volume in the recycling industry can be attributed to advances in packaging materials and design. This phenomenon is primarily driven by the concept of 'lightweighting', which involves creating packaging that uses less material while maintaining its structural integrity and functionality.

Did you know?

From November 2023, the State Government introduced the Container Deposit Scheme. As a result, Council may see a reduction in overall diversion rate over the coming years, as residents may deposit eligible recyclable containers at a CDS location for a 10-cent refund, instead of disposing via the kerbside recyclables bin.

Hard waste and bundled branch collections

In 2022-23 Council collected nearly 1,700 tonnes from households through 25,911 booked hard waste collections. Overall, 19.4% was recovered for recycling.

Community feedback indicates the service is valued, particularly by households that don't have access to a trailer to transport larger items such as mattresses. Between 5,000 to 7,000 mattresses are collected each year.

Residents report the at-call service particularly helpful when moving in or out of a property. These services help to reduce the likelihood of dumped rubbish.

Analysis of bin content

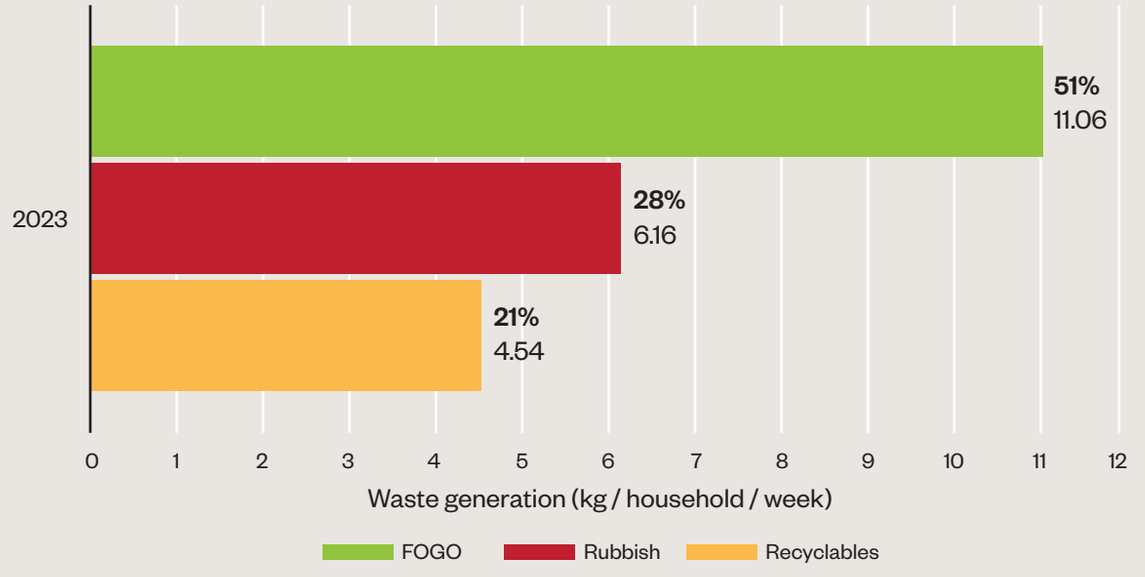
As part of the Towards Zero Waste Management Plan development, Council conducted bin audits in 2023, to give insights into how households are utilising the kerbside waste service. As a waste audit had not been conducted since 2015, this provided an opportunity to understand changes in bin usage since introducing the FOGO service.

The results gave key insights into some key challenges and barriers to achieving zero waste; some limitations are systemic and beyond Council's control, while others are behaviour driven and can be influenced by education and information.

Figure 6 shows the total weekly weight of material that an average household deposits in all kerbside bins. The weekly average is 21.76kg, of which;

- 11.06 kg is FOGO
- 6.16 kg is rubbish
- 4.54 kg is commingled recyclables

Figure 6: Waste generation across all three streams



All material audited from all three streams (rubbish, commingled recycling, and FOGO) was analysed by weight. Quantities are expressed in kg per household per week. Weight data from the commingled recycling and rubbish streams were converted to average weekly weight per household by dividing by two, to account for the fortnightly collection of these two streams. The percentages depict the proportion of the weight of the given waste stream within the total weight of all three waste streams. The total number of households sampled was 305.

FOGO

With the introduction of the FOGO service in July 2022, we have seen food waste move into the FOGO bin, along with garden waste.

The contamination rate of the FOGO stream is 4.6% by weight (Figure 7). The main contaminants are bagged material (3.7%), and other contaminants (0.9%) like animal waste.

Figure 8 highlights that of the bagged material in the FOGO bin, 1.6% was bagged FOGO waste, which would not be considered contamination, and would be recoverable if it was placed in the bin loose.

Placing these items in the bin loose would bring contamination rates down to 3% by weight. Achieving zero waste to landfill would require bringing food waste placed in the rubbish and recyclables bins across into the FOGO bin.

Figure 7: Composition of average FOGO bin, 2023

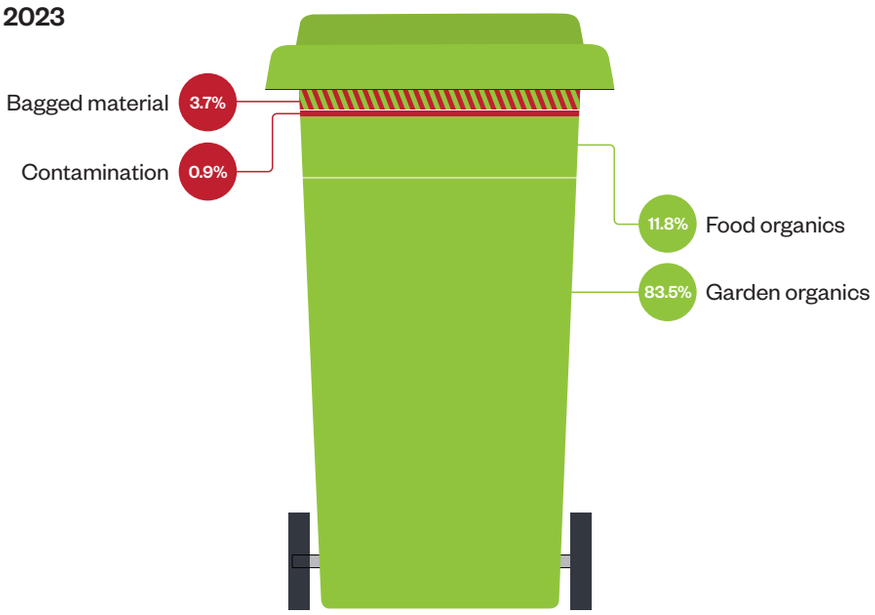
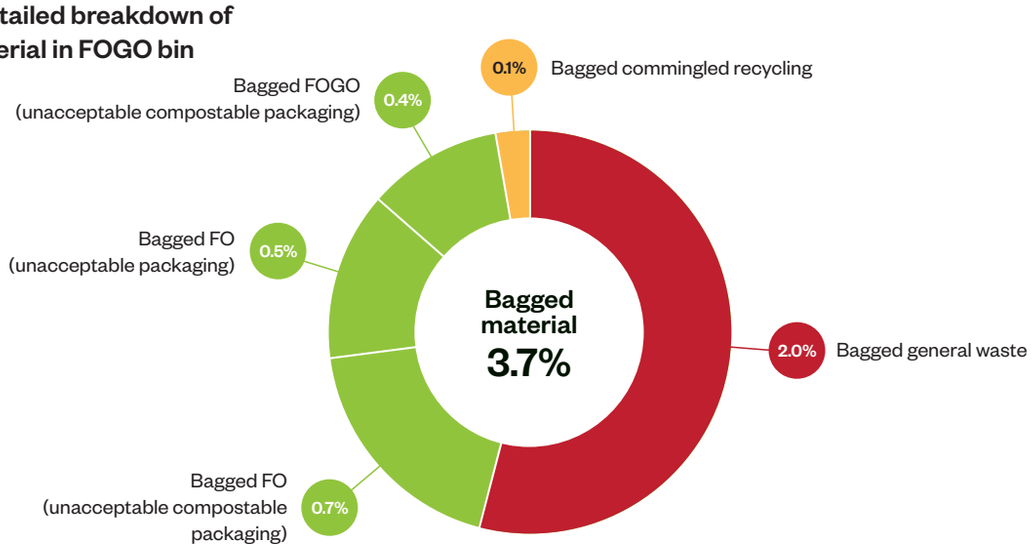


Figure 8: Detailed breakdown of bagged material in FOGO bin



Recyclables

Figure 9 shows a breakdown of items placed in the recyclables bin. The contamination rate of commingled recycling is 27.8%. Of this, 13.2% is bagged material, and 12.8% is other non-recyclable material.

Figure 10 highlights that of the bagged material in the recyclables bin, 9.8% was bagged commingled recycling, which would not be considered contamination, and would be recoverable if it was placed in the bin loose.

