

THE CITY OF
GREATER GEELONG

WASTE AND RESOURCE RECOVERY STRATEGY 2020-2030





CONTENTS

| | |
|---|-----------|
| MAYOR'S MESSAGE | 4 |
| EXECUTIVE SUMMARY | 5 |
| INTRODUCTION | 6 |
| THE BIGGER PICTURE | 8 |
| A SNAPSHOT OF OUR SERVICES | 12 |
| WASTE – A SHARED RESPONSIBILITY | 14 |
| THE ENGAGEMENT PROCESS | 15 |
| WHAT WE HEARD | 16 |
| WHAT SHAPED THIS STRATEGY | 18 |
| STRATEGY OVERVIEW | 21 |
| GOAL 1 – AVOID CREATING WASTE | 22 |
| GOAL 2 – RECOVER MORE RESOURCES | 24 |
| GOAL 3 – PROTECT THE ENVIRONMENT | 26 |
| DELIVERING THE STRATEGY | 31 |
| REFERENCES | 31 |

MAYOR'S MESSAGE



The issue of waste is at a critical point worldwide.

Across the globe, humans are producing waste at unsustainable levels, and the traditional methods we've used to manage or dispose of it are failing.

Locally, many Victorian councils, including the City of Greater Geelong felt the impact in 2019 with the collapse of our kerbside recycling provider.

As a region aiming to be clever and creative, our community expects its council to lead the way with innovative ideas and practical solutions to reduce, re-use and eliminate waste.

It's time for us all to approach things differently. This Strategy is the first step along that path to doing exactly that. Over the life of this document, the City of Greater Geelong and our community will transition to a new era of waste and resource recovery management.

Our efforts will focus on all aspects of a circular economy.

The starting point is for all of us to try to avoid generating waste, but we know that something that seems so simple is not an easy task in reality. We need to do this through our operations and we need to educate and encourage the community to do the same.

Where it's not possible to avoid generating waste, we'll explore options to recover and re-use it. Through the actions in this Strategy, waste will increasingly be viewed as a resource.

In recent years the council has taken some significant steps on this journey through our previous strategic planning.

Our new garden organics composting facility at Anakie is an example of the circular economy in action. It processes green bin materials into compost, which is then put back into local farmland.

The City uses sustainable and recycled materials in our construction projects and we increasingly choose products with recycled contents.

For example, we used recycled rubber for the Goldsworthy Reserve athletics track; 'green concrete' mix at the Highton, Drysdale and Purnell Road Child and Family Centres, and we regularly use road surfacing materials with high recycled content of steel slag, recycled rubber and/or recycled asphalt pavement.

By implementing this new Strategy, we will move closer to our ultimate goal of zero waste to landfill, and further support the circular economy concept. This document also incorporates the upcoming changes to Victoria's waste management system announced by the state government early in 2020. We are committed to working with the state to educate the community about these changes and roll them out over the coming years.

The City of Greater Geelong is keen to be a leader amongst Victorian councils. Ultimately, our goal is to minimise the impacts of waste and protect the beautiful natural environment that we all love so much.

A handwritten signature in black ink that reads "Stephanie A". The signature is fluid and cursive.

Cr Stephanie Asher
Mayor
City of Greater Geelong

EXECUTIVE SUMMARY

The purpose of this strategy is to set a vision that can help the City of Greater Geelong community manage waste and resource recovery in a way that minimises impacts on the environment. It also sets the goals, actions and targets we need to help us get there.

There is a lot happening in waste and resource recovery at the moment:

The global recycling industry has changed. The recycling sector has been responding and adjusting to the end market changes.

Government policy is moving towards a circular economy. This is a big change from the existing take-make-use-dispose model. The circular economy model aims to keep resources in the system for as long as possible.

Community interest in waste is increasing. The ABC's War on Waste drew attention to how much waste our society generates and the negative impact this is having on our natural environment.

We are always going to generate some waste. To manage waste better, we need to change the way our communities view, create and handle the waste.

In developing this strategy, we've taken into account the following:

- the regulatory and policy environment impacting on waste and resource recovery
- broader issues and opportunities that shape how we make and handle waste and resources
- what we're already doing to manage and process waste
- models, principles and questions that are relevant to waste management
- the shared responsibility of governments and communities to reduce and manage waste
- the views of over 850 people who participated in our community and stakeholder engagement from November 2018 to September 2019
- the feedback from 65 submissions received during the consultation of the draft strategy from December 2019 to February 2020.

From what we learnt, we have put together the following vision and goals to guide our efforts over the next ten years:

VISION

The City contributes to a circular economy by leading and supporting the community to actively avoid waste and increase resource recovery.

GOALS

1. AVOID CREATING WASTE

To reduce waste by actively avoiding it

2. RECOVER MORE RESOURCES

To value waste as a resource and recover more from it

3. PROTECT THE ENVIRONMENT

To reduce the impact waste has on the environment

Under each goal, we have established a series of measurable targets and actions that will help us move towards achieving the vision. We will develop a rolling implementation plan every two years to progress the actions. Actions will be funded as part of our annual planning and budget cycle, and seek external funding where possible. At the end of every two-year implementation cycle, we will report our progress to Council and community.

Key actions include:

- phase out single use plastics across City buildings
- implement a trial food organics collection service
- investigate options and prepare a business case for establishing a food organics processing facility
- prepare a business case for developing waste and resource recovery facility and services that fosters a circular economy with regional partners and local governments
- provide education and behaviour change programs that reduce bin contamination and increase resource recovery
- partner with government agencies, local governments and organisations to explore opportunities for resource recovery and alternative waste technologies.

INTRODUCTION

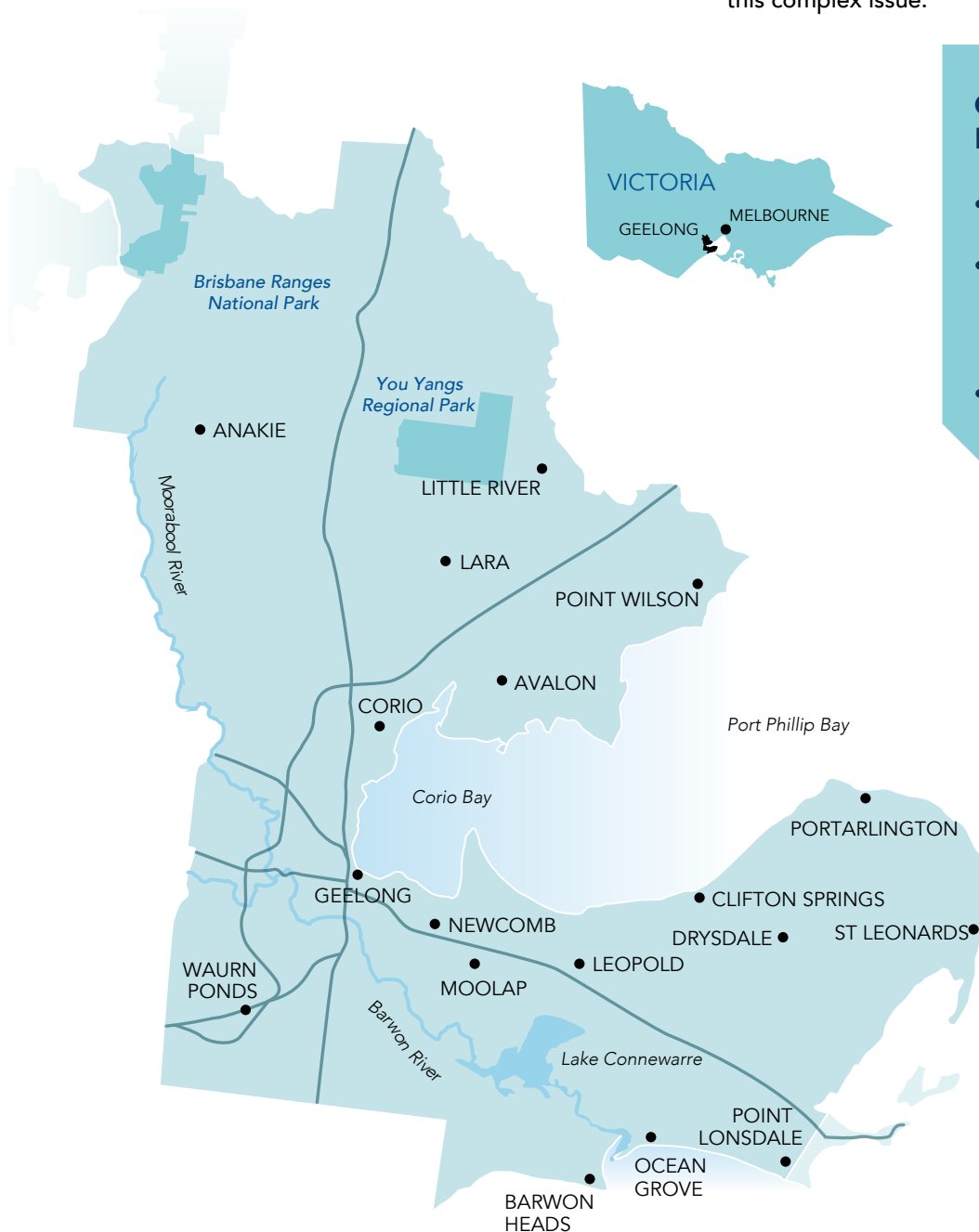
When it comes to managing the growing logistical and environmental challenges of waste and recycling, local governments are on the frontline.

