



Attachment 1 to Item 216

Waste and Resource Recovery Strategy 2032

Date of meeting: 13 December 2022
Location: Council Chambers
Time: 6:30 p.m.



2032 Waste and Resource Recovery Strategy



Acknowledgment of Country

Hawkesbury City Council acknowledges the Darug and Darkinjung people as the Traditional custodians of the Hawkesbury. We pay respect to all Elders, past, present and emerging, and acknowledge all Aboriginal and Torres Strait Islander peoples as the first people of this Country.

Glossary

Terminology	Definition
ABS	Australian Bureau of Statistics
AD	Anaerobic Digestion
AWT	Alternative Waste Treatment
CDS	Container Deposit Scheme
CPI	Consumer Price Index
CRC	Community Recycling Centre
EfW	Energy from Waste
EPA	Environment Protection Authority
EPR	Extended Producer Responsibility
ERF	Emissions Reduction Fund
FOGO	Food Organics and Garden Organics
GO	Garden Organics
HCC	Hawkesbury City Council
KPI	Key Performance Indicator
LGA	Local Government Area
MRF	Materials Recovery Facility
MSW	Municipal Solid Waste
MUD	Multi-Unit Dwelling
NWP	National Waste Policy
POEO Act	NSW Protection of the Environment Operations Act 1997
WSROC	Western Sydney Regional Organisation of Councils
SRC	Sustainable Resource Centre
SUD	Single Unit Dwelling
TAC	Technical Advisory Committee



Contents

Executive summary	6
1. Where are we today?	9
1.1 Government policy and regulatory framework	10
Waste Hierarchy	14
1.2.1 Kerbside Collection Services	17
1.2 Waste And Resource Recovery Collection Summary	17
1.2.2 Drop-off services	18
1.2.3 Other MSW Waste Management Services	18
1.3 Waste and resource recover data, composition, and performance	20
1.3.1 Waste Generation	20
1.3.2 Waste Composition	22
1.3.3 Waste Avoidance & Resource Recovery Initiatives	22
1.4.1 Waste Management Facility	25
1.4 Waste Infrastructure	25
2. Where do we want to be	26
2.1 The Strategy Development Process	26
2.1.1.1 Community Focus Group - 2019	26
2.1.1.2 Phone Survey - 2021	27
2.1.1.3 Online Survey - 2022	28
2.1.2 Further Investigations	29
2.2 FOGO implementation	31
2.3 Waste and Resource Recovery Strategy Goals	32
3. How will we get there	40
4. How progress will be measured	40
Appendix A	42
Hawkesbury City Council Domestic	
Kerbside Collections and Recycling Rate	42
Appendix B	44
Waste Composition Data	44
Appendix C	46
Waste Services Survey Insights 2022	46
Appendix D	56
Detailed Plan for Strategy Implementation	56

Executive summary




Hawkesbury City Council is committed to protecting and enhancing the built and natural environment for current and future generations as part of the Hawkesbury Community Strategic Plan. Council has developed the Waste and Resource Recovery Strategy 2032 to realise this vision within the context of waste management.

The Waste and Resource Recovery Strategy 2032 aims to achieve a higher rate of resource recovery with a focus on community waste education, the transition to a FOGO service (as mandated by the NSW Government's Waste and Sustainable Materials 2041 Strategy) and considering innovative and emerging waste technologies. Council wants to minimise the environmental impact of waste generation in the Hawkesbury LGA. This Strategy supports the actions within multiple strategic documents at International, Federal, State, and Local levels, including the Hawkesbury City Council Net Zero Emissions and Water Efficiency Strategy.

The call to action is emphasised by the limited remaining life of the landfill at Hawkesbury City Waste Management Facility. Council expects the landfill capacity at the site will be exhausted by 2026 and is seeking to transition to waste management solutions that recover resources and/or energy from the residual waste stream.

Council has nominated a 10-year timeframe for this Strategy which is appropriate given the significant timeframes necessary for due diligence, community education, planning, and contracting arrangements.

The Strategy has three key themes, each with its own objective and goals:

Theme	Objective	Goal
 <p>Resource responsible citizens</p>	Empower the community to increase waste reduction, reuse, and recycling activities.	<ul style="list-style-type: none"> Reduction in waste generation per capita for households and businesses. Waste is sorted at source to maximise opportunities for recovery.
 <p>Generational legacy</p>	To offer resilient, innovative, secure, and sustainable waste services to meet the needs of current and future generations.	<ul style="list-style-type: none"> Council's waste management system is adaptable to changing technology, policy, and market circumstances. Council's waste management system is in alignment with principles of the waste hierarchy and ecologically sustainable development. Services are simple to use, accessible, convenient, and sustainable to the community.
 <p>Environmental stewardship</p>	To protect the environment and maintain the amenity of public places.	<ul style="list-style-type: none"> Reduce litter. Reduce incidents of illegal dumping. All waste management activities undertaken to meet or exceed legislative environmental compliance requirements.



1. Where are we today?

Council is committed to protecting and enhancing the built and natural environment for current and future generations as part of the Hawkesbury Community Strategic Plan. Council has developed the Waste and Resource Recovery Strategy 2022-2032 (the Strategy) to realise this vision within the context of waste management for the community in residential, commercial, and industrial capacities. The Strategy supports the Hawkesbury City Council Net Zero Emissions and Water Efficiency Strategy and various other relevant strategic documents.

// Vision statement:

Our natural and built environment is protected and enhanced for the current community and for future generations. //

The call to action is emphasised by both the limited remaining life of the landfill at Hawkesbury City Waste Management Facility, as well as HCC's net zero emissions by 2030 target. Council expects the landfill capacity at the site will be exhausted by 2026 and is seeking to transition to waste management solutions that recover resources and/or energy from the residual waste stream.

It is for this reason, Council has nominated a 10-year timeframe for this Strategy which is appropriate given the significant timeframes necessary for due diligence, community education, planning, joint facility procurement, and contracting arrangements.

1.1 Government policy and regulatory framework

The following table summarises the current government policies and regulatory frameworks at the Federal, State and Local Government levels which will influence the development of Council's Waste and Resource Recovery Strategy.

Table 1: Current legislation and government policies relating to waste management in the Hawkesbury LGA

Legislation & Policy	Description & Relevance to Hawkesbury City Council
Australian Government (Cth)	
<i>Recycling and Waste Reduction Act 2020</i>	<p>The Commonwealth Government have outlined a timeline to ban the export of waste plastic, paper, glass, and tyres, that have not been processed into value added materials:</p> <ul style="list-style-type: none"> • All waste glass by January 2021; • Mixed waste plastics by July 2021 and unprocessed single plastic polymers by July 2022; • All whole tyres including baled tyres by December 2021; and • Remaining waste products, including mixed paper and cardboard, by no later than June 2024. <p>The waste export bans have the potential to impact on Council's comingled recycling in the short term, likely in the form of increased processing costs for the upcoming comingled recycling contract.</p>
Emissions Reduction Fund (ERF)	<p>The Commonwealth Government purchases lowest cost abatement (in the form of Australian Carbon Credit Units (ACCUs)) from a wide range of sources through the \$2.5 billion Emissions Reduction Fund (ERF). Approved methods to obtain ACCUs for the waste and recycling sectors include:</p> <ul style="list-style-type: none"> • Landfill gas capture and destruction; • Alternative Waste Treatment (AWT) ; and • Source separated organics.

New South Wales

<i>Protection of the Environment Operations (POEO) Act 1997</i>	Regulation of pollution control, waste disposal and waste management and licensing requirements in NSW. Waste is categorised into MSW, C&I and C&D waste.
<i>NSW Waste Avoidance and Resource Recovery Act 2001 (WARR Act)</i>	<p>The WARR Act is the primary Act governing resource recovery in NSW. The objectives of the WARR Act are to promote:</p> <ul style="list-style-type: none"> • The most efficient use of resources, including resource recovery and waste avoidance; • A reduction in environmental harm, including pollution through waste; • A consideration of the resource management hierarchy through avoidance of unnecessary resource consumption and disposal; and • Resource recovery, which includes reuse, reprocessing, recycling, and energy recovery. <p>The WARR Act defines the Waste Hierarchy, which ranks waste management options in order of general environmental desirability. The waste hierarchy is intended for use alongside other assessment tools, such as cost benefit analysis, to guide decision-making.</p>
<i>NSW Waste and Sustainable Materials Strategy 2041 (Stage 1: 2021-2027)</i>	<p>The new NSW Waste and Sustainable Materials Strategy combines the past NSW Waste Avoidance and Resource Recovery Strategy 2014-2021 and the NSW 20-year strategy, to provide a framework for waste management in NSW. The strategy outlines four key directions for the future of waste management:</p> <ul style="list-style-type: none"> • Generate less waste by avoiding and 'designing out' waste, to keep materials circulating in the economy; • Improve collection and sorting to maximise circular economy outcomes and lower costs; • Plan for future infrastructure by ensuring the right infrastructure is located in the right place and at the right time; and • Create end markets by fostering demand for recycled products in NSW (particularly glass, paper, organics, plastics, and metals) so that recovered materials re-enter our economy and drive business and employment opportunities. <p>The initial Stage 1 targets have been set to be achieved by 2030:</p> <ul style="list-style-type: none"> • Reduce total waste generated by 10% per person; • Have an 80% average recovery rate from all waste streams; • Phase out problematic and unnecessary plastics while tripling plastics recycling rates; • Halve the amount of organic waste sent to landfill with net zero emissions; and • Overall litter reduction target of 60% <p>The NSW Strategy guides the development of Council's resource recovery targets, especially for organic waste through mandating Food Organics Garden Organics (FOGO) services for all of NSW by 2030.</p>