Placing these items in the bin lose would bring contamination rates down significantly. Achieving zero waste to landfill would require bringing recyclable waste placed in the rubbish and FOGO bins across into the recyclables bin.

Figure 9: Composition of average recyclables bin, 2023

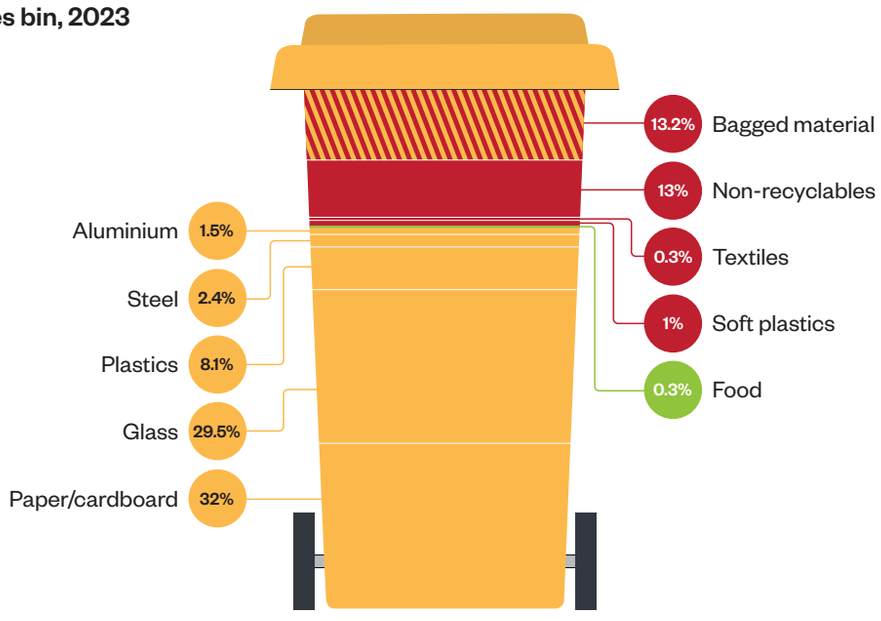
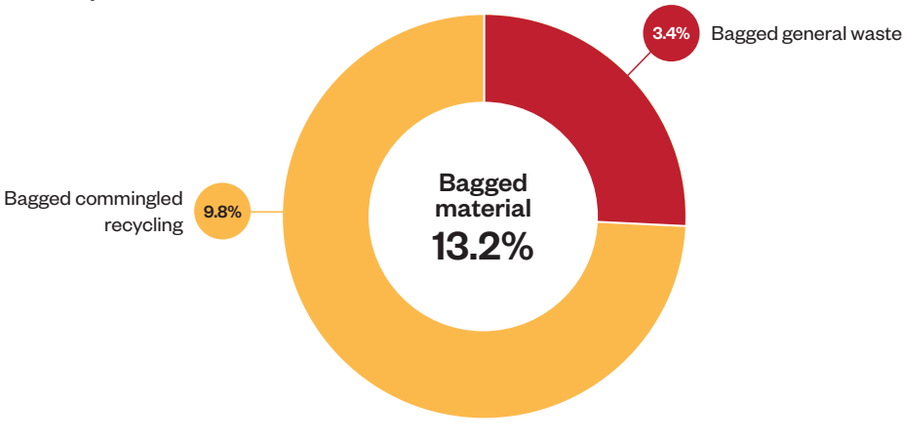


Figure 10: Detailed breakdown of bagged material in recyclables bin



Rubbish

Through the introduction of FOGO, we can see an overall increase in the percentage of rubbish being disposed of via the rubbish bin, and a decrease in the amount of food and garden waste as it moves into the FOGO bin.

However, there is still room for improvement as nearly half of the weight of rubbish consists of recoverable resources which could have been diverted into either commingled recycling (11%) or FOGO recycling (34%) (See Figure 11).

The challenge to achieving zero waste can be seen in 44.3% of 'other' materials in the garbage bin. Figure 12 shows the detailed breakdown of these materials.

Some of these items are recyclable, such as expanded polystyrene (EPS) or soft plastics, but they are not accepted in the household recyclables bin because the existing sorting systems cannot process them. Some materials are not recyclable in Australia or at all. Other items are hazardous and shouldn't be disposed of via kerbside bins including e-waste and hazardous / medical waste.

Figure 11: Composition of average rubbish bin, 2023

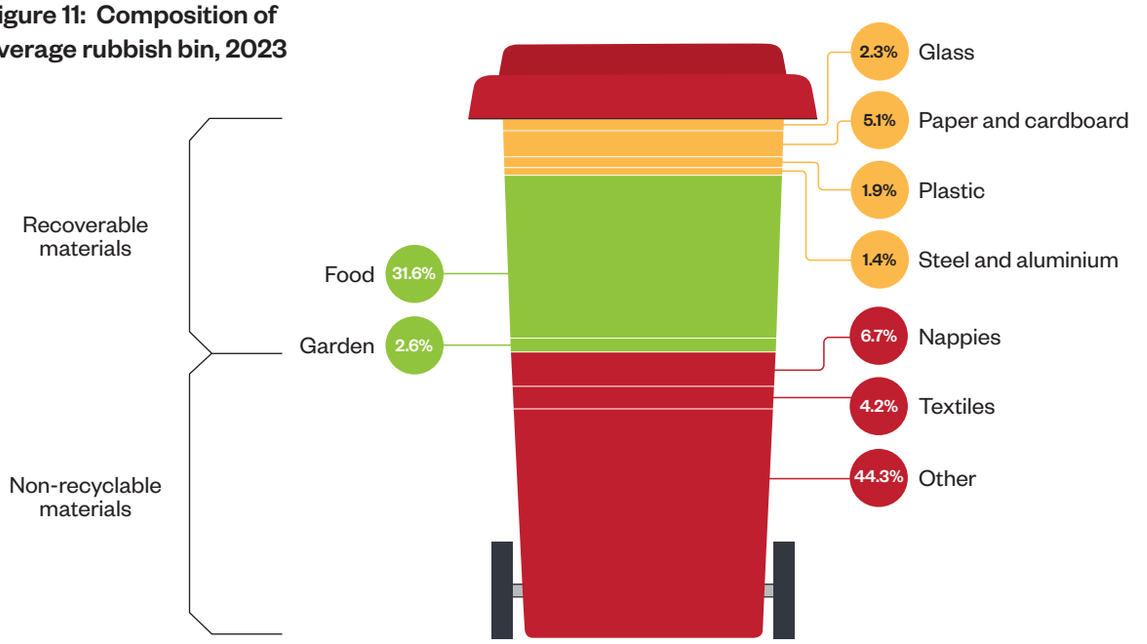
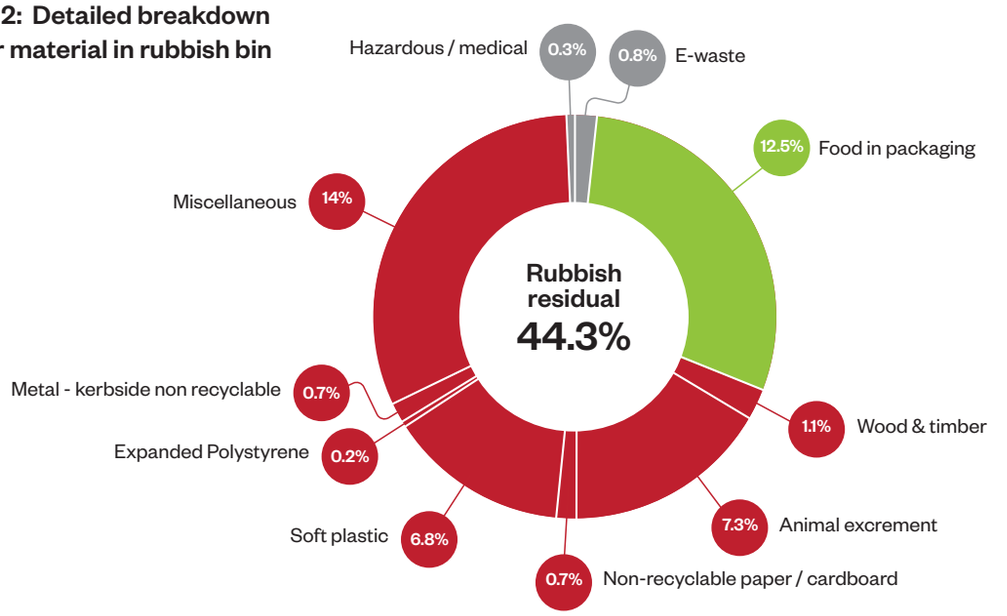