While industries create much of the waste, people in the community consume it and state and federal governments set policies that determine how it is handled. Local governments roles include the collection, sorting, processing and disposal of waste, strategic planning and community education.

The purpose of this strategy is to set a vision that can lead the City of Greater Geelong community manage waste and resource recovery in a way that minimises impacts on the environment. It also sets the goals, actions and targets we need to help us get there.

The strategy reflects the context globally and nationally that shapes our waste management system, as well as the community views we heard during our extensive engagement process.

The result is a strategic plan that will help guide us through the next ten years as we continue to negotiate this complex issue.



GREATER GEELONG FAST FACTS

- Land area 1,252 km²
- Estimated resident population (2018) 252,217
- Population growth rate (2018) 2.64%

CASE STUDY – THE SHELLFISH REEF PROJECT AT PORTARLINGTON

By reusing waste scallop shells harvested from the Bass Strait that would otherwise end up at landfill, the City has made a significant contribution to reduction in waste and innovation in the management of the coastal zone.

A 130 metre long shellfish reef, made up of steel cages filled with rocks and waste scallop shells, was established in 2018 off the Ramblers Road foreshore in Portarlington, which was heavily impacted by erosion.

The reuse of waste scallop shells to construct the artificial reef has provided a cost efficient and environmentally friendly alternative engineering solution to preventing erosion.

This innovative approach to combating coastal erosion with waste scallop shells has been honoured with an Australian Coastal Councils Award in 2019.



THE BIGGER PICTURE

All waste and resource recovery happens in a broader context. For this strategy to be effective, we have to consider and respond to the regulatory and policy environment, as well as the local and international issues and opportunities that shape how we make and handle waste and resources.

REGULATION AND POLICY

This strategy was informed by national, state and local government legislation and policies. It aligns with the community-led clever and creative vision, our 2018–22 Council Plan and other relevant City corporate policies and strategies. It has also been influenced by waste sector issues and opportunities, community expectations and industrial knowledge.

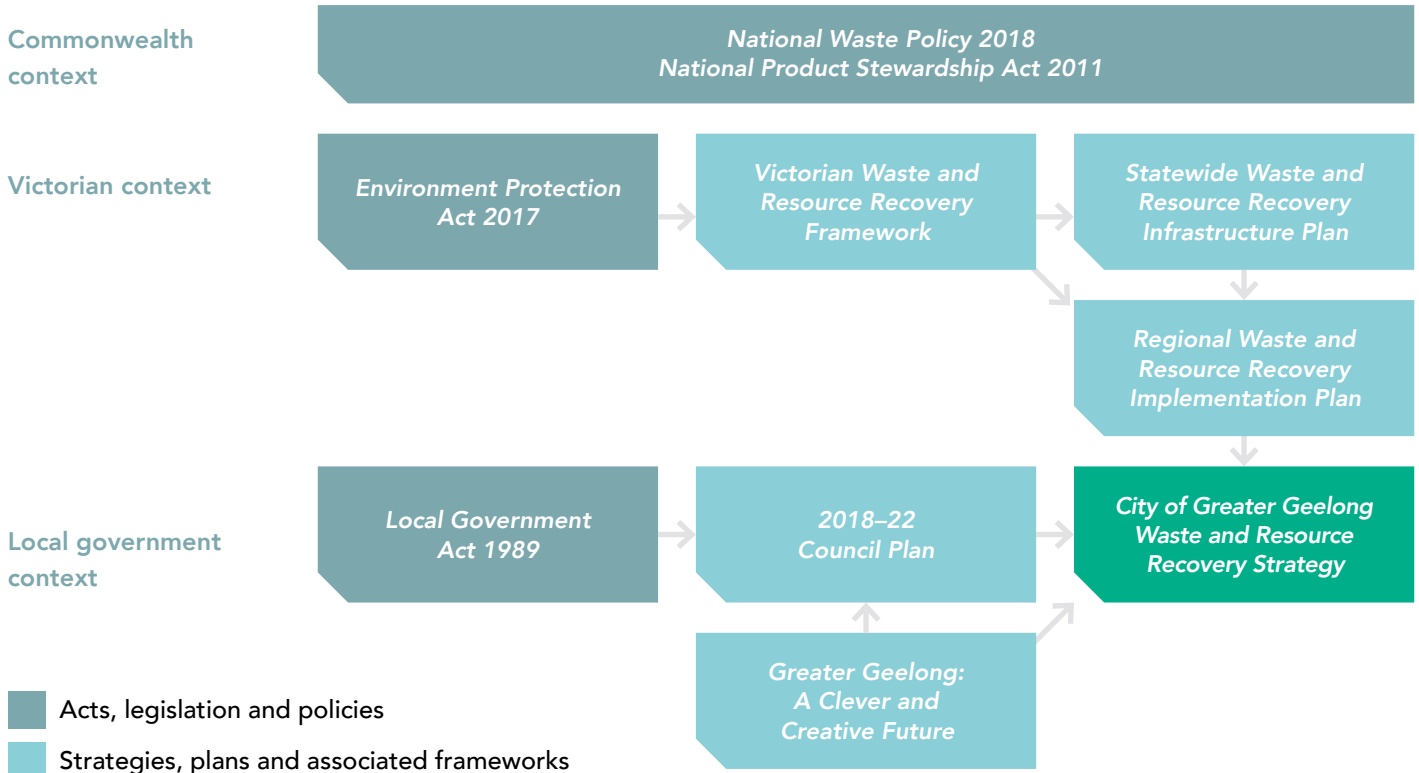
Figure 1 below illustrates the legislation, policy and planning framework relevant to the management of waste at a local government level. It shows how this strategy fits within the framework.

The targets and actions in this strategy complement the national and state targets agreed through the *National Waste Policy Action Plan and Recycling Victoria: A new economy*.

The Victorian Government announced in March 2020 that a new waste and recycling Act would be established to govern all aspects associated with waste and recycling services. Through the new Act, the Victorian Government will establish a new waste authority in 2021.

Figure 1 Strategic waste management framework

International conventions and agreements



OPPORTUNITIES AND ISSUES IMPACTING WASTE IN GEELONG

International practices

The global recycling industry has changed significantly since the China National Sword policy was implemented. The policy led to a ban on imports of the 24 categories of recyclables (solid waste) that did not meet the 0.5 per cent contamination threshold. The ban had a dramatic effect on the recycling industry worldwide, as well as Australian local governments. Since the ban was introduced, we have been looking for new places to process materials, as well as new methods for processing waste and recycling in the future.

Transitioning towards a circular economy

As part of a broader global shift, Australia is transitioning towards a circular economy. In 2019, the *National Waste Policy Action Plan* was released, which presents targets and actions to implement the *2018 National Waste Policy*. The Victorian Government has developed the *Recycling Victoria: A new economy* in March 2020 to support a circular economy.