NSW Landfill Levy	<p>The Waste Levy applies to the regulated area of NSW, of which Hawkesbury LGA is included. Landfills in regulated areas are required to pay a contribution for each tonne of waste received at the facility. The aim of the levy is to drive a reduction in the amount of waste being landfilled and promote recycling and resource recovery.</p> <p>The 2021-22 Metropolitan Waste Levy rate is \$147.10/tonne. Under current regulations, the levy will increase every year in line with the Consumer Price Index (CPI).</p>
NSW Waste from Energy Policy Statement 2015	<p>The Energy from Waste (EfW) Policy Statement outlines the policy framework that applies to facilities that thermally treat waste for energy recovery in NSW. Facilities seeking to recover energy by thermally treating waste or waste-derived materials must ensure the process:</p> <ul style="list-style-type: none"> • Poses minimal risk to human health and the environment; • Is not prioritised over waste management options higher up on the waste hierarchy, i.e., avoid, reuse or recycling options; and • Meets international best practice techniques.
Local Government Act 1993	<p>Defines how Councils may exercise their powers and the way Councils are managed and financed. With respect to waste management, Councils may make an annual charge for the provision of waste management services. Councils must make and levy an annual charge for the provision of domestic waste management services (s. 496). Council charges for domestic waste management must be calculated to not exceed the reasonable cost to the council of providing those services.</p>
Waste Less Recycle More Initiative	<p>The WLRM grant program provides funding for organisations, including Councils, to improve their management of waste and recovery of resources. Phase 1 of WLRM provided \$465.7 million over the period July 2012 to June 2017, focusing on funding new, large-scale waste and recycling infrastructure, recycling facility upgrades, drop off centres, food and garden organics processing and recycling innovations. Phase 2 of WLRM commenced on 1 July 2017, with the capacity to award \$337 million over four years.</p>
NSW Circular Economy Policy Statement: Too Good to Waste 2019	<p>The NSW Circular Economy Policy Statement was developed by the NSW Government to provide clear directions and principles to direct the NSW economy transition to a circular economy. The NSW Circular Economy Policy Statement lists seven key principles to lead the transition towards a circular economy in NSW:</p> <ul style="list-style-type: none"> • Sustainable management of all resources; • Valuing resource productivity; • Design out waste and pollution; • Maintain the value of products and materials; • Innovate new solutions for resource efficiency; • Create new circular economy jobs; and • Foster behaviour change through education and engagement. <p>The Circular Economy Policy Statement provides a framework for Hawkesbury City Council to review and transition operations to meet circular economy goals.</p>
NSW Illegal Dumping Strategy 2017-21	<p>The NSW Illegal Dumping Strategy 2017-21 provides a framework for the NSW EPA and partner organisations (including local councils) to reduce illegal dumping in NSW by 30% by 2020. The NSW EPA updated the Illegal Dumping Strategy action table to provide a revised set of actions to achieve the set targets in the last two years of the Strategy (2020-21).</p>

Hawkesbury City Council

Hawkesbury Community Strategic Plan	<p>The Hawkesbury Community Strategic plan acknowledges the need for the improvement of waste services through an increase in services, rural collection locations, litter control, and monitoring of dumping. Many sections of the Plan are relevant to, and have informed, this Strategy. Most significantly, section 3.3 of the Key Directions and Strategies is to identify ways that the Hawkesbury community can reduce, reuse, and recycle through the following steps:</p> <ul style="list-style-type: none"> • Develop and maintain active partnerships that will result in the innovative management of the community's waste, with an emphasis on resource recovery and waste minimisation. • Undertake community education on best practice environmental sustainability and climate change issues. <p>The Hawkesbury Community Strategic Plan can be found at:</p> <p>www.hawkesbury.nsw.gov.au/__data/assets/pdf_file/0020/57521/HCC-Comm-strategic-plan-2017-8may-print.pdf</p>
Hawkesbury City Council Net Zero Emissions + Water Efficiency Strategy	<p>The Hawkesbury City Council Net Zero Emissions and Water Efficiency Strategy aims to deliver a climate resilient community with robust economic benefits. The strategy sets a target of net zero emissions across Council operations and the community by 2030.</p> <p>As part of this strategy, Council endeavours to enhance waste services through:</p> <ul style="list-style-type: none"> • The exploration of Energy from Waste technologies as part of Hawkesbury City Council's involvement with WSROC, • The introduction of a FOGO service which industrially composts both food and garden organics, and • The consideration of an expansion of kerbside services and stream separation. <p>Council will engage with WSROC to pursue further waste innovation strategies.</p>
WSROC Waste Avoidance and Resource Recovery Strategy 2017 - 2021	<p>The WSROC WARR Strategy is a regional waste strategy which aims to align councils within the region with the NSW WARR strategy while providing direction on improving sustainable WARR practices. The strategy focuses on:</p> <ul style="list-style-type: none"> • Improving recycling and diversion rates; • Reducing contamination of recycling streams; • Diverting more waste from landfill; • Planning for future waste infrastructure requirements; • Improving the management of litter, illegal dumping, and problem waste; • Delivering educational campaigns to improve waste management behaviour; • Achieving costs savings; and • Sharing resources with, and learning from, other councils.

Waste Hierarchy

The Hawkesbury City Council Waste and Resource Recovery Strategy 2022 – 2032 has been created with consideration of the waste hierarchy.

The waste hierarchy pyramid is promoted by the NSW Environmental Protection Authority (EPA) and complements the objectives of the Waste Avoidance and Resource Recovery Act 2001 (WARR Act). The waste hierarchy establishes an order of priority for different waste management options, ordering them from most preferable at the top of the pyramid to least preferable at the bottom of the pyramid. The waste hierarchy pyramid is illustrated in the figure below.

Figure 1: Waste hierarchy pyramid









1.2 Waste And Resource Recovery Collection Summary

1.2.1 Kerbside Collection Services

Hawkesbury City Council currently offers three main service configurations to residents, depending on their location, with varying bin sizes and numbers, the kerbside services provided to residents are outlined below in Table 2.

Table 2: Hawkesbury City Council Kerbside Collection Services

Collection service	User	Bin size options	Service frequency	Collector
 Garbage	Urban	140L or 240L	Weekly	Council Day Labour
	Rural	140L or 240L	Weekly	
	Remote	140L or 240L	Fortnightly	
 Commingled Recycling	Urban	240L	Fortnightly	JJ Richards
	Rural	240L	Fortnightly	
	Remote	240L	Fortnightly	
 Garden Organics	Urban (SUDS only)	240L	Fortnightly	JJ Richards
	Rural	Nil	Nil	
	Remote	Nil	Nil	
 Bulky Waste Clean Up	All Properties with a Bin Service	N/A	One free clean-up per year. Additional clean ups available for a fee.	Cleanaway

The services are provided by a mixture of Council crews and private contractors. All contracts for out-sourced collections are due for expiry in the second half of 2023.

Table 3: Hawkesbury City Council Kerbside Collection Services

Waste Stream	Collection Contractor	End Destination
Garbage	Council Day Labour	Hawkesbury City Waste Management Facility (Hawkesbury City Council)
Commingled Recycling	JJ Richards (Contract Expiry August 2023)	Smithfield Materials Recovery Facility (Visy)
Garden Organics	JJ Richards (Contract Expiry September 2023)	Eastern Creek Organics Resource Recovery Facility (Suez)
Bulky Waste Clean Up	Cleanaway (Contract Expiry July 2023)	Blacktown Waste Services, Marsden Park

1.2.2 Drop-off services

Hawkesbury City Council residents have access to the Hawkesbury City Waste Management Facility, one of few Council-owned waste facilities in Greater Sydney, which provides free drop-off capacity for commingled recyclables, paper/cardboard, scrap metals, sump oil, car batteries and TV and computer equipment. All other items are disposed at cost, including residual waste, building waste, garden organics, mattresses, and tyres.

Hawkesbury City Waste Management Facility has a re-use shed for residents to deposit or purchase household goods. It also has a Community Recycling Centre (CRC) to drop off household hazardous waste, which is supported by one Chemical CleanOut Event per year.

1.2.3 Other MSW Waste Management Services

The other waste management services Council provides include:

- Public place residual waste/litter bins,
- Public place recycling bins,
- Street sweeping,
- Management of Council generated waste,
- Management of illegal dumping at domestic scale (with large-scale criminal dumping managed by the EPA), and
- Commercial waste services, the Hawkesbury City Council Waste Management Facility is also available to businesses.



1.3 Waste and resource recover data, composition, and performance

1.3.1 Waste Generation

In 2020-2021 Council collected approximately 30,482 tonnes of waste through residential kerbside collections (general waste, commingled recycling, and garden organics).

Figure 2 illustrates the changes to residential waste collections from FY 2014-15 to FY 2019-20. A more detailed table of data can be found in Appendix A on page 38, where it is demonstrated that overall waste production is stable whilst the recycling rate is slowly increasing.