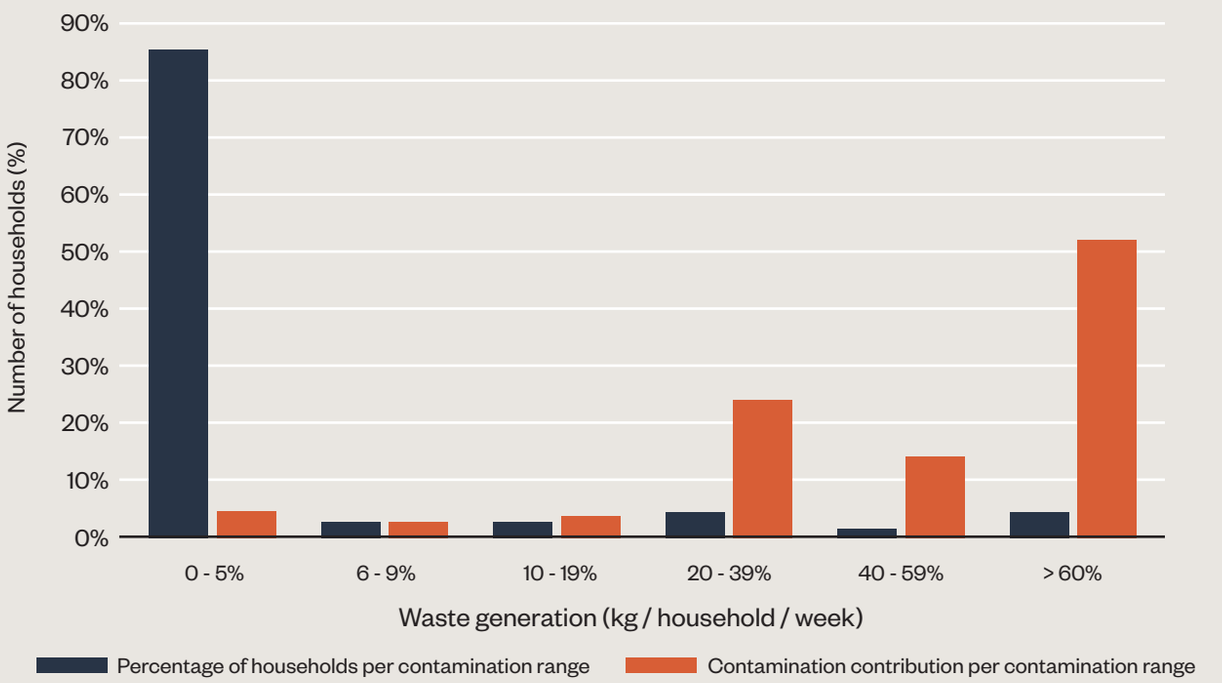
Figure 12: Detailed breakdown of other material in rubbish bin



Contamination

Results from the waste audit revealed that most households audited (85%) had a low percentage of contamination (between 0 – 5%) for FOGO (See Figure 13). Only a small number (4%) of households had a contamination rate greater than 60%; however, they account for over half of the total contamination weight found during the audit. This means that a small amount of households have a big impact on Banyule's contamination rates, and focused education efforts is needed for these households.

Figure 13: Distribution of contamination in the FOGO bin



Contamination found in a FOGO bin, March 2023

Other waste services

Waste Recovery Centre

The Waste Recovery Centre (WRC) is a facility located in Bellfield. Operating since the late 1950s, the WRC is designed for the responsible management of waste and recycling. It serves as a central location where residents and businesses can drop off various types of waste and recyclables and is equipped to sort and manage different types of waste materials, including household waste, green waste, FOGO, construction, demolition waste, and more. It plays a crucial role in promoting recycling and reducing landfill waste by providing the community with an organised and eco-friendly disposal solution.

Many services are free for households, while some come with a disposal charge.

Materials accepted free of charge include

- Batteries (car, household, and other vehicle)
- Cans (steel and aluminium)
- E-waste (TVs, computers)
- Glass bottles and jars
- Paint
- Paper and Cardboard
- Plastic containers (code 1, 2, 3, 4, 5, 6, 7)
- X-ray film

Materials with a disposal charge include

- Air-conditioners (domestic)
- Appliances and degassing (commercial)
- Hot water services
- Mattresses
- Refrigerators (domestic)
- Tyres (motorcycle, tractor, car, 4WD)

Recycling Stations

Recycling Station are available at:

- 1 Flintoff St Greensborough
- Ivanhoe Library and Cultural Hub
- Shop 48, Heidelberg West

Items including x-rays, batteries, light bulbs, mobile phones and videos / DVDs can be dropped off for free.

Towards Zero Waste Management Plan 2024-2028

Community consultations

Waste Survey

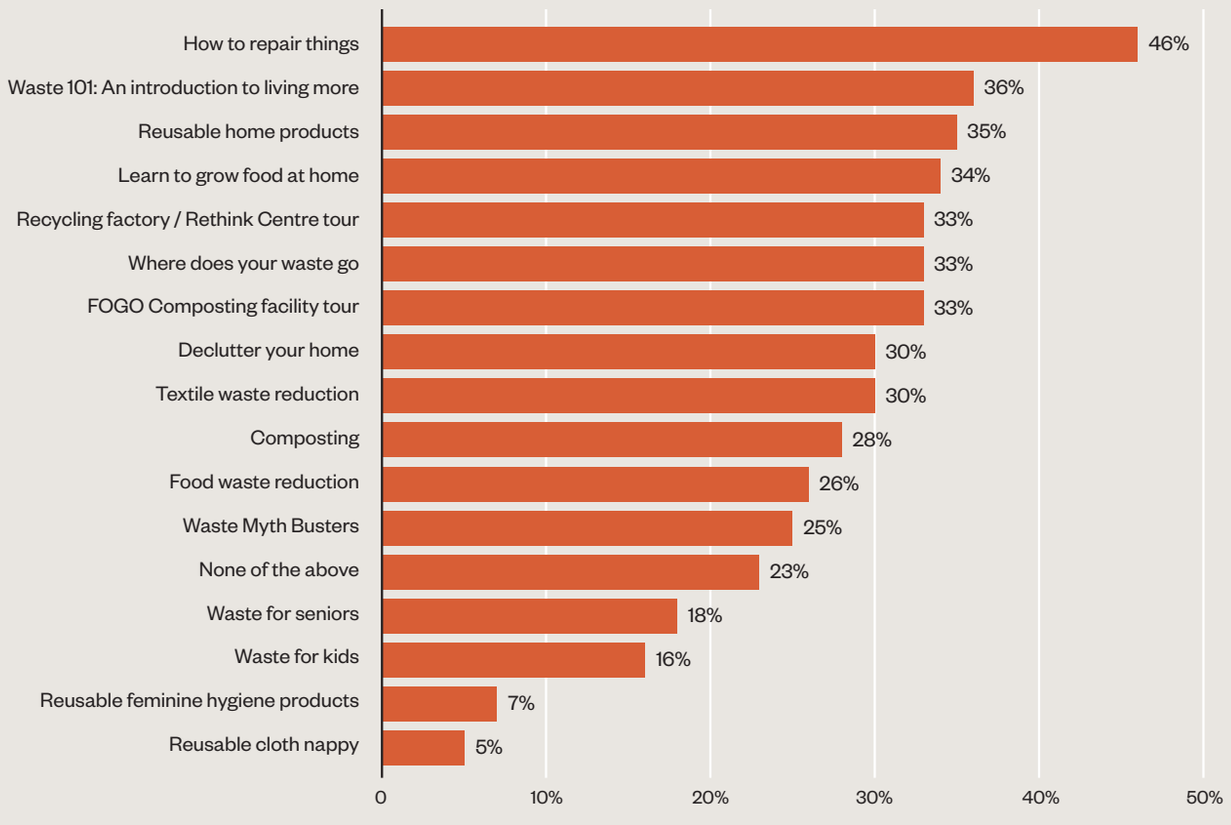
To support the development of the TZWMP, Council have conducted an extensive community consultation process. Core to this process was the development of a Waste Survey. Council received 1011 responses to the survey. Key findings from the survey are outlined below.

Survey Key findings

Waste education and communication

- Residents reported high satisfaction (89%) with the waste information available on Council's website (73% satisfied, 16% very satisfied).
- The most preferred channels for receiving waste-related information are through Council publications like newsletters (51%); followed by email (42%) and letter/mail (36%).
- Popular topics for future workshops included: Learn to grow food at home (39%), Waste 101 (38%), Where does your waste go? (33%), Composting (32%), and how to repair things (30%).

Figure 14: Interest in future waste education workshops, respondents selected all that apply.