These policies and action plans guide local governments including the City on how we plan and design our future waste and recycling services in transitioning to a circular economy.

Environmental impacts of waste

The growing amount of waste modern society produces is impacting the environment worldwide. When this waste is not disposed of properly, through littering or dumping, it can have a significant impact on plants, animals and the ecosystems that sustain them.

Carbon emissions related to waste also have significant environmental impacts. The methane gas generated under anaerobic condition is a greenhouse gas that contributes to climate change.

Increased use of plastics for single use items and packaging has significantly increased the amount of plastics in the oceans. If we continue to rely on disposable plastics, this trend will continue.

More waste being produced

To help us plan future housing supply, the City's *Settlement Strategy* is projecting a population growth rate of 2.5 per cent per annum until 2036. More household waste will be produced as population increases. This increase in waste will put more pressure on our existing services and waste infrastructure. We therefore need to plan and change how we manage waste to meet the needs of our growing communities.



Waste at landfill. Photo credit: Karen Casey

Increase in community interest

Recent changes in the recycling industry combined with the ABC's War on Waste series have pushed waste into the spotlight. The community is more engaged and interested in what happens to their waste and recycling than ever before.

With this interest comes higher expectations. The community want more resource recovery services, alternatives to landfill and ways to protect the environment from waste.

Increasing diversion rates

To divert waste from landfill, there needs to be a corresponding change to the way we separate waste at home, in the workplace and in public. As food organics make up a considerable amount of landfill waste, an increasing number of local governments are implementing services to collect and process food organics.

Unfortunately, we do not currently have sufficient food organics processing capacity in the Greater Geelong region. Therefore we need to explore the City's options including upgrading our current organic processing capability to include food organics.

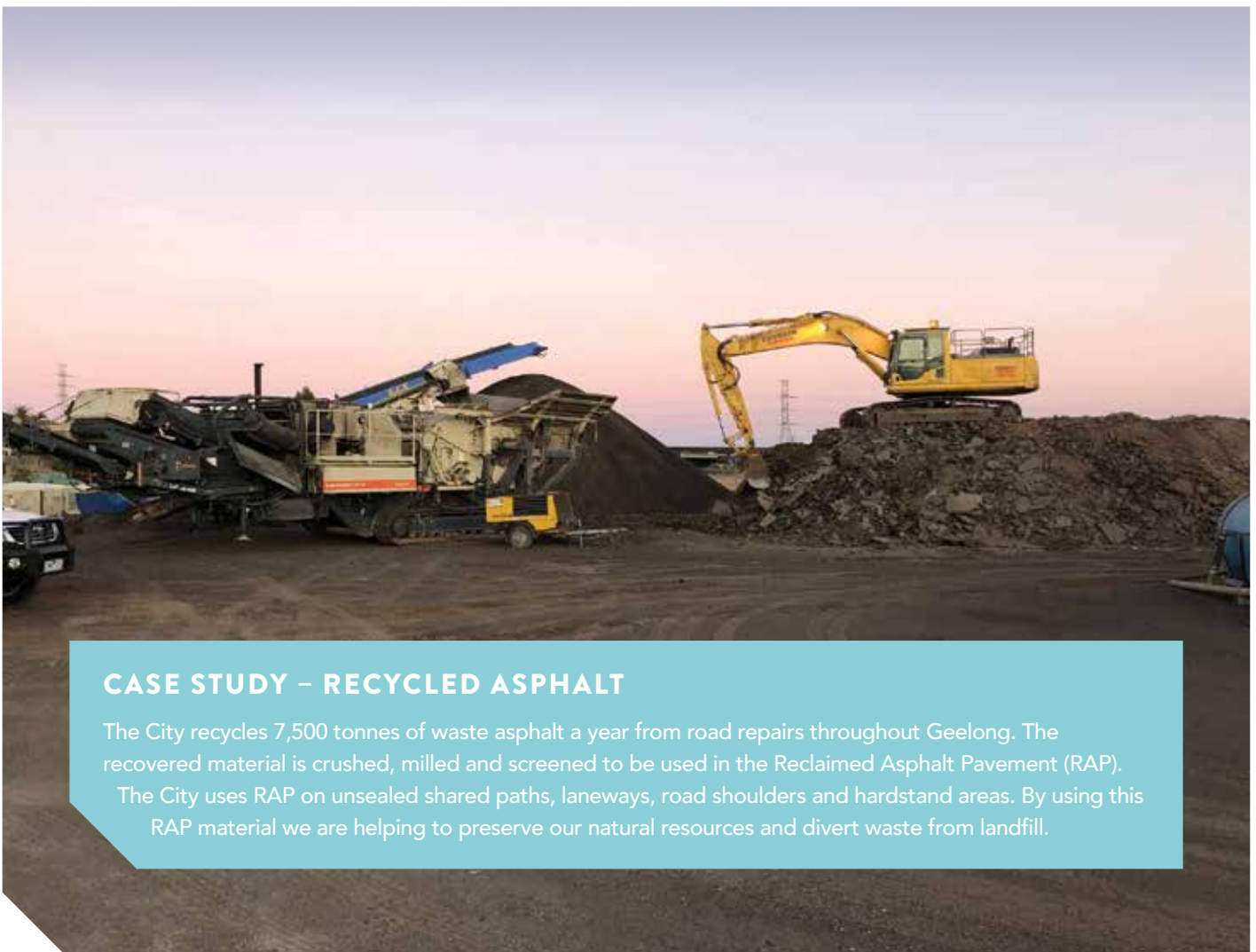
The changing focus of residual waste infrastructure

Even with a well-functioning circular economy, where resource recovery is at its highest level, we will continue to generate waste that needs to be disposed. This residual waste will include:

- products that cannot be recycled or reused, and
- waste that should not be reused or recycled for public health or other reasons – for example, clinical waste and asbestos.

With the Victorian Government planning to reduce our reliance on landfill,¹ managing the residual waste will become a growing challenge – a challenge that must be answered with alternatives methods of disposal.

Alternative waste treatments are technologies that can recover more resources from waste streams and turn waste into products, such as compost, fuel or biogas. Examples of such treatments being used across the world include combustion, gasification, pyrolysis and anaerobic digestion.



CASE STUDY – RECYCLED ASPHALT

The City recycles 7,500 tonnes of waste asphalt a year from road repairs throughout Geelong. The recovered material is crushed, milled and screened to be used in the Reclaimed Asphalt Pavement (RAP).

The City uses RAP on unsealed shared paths, laneways, road shoulders and hardstand areas. By using this RAP material we are helping to preserve our natural resources and divert waste from landfill.

¹ Sustainability Victoria (2018) *Statewide Waste and Resource Recovery Infrastructure Plan*

CASE STUDY – GEELONG'S CIRCULAR ECONOMY

The City introduced garden organics kerbside collection service in 2003. Over the years, the City has undergone a number of tendering processes however struggled to identify operators capable of processing over 30,000 tonnes of garden organics collected each year. In 2013 Council decided to establish an open windrow composting facility to ensure that all garden organics are processed locally and to create job opportunities.

After 5 years of planning, licence applications and funding approvals, the \$3.5 million Geelong Garden Organic Composting Facility opened in 2018. Our garden organics collected from kerbside collection are now processed in this local facility. Garden organics are turned into compost and used in local farms to support Geelong's circular economy.

Photo credit: Barwon South West and Metropolitan Waste and Resource Recovery Groups



A SNAPSHOT OF OUR SERVICES IN 2019




We manage a complex waste management system that includes kerbside and public place waste collection, sorting and recovery and residual waste transport and disposal.

WASTE COLLECTION SERVICES

Kerbside collection services

- We provide three wheelie bins for residential properties.
- The collection services use a fleet of 31 trucks.
- Over 170,000 kerbside bin lifts every week.

Figure 2 Residential bins collected by the City

| SERVICE | STANDARD BIN SIZE | COLLECTION FREQUENCY |
|---|---|----------------------|
|  Garbage | 140 litres | Weekly |
|  Recycling | 240 litres (120 litres for units and townhouses) | Fortnightly |
|  Garden Organics | 240 litres (120 litres for units and townhouses) | Fortnightly |

Hard waste collection

- A hard waste collection service trial started in April 2019.
- Residential properties can book one hard waste collection per financial year.
- The trial is funded by the residential waste collection charge.