Figure 2: Hawkesbury City Council domestic kerbside waste collections

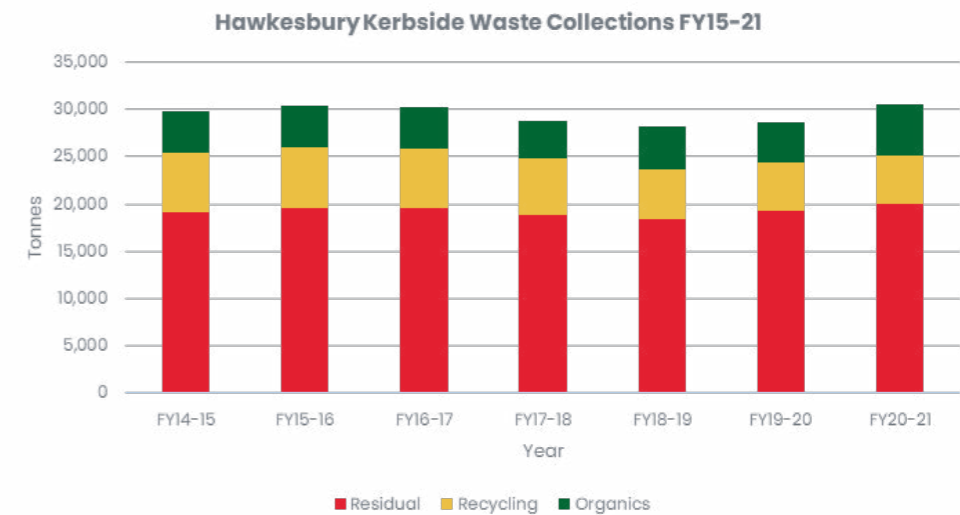


Figure 3: Hawkesbury City Council waste generation forecast

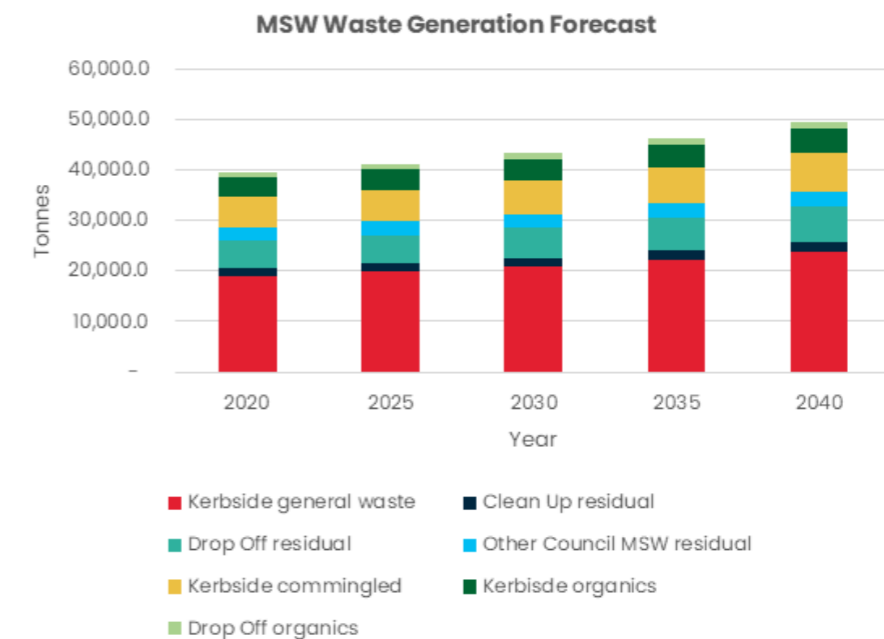


Figure 3 shows the estimated MSW quantities under the medium growth scenario (-0.3%), which is considered the more plausible growth scenario as it is based on average changes to total waste generation for Council waste.

1.3.2 Waste Composition

A kerbside bin audit was undertaken in 2020 and the results are summarised in this chapter, further details regarding the specifics of the composition of the different waste streams can be found in Appendix B on page 40.

The findings of the audit supported the transition to a FOGO (Food Organics Garden Organics) collection stream as organics constituted a considerable proportion of the material in the residual bin (51.15%), with paper and plastic comprising 15.62% and 12.8% respectively. The major organic waste types include food/kitchen waste and garden waste, which represent 29.43% and 9.88% of the total waste stream by weight.

The detailed compositional audit findings suggested that 17.8% of the residual waste bin could have been recovered had the resident correctly used the co-mingled recycling bin, these include materials such as:

- Recyclable paper at 7.6% of the stream;
- Recyclable plastics at 4.5% of the stream; and
- Recyclable glass at 3.8% of the stream.

Using the garden organics bin correctly would have recovered an additional 9.9% of bin contents (for urban residents with access to this service). If a food organics collection service was offered, up to an additional 29.43% could have been diverted from landfill.

1.3.3 Waste Avoidance & Resource Recovery Initiatives

A summary of Council’s waste education and partnerships is provided in Table 4. This is not an exhaustive list of all programs but a list of Council’s key focus areas.



Table 4: Hawkesbury City Council Waste Education Programs and Partnerships

Initiative	Overview
Compost Revolution	<p>The Compost Revolution is a social enterprise working with 35 councils across Australia. The Compost Revolution is online platform which inspires, educates, and equips households so they can recover their food waste. Their tutorials and integrated ordering system allow residents to choose their composting gear and have it delivered straight to their door.</p> <p>Approximately 1,300 households within the Hawkesbury Local Government Area have signed up to the Compost Revolution and received information to support their home composting efforts.</p>
Re-Use Shed	<p>Council provides a Re-Use Shed at Hawkesbury City Waste Management Facility where residents can deposit or purchase household goods.</p>
Return and Earn	<p>Council promotes the NSW Container Deposit Scheme (CDS), also known as ‘Return and Earn’ which is an initiative to reduce litter volumes by 40% by 2020.</p> <p>The Return and Earn program has resulted in an approximate 20% reduction in kerbside recycling bin tonnages, which impacts Council’s overall recovery rates.</p>
School Education	<p>Council offers waste education programs to schools and educational resources to support behaviour change in the household and promote sustainable resource management practices.</p>
Clean up Australia Day	<p>Clean Up Australia Day is an annual event which encourages communities to clean up, fix up, and conserve the environment. Hawkesbury residents have enthusiastically participated in the day with over 30,000kg of litter being removed from the environment between 2017 and 2020.</p> <p>Hawkesbury City Council participates in the event through promotion of the event, providing residents with access to information concerning the logistics of the day, and through providing the collection of litter from volunteers’ sites.</p>
Chemical CleanOut	<p>The EPA organises Chemical CleanOut events free of charge, which assist the community in safely disposing of potentially hazardous household chemicals. Hawkesbury City Council supports the EPA’s Chemical CleanOut initiative through promoting the events, as well as encouraging participation from the community.</p>
Remote area problem waste collection events	<p>Hawkesbury LGA covers a large area, waste infrastructure and services which are available for public use are not convenient for all residents within the region. Accordingly, Hawkesbury City Council arranges remote area problem waste collection events, which provide mobile waste disposal opportunities to residents who live in remote areas of the LGA. Residents can book their service and can dispose of all waste that would normally be disposed of in a CRC. These events also allow residents to dispose of flood or fire damaged waste.</p>



1.4 Waste Infrastructure

1.4.1 Waste Management Facility

The Hawkesbury City Waste Management Facility is located on The Driftway at South Windsor, currently operates as a landfill as well as a waste drop-off point and the Hawkesbury Community Recycling Centre.

The facility is open from 8am to 4pm every day excluding public holidays, and it accepts waste such as:

- Flood damaged waste;
- Domestic kerbside recyclables;
- Paper and unwaxed cardboard;
- Scrap steel;
- Sump oil;
- Car batteries;
- Problem household waste;
- Mattresses, building waste; and
- Tyres.

The landfill at the Hawkesbury City Waste Management Facility is expected to be full by 2026, Council has been exploring options regarding what to do with the land after this date.

2. Where do we want to be

This section of Council's Waste and Resource Recovery Strategy provides an overarching framework of themes, objectives, and key actions. It starts with a brief description of the Council's objectives and how they relate to broader regional strategies and other Council plans, with the underpinning goals and key actions presented in the following sections.

2.1 The Strategy Development Process

Council has listened closely to the community and expert advice to support a detailed assessment of aspirations, options, and actions, which have been brought together to inform the Strategy.

2.1.1.1 Community Focus Group – 2019

Comprehensive research on community values and behaviours was undertaken in September 2015 through the Western Sydney Regional Organisation of Councils. Hawkesbury City Council ran a focus group and an online survey in 2019, this was designed to supplement the previous study with more recent community sentiment considering the significant changes in Australian social attitudes and waste industry dynamics in recent years. There were 44 participants in the 2019 focus group consultation, the results of which are listed in the table below.