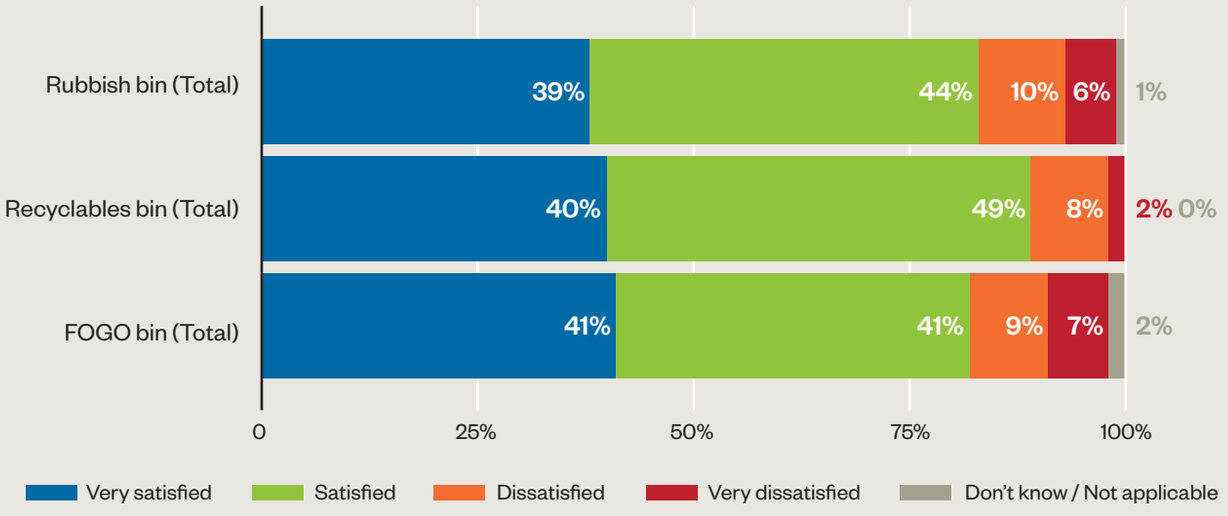
Advocacy

- A significant portion of respondents identified Increased recycling opportunities (86%) as the most important issue they would like to Council to advocate on, followed closely by Restrict single-use products (68%) and Product stewardship schemes (61%).

Kerbside collection

- Overall, satisfaction levels across all three waste collection services are high:
  - **Rubbish bin** (red lid): 83% of all respondents are either very satisfied or satisfied with the service
  - **Recyclables bin** (yellow lid): 89% of all respondents reported being either very satisfied or satisfied
  - **FOGO bin** (lime green lid): 82% of respondents are either very satisfied or satisfied with the service
- Recyclables is the bin most likely to be full (55%), followed by FOGO (38%), then rubbish (35%). For handling excess waste, storing it at home for next collection is a common solution across all streams.
- Soft plastics, polystyrene, e-waste and building materials were the most common items identified by residents as difficult to dispose of correctly.

Figure 15: Level of satisfaction with Council's kerbside waste collection service



Hard waste and bundles branch service

- A majority (74%) of residents are satisfied with Council's hard waste and bundled branch collection service, with 39% indicating they are very satisfied and 35% saying they are satisfied.
- A majority of residents (57%) have used Council's hard waste and/or bundled branches collection service within the last two years, with 21% using it twice in the last year.

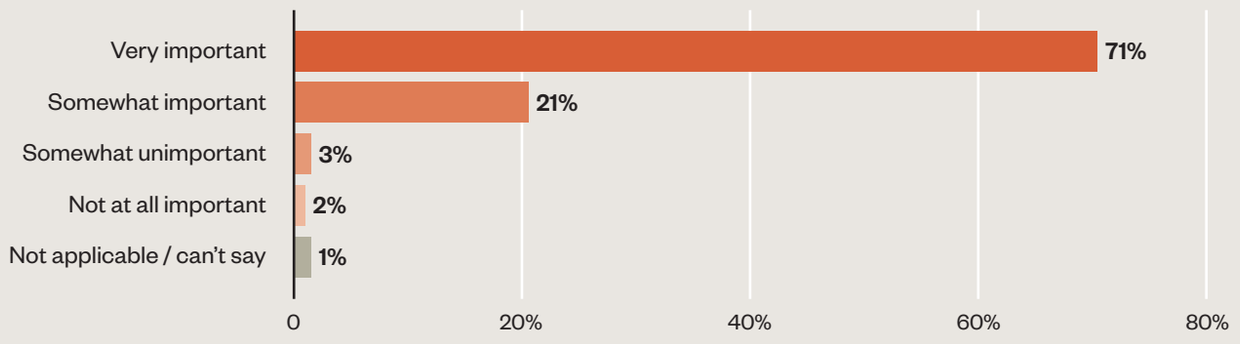
Glass bin

- Less than half of all residents (44%) are aware of Council's requirement to deliver a glass service to households by 2027.
- At the time of the survey the State Government's Container Deposit Scheme had not yet commenced however, overall news of the glass bin was well received with 81% supporting the introduction (54% very supportive, 27% somewhat supportive).

Contamination

- Residents indicated strong support for contamination management (92%), with a significant majority of residents considering it very important (71%) or important (21%) that Council responds to contamination in bins.
- 82% believe Council should respond strongly to contamination in bins, with 51% advocating for a very strong response and 31% a somewhat strong response.

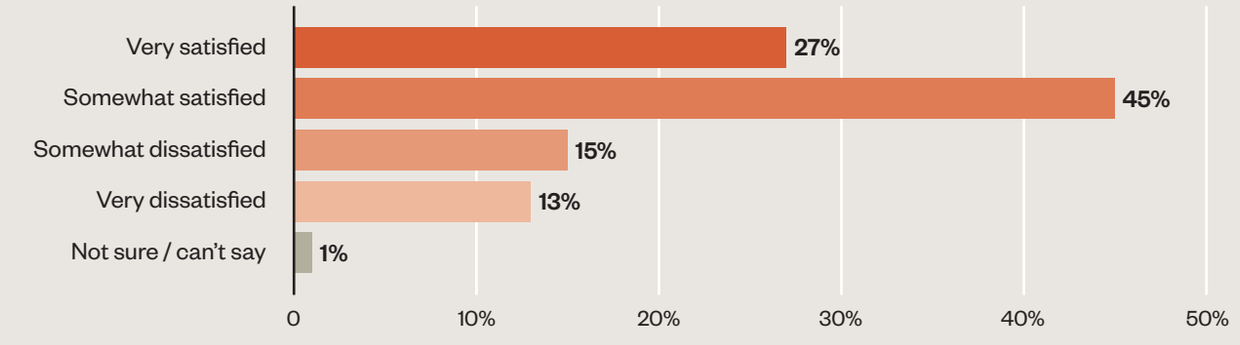
Figure 16: Importance of Council's response to bin contamination



Street cleanliness, dumped rubbish and litter

- 72% of respondents are either very satisfied (27%) or somewhat satisfied (45%) with the cleanliness of roads and gutters in their street.
- 70% of residents indicated a level of concern about litter in Banyule overall (25% very concerned, 45% somewhat concerned). Similarly, 71% indicated a level of concern about dumped rubbish (31% very concerned, 40% somewhat concerned).
- When asked about rubbish bins in parks, almost half (49%) believe that Council should provide standard rubbish bins only for dog poo disposal instead of (specific) dog poo bins and standard rubbish bins (37%).