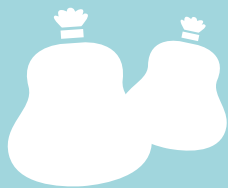
Public place bin collection

- A variety of bin types collected from reserves, town centres and shopping precincts.
- Daily, weekly or fortnightly collections, depending on where the bin is located.

Waste education and community awareness

- Education programs aim to increase resource recovery and minimise waste generation.
- Focused on changing behaviour through education, audit programs, events and reuse and recycling service promotions.

DURING JULY 2018–JUNE 2019,
OUR RESIDENTIAL KERBSIDE SERVICE COLLECTED:



45,000
tonnes waste



27,000
tonnes recyclables



33,000
tonnes garden organics

WASTE AND RESOURCE RECOVERY INFRASTRUCTURE

We manage a range of waste and resource recovery facilities to support our community and local businesses.

Geelong and Drysdale Resource Recovery Centres

- Serve as drop-off points for excess domestic waste, recycling, electronic equipment and white goods.
- Provide additional recycling options for recyclables and items that are not suitable for residential kerbside bins.

Geelong Garden Organics Composting Facility

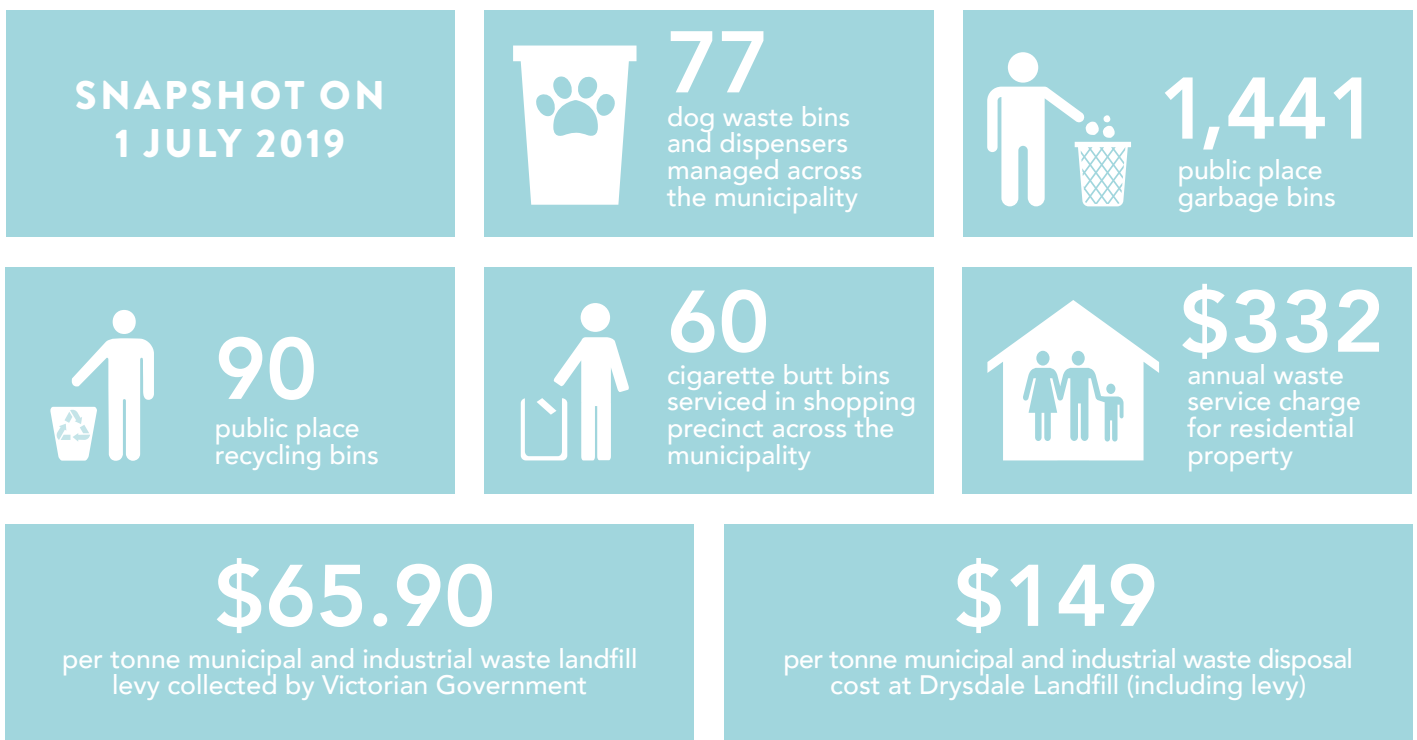
- Processes garden organics collected from residential kerbside bins.
- Turns up to 35,000 tonnes a year of garden organics into organic compost using open window composting.
- Accepts grass clippings, branches and other garden organics, but not food organics.

Drysdale Landfill

- A City owned and operated site since 1983. Managed in accordance with EPA Victoria's requirements.
- Landfill gas is captured by the gas extraction pipe network and used to power engines onsite to generate electricity.
- Site users pay a disposal charge that includes a landfill levy on municipal and industrial waste.
- Landfill levy rates are set and collected by the Victorian Government under the Environment Protection Act.

Point Henry Transfer Station

- A waste transfer facility that prepares kerbside garbage for bulk haulage to landfill.
- Prepares kerbside garden organics for bulk haulage to composting facility.
- Provides a contingency location if the local waste and recycling facility is temporarily not operational.



WASTE – A SHARED RESPONSIBILITY

As the snapshot of our services show, we invest a lot of time and resources into managing waste and resource recovery. However we are only one player in a complex system.

OUR RESPONSIBILITIES

While much of what shapes the Greater Geelong waste management system is determined by global and national forces, there is still many aspects of the system we can influence and control (see Figure 3). For example, we can:

- control the products used, waste generated and waste separated in our buildings and operations
- establish policies and practices that avoid waste and increase resource recovery
- provide services and infrastructure that support the community to collect, sort and recover waste
- educate the community about reducing contamination, improving resource recovery and avoid waste, and
- use partnership and advocacy to influence the Greater Geelong waste management system.

WHOLE-OF-COMMUNITY RESPONSIBILITIES

Everyone has a role to play in supporting a circular economy – whether it’s by purchasing more sustainable products or correctly separating waste. Some examples of how we can have a positive impact include:

- avoiding waste, by making sustainable consumer choices
- separating resources from the waste produced in homes, public places and workplaces
- reducing contamination of kerbside recycling and garden organic bins, and
- taking action to increase resource recovery and improve understanding about waste issues.



Reusable cup. Photo credit: BSWWRRG and MWRRG

Figure 3 Our areas of control and influence

| | | |
|------------------|--|--|
| ADVOCATE | <ul style="list-style-type: none"> • Government legislation and policies • Public and private investment on waste technologies | <ul style="list-style-type: none"> • Industry capabilities and market changes • For our community at state and federal levels |
| INFLUENCE | <ul style="list-style-type: none"> • Infrastructure and services • Industry, research and development and commercial sectors. | <ul style="list-style-type: none"> • Community’s waste consumption and resource recovery practices |
| CONTROL | <ul style="list-style-type: none"> • Greater Geelong’s waste services and infrastructure • Community education about waste and resource recovery | <ul style="list-style-type: none"> • Waste and resource recovery plans and policies for our buildings and operations • Procurement decisions to move markets towards products that adhere to circular economy principles |

THE ENGAGEMENT PROCESS

We consulted community and stakeholders using a range of engagement activities to help us develop this strategy.

We carried out an extensive community and stakeholder engagement process that started in November 2018 and concluded in September 2019 (see Figure 4).

We collated the diverse range of ideas, concerns, issues and opportunities we heard throughout the process and used the results to inform our vision, goals and strategic actions.

For a more detailed account of the community survey and online forum outcomes, please refer to our *Geelong's War on Waste Community Consultation Report 2019* and the *Community Consultation Report 2020* for the Draft Strategy.