Key observations

- Interest in the improving use of the current waste system through community education (reducing contamination in the recycling stream, and managing niche waste streams like polystyrene)
- Interest in waste avoidance activities in the home – home composting and reduced use of single use plastics
- Interest in improved management of litter and illegal dumping
- Appetite for new technologies for higher order resource recovery, but not without 'not in my backyard' concerns
- Preference for smaller scale solutions that can benefit the local community
- Strong interest in engaging the business community particularly in organics recovery
- Interest in the improving use of the current waste system through community education (reducing contamination in the recycling stream, and managing niche waste streams like polystyrene)
- Interest in waste avoidance activities in the home – home composting and reduced use of single use plastics
- Interest in improved management of litter and illegal dumping
- Appetite for new technologies for higher order resource recovery, but not without 'not in my backyard' concerns
- Preference for smaller scale solutions that can benefit the local community
- Strong interest in engaging the business community particularly in organics recovery

Outcomes

Informing development of the Waste and Resource Recovery Strategy; including consideration for transitioning to FOGO collections or advanced resource recovery infrastructure options.

2.1.1.2 Phone Survey – 2021

In 2021, Council completed a representative phone survey within the Hawkesbury LGA asking respondents about Council's waste services. The survey was conducted as part of a broader project across the WSROC area. In particular, the survey aimed to understand residents' satisfaction with the current waste services, how they use Council's waste services and their receptiveness to the implementation of a FOGO collection service.

Key findings



FOGO Collections:

- 66% of residents supported that Council should introduce FOGO collections
- 56% of residents already using a separate bin to hold food waste
- 40% of residents explained they see no barriers to using a FOGO bin system at home
- However, the top three barriers for the remaining 60% of residents were:
 - 26% odour and mess
 - 17% lack of support from family and household members
 - 10% knowing what food types are eligible

Biggest Benefit of FOGO:

- 33% of residents said the production of high-quality compost for farmers

Red Bin Collections and FOGO:

- 60% of residents still prefer to retain a weekly red bin collection.



Satisfaction with Council's Waste Services:

- 75% of residents were satisfied or very satisfied with Council's Waste Services.



Recycling Knowledge and Behaviours:

- Unclear on how to recycle meat trays and broken glass.

Key recommendations

FOGO Collections:

- Further explore residents' receptiveness to FOGO collections and their preferences for kitchen caddies, compostable bin liners, and using a FOGO bin.
- Build support for FOGO collections by promoting the tangible benefits of diverting food waste from landfill, such as its role in the production of high-quality compost for farmers.
- When implementing FOGO collections be sensitive to residents' preference to keep red bin collections weekly, possibly by making incremental changes to the red bin service.

Youth Engagement

- For more efficient dissemination of information on its waste and recycling service Council could prioritise the use of social media amongst younger residents.

Waste Education:

- Provide continued and periodic reminders about recycling "tricky" items such as meat trays and broken glass.

2.1.1.3 Online Survey – 2022

During January and February 2022 Council invited the community to provide feedback on Council’s Waste Services through an online survey.

The online survey asked for resident’s views and experiences about their household bin service, the option for a rural garden organics service, their bulky waste clean-up service, the introduction of FOGO collections, the importance of cost compared to sustainability outcomes, and any changes they would like to see implemented.

The Waste Services Survey received 1,908 responses which is the largest response to any community survey undertaken by Council. The full results and analysis for the survey can be found in the Waste Services Survey Engagement Overview at **Appendix C**. However, five key themes emerged from the survey responses, these are explored in the graphic below.



2.1.2 Further Investigations

Council has conducted further investigations into potential waste management opportunities and areas in need of improvement, this is outlined in the table below.

Table 8: Further Investigations Into Waste Management By Hawkesbury City Council

Study	Summary	Key Outcomes	Strategic Links
Commercial food waste recovery opportunities	<p>In response to interest from the local business community, Hawkesbury City Council’s Councillors requested a review of potential local solutions to manage and recover value from food waste generated by industry in the Hawkesbury LGA. The review considered food waste avoidance and recovery initiatives in the context of the waste hierarchy and existing resources available to Hawkesbury City Council. These include:</p> <ul style="list-style-type: none"> • Love Food Hate Waste, a NSW Government initiative to foster behaviour change in the workplace, • Food rescue organisations such as OzHarvest, FoodBank and SecondBite, • On-site management solutions for business – small scale on-site composting through the Compost Revolution, and • Offsite recovery services including industrial scale composting and anaerobic digestion. <p>At the Councillors request, small scale processing technologies for commercial food waste were considered for Hawkesbury City Waste Management Facility in terms of technology maturity, feedstock requirements, indicative capital costs and other risks.</p>	<p>Council to consider:</p> <ul style="list-style-type: none"> • Consultation with local businesses on goals and preferred method of engagement, • Facilitate partnerships between local business and food waste avoidance or rescue organisations, and • Inform local business of on-site and offsite organic waste recovery solutions. 	<p>NSW Government Waste and Sustainable Materials 2041 Strategy: <i>We can reduce the amount of organic material going to landfill by collecting it separately and processing it at special organic waste facilities.</i></p> <p>Hawkesbury Waste and Resource Recovery Strategy 2032: <i>Targeted food waste avoidance and recovery programs for households and businesses.</i></p>

Review of current collection service	<p>Council completed a review of its spatial data, costs, and rate payer information to identify gaps in service areas and to estimate potential costs for increasing collection frequency.</p> <p>This analysis facilitated benchmarking of costs against other Councils. In line with expectation, Council's collection costs are significantly more than other Councils with greater density of dwellings.</p> <p>The review found that few residents are without a collection service, and for the most part a solution could be found to utilise adjacent roads which do have a collection service. These roads were un-serviced due to access challenges for the collection vehicle.</p> <p>Increasing the frequency of the general waste collection service in remote areas would come at an additional cost to Council and may require the purchase of an additional truck.</p>	<p>Council to consider:</p> <ul style="list-style-type: none"> • Consult with residents on un-serviced roads about individual circumstance and capacity to use adjacent service roads, and • Increasing kerbside residual waste collections from fortnightly to weekly in remote areas. 	<p>Hawkesbury Waste and Resource Recovery Strategy 2032: <i>Services are simple to use, accessible, convenient, and affordable to the community.</i></p>
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2.2 FOGO implementation

The NSW Waste and Sustainable Materials 2041 Strategy has mandated that all Councils across NSW provide a FOGO (food organics and garden organics) collection service by the year 2030.

The environmental outcomes of a FOGO collection service including the potential for landfill emissions reduction, landfill diversion and production of a compost material are superior to business as usual. However, modelling by Hawkesbury City Council and other councils has found that a FOGO collection service will be more expensive than business as usual. This is attributed to several factors including the current shortfall of locally available organics processing infrastructure for Hawkesbury City Council and for all Greater Sydney councils, which results in higher costs.

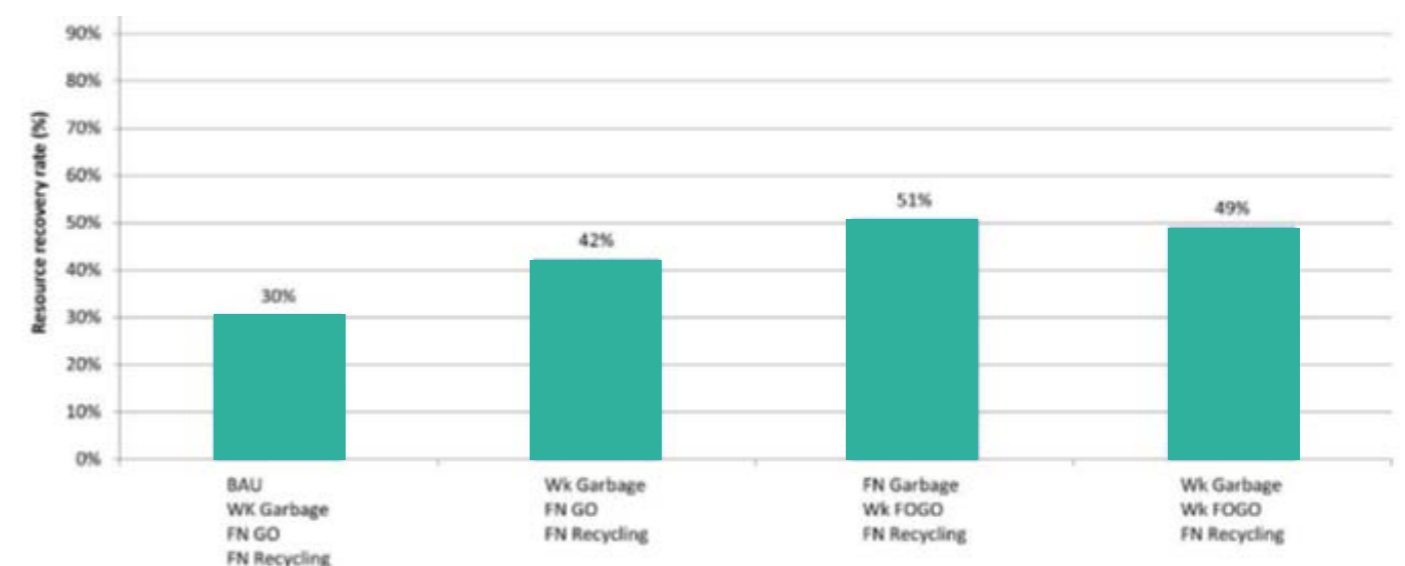
The most critical component of Council's FOGO service roll-out will be community education regarding what can be put into the FOGO bin, why the transition is occurring and home composting for residents in rural and remote locations who may not have access to a FOGO service. A comprehensive, widespread, and extended community engagement campaign is required for the introduction of a FOGO service to be successful.