Figure 17: Level of satisfaction with road and gutter cleanliness



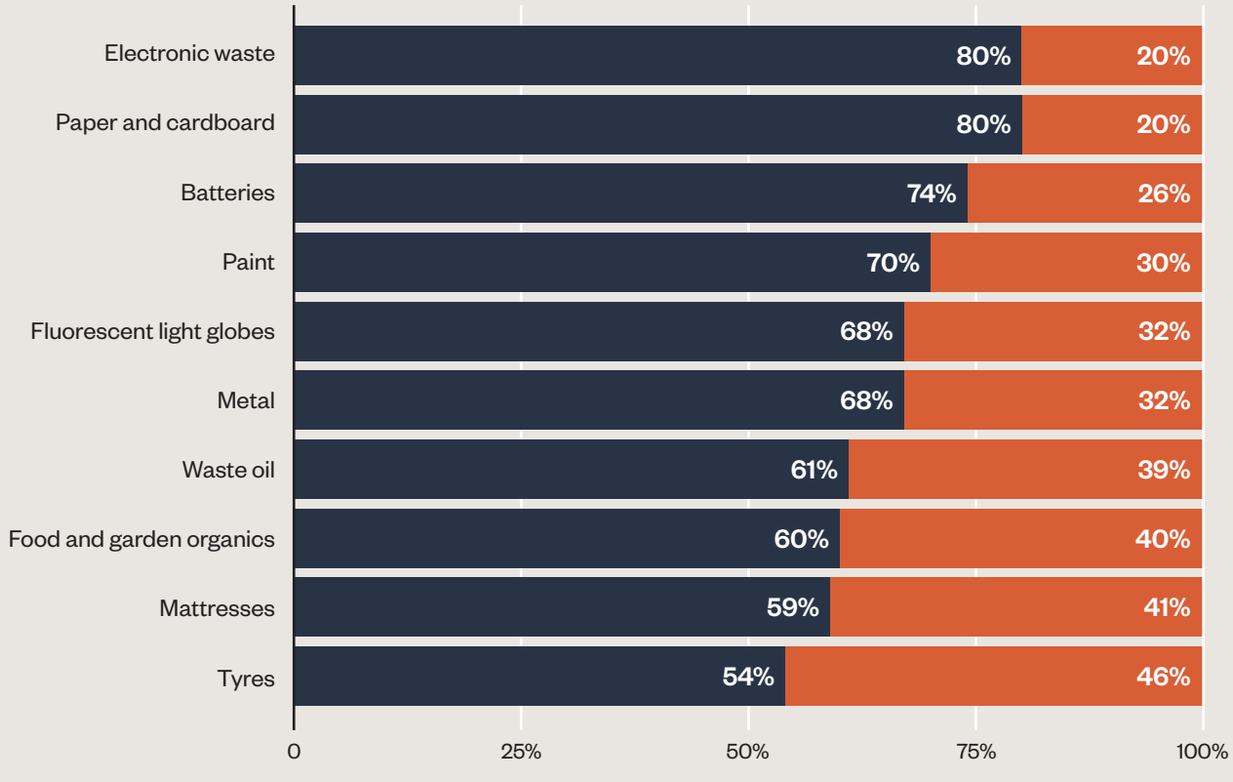
E-waste

- While a majority of residents (62%) are unaware that the Victorian State Government has made it illegal to put e-waste into landfill, around a third (33%) primarily use the Waste Recovery Centre (WRC) for e-waste disposal, closely followed by those who rely on hard waste service (29%).
- The majority of respondents (53%) dispose of household batteries at designated collection points (Aldi, Woolworths, Officeworks). A smaller but significant number (15%) still dispose of batteries in their rubbish bin.

Waste Recovery Centre (WRC)

- Residents indicated high awareness of the WRC (90%).
- Items with the highest awareness are e-waste (80%) and paper / cardboard (80%). Items with the lowest awareness were tyres (54%) and mattresses (59%).
- While the most requested items for acceptance at the WRC are polystyrene, soft plastics, hazardous materials, building materials, and textiles, a significant proportion of respondents reported that there are no items they would like the WRC to accept, indicating satisfaction with the current service.

Figure 18: Awareness of accepted items at the Waste Recovery Centre



Towards Zero Waste Action Plan

Overview

Taking on board findings from the bin audit, and feedback provided by residents during community consultation, a range of actions have been developed to work towards the community vision of 'A community motivated to achieve zero waste to landfill by 2030' (see Table 2).

Actions fall under four key strategic directions which are to:

1. **Avoid waste generation.**
2. **Build, support, and strengthen a community culture that is striving to be zero waste.**
3. **Deliver environmentally responsible and cost-effective recycling and waste services.**
4. **Advocate to other levels of government to avoid waste, reduce waste to landfill and increase recycling.**

Successful implementation of the action plan will result in increased resource recovery through recycling and composting, and an increased diversion rate of waste from landfill.

Action plan

Vision: A community motivated to achieve zero waste to landfill by 2030			
Priority	**Cost**		**Budget**
Year 1	$	0 - $10,000	**E** Existing
Year 2	$$	$10,000 - $100,000	**R** Additional Funding required
Year 3	$$$	$100,000 +	
Year 4			

Table 2: Towards Zero Waste Action Plan
Strategic Direction 1: **Avoid waste generation**

Action	Measure	Lead	Year 1	Year 2	Year 3	Year 4	Cost	Budget
1 Develop and maintain community programs that encourage the community to avoid waste	Programs developed	Operations	✔		✔		$$	E
2 Develop and maintain community programs based on the waste hierarchy including reduce, reuse, repair and recycle	Programs developed	Operations	✔		✔		$$	E
3 Develop waste education resources / programs that explain what happens to waste after it is collected	Programs developed	Operations		✔	✔		$$	E
4 Upgrade the Rethink Waste Education Centre to ensure building compliance and accessibility	Funding secured, building maintenance complete, reopen to public	Operations	✔	✔			$$$	R
5 Stay up to date and develop / update programs in line with State Government legislative requirements	Programs developed	Operations	✔	✔	✔	✔	$$	E
6 Develop educational materials / engagement opportunities to support the community in reducing dumped rubbish and litter	Materials developed	Operations		✔		✔	$$	E

Table 2: Towards Zero Waste Action Plan
Strategic Direction 2: **Build, support and strengthen a community culture that is striving to be zero waste**

Action	Measure	Lead	Year 1	Year 2	Year 3	Year 4	Cost	Budget
7 Deliver community programs that encourage the community to avoid waste	Programs delivered	Operations	✔	✔	✔	✔	$$	E
8 Deliver community programs based on the waste hierarchy including reduce, reuse, repair and recycle	Programs delivered	Operations	✔	✔	✔	✔	$$	E
9 Deliver waste education resources / programs that explain what happens to waste after it is collected	Programs delivered	Operations			✔	✔	$$	E
10 Deliver waste avoidance, reuse and correct recycling school education programs through Council's Rethink Waste Education Centre and school incursion programs	Programs updated and delivered	Operations	✔	✔	✔	✔	$$	E
11 Deliver education materials / engagement opportunities to support the community in reducing dumped rubbish and litter	Materials / programs de-livered	Operations		✔	✔	✔	$$	E
12 Ensure waste presence at relevant Council Festivals to increase face-to-face community education and engagement opportunities	Programs delivered	Operations	✔	✔	✔	✔	$	E
13 Continue to support waste project via Councils Sustainability Grants Program	Grants awarded to waste initiatives	Environment	✔	✔	✔	✔	$$$	E
14 Support Councils business units in their efforts to reduce waste generation	Investigation complete, opportunities implemented	Operations	✔	✔	✔	✔	$	E

Table 2: Towards Zero Waste Action Plan
Strategic Direction 2: **Build, support and strengthen a community culture that is striving to be zero waste** *cont.*

Action	Measure	Lead	Year 1	Year 2	Year 3	Year 4	Cost	Budget
15 Support businesses, organisations and community groups in Banyule to manage waste and reduce waste generation	Opportunities implemented	Operations	✔	✔	✔	✔	$	E
16 Undertake investigation and opportunities analysis of Library of things and explore future opportunities for shared economy-based project from findings	Investigation complete	Resilient & Connected Communities	✔				$	E

Table 2: Towards Zero Waste Action Plan
Strategic Direction 3: **Deliver environmentally responsible and cost-effective recycling and waste services**

Action	Measure	Lead	Year 1	Year 2	Year 3	Year 4	Cost	Budget
17 Implement Banyule's Kerbside Contamination Management Policy including the development of a range of supportive communications	Policy implemented	Operations	✔	✔	✔	✔	$$$	E
18 Implementation of kerbside glass service to comply with State Government legislative requirements	Service implemented	Operations			✔	✔	$$$	R
19 Assist with the maintenance of Banyule's urban landscape through management and removal of dumped rubbish and litter	Program delivery	Operations / Cleansing	✔	✔	✔	✔	$$$	E
20 Investigate use of technology to detect, deter and prosecute illegal dumping	Investigation complete	Operations / Local Laws			✔	✔	$$	E

Table 2: Towards Zero Waste Action Plan
Strategic Direction 3: **Deliver environmentally responsible and cost-effective recycling and waste services** *cont.*

Action	Measure	Lead	Year 1	Year 2	Year 3	Year 4	Cost	Budget
21 Consider community impacts of future changes in service requirements set by Recycling Victoria, which may include residential, MUDs, commercial and schools	Investigation complete	Operations		✔			$$	E
22 Level of service review of public place waste bins	Investigation complete	Parks / Operations		✔	✔		$	E
23 Review service offering opportunities at the Waste Recovery Centre as they arrive (new product Stewardship opportunities)	Investigation complete	Operations	✔	✔	✔	✔	$	E
24 To promote inclusivity, investigate opportunities to increase access to the waste recovery centre for the wider Banyule community including individuals of diverse genders, sexual orientations, education and literacy levels	Investigation complete	Operations			✔	✔	$	E
25 Undertake review of booked hard waste collection service	Investigation complete	Operations				✔	$	E
26 Investigate waste systems for high density living	Investigation complete	Operations		✔	✔		$	E
27 Explore opportunities for collaborative procurement with other Councils	Investigation complete	Operations		✔	✔	✔	$	E
28 Council to continue to seek opportunities with sorters and processors to increase the range of materials that can be recycled	Investigation complete	Operations				✔	$	E

Table 2: Towards Zero Waste Action Plan
Strategic Direction 4: **Advocate to other levels of government to avoid waste, reduce waste to landfill and increase recycling**

Action	Measure	Lead	Year 1	Year 2	Year 3	Year 4	Cost	Budget
29 Advocate to the federal government, state government and industry to adopt product stewardship approaches for priority items that may include soft plastics, single-use plastics and expanded polystyrene	Engage in the product stewardship consultation process.	Operations	✔	✔			$	E
30 Advocate for regulation around product packaging to encourage high levels of recycling and sustainable design of packaging	Engage in consultation processes.	Operations		✔			$	E
31 Advocate for better redistribution of municipal landfill levy to support the management of dumped rubbish and litter and transfer stations to provide 'free' support for product stewardship and state-based recycling schemes that require local government staff and infrastructure to deliver	Engage in consultation processes.	Operations			✔		$	E
32 Advocate to the federal government to adopt product stewardship schemes for priority items that may include solar panels	Engage in the product stewardship consultation process.	Operations			✔	✔	$	E
33 Advocate to State and Federal Government to investigate new waste technologies including waste to energy	Engage in consultation processes.	Operations		✔	✔		$	E
34 Advocate to Federal Government to consider waste in future trade agreements to ensure compatibility with Australian packaging laws and suitability for recovery and recycling through national programs	Engage in consultation processes.	Operations			✔	✔	$	E

Monitor, Evaluate, Report and Improve (MERI)

Monitor and Evaluate

To ensure we understand how we are progressing, we will need to monitor the actions committed to in this Plan.