Figure 4 Community and stakeholders engagement process



Stakeholder open house

- 64 participants including councillors, employees and stakeholders from government agencies, community groups and the waste sector
- received feedback and ideas from stakeholders.



Have Your Say survey

- received 573 online survey responses
- consultation period: 11 February–15 March 2019
- released two discussion papers: *Geelong's war on waste* and *Reducing our food waste* and draft Background Report.



Community open house

- over 35 community members participated at the Geelong Library and Heritage Centre
- consulted on waste as part of the Environment Strategy engagement process.



Consultation on the draft strategy

- received 65 submissions, over 3,000 page views and 401 document downloads
- consultation period: 12 December 2019–7 February 2020



Online advisory community

- consultation period: 18 March–12 April 2019
- received 77 comments from two discussion forums
- released two discussion papers: *Supporting a circular economy* and *The future of waste disposal*.



Workshops with stakeholders

- shared community feedback received
- engaged with councillors and leadership team to design strategic goals and actions
- engaged sustainability, strategy and communication experts to establish strategy structure
- consulted stakeholders on collaboration opportunities and corporate strategic directions.

WHAT WE HEARD

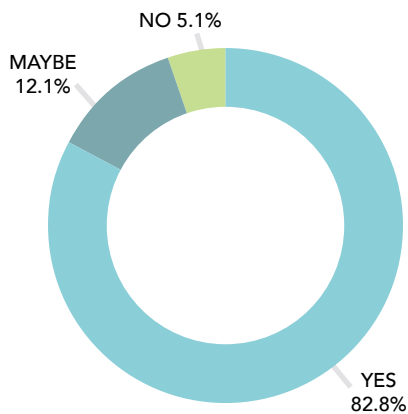
There were four key themes that came out of the community and stakeholder engagement process.

SUPPORT FOR FOOD ORGANICS COLLECTION SERVICE

Food organics makes up about 33 per cent of the City's kerbside household garbage and currently goes to landfill. It is a source of carbon emissions as it decomposes and produces methane under anaerobic conditions at the landfill.

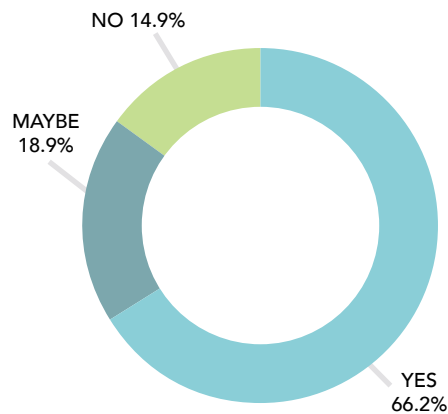
While over 50 per cent of survey respondents indicated that they compost at home, there is still very high support for a kerbside service, as demonstrated below:

Would you support a food organics collection service?



82%
of survey respondents would support a food organics collection service offered by the City.

Would you use a food organics collection service?



66%
stated that they would use the service.



ABC's War on Waste host Craig Reucassel with local students on Geelong Waterfront. Photo credit: Bellarine Catchment Network

AVOID CREATING WASTE

The concept of avoiding waste by taking responsibility for consumption and making better, more conscious choices was something that generated a lot of discussion and feedback through the engagement process.

- 97.4 per cent of survey respondents are willing to reduce the amount of waste they produce.
- 97.7 per cent of survey respondents are supportive of reducing or avoiding the use of single use plastics.
- Over 65 per cent of survey respondents would pay extra for services to recycle more items.

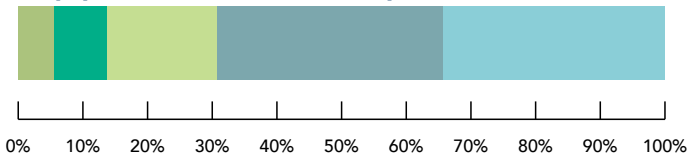
To reduce the amount of waste they produce



To reduce/avoid the use of single use plastics



To pay extra for services to recycle more items



Very Unwilling Unwilling Neutral Willing Very willing

RECOVER MORE RESOURCES

Recovering resources was the most common topic commented on by all participants in the engagement process. Suggestions included:

- develop a container deposit scheme
- ban single use plastics
- separate paper, cardboard and glass out of the co-mingle recycling and
- offer more soft plastic drop off sites.

EDUCATE THE COMMUNITY

Education was a popular topic and generated many comments during the engagement process. It was observed that education was fundamental to changing the way people think about waste. There was demand for more education focusing on avoiding waste and resource recovery.

Suggested areas of focus included:

- co-mingled recycling
- reducing contamination
- avoiding waste in the first place
- increasing opportunities for electronic waste capture and
- procuring more recycled materials.

WHAT SHAPED THIS STRATEGY

As well as the extensive community and stakeholder engagement process, we have used a range of different models, principles and questions to guide the development of this strategy.

Models

- The circular economy framework (see Figure 5)
- The waste management hierarchy (see Figure 6).

Principles

- City's Sustainability Framework
- One Planet Living principles (see Figure 7)
- Lead by example
- We are all responsible for the waste we produce.

Questions

These questions not only guided us in developing the strategy, but will continue to help us as we make decisions about the ongoing implementation of the plan.

- Will this support one or more of the following:
 - avoiding waste?
 - increasing resource recovery?
 - protecting our environment?
- Will this support a move towards a circular economy?
- Does this prepare us for the future?
- Will this receive community and/or political support?
- Will this bring economic return or community benefit?
- Will this improve the quality, effectiveness or efficiency of services and infrastructure?