The 2020 waste audit found that 29.43% of domestic residual waste is food waste.

Figure 4, Recovery Rates: Different Waste Services Scenarios, demonstrates the changes to the resource recovery rate in the Hawkesbury if:

- **Business as Usual (BAU):** Weekly Garbage, Garden Organics (Urban Only) and Fortnightly Recycling
- **Garden Organics expanded to rural areas:** Weekly Garbage, Garden Organics (Urban and Rural) and Fortnightly Recycling
- **Food Organics and Garden Organics (FOGO) introduced:** Weekly FOGO, Fortnightly Garbage and Fortnightly Recycling
- **Food Organics and Garden Organics (FOGO) introduced:** Weekly FOGO, Weekly Garbage and Fortnightly Recycling

Figure 4: Recovery Rates: Different Waste Services Scenarios



2.3 Waste and Resource Recovery Strategy Goals

Council has identified 3 themes which the Strategy focuses on, they are



Resource-responsible citizens



Generational legacy



Environmental stewardship

As detailed below, several goals and required key actions have been established under each of the themes.

Resource-responsible citizens



Objective

Empower the community to increase waste reduction, reuse, and recycling activities.

Goals

- Reduction in waste generation per capita for households and businesses.
- Waste is sorted at source to maximise opportunities for recovery.

Key actions

- Enhance existing waste avoidance awareness and education initiatives;
- Targeted food waste avoidance and recovery programs for households and businesses;
- Expansion of re-use initiatives;
- Review collection and drop-off network for adequacy in fostering community re-use and recovery activities;
- Enhance existing recycling education to support correct usage of the existing and/or expanded services;
- Council leads by example through waste reduction, recycling, and sustainable procurement.

Generational legacy



Objective

To offer resilient, innovative, secure, and sustainable waste services to meet the needs of current and future generations.

Goals

- Council's waste management system is adaptable to changing technology, policy, and market circumstances.
- Council's waste management system is in alignment with principles of the waste hierarchy and ecologically sustainable development.
- Services are simple to use, accessible, convenient, and sustainable to the community.

Key actions

- Engage the NSW and Federal governments to advocate broader policy review, reform, and strategic infrastructure planning that is sensitive to the needs of the Hawkesbury residential and business community, and the broader Western Sydney Region Review;
- Research partnerships that benefit Council and broader waste industry;
- Review service delivery models for best practice resource recovery and cost effectiveness, and where appropriate implement changes;
- Improving upon and expanding the existing service offering to residents;

Environmental stewardship



Objective

To protect the environment and maintain the amenity of public places

Goals

- Reduce litter.
- Reduce incidents of illegal dumping.
- All waste management activities undertaken to meet or exceed legislative environmental compliance requirements.

Key actions

- Implementation of targeted education, awareness, and enforcement activities to address littering and illegal dumping;
- Council work with stakeholders in the shared responsibility of litter management and protection of the environment.
- Implementation of targeted education, awareness, and enforcement activities to address illegal dumping.
- Council takes a pro-active approach to environmental legislative compliance in all aspects of their waste management activities.

2.3.1 Resource-responsible citizens



Objective

Empower the community to increase waste reduction, reuse, and recycling activities.

This theme and associated objectives dovetails with the NSW WARR Strategy and the priorities of the waste hierarchy, which advocates for avoidance before resource recovery and recycling. Themes of waste avoidance, recycling and landfill diversion were endorsed by Council in development of the Western Sydney Regional Waste Strategy developed by WSROC and in the Hawkesbury City Council Net Zero Emissions and Water Efficiency Strategy.

Community engagement in resource-efficient behaviour was identified as a key focus by the community participants in Council consultation activities, as well as the waste strategy working group. The key goals are distilled as the following:

- **Reduction in waste generation per capita for households and businesses**
- **Waste is sorted at source to maximise opportunities for recovery**

The key actions to support delivery of Council's goals are listed in the table below.

Table 10: Key actions under Resource-Responsible Citizens

Key actions under Resource-Responsible Citizens

Enhance existing waste avoidance awareness and education initiatives
Targeted food waste avoidance and recovery programs for households and businesses
Expansion of re-use initiatives
Enhance existing recycling education to support correct usage of the existing and/or expanded services
Council leads by example through waste reduction, recycling, and sustainable procurement

2.3.2 Generational legacy



Objective

To offer resilient, secure, and sustainable waste services to meet the needs of current and future generations

This theme relates to issues currently faced by Council, including:

- Changing domestic and international policies impacting the export of recyclables to offshore markets
- Increasingly stringent NSW Government policies preventing the application of mixed waste organic outputs to land, limiting options for residual waste
- Limited putrescible landfill airspace in Sydney
- Natural disasters and climate change – floods, bushfires, and rising temperatures.

Sustainable resource management is also a national and state government priority, with several policies and strategies in place.

In response to current circumstances and the community's longer-term vision for sustainable resource management, establishing a positive 'generational legacy' is an overarching theme of the Strategy. There is a recognition that business as usual cannot continue, and that a paradigm shift is urgently needed in the way we perceive and manage waste. The community focus group used the words 'trail blazers' to communicate their expectations for Council and the community. This vision has been consolidated into the following goals:

- **Council's waste management system is adaptable to changing policy and market circumstances**
- **Council's waste management system is in alignment with principles of the waste hierarchy and ecologically sustainable development**
- **Services are simple to use, accessible, and convenient to the community**
- **Council's waste management system is adaptable to changing policy and market circumstances**
- **Council's waste management system is in alignment with principles of the waste hierarchy and ecologically sustainable development**
- **Services are simple to use, accessible, and convenient to the community**

The key actions to support delivery of Council's goals are listed in the table below.

Key actions under generational legacy

Engage the NSW and Federal governments to advocate broader policy review, reform, and strategic infrastructure planning that is sensitive to the needs of the Hawkesbury residential and business community, and the broader Western Sydney region

Research partnerships that benefit Council, Hawkesbury residents and business community, and the broader waste industry

Review service delivery models for best practice resource recovery and cost effectiveness, and where appropriate implement changes

Improve and expand the existing service offering to residents

Council leads by example through waste reduction, recycling, and sustainable procurement

2.3.3 Environmental stewardship



Objective

To protect the environment and maintain the amenity of public places

This theme relates to the NSW WARR Strategy objectives of managing problem waste better, reducing litter and illegal dumping. This theme also reflects environmental commitments of Hawkesbury Community Strategic Plan 2017- 2036. The relevant directions and strategies include:

- Value, protect and enhance our unique natural environment
- Identify and make best use of our local resources and awareness of contribution to the environment
- Identify ways for our community to reduce, reuse and recycle waste
 - Develop and maintain active partnerships that will result in the innovative management of our community's waste, with an emphasis on resource recovery and waste minimisation
 - Undertake community education on best practice environmental sustainability and climate change issues
- Encourage and enable our community to make sustainable choices

These strategies and directives are relevant across all three themes in the Strategy, put particularly informs the following goals:

- **Reduce litter**
- **Reduce incidences of illegal dumping**
- **All waste management activities are undertaken to meet or exceed legislative environmental compliance requirements.**

The key actions to support delivery of Council's goals are listed in the table below.

Key actions under environmental stewardship

Implementation of targeted education, awareness, and enforcement activities to address littering and illegal dumping

Council works with stakeholders in the shared responsibility of litter management and protection of the environment.

Council takes a proactive approach to environmental legislative compliance in all aspects of its waste management activities



3. How will we get there

Hawkesbury City Council has developed a detailed action plan outlining the actions under each goal of the Strategy which Council has committed to achieve the Strategy objectives. The in-depth action plan can be found in Appendix D

Council will review and update the task list as appropriate throughout the life of the Strategy to ensure the desired outcomes are being achieved, and to provide flexibility to respond to changing technology, policy, market, or infrastructure developments.

4. How progress will be measured

It will be important for Council to identify performance metrics, relevant targets and monitor both the community's response to these targets, as well as the performance of Council's programs on the ground. A range of data collection and evaluation methods will be used to monitor progress on delivery of objectives and achievement of desired outcomes.

The establishment of a monitoring platform will help Council capture the relevant data and track the impact of its actions. Council will be able to respond to data and adapt through the planning and implementation phase of the strategy.

The progress and success of the strategy will be measured using several key metrics of improvement. These metrics are listed in the table below.

Table 13: Key metrics for reporting progress

Metric	Unit of measurement
Recovery rate	Percentage of waste recovered by weight
Contamination rate	Percentage of contamination in commingled recycling and organics bin by weight
Landfill emissions	Tonnes CO2-e/year
Waste generation per capita	Tonnes/year
Littering/illegal dumping	Tonnes/year
Community Engagement	Number of community events and attendance rates where available.

Timeframes for collating data / information and reporting on progress are outlined below.