Reporting on the performance of the Strategy is to be done through Key Performance Indicators (KPI's) as outlined below:

- Diversion rate (%)
  - Please note that from 2024, Councils diversion rate will change (reduce) due to the introduction of the State Governments Container Deposit Scheme (CDS). The CDS program means that a percentage of Councils recyclable material will move out of the kerbside bin, which will impact diversion rates.
- Organic waste per household (kg)
- Landfill waste per household (kg)
- Recyclables waste per household (kg)
- When applicable: Glass waste per household (kg)

Report

Reporting to the community on key indicators will be published via Council's annual State of Environment report.

The waste team will provide Council with an annual briefing on progress against actions and will continue to provide waste updates to Council via strategic meetings throughout the year.

Improve

As ongoing practise, the waste team will review changes to the legislation and the waste industry as they are announced. If a change to an action is required, they will be presented to Council.

The TZWMP will be reviewed after four years to assess, refine, and update actions. This will include a detailed waste audit.

Figure 19: Monitor, Evaluate, Report and Improve

References

Council Plan 2021 – 2025, Banyule City Council, 2021

Towards Zero Waste Management Plan 2019 – 2023, Banyule City Council, 2019

2018 National Waste Policy: Less waste, more resources, Department of the Environment and Energy, 2018

The Circular Economy (Waste Reduction and Recycling) Act 2021, Recycling Victoria, 2021

Abbreviations, definitions, and terms

The following definitions are provided by Recycling Victoria.

Table 3: Abbreviations, definitions and terms

Term	Definition
Circular economy	A systems level approach to economic development that continually reduces the environmental impacts of production and consumption, while enabling economic growth through more productive use of natural resources. It avoids waste with good design and effective recovery of materials that can be reused. It promotes more efficient business models that encourage intense and efficient product use, such as sharing products between multiple users, or supplying a product service that includes maintenance, repair, and disposal. The value people obtain from the resources used to create goods and services increases. The Circular Economy concept is built on and applies three key principles: • Design out waste and pollution. • Keep products and material in use. • Regenerate natural systems.
Commercial and industrial (C&I) waste	Solid inert waste generated from trade, commercial and industrial activities including the government sector. It includes waste from offices, manufacturing, factories, schools, universities, state, and government operations and small to medium enterprises.
Composting	The process whereby organic materials are microbiologically transformed under controlled aerobic conditions to create a pasteurised and stabilised organic product for application to land.
Construction and demolition (C&D) waste	Solid inert waste generated from residential and commercial construction and demolition activities such as bricks and concrete.

Table 3: Abbreviations, definitions and terms

Term	Definition
Container deposit scheme (CDS)	Container deposit scheme. The Victorian Government is introducing a container deposit scheme that will reward Victorians with a 10-cent refund for every eligible can, carton and bottle they return. The scheme will provide shared benefits to the community, environment, and economy by delivering: • more and better recycling. • less waste - old containers become new ones. • less litter - cut by up to half. • hundreds of new jobs and economic opportunities across Victoria
Drop off centre/site	A facility where households can drop off selected materials and household items for recycling and reuse. Also called drop off facilities.
E-waste	E-waste comprises electronic equipment with a plug or battery that requires a current to operate and that has reached end of life. It includes televisions, computers, monitors and whitegoods such as fridges and washing machines.
Food organics and garden organics (FOGO)	Combined food organics and garden organics collections.
Food organics (FO)	Food waste from households or industry, including food processing waste, out of date or off specification food, meat, fruit, and vegetable scraps. Excludes liquid wastes.
Garden organics (GO)	Organics derived from garden sources such as grass clippings and tree pruning's. Also known as green organics.
Green organics	More accurately referred to as garden organics.
Greenhouse gases	Gases, including carbon dioxide and methane, that trap heat in the earth's atmosphere, affecting weather and climate patterns.
Hard waste	Household items that are not usually accepted in kerbside rubbish or mixed recycling bins by local Councils, for example old mattresses, rugs, and furniture.
Hazardous waste	See prescribed waste and prescribed industrial waste (PIW).
HDPE	High-density polyethylene.
Incinerator	A site that facilitates the disposal of waste streams through incineration without producing another useful end product or capturing value from the waste material.

Table 3: Abbreviations, definitions and terms

Term	Definition
In-vessel composting	Composting technology involving the use of a fully enclosed chamber or vessel in which the composting process is controlled by regulating the rate of mechanical aeration. Aeration assists in heat removal, temperature control and oxygenation of the mass. Aeration is provided to the chamber by a blower fan which can work in a positive (blowing) and/or negative (sucking) mode. Rate of aeration can be controlled with temperature, oxygen, or carbon dioxide feedback signals.
Kerbside waste/collection	Waste collected by local Councils from residential properties, including rubbish, mixed recyclables, food organics and garden organics, and glass, but excluding hard waste.
Landfill	A facility for the burial of solid waste. Modern landfills are designed with base and side wall liners, as well as leachate collection systems to minimise leakage of leachate to groundwater. Waste is deposited and compacted within the landfill, and once the landfill cell is full, it is capped with clay (at a minimum) and rehabilitated. As landfill designs and processes have evolved over time, some closed landfills may not have all the environmental controls listed above.
Landfill levy	A levy applied at differential rates to municipal, industrial, and prescribed wastes disposed of at licensed landfills in Victoria. Landfill levies are used solely for the purposes of environment protection and fostering environmentally sustainable use of resources and best practice in waste management. They fund the activities of Recycling Victoria, Sustainability Victoria, and the Victorian Environment Protection Authority, helping to establish waste management infrastructure, industry waste reduction programs, education programs, regulatory controls, and enforcement regimes. Levies also provide an incentive to minimise the generation of waste, sending a signal to industry that the Government supports efforts to develop alternatives to disposal to landfill.
Liquid paperboard (LPB)	Liquid paperboard (LPB) is a fibre-based packaging board that is designed to hold a liquid. There are 2 main types: • gable-topped LPB (plastic polymer layer / paperboard layer / plastic polymer layer). • aseptic LPB (plastic polymer layer / paperboard layer / aluminium foil layer / plastic polymer layer). Also see polymer-coated paperboard (PCPB).
Materials recovered	Materials diverted from landfill for use or reprocessing irrespective of where the recovery or reprocessing takes place.

Table 3: Abbreviations, definitions and terms

Term	Definition
Materials recovery facility (MRF)	A centre for the receipt, sorting and transfer of materials recovered from the waste stream prior to transport to another facility for recovery and management. At an MRF, materials may undergo mechanical treatment for sorting by characteristics such as weight, size, magnetism, and optical density and may include cleaning and compression. Materials may be received as mixed streams such as mixed recyclables from households and businesses or single streams such as metals.
Mixed paper	Post-consumer kerbside mix of fibre based packaging and non-packaging papers. Includes materials such as magazine, newspaper, marketing, some OCC, and others fibre-based formats. Typically has high levels of contamination, of which broken glass is a particular issue.
Mixed plastics	Post-consumer kerbside mix of plastics based packaging and non-packaging plastic items. Includes materials such as bottles, containers and other packaging formats consisting of all the major polymer groups. Often undergoes a polymer sort at MRFs or post-MRFs to positively recover a limited range of polymer types, typically PET and HDPE. Often has moderate to high levels of contamination.
Mixed recyclables	Recyclable materials combined generally for the purposes of collection, mainly through municipal collection services. Includes plastic bottles, other plastics, paper, glass, and metal containers. Mixed recyclable materials require sorting after collection before they can be reprocessed.
Municipal solid waste (MSW)	Solid waste generated from municipal and residential activities, and including waste collected by, or on behalf of, a municipal Council. In this document, MSW does not refer to waste delivered to municipal disposal sites by commercial operators or waste from municipal demolition projects
Organic material	Plant or animal matter such as grass clippings, tree pruning's and food waste, originating from domestic or industrial sources.
Packaging	Material used for the containment, protection, marketing or handling of product. Includes primary, secondary, and tertiary/freight packaging in both consumer and industrial packaging applications.
PS-E or EPS	Expanded polystyrene (PIC 6). Typically referred to as EPS.
Polymer-coated paperboard (PCPB)	PCPB is a type of paperboard that has a primary fibre-based layer, that is laminated on one or both sides with a layer of plastic film. Also see liquid paperboard (LPB).