Figure 5 The circular economy framework ²

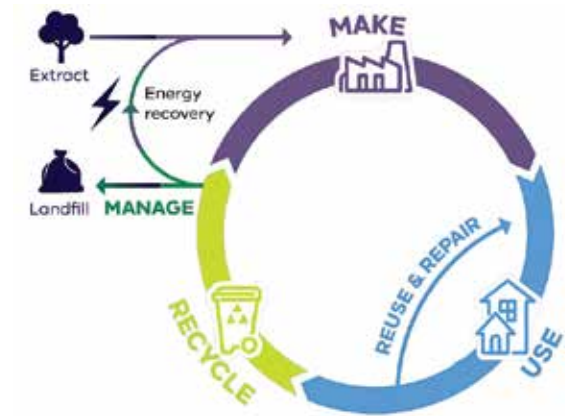


Figure 6 The waste management hierarchy

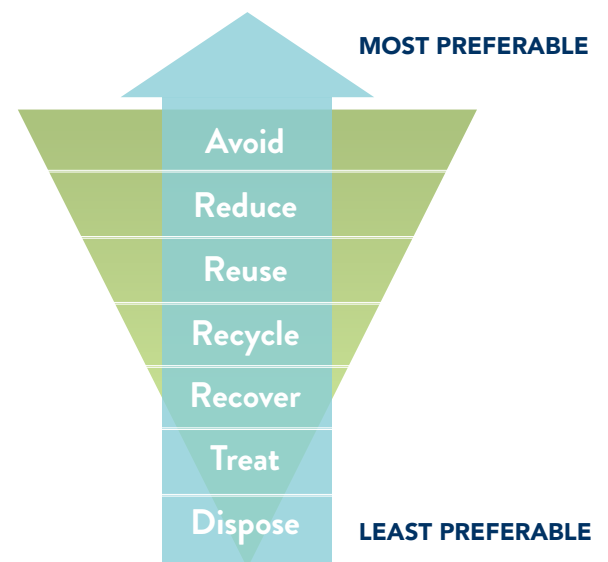


Figure 7 One Planet Living Principles

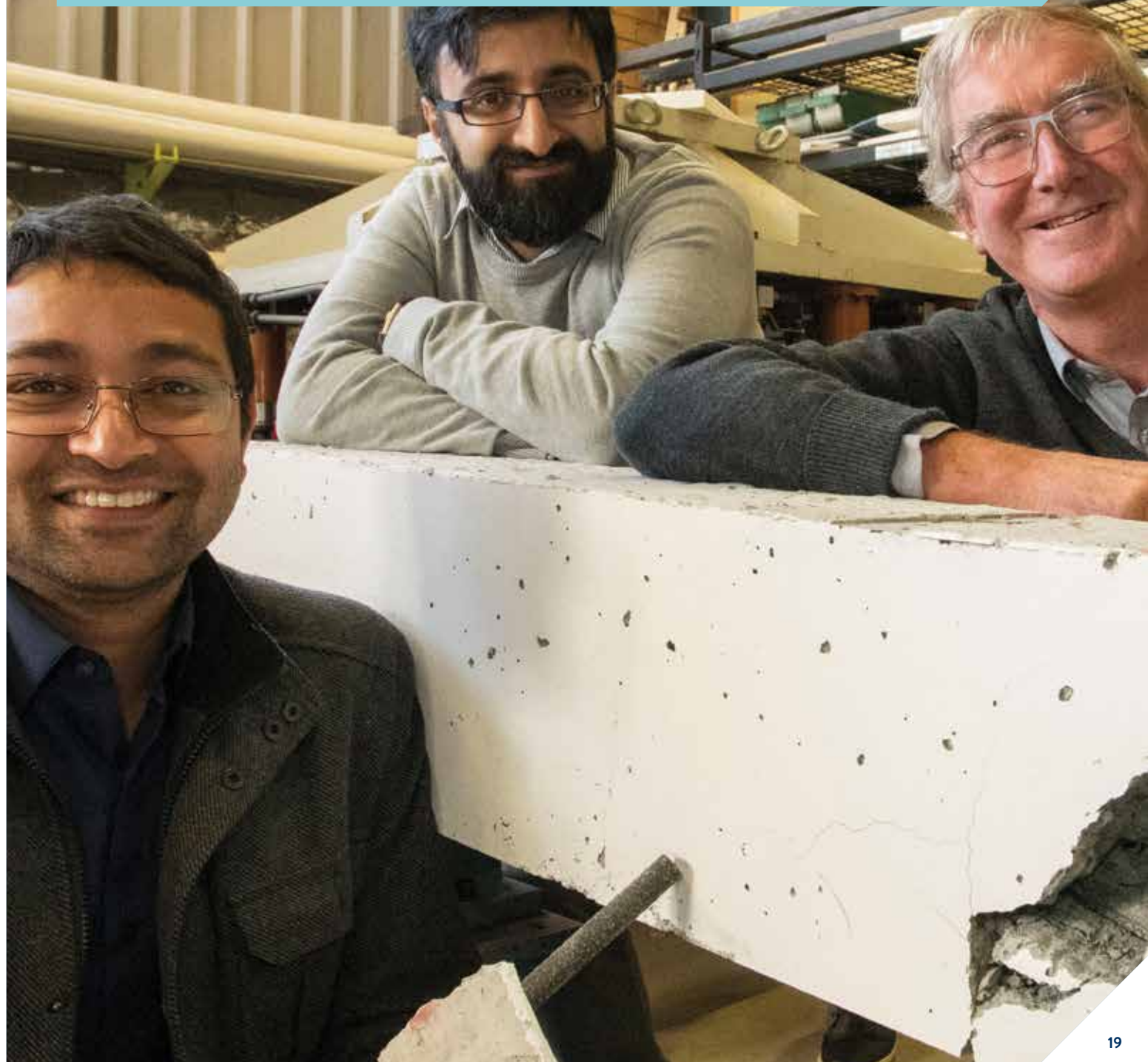


² Department of the Environment, Land, Water and Planning (2020) *Recycling Victoria: A new economy*

CASE STUDY - CLEANTECH INNOVATIONS GEELONG

The Cleantech Innovations Geelong program supports businesses in the Geelong region to develop markets for clean technologies that address waste issues. This program is a partnership between the City, the Geelong Manufacturing Council and the State Government. Projects delivered include:

- facilitating Deakin University and CSIRO to develop technologies to process their food waste on the Waurn Ponds campus. Deakin University installed a Closed Loop food composter, built by Australian business Closed Loop Recycling, at their Waurn Ponds Estate. The unit converts up to 60 kilograms food waste a day into nutrient-rich soil improver and reduced waste by 90%.
- funding a market research project that has identified Australian based customers for new tyre crumb derived composite material and its expected volume of sales. This project has contributed to the establishment of a manufacturing plant in Geelong.
- supporting an innovative procurement process to reduce waste through creating age defying and maintenance free recreational bridges. The successful submission came from a consortium including Geelong manufacturer Austeng, Deakin University's Carbon Nexus research facility and Australian engineering company Rocla. The consortium undertook research and developed an innovative building product made from geopolymers (with partly recycled materials) and reinforced with carbon fibre, which is stronger and longer lasting than existing products.





CASE STUDY - USE OF SUSTAINABLE AND RECYCLED MATERIALS IN THE CITY'S CONSTRUCTION PROJECTS

The City uses sustainable and recycled materials in our construction projects to support sustainable procurement and a circular economy. We choose products with recycled contents and use less energy and water during manufacturing. Examples include using:

- recycled rubber for Goldsworthy Reserve athletics track in the base layer.
- green concrete mix on Highton, Drysdale and Purnell Road Child and Family Centres. These buildings have used a recycled concrete product that incorporates crushed blast furnace slag, a by-product of steel manufacture that would otherwise go to landfill. The concrete production process uses recycled water and less energy than traditional process.
- road surfacing materials with high recycled content of steel slag, recycled rubber and/or recycled asphalt pavement. Such products are not only a better choice for the environment but also providing higher skid resistance for road sections of high braking and surface stress in the City.

STRATEGY OVERVIEW

From what we heard and learnt, we put together the following vision and goals to guide our efforts over the next ten years.

VISION

The City contributes to a circular economy by leading and supporting the community to actively avoid waste and increase resource recovery.

GOALS

1. AVOID CREATING WASTE

To reduce waste by actively avoiding it

2. RECOVER MORE RESOURCES

To value waste as a resource and recover more from it

3. PROTECT THE ENVIRONMENT

To reduce the impact waste has on the environment

GOAL 1 – AVOID CREATING WASTE

We place waste avoidance at the forefront of approaches for managing waste. Avoiding and reducing the generation of waste has the highest priority in the waste management hierarchy.

We recognise that reducing the amount of waste generated requires significant and sustained behaviour change by governments, businesses and households to achieve this goal. Waste avoidance relies on awareness and commitment by both individuals and organisations. We all can make decisions to reduce the impacts of our purchase and consumption. We can select items with the least packaging, avoid disposable or single use goods, buy reusable and repairable products and use leftover food.

By reducing waste, we reduce our reliance on landfill and recycling infrastructure, reduce the impact of waste on the environment, and reduce the financial cost for disposal and waste services.

OUR AIM

To reduce waste by actively avoiding it.

OUR TARGETS

- Divert 80 per cent of waste from landfill by 2030, and an interim target of 72 per cent by 2025.
- 15 per cent reduction in total waste generation per capita between 2020 and 2030.
- City-run and public events requiring a permit to minimise waste and recover resources, as part of their waste management and recycling plan by 2022.
- 20 per cent reduction of waste produced from targeted City office buildings between 2020 and 2025.
- Single use plastics phased out of City buildings by 2022.