Table 14: Reporting tasks and timeframes

Reporting Task	Timeframes	Responsibility
Individual Projects/Tasks under the Strategy	Progress reports at mid-point	Project managers/coordinators, supported by participating councils and external stakeholders
Final reports at project completion	Percentage of contamination in commingled recycling and organics bin by weight	Council
Progress Report	Halfway through Strategy timeframe	Council

Appendix A Hawkesbury City Council Domestic Kerbside Collections and Recycling Rate

Hawkesbury City Council domestic kerbside collections and recycling rate FY15-FY21

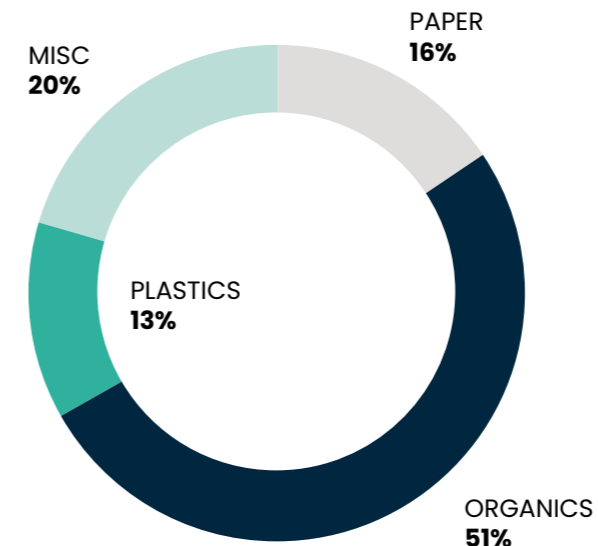
Year	Waste Type	Collected/ Received (t)	Recycled (t)	Disposed (t)	Recycling Rate
FY14-15	Residual	19133	0	19133	33.57%
	Recycling	6323	5691	632	
	Organics	4431	4342	89	
	Total	29887	10033	19854	
FY15-16	Residual	19584	0	19584	33.18%
	Recycling	6421	5779	642	
	Organics	4396	4308	88	
	Total	30401	10087	20314	
FY16-17	Residual	19580	0	19580	32.89%
	Recycling	6338	5704	634	
	Organics	4331	4244	87	
	Total	30249	9949	20300	
FY 17-18	Residual	18853	0	18853	32.08%
	Recycling	5998	5398	600	
	Organics	3904	3826	78	
	Total	28755	9224	19531	
FY 18-19	Residual	18432	0	18432	32.42%
	Recycling	5231	4708	523	
	Organics	4518	4428	90	
	Total	28181	9136	19045	
FY 19-20	Residual	19224	0	19224	30.86%
	Recycling	5128	4615	513	
	Organics	4319	4233	86	
	Total	28671	8848	19823	
FY 20-21	Residual	19975	0	19975	32.43%
	Recycling	5127	4614	513	
	Organics	5380	5272	108	
	Total	30482	9887	20595	

Appendix B Waste Composition Data

A kerbside bin audit was undertaken in 2020 and the results are summarised in this chapter .

The composition of a typical residual waste bin within the Hawkesbury region is displayed in the Figure below. It shows that organics constitute a considerable proportion of the material in the bin (51.15%), with paper and plastic comprising 15.62% and 12.8% respectively. The major organic waste types include food/kitchen waste and garden waste, which represent 29.43% and 9.88% of the total waste stream by weight.

Figure 5: Average composition of the kerbside residual waste stream (combined urban and rural)



Composition of the kerbside residual waste stream (% by weight, overall)

Urban residents produce slightly more paper and glass compared to rural residents (% by weight), while rural residents produce more plastics and ferrous waste. The detailed compositional audit findings suggested that 17.8% of the residual waste bin could have been recovered had the resident correctly used the co-mingled recycling bin, these include materials such as:

- Recyclable paper at 7.6% of the stream;
- Recyclable plastics at 4.5% of the stream; and
- Recyclable glass at 3.8% of the stream.

Using the garden organics bin correctly would have recovered an additional 9.9% of bin contents (for urban residents with access to this service). If a food organics collection service was offered, up to an additional 29.43% could have been diverted from landfill.

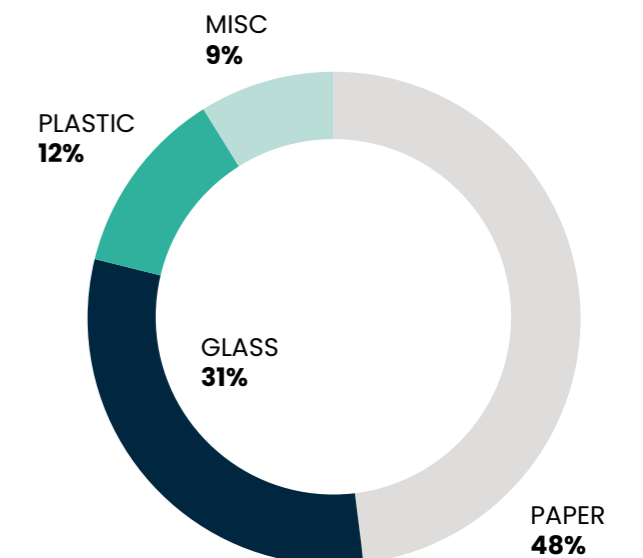
The composition of a typical recycling bin within the Hawkesbury region is shown in Figure 6. Compliant recycling made up 89.5% of the recycling bin content, with marginally better usage of the recycling bin by urban residents. Paper comprises 44.4% of the recyclable waste stream, with glass and plastics comprising 35.7% and 11% respectively.

Figure 6: Average composition of the kerbside recycling stream (combined urban and rural)

Composition of kerbside recycling stream (% by weight, overall)

Urban residents produce more paper than rural residents (% by weight), while rural residents produced more glass. However, the overall contamination rate of the recycling stream is 10.32%, the rate of contamination is comparable between rural and urban residents.

The composition of a typical garden organics bin within Hawkesbury LGA has an average contamination rate of approximately 1.7%, this is an increase from the 2017 level of 0.25%. The contamination is comprised of other putrescible (31% of contamination), ceramics/dust/dirt/rock/inert/ash (26.9%), treated wood/timber (26.4%) and food (6.6%).