Table 3: Abbreviations, definitions and terms

Term	Definition
Processing facilities	Facilities that receive materials directly from collection systems or from recovery facilities for further sorting and/or processing to provide material for use in the generation of new products.
Product stewardship	A concept of shared responsibility by all sectors involved in the manufacture, distribution, use and disposal of products, which seeks to ensure value is recovered from products at the end of life.
Public place recycling	Recycling facilities found in public areas, such as parks, reserves, transport hubs, shopping centres and sport and entertainment venues, that allow the community to recycle when away from home.
Putrescible waste	Waste that readily decomposes, including food waste and organic waste from gardens.
Recycle / Recyclables / Recycling	In common practice the term is used to cover a wide range of activities, including collection, sorting, reprocessing and reuse.
Recycling Victoria	Recycling Victoria provides leadership and oversight of waste and resource recovery services to support the circular economy. Established under the Circular Economy (Waste Reduction and Recycling) Act 2021. Recycling Victoria is strengthening Victoria's waste and recycling sector, building resilience, and creating markets for recycling products through monitoring, reporting and regulation of waste and recycling management.
Reprocess / reprocessing	To put a material that has been used through an industrial process to change it so that it can be used again.
Reprocessor / reprocessing facility / reprocessing infrastructure	Facility that uses an industrial process to change the physical structure and properties of a waste material so it can be used again. This can include facilities that dismantle products, such as tyres, e-waste and mattresses, and energy from waste facilities that use materials to generate energy.
Resale centre / resale shop	A centre/shop that sells good quality products and materials that were disposed of by their previous owner. Usually located at a transfer station.
Residual waste	Residual material that remains after any source separation or reprocessing activities of recyclable materials or garden organics. Waste that is left over after suitable materials have been recovered for reuse and recycling. This generally means the environmental or economic costs of further separating and cleaning the waste are greater than any potential benefit of doing so.

Table 3: Abbreviations, definitions and terms

Term	Definition
Resource recovery infrastructure	Facility or facilities that receive and manage materials to enable them to be reused or reprocessed. This includes drop off points, resale centres, resource recovery centres, transfer stations and materials recovery facilities.
Reuse	Recovering value from a discarded resource without processing or remanufacture, for example garments sold though opportunity shops are, strictly speaking, a form of reuse, rather than recycling.
Solid inert waste	Solid inert waste is hard waste that has a negligible activity or effect on the environment such as sand and concrete. The waste may be a municipal or industrial waste.
Solid waste	Non-hazardous, non-prescribed, solid waste materials, ranging from municipal rubbish to industrial waste.
Source separation	The practice of segregating materials into discrete material streams prior to collection by, or delivery to, processing facilities.
Sustainability Victoria (SV)	Sustainability Victoria is a statutory authority that facilitates and promotes environmental suitability in the use of resources.
Transfer station	Facility which receives materials from the waste stream for possible segregation, consolidation, or compaction for bulk transport for resource recovery, treatment, or disposal facilities.
Unprocessed material	Material that is unrefined and has not been through any process of recycling.
Virgin material	Material that has been sourced through primary resource extraction, (sometimes called primary materials) rather than sourced from recycled materials (sometimes called secondary materials). For example, virgin steel is manufactured from iron ore, and virgin paper is manufactured from plantation sourced wood fibre.
Waste and resource recovery group (WRRG)	Statutory authorities established under the Environment Protection Act 1970 responsible for preparing the regional waste and resource recovery implementation plan for their region. On 1 July 2022 WRRGs transitioned to Recycling Victoria, a business unit within the Department of Energy, Environment and Climate Action (DEECA).
Waste minimisation	The concept of, and strategies for, waste generation to be kept to a minimum level in order to reduce the requirement for waste collection, handling and disposal to landfill. Also referred to as waste avoidance.
Waste to energy (WtE)	The terms 'waste to energy', 'energy recovery from waste,' or 'energy from waste' can be used interchangeably to describe treatment processes and technologies used to generate a usable form of energy from waste materials. Examples of usable forms of energy include electricity, heat, and transport fuels.

Appendix

Outcomes of the Towards Zero Waste Management Plan 2019 – 2023

Table 4 provides detailed outcomes of the TZWMP action plan.

Table 4: Outcomes of the TZWMP 2019 - 2023

Strategic direction 1: Avoid waste generation

Action	Complete	Outcome/s
Promote food waste avoidance to the community, through programs such as Love Food Hate Waste, to reduce avoidable food waste	✔	• FOGO service implemented in July 2022 • As part of the FOGO rollout, all households were delivered a kitchen caddy and waste information pack, which included the full suite of updated waste brochures and a FOGO guide to ensure all households were fully informed on how to use bins and the waste service available in Banyule. • Green cone biodigester rebate program offered to Banyule residents to encourage at home food waste recycling. More than 340 households participated in the program.
Develop a program to work with parents-to be to avoid waste in their parenting through promoting reusable nappies, reusable toys, powdered formula avoidance, and how to help their family and friends to avoid waste in gifts	✔	• 3 – 4 x cloth nappy workshops were run per annum (online and in-person) to support the avoidance of waste generated using disposable nappies.
Develop and deliver community programs to avoid waste and reuse and repair items as much as possible	✔	• Prior to Covid, 2 x declutter workshops were conducted per annum with the community to encourage waste avoidance. • Annual presentations to community groups on ways to reduce household waste. • Collection of unwanted bicycles at the WRC to support community bicycle repair programs.
Provide new and retrofit existing public water drinking fountains to enable bottle filling to discourage the purchase of single use plastic water bottles.	✔	• Over the past 3 years, 17 new drinking fountains were installed to enable bottle filling in public locations across the municipality.

Table 4: Outcomes of the TZWMP 2019 - 2023

Strategic direction 2: Build, support and strengthen a community culture that is striving to achieve zero waste

Action	Complete	Outcome/s
Secure Council funding to develop and deliver a series of priority education and community engagement programs based on the waste hierarchy for Council to deliver across the four-year action plan	✔	• Opportunities for in person workshops were limited due to Covid, and from 2020 were pivoted to online sessions. • Prior to Covid, 2 x declutter workshops were conducted per annum with the community to encourage waste avoidance. • 3 – 4 x cloth nappy workshops were run per annum (online and in-person) to support the avoidance of waste generated using disposable nappies. 3 – 4 x composting workshops were run per annum (online and in-person) to support managing food waste in the home.
Deliver waste avoidance, reuse and correct recycling education through Council's Rethink Centre and community education programs	✔	• Due to Covid, ability to deliver programs face-to-face was reduced. A number of programs converted to online models including MRF tours to encourage recycling. • Prior to Covid approximately 2,000 children and adults engaged with via Rethink Centre and Litter Sister Pre-school incursion programs.
Undertake a business case to determine the viability to support households to manage food scraps and garden organics with subsidised home composting and/or bio-digesters	✔	• Green cone biodigester rebate program offered to Banyule residents to encourage at home food waste recycling. • More than 340 households participated in the program.
Assist businesses and organisations to avoid and reduce waste by providing advice on how to reduce waste production, make your waste recoverable through existing recycling systems, or by facilitating connections between businesses, organisations, and households that allow one businesses or organisations waste to be another's useful resource	Impacted by Covid	• Ability to run programs was impacted by Covid • The State Government are set to develop service standards for businesses, estimated in 2025.
Engage with the Banyule Environment Advisory Committee (BEAC) to include waste as a permanent item on the Committee's agenda.	✔	• Meetings attended by Waste Team as requested.

Table 4: Outcomes of the TZWMP 2019 - 2023

Strategic direction 3: Deliver environmentally responsible and cost-effective recycling and waste services

Action	Complete	Outcome/s
Undertake a feasibility study to assess the viability of providing residents with additional recycling options, such as mobile periodical or fixed drop-off points, to achieve greater geographical access across the municipality	✔	• Recycling station added to three Council locations across the municipality (1 Flintoff, Shop 48 and Ivanhoe Library and Cultural Hub).
Complete the business case for the introduction of a food organics and garden organics (FOGO) kerbside collection service and for it to be presented to Council Q1 2019.	✔	• Business case for the introduction of a food organics and garden organics (FOGO) kerbside collection service presented to Council. • FOGO service commenced 4 July 2022.
Undertake a feasibility study based on at least a cost-neutral business model to redevelop the Waste Recovery Centre, including establishing a resale shop or drop-off points for reusable items	✔	• Feasibility study for WRC redevelopment and resale shop completed. Resale shop could not be accommodated at the WRC due to insufficient space for item storage and required customer car parking.
Investigate expanding the hard waste collection to include e-waste to meet the e-waste landfill ban	✔	• Hard waste booking service expanded to include e-waste.
Undertake a business case to assess the viability of increasing the size and type of materials accepted in the hard waste and bundled branches collections	✔	• Hard waste collection expanded to include e-waste.
Investigate a separate waste services charge and compare against the current waste services paid within rates	✔	• Investigation complete. • Council moved to separate kerbside waste rate and public waste rate from July 2022.
Develop a policy for charity and not-for profit assistance with waste management collection and disposal (above the standard service)	✔	• Policy has been drafted with the intention to seek adoption in 2024.
Investigate strengthening Council's planning scheme for multi-unit developments to make a three-stream collection mandatory (and practical)	✔	• Through advocacy the state planning scheme was amended. Specific guidelines, the *Better Practice Guide for Waste Management and Recycling in Multi Unit developments*, were prepared by the State in consultation with Councils.