STRATEGIC ACTIONS

| SERVICES AND INFRASTRUCTURE | | TIMEFRAME |
|-----------------------------|---|--------------|
| 1.1 | Investigate services and infrastructure options that support and incentivise waste avoidance. | 2020 to 2025 |

| MANAGEMENT PRACTICES | | TIMEFRAME |
|----------------------|--|--------------|
| 1.2 | Develop a plastic wise program by 2020 that includes phasing out single use plastics across the organisation by 2022. | 2019 to 2022 |
| 1.3 | Strengthen the City's <i>Procurement Policy</i> to align with Australian Government's <i>Sustainable Procurement Guide</i> , and put waste minimisation into procurement practice. | 2020 to 2025 |
| 1.4 | Review council policies and procedures to identify opportunities that reduce waste and increase resource recovery in the workplace, and in the community. | 2020 to 2022 |
| 1.5 | Review event planning processes and templates to reduce waste and improve how we manage recycling at all City-run events. | 2020 to 2022 |



Reusable bag. Photo credit: BSWWRRG and MWRRG

| MANAGEMENT PRACTICES | | TIMEFRAME |
|----------------------|--|--------------|
| 1.6 | Review approvals required for event waste management and recycling plans, and develop guidelines to support event organisers to reduce waste and increase resource recovery. | 2020 to 2022 |
| 1.7 | Develop waste management guideline for planning permit applications, to guide applicants to prepare a plan to manage the waste and recycling needs of residential and commercial developments. | 2020 to 2022 |
| 1.8 | Establish a community waste minimisation and innovation fund through the existing Environment and Sustainability Grants Program. | 2020 to 2022 |
| 1.9 | Establish a baseline of waste generated by selected City buildings and operations. | 2020 to 2022 |

| EDUCATION AND BEHAVIOUR CHANGE | | TIMEFRAME |
|--------------------------------|--|--------------|
| 1.10 | Implement an education and behaviour change campaign for our employees focused on avoiding and reducing waste and increasing resource recovery in the workplace and at home. | 2020 to 2025 |
| 1.11 | Host regular community engagement open house sessions to improve communications and promote waste reduction. | 2020 to 2025 |
| 1.12 | Use communication and social media channels to promote ways of reducing waste, reusing and recycling. | Ongoing |
| 1.13 | Implement ongoing education and behaviour change campaigns focused on avoiding and reducing waste and increasing resource recovery in local businesses and the community. | Ongoing |
| 1.14 | Promote programs and businesses that focus on avoiding waste and increasing resource recovery. | Ongoing |
| 1.15 | Encourage and assist businesses to promote practices to their customers that help avoid waste and improve resource recovery. | Ongoing |

| PARTNERSHIPS AND ADVOCACY | | TIMEFRAME |
|---------------------------|---|-----------|
| 1.16 | Continue to partner and support government agencies, stakeholders and community groups to develop programs and initiatives that focus on avoiding waste and increasing resource recovery. | Ongoing |
| 1.17 | Partner with other organisations to assist with waste sector research and development. | Ongoing |
| 1.18 | Investigate ways to help schools minimise their waste, such as the ResourceSmart school program. | Ongoing |
| 1.19 | Advocate to state and federal governments for waste minimising design, manufacturing and packaging policy and legislation, and more product stewardship schemes. | Ongoing |
| 1.20 | Advocate for, promote and support a circular economy. | Ongoing |

GOAL 2 – RECOVER MORE RESOURCES

Where avoiding waste generation is not possible, we support and make effort to recover more value and resources from waste by planning and providing enabling infrastructure and services. Recovering more resources supports a circular economy that keeps materials in the productive economy, and benefits the environment by reducing the need for virgin materials and waste disposal.

We all can make choices in reusing, repairing and recycling household and industrial items. We can recycle more recyclable items such as electronic waste, batteries, white goods, etc at the City's resource recovery centres. The community can use the City's online recycling guide to check what can be recycled at kerbside collection.

The City is also committed to increase the recovery of food waste and avoid sending this resource to landfill. We will roll out community scale trials while we seek funding and approvals for municipal wide organics processing in order to support a full scale food recovery program.

OUR AIM

To value waste as a resource and recover more from it.

OUR TARGETS

- Halve the volume of organic materials going to landfill from residential waste bins between 2020 and 2030, with an interim target of 20 per cent reduction by 2025.
- Reduce contamination rates in residential recycling bins to less than 10 per cent by 2025, 7 per cent by 2030.
- Reduce contamination rates in residential garden organic bins to less than 3 per cent by 2025, 1.5 per cent by 2030.
- Increase the recycling rate in all City CBD offices by 10 per cent between 2020 and 2025.
- Increase food organics diverted from key City buildings by 50 per cent between 2020 and 2025.
- Increase visits to City's online recycling guide by 30 per cent, and subscriptions to waste education e-newsletter by 50 per cent, between 2020 and 2022.
- In addition to the existing garden organics collection service, households have access to a food organics recycling service or local composting by 2030.



Opening of the Geelong garden organics composting facility in Anakie

STRATEGIC ACTIONS

| SERVICES AND INFRASTRUCTURE | | TIMEFRAME |
|-----------------------------|---|--------------|
| 2.1 | Identify options and incentives that increase resource recovery through kerbside waste collection, resource recovery centres and landfill. | 2019 to 2025 |
| 2.2 | Investigate options to divert food organics from landfill, including implementing a trial food organics collection service. | 2019 to 2022 |
| 2.3 | Investigate options and prepare a business case for establishing a food organics processing facility. | 2020 to 2022 |
| 2.4 | Review the existing public place bin network and consider opportunities to improve and expand public place recycling. | 2020 to 2025 |
| 2.5 | Identify and implement new technologies to improve our waste services – for example, optimising waste collection runs and reducing collection vehicle emissions. | Ongoing |
| 2.6 | Evaluate the hard waste collection trial service and recommend next steps. | 2019 to 2021 |
| 2.7 | Investigate and trial different resource recovery service options for residents, such as on-demand collection services. | Ongoing |
| 2.8 | Investigate alternative waste technology options for residual waste. | Ongoing |
| 2.9 | Prepare a business case for developing waste and resource recovery facility and services that fosters a circular economy with regional partners and local governments. | 2020 to 2022 |
| 2.10 | Aim for a 6-Star NABERS waste rating (or equivalent) on all new City owned buildings and select existing buildings to retrofit towards a similar rating. | Ongoing |
| 2.11 | Investigate better waste and recycling systems and services, and develop waste management planning guide for subdivision, multi-tenement and higher density developments. | 2020 to 2025 |

| MANAGEMENT PRACTICES | | TIMEFRAME |
|----------------------|---|--------------|
| 2.12 | Implement program to divert food organics in the Civic Precinct and other City buildings. | 2020 to 2025 |
| 2.13 | Provide infrastructure and services in City buildings that support increased recycling rates. | 2020 to 2025 |
| 2.14 | Maximise the recycling of plant and infrastructure at the time of asset replacement or disposal, which includes the reuse and recycling of construction and demolition waste. | Ongoing |
| 2.15 | Provide opportunities and support for employees to upskill in workplace waste management and explore new waste technologies. | Ongoing |
| 2.16 | Identify new markets for recovered resources and waste currently going to landfill and support existing ones. | Ongoing |
| 2.17 | Develop markets for products that adhere to circular economy principles. | Ongoing |
| 2.18 | Review and improve waste data capture and reporting processes for landfill, kerbside collection and resource recovery. | 2020 to 2025 |
| 2.19 | Support and implement the Municipal Association of Victoria's <i>Rescue Our Recycling Action Plan</i> . | Ongoing |
| 2.20 | Establish a baseline of recycling rates across key City buildings. | 2020 to 2021 |

| EDUCATION AND BEHAVIOUR CHANGE | | TIMEFRAME |
|--------------------------------|--|-----------|
| 2.21 | Provide education and behaviour change programs that reduce bin contamination and increase resource recovery. | Ongoing |
| 2.22 | Provide information on waste management, recycling options and site contamination for the construction and demolition businesses. | Ongoing |
| 2.23 | Develop and support a waste ambassador program for communities and workplaces, and promote local waste and recycling stories. | Ongoing |
| 2.24 | Continue to monitor and reduce contamination rates in kerbside recycling and garden organics bins through the City's kerbside bin audit program and waste education. | Ongoing |

| PARTNERSHIPS AND ADVOCACY | | TIMEFRAME |
|---------------------------|--|--------------|
| 2.25 | Partner with the Barwon South West Waste and Resource Recovery Group to support schools, hospitals, catering and other businesses to improve their waste practices and reduce landfill waste. | Ongoing |
| 2.26 | Collaborate with the Barwon South West Waste and Resource Recovery Group, local governments and the waste industry to develop and implement the Regional Recycling Action Plan for the Barwon South West region. | 2019 to 2021 |
| 2.27 | Continue to collaborate with G21 councils on collaborative procurement and resource recovery initiatives. | Ongoing |
| 2.28 | Partner with government agencies and local industries to bring new waste and resource efficient products to market by stimulating demand and providing grants. | Ongoing |
| 2.29 | Use Procurement for Innovation principles to bring new products to market that adhere to circular economy principles. | Ongoing |
| 2.30 | Through Cleantech Innovations Geelong partnership program, invite proposals for circular economy and waste related demonstration projects. | 2020 to 2021 |
| 2.31 | Explore the creation of a clean technology precinct which will include and support resource efficient products and businesses. | 2020 to 2025 |
| 2.32 | Work with government agencies, local governments and organisations to increase the use of recycled materials in road, building and other infrastructure constructions. | Ongoing |
| 2.33 | Partner with other local governments and waste regional groups to identify and develop waste management and infrastructure solutions. | Ongoing |
| 2.34 | Partner with government agencies, local governments and organisations to explore opportunities on resource recovery and alternative waste technologies. | Ongoing |
| 2.35 | Advocate to the State Government for a Victorian container deposit scheme. | Ongoing |



Public place garbage collection service

GOAL 3 – PROTECT THE ENVIRONMENT

The transport, processing and disposal of waste all have the potential to impact the environment. It is important that our waste and recycling systems are designed and operated according to best practice in order to protect the environment from the negative impacts of waste.