Appendix C
Waste Services Survey Insights
2022



WASTE SERVICES
SURVEY INSIGHTS

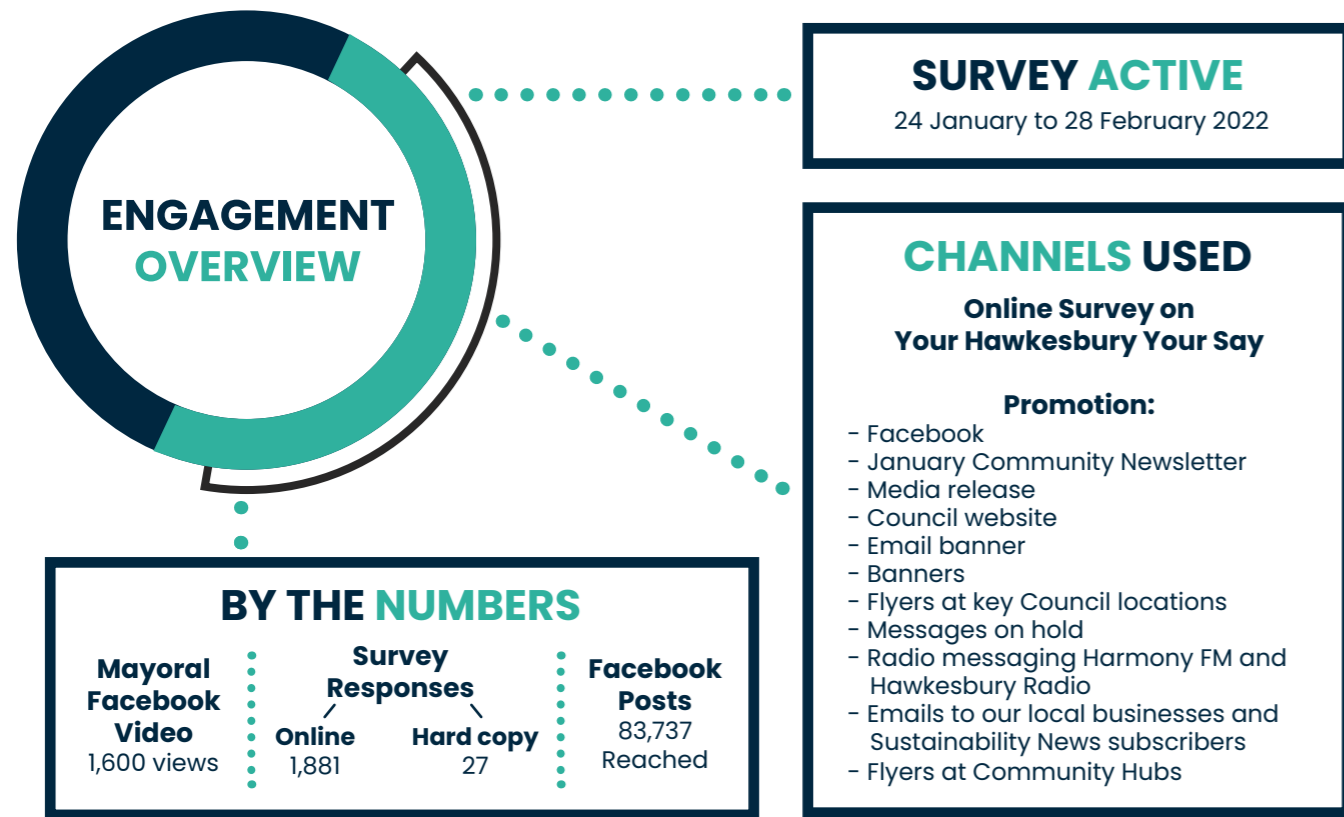
hawkesbury.nsw.gov.au



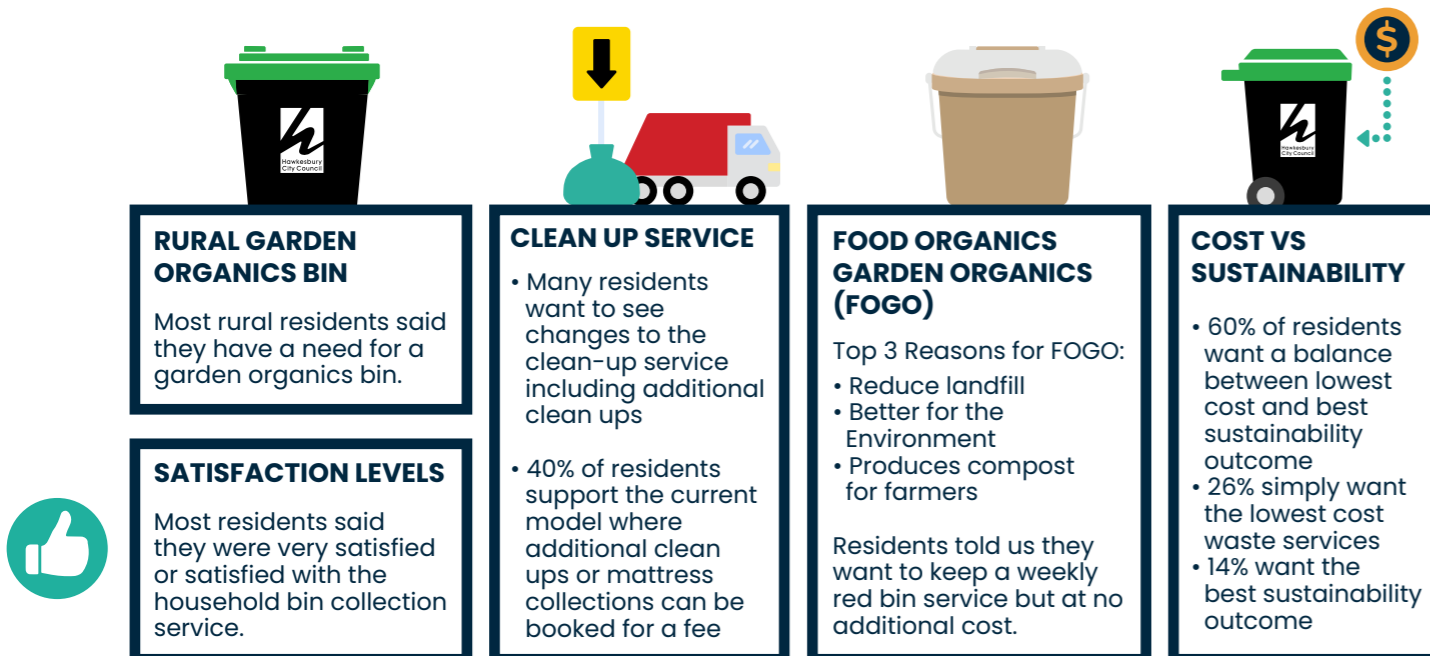
INTRODUCTION

Council's current waste services contracts expire in 2023 and Council's landfill will reach capacity within the next four years. Council wants to provide waste services that meet the community's needs and expectations, whilst ensuring the waste services are reliable, affordable, and sustainable.

Council knows that the waste services it provides to the community are an essential service and we know how important an issue it is for our community. That is why the community feedback from the Waste Services Survey will inform Council's decision-making, as it prepares its new waste services contracts and develops its long-term Waste Strategy.



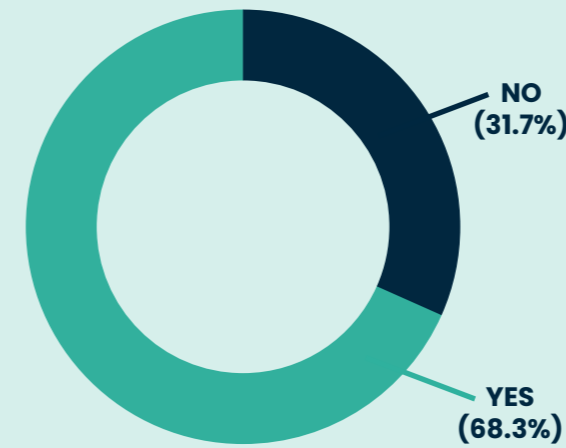
TOP 5 WASTE INSIGHTS



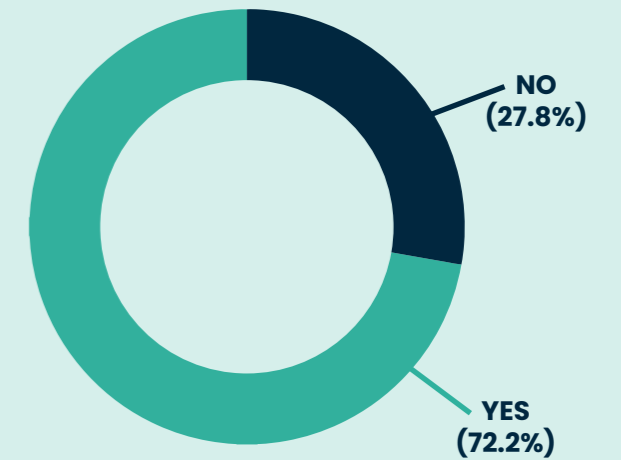
WHAT WE HEARD RED, YELLOW AND GREEN BIN SERVICES



DO YOU HAVE A GARDEN ORGANICS BIN?



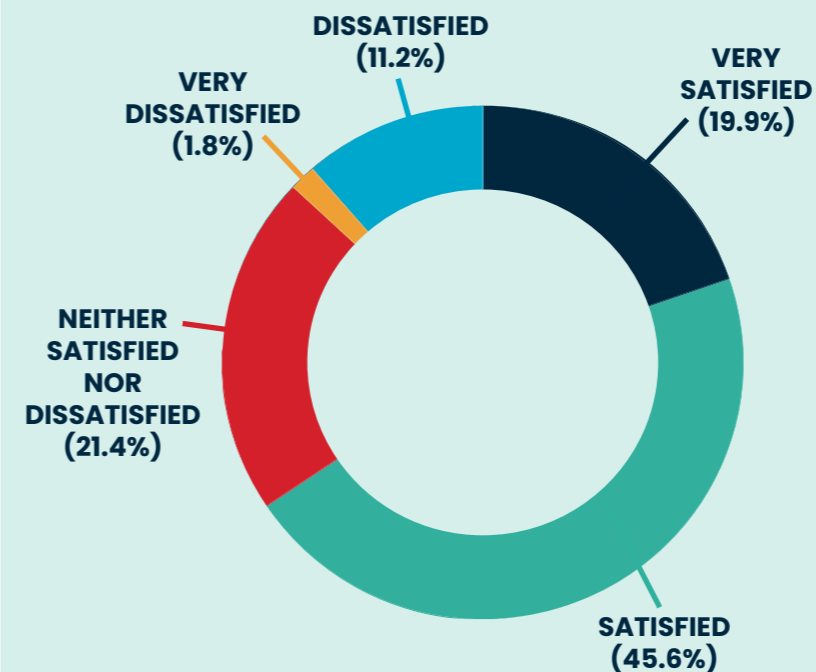
RURAL AREA: WOULD A GARDEN ORGANICS BIN BE USEFUL?



YOUR FEEDBACK - GARDEN ORGANICS BIN

- “ I would love if it was like Penrith Council's (along with many other councils) FOGO system ”
- “ Should be weekly in summer I mow the lawn weekly and pickup is fortnightly ”
- “ Weekly pickup in warmer months would be wonderful ”

SATISFACTION LEVEL HOUSEHOLD BIN COLLECTIONS

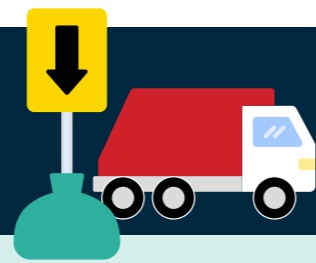


YOUR FEEDBACK HOUSEHOLD BIN COLLECTIONS

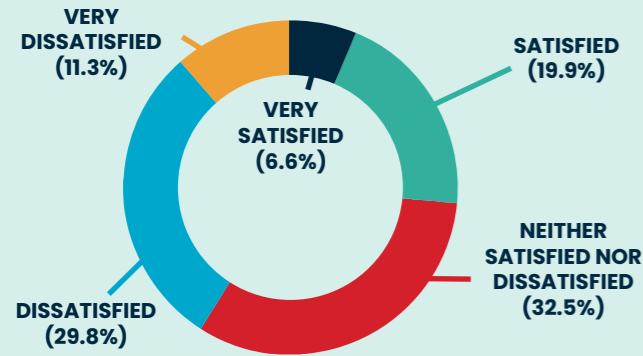
- “ Recycling should be weekly it would encourage people to stop putting rubbish into landfill as when bins are full they use normal bins to dispose of recycling. ”
- “ General waste and recycling waste collections are satisfactory but green waste needs to be more frequent in summer months. ”
- “ Love the extra recycling week around Christmas. I think it would be great to have another extra week around this time, as there is always a lot of extra rubbish and recycling. ”