Table 4: Outcomes of the TZWMP 2019 - 2023

Strategic direction 3: Deliver environmentally responsible and cost-effective recycling and waste services

Action	Complete	Outcome/s
Undertake a business case to assess the viability of Council providing waste and recycling collections to multi-unit developments and properties that are currently ineligible for the service	✔	• Assessment has been complete, information is under consideration.
Undertake a business case to assess the viability of public place recycling	✔	The State Governments Container Deposit Scheme (CDS) provides a new avenue for public place recycling. Council is supporting this scheme by providing sites for Reverse Vending Machines.
Reduce Council's waste generation at Watermarc and 1 Flintoff Street	✔	• Initiatives now in place at 1 Flintoff include: - Sustainable procurement policy - Food waste recycling via worm farms
Continue providing waste management systems and vendor requirements at Council's major community events that reduce waste to landfill and increase recovery, including food	✔	• The waste team continues to support Councils major community events by providing waste management systems.
Update Council's Sustainable Procurement Framework for the Procurement Policy guidance to embed the 5Rs – refuse, reduce, reuse, repurpose and recycle as core values in all future contracts and procurement policy: **> ensure, where possible, that products purchased can be recycled at end of life**	✔	• Sustainable Procurement Framework updated to include waste management and sustainable procurement.
Continue to participate with the Metropolitan Waste and Resource Recovery Group to investigate alternate waste technologies	✔	• Until the Metropolitan Waste and Resource Recovery Group was disbanded, Council participated in investigations into alternate waste technologies.
Refresh and expand Council's educational programs and website pages to promote Council's activities and performance	✔	• Food waste reduction programs expanded to include green cone biodigester rebate program to encourage at home food waste recycling - more than 340 households participated in the program. Website and videos developed to support program implementation. • Council developed FOGO education program including dedicated webpage and video campaign.

Table 4: Outcomes of the TZWMP 2019 - 2023

Strategic direction 3: Deliver environmentally responsible and cost-effective recycling and waste services

Action	Complete	Outcome/s
Increase Waste Education Service participation at major Banyule festivals and events	✔	• That waste team held stalls at major festivals including Banyule Festival, Malahang Festival and Eco Festival to educate and engage with the community on Council's Towards Zero Waste theme, and Kerbside Waste Services.
Council to continue to seek opportunities with sorters and reprocessors to increase the range of materials that can be recycled.	✔	• E-waste recycling implemented with collection point at the Waste Recovery Centre.
Council officers report quarterly to Council on the progress towards achieving the Towards Zero Waste Management Plan actions (utilising SMART objectives and being outcome focused) and the methods employed to bring down waste levels being collected	✔	• Council is briefed quarterly by officers.

Table 4: Outcomes of the TZWMP 2019 - 2023

Strategic direction 4: Advocate to other levels of government to avoid waste, reduce waste to landfill and increase recycling

Action	Complete	Outcome/s
Advocate to the federal government, state government and industry to adopt product stewardship approaches for these priority items: **> single-use plastics** **> expanded polystyrene** **> disposable nappies** **> mattresses / mattress bases**	✔	• Council continued to advocate to the federal government, State government and industry to adopt product stewardship approaches and waste policies. • Ban on single use plastics came into effect from Feb 2023, and mattress product stewardship underway.
Advocate to the federal government to speed up a product stewardship scheme for these products: **> microbeads (on Product Stewardship priority list)** **> e-waste (to support the Victorian Government landfill ban which is not fully funded to collect and process items)**	✔	• Council have engaged with and continue to engage with the Federal Government to encourage change.
Advocate to the federal government and industry to ban or find alternatives to products made up of multiple materials that are difficult to separate for recycling, such as: **> plastic composites (e.g., chip packets, drink bottles with moulded plastic labels)** **> carpet / flooring underlay** **> curtain backing (heat fabric).**	✔	• Council have engaged with and continue to engage with the Federal Government to encourage change.
Advocate to the federal government and industry for a recycling and reprocessing product stewardship scheme for disposable nappies, including a collection service from households	✔	• Council have engaged with and continue to engage with the Federal Government to encourage change. • In addition, at a local level Council have run three to four reusable nappy workshops per annum.
Advocate to the state government for hospitals to discontinue the practice of distributing free disposable nappy samples and disposable nappy marketing materials to new parents	✔	• Council have engaged with and continue to engage with the Federal Government to encourage change. • In addition, at a local level Council worked with our childcare centres to adopt reusable nappies and eliminate the use of disposable nappies.

Table 4: Outcomes of the TZWMP 2019 - 2023

Strategic direction 4: Advocate to other levels of government to avoid waste, reduce waste to landfill and increase recycling

Action	Complete	Outcome/s
Advocate to the state government for amendments to the Victorian Planning Provisions for mandatory waste stream separation (garbage, recyclables, food and garden organics, hard waste) and collections in multi-unit developments	✔	• Through advocacy the state planning scheme was amended. Specific guidelines, the *Better Practice Guide for Waste Management and Recycling in Multi Unit developments*, were prepared by the State in consultation with Councils.
Advocate to the state government for increased reinvestment of the Victorian landfill levy to drive waste reduction and increased recycling by: **> improving collection and sorting infrastructure including resource recovery centres** **> supporting councils to work with their communities to avoid waste, reduce contamination and increase recovery of food organics** **> developing and delivering community engagement programs to reduce waste to landfill and increase recovery** **> driving market development to improve competition, closed loop purchasing and increased jobs.**	✔	• Council have engaged with and continue to engage with the Federal Government to encourage change.
Advocate to the federal government and industry for a recycling and reprocessing product stewardship scheme for disposable nappies, including a collection service from households	✔	• Australasian Recycling label program has been rolled out, with 80% of products due to be labelled with recycling information by 2023.

Notes

Notes


Cornies
Cornies

Banyule
City Council

How to contact your Council

For all enquiries or information about any Council services:

Telephone: **9490 4222**

Email: **enquiries@banyule.vic.gov.au**

Website: **www.banyule.vic.gov.au**

Fax: **9499 9475**

If your hearing or speech is impaired, you can call us through the National Relay Service on **133 677** (TTY) or **1300 555 727** (ordinary handset) and ask for 9490 4222.

Postal Address:
PO Box 94, Greensborough 3088

Council Service Centres:
Greensborough: Level 3, 1 Flintoff Street
Ivanhoe: 275 Upper Heidelberg Road

Office Hours of Opening:
Greensborough: Monday – Friday 8.30am – 5pm
Ivanhoe: Monday - Friday 9am - 5pm

Interpreter service:
If you need an interpreter, please contact TIS National on 131 450 and ask to be connected to Banyule Council on 9490 4222.

إذا كنتم بحاجة إلى مترجم، الرجاء الاتصال بالخط القومي لخدمة الترجمة الهاتفية TIS على الرقم 450 131، واطلبوا إيصالكم ببلدية بانيول على الرقم 4222 9490.

若你需要口譯員，請致電131 450聯絡TIS National，要求他們為你致電9490 4222接通Banyule市政廳。

Ako vam je potreban tumač, molimo vas, nazovite TIS National na broj 131 450 i zatražite da vas se spoji sa Vijećem općine Banyule na broj 9490 4222.

Αν χρειάζεστε διερμηνέα τηλεφωνήστε στην Εθνική Υπηρεσία Διερμηνέων Μεταφραστών στον αριθμό 131 450 και ζητήστε να σας συνδέσουν με τη Δημαρχία Banyule στο 9490 4222.

Se hai bisogno di un interprete chiama TIS National al numero 131 450 e chiedi di essere messo in comunicazione con il Comune di Banyule al numero 9490 4222.

Ако ви треба преведувач ве молиме јавете се на TIS National на 131 450 и замолете да ве поврзат со Banyule Council на 9490 4222.

如果你需要一名翻译，请打电话到国家电话翻译服务处（TIS National）131 450，再转接到Banyule市政府9490 4222

Haddii aad u baahan tahay mutarjum wac khadka qaranka oo ah TIS 131 450 weydiina in lagugu xiro Degmada Banyule tel: 9490 4222.

Nếu cần thông dịch, xin gọi cho TIS Toàn Quốc qua số 131 450 rồi nhờ họ gọi cho Hội Đồng Thành Phố Banyule theo số 9490 4222 giùm quý vị.