The City is committed to continue managing waste responsibly and adopting best practice in our current waste and recycling facilities. To plan for future population and economic growth in Geelong, we will prepare a business case to establish future waste facilities in accordance with best environmental practice.

Litter and illegal dumping can significantly damage our environment. It not only costs the community money, but also causes public health and safety hazards. The City protects the environment from litter and dumped materials problems by enforcement, community education and control measures.

For community members, we can all avoid littering in the first place and assist by picking up rubbish, or joining clean-up activities. We can also report dumping or other environment pollution by contacting the EPA Victoria, or reporting dumped materials to the City.

OUR AIM

To reduce the impact waste has on the environment.

OUR TARGETS

- Utilise at least 95 per cent of landfill gas generated at the Drysdale Landfill for energy production by 2022.
- Progressively rehabilitate the Drysdale Landfill to improve the local landscape.
- Review and update council policies to support a circular economy by 2022.
- Implement sustainable government procurement practices, including the use of sustainable and recycled materials.

STRATEGIC ACTIONS

| SERVICES AND INFRASTRUCTURE | | TIMEFRAME |
|-----------------------------|--|--------------|
| 3.1 | Protect the environment from litter pollution in public and open spaces through enforcement, education and control measures. | Ongoing |
| 3.2 | Review and improve management processes and measures designed to address illegal dumping across the municipality. | Ongoing |
| 3.3 | Review and monitor litter reduction measures aimed at wetlands and waterways. Investigate opportunities to capture more litter from stormwater runoff through appropriate infrastructure and measures. | Ongoing |
| 3.4 | Prepare a business case to establish best environmental practice facility for bulk transport of residual waste. | 2020 to 2022 |
| 3.5 | Continue to capture landfill gas and generate energy at the Drysdale Landfill. | Ongoing |
| 3.6 | Develop and implement a progressive landfill landscape and rehabilitation plan for the Drysdale Landfill. | Ongoing |
| 3.7 | Protect the environment using best practice and management of existing waste infrastructure, including landfills, recycling facilities and services. | Ongoing |
| 3.8 | Investigate opportunities to rehabilitate and develop recreational spaces at closed landfills. | Ongoing |
| 3.9 | Identify and support initiatives to reuse waste to protect our environment, such as using waste scallop shells to construct artificial reefs that reduce coastal erosion. | Ongoing |

| MANAGEMENT PRACTICES | | TIMEFRAME |
|----------------------|---|------------------|
| 3.10 | Continue to implement sustainable procurement practices, including the use of sustainable and recycled materials to create end markets. | Ongoing |
| 3.11 | Review and update policy and procedures to reflect the changes in Environment Protection Amendment Act 2018 which takes effect from 1 July 2020. | Commence in 2019 |
| 3.12 | Continue to implement environmental monitoring and operational plans for Drysdale Landfill. Conduct annual environment audit and implement recommendations. | Ongoing |
| 3.13 | Continue to comply with the Environmental Protection Authority Victoria requirements and guidelines at City's waste and resource recovery facilities. | Ongoing |
| 3.14 | Identify opportunities to minimise the impact of waste on the environment for the Northern and Western Geelong Growth Areas. | Ongoing |

| EDUCATION AND BEHAVIOUR CHANGE | | TIMEFRAME |
|--------------------------------|---|-----------|
| 3.15 | Expand community education program to highlight the impacts of waste on the environment. | Ongoing |
| 3.16 | Deliver community engagement and education campaign to raise awareness of illegal dumping and its impacts. | Ongoing |
| 3.17 | Undertake community engagement on the future closure of Drysdale Landfill and explore possible uses for the site after it closes. | Ongoing |
| 3.18 | Promote and celebrate success in protecting the environment through community education campaigns. | Ongoing |
| 3.19 | Promote programs and businesses that take actions to reduce the impacts of waste on the environment. | Ongoing |

| PARTNERSHIPS AND ADVOCACY | | TIMEFRAME |
|---------------------------|---|-----------|
| 3.20 | Partner with government agencies, land managers, land owners and relevant stakeholders to reduce and prevent illegal dumping across the municipality. | Ongoing |
| 3.21 | Partner with government agencies to reduce and prevent littering using community education and enforcement. | Ongoing |
| 3.22 | Continue to partner with government agencies and stakeholders to secure funding for environmental protection works. | Ongoing |
| 3.23 | Collaborate with government agencies and stakeholders to develop programs and initiatives that focus on reducing the impacts of waste on the environment. | Ongoing |
| 3.24 | Advocate for increased enforcement, technical advice and support from the Environment Protection Authority Victoria. | Ongoing |



CASE STUDY – THE HILL MOUNTAIN BIKE PARK IN NEWTOWN

The Hill Mountain Bike Park has transformed a closed landfill site into a popular recreational space.

It is a public mountain bike park free for riders of any age to use. It has three cross country trails, a pump track and a skills track that are designed for beginners through to intermediates.

The community has also planted over 4,500 trees on this 4.5 hectare mountain bike park, contributing to the City's urban forest network.

The Hill has won the Park of the Year award at the Parks and Leisure Australia Awards for Excellence for Victoria and Tasmania in 2017.

DELIVERING THE STRATEGY

NEXT STEPS

This draft *Waste and Resource Recovery Strategy* will be released for public consultation and comment in late 2019. Feedback will be reviewed to recommend changes to the draft strategy where required.

The final draft will then be considered by Council in late 2019 or early 2020. If the plan is endorsed by Council it will then be implemented.

HOW WE WILL IMPLEMENT THE PLAN

Once the strategy is endorsed, we will develop a rolling implementation plan for strategic actions to be delivered every two years. The implementation plan will identify:

- the strategic actions we will be working on
- more specific timelines for each action
- resources required and available, and
- our progress to date.

Waste and resource recovery management is constantly changing. We have chosen to plan implementation two years in advance in order to respond to rapidly changing variables, such as:

- trends in the waste sector
- community expectations
- our annual budget
- changes in our priorities and programs and
- changes in federal and state government policies and programs.

HOW WE WILL FUND THE IMPLEMENTATION

The funding we need to implement the strategic actions for each two-year period will be considered in our annual planning and budgeting cycles. We will also seek external funding opportunities to further progress our vision, goals and strategic actions.

HOW WE WILL REPORT

At the end of every two-year implementation cycle, we will report our progress to Council and community. This report will be made publicly accessible via our website. The first report will be delivered to Council in 2022.

KEY REFERENCES

Barwon South West Waste and Resource Recovery Group (2016) *Barwon South West Waste and Resource Recovery Implementation Plan 2017-2026*

Department of the Environment and Energy (2018) *2018 National Waste Policy: less waste more resources*

Department of the Environment and Energy (2019) *National Waste Policy Action Plan 2019*

Infrastructure Victoria (2019) *Recycling and resource recovery infrastructure Evidence base report October 2019*

Department of the Environment, Land, Water and Planning (2020) *Recycling Victoria: A new economy February 2020*

Parliament of Victoria (2019) *Inquiry into recycling and waste management - final report November 2019*

Sustainability Victoria (2018) *Statewide Waste and Resource Recovery Infrastructure Plan*

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