WHAT WE HEARD

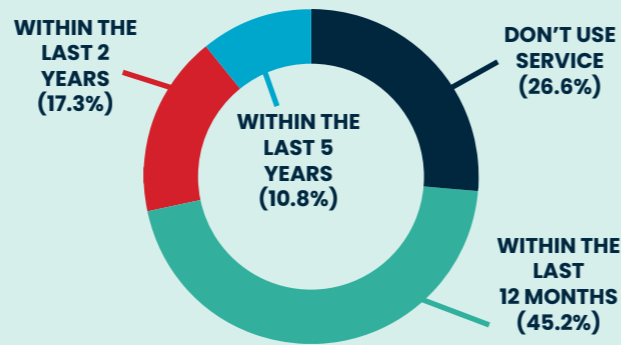
KERBSIDE CLEAN UP SERVICE



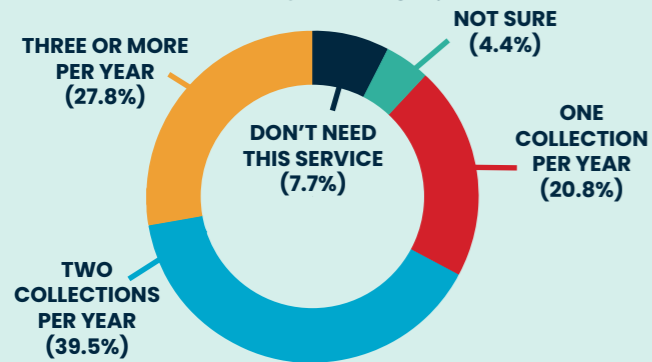
SATISFACTION LEVEL



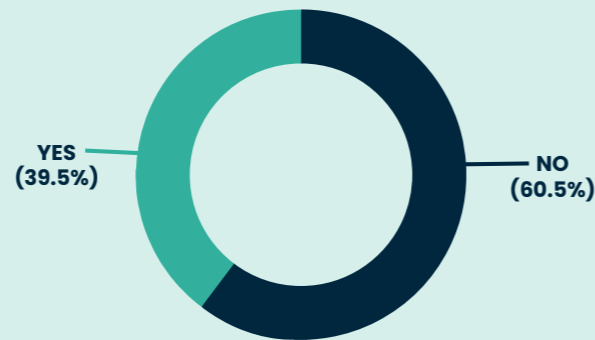
WHEN WAS YOUR LAST CLEANUP?



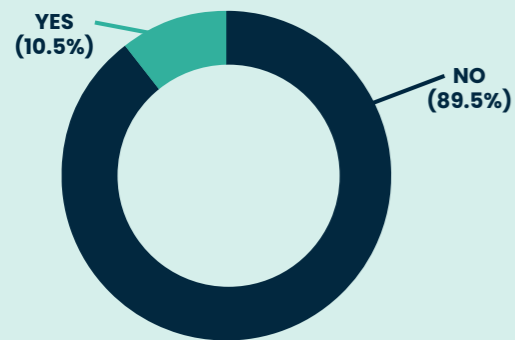
HOW OFTEN DO YOU NEED A CLEAN UP?



DO YOU SUPPORT THE CURRENT SYSTEM?



WOULD YOU PAY MORE TO HAVE ADDITIONAL CLEAN UPS?



WOULD YOU PAY MORE TO HAVE MATTRESS COLLECTIONS INCLUDED?



YOUR FEEDBACK

KERBSIDE CLEAN UP

“ Need to allow for free or next-to-free mattress (and similar) pickups to discourage illegal dumping throughout our area ”

“ 1 service per year is insufficient. Particularly when other councils have several free services per year. ”

WHAT WE HEARD

FOOD ORGANICS AND GARDEN ORGANICS (FOGO)



BIGGEST COMMUNITY BENEFITS OF FOOD ORGANICS AND GARDEN ORGANICS

TOP 3 RESPONSES



FOGO SYSTEM: WOULD YOU PAY MORE FOR A WEEKLY RED BIN?



YOUR FEEDBACK

HOUSEHOLD BIN COLLECTIONS

“ Our council fees are high enough and should not be increased ”

“ Families with children need the red bin collected weekly for dirty nappies etc. This service should not be taken away. ”

“ I think the same system that Penrith City Council uses should be adopted. Red bin fortnightly and green and yellow bins weekly. ”

WHAT WE HEARD

WASTE SERVICES AFFORDABLE AND SUSTAINABLE



LOWEST COST VS HIGHEST ENVIRONMENTAL BENEFIT

14% wanted the service which provided the highest environmental benefit

HIGHEST ENVIRONMENTAL BENEFIT
.....
260 PEOPLE

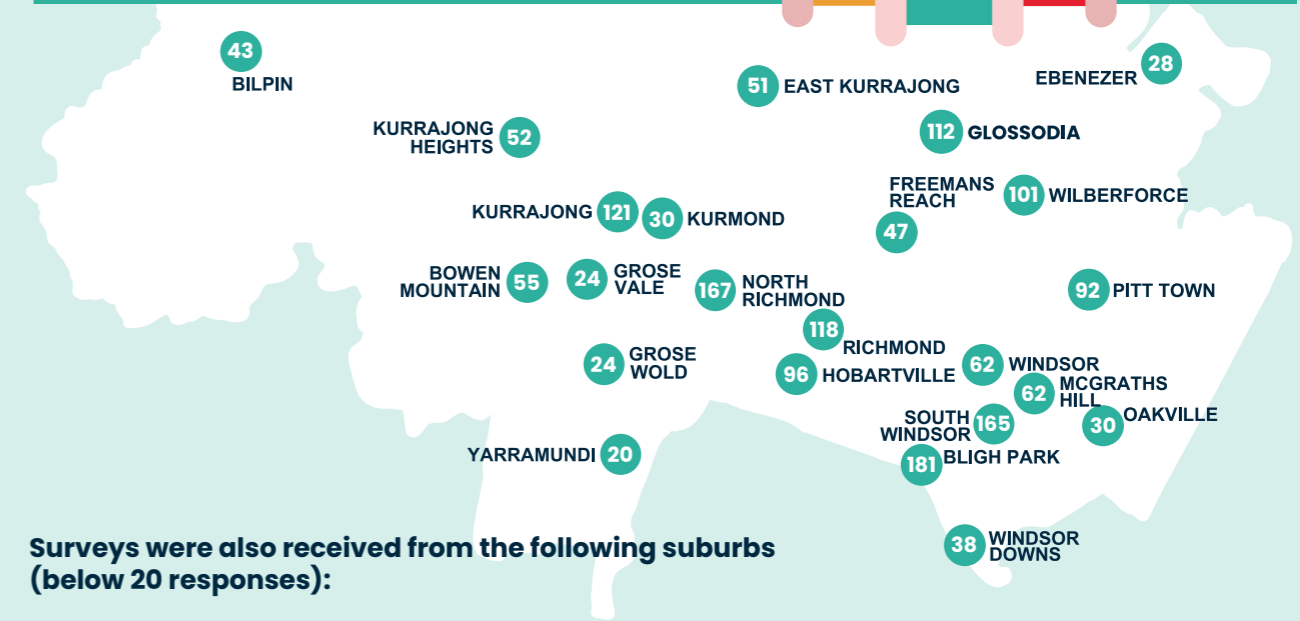
60% generally, wanted a balance between costs and environmental benefit

A BALANCE BETWEEN COST AND ENVIRONMENTAL BENEFIT
.....
1,161 PEOPLE

26% were focused on providing the lowest cost service

LOWEST COST
.....
487 PEOPLE

SURVEY DEMOGRAPHICS



Surveys were also received from the following suburbs (below 20 responses):

Lower Macdonald, Lower Portland, Agnes Banks, Maraylya, Blaxlands Ridge, Kurrajong Hills, Cattai, St Albans, Colo Heights, Berambing, Sackville, The Slopes, Cumberland Reach, Vineyard, Central MacDonald, Clarendon, Mountain Lagoon, Tennyson, Upper Macdonald, Central Colo Other, Upper Colo, Higher MacDonald, Webbs Creek

GENDER

FEMALE	MALE	PREFER NOT TO SAY
1,289 (67.6%)	546 (28.6%)	71 (3.7%)

AGE

18 AND UNDER	1	0.1%
19 - 25 YEARS	50	2.6%
26 - 35 YEARS	341	17.9%
36 - 45 YEARS	503	26.4%
46 - 55 YEARS	425	22.3%
56 - 65 YEARS	378	19.8%
66 - 75 YEARS	175	9.2%
76 - 85 YEARS	33	1.7%
86 YEARS AND OVER	2	0.1%

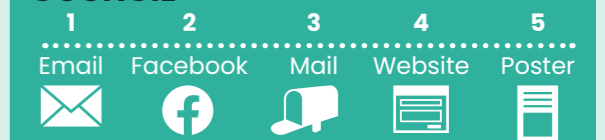
HOUSEHOLD SIZE

1	162	8.5%
2	599	31.4%
3	356	18.7%
4	474	24.8%
5 or more	317	16.6%

PROPERTY SIZE

Stand-alone house on less than 1,000 square metres	931	48.8%
Stand-alone house on 1,000 to 4,000 square metres	358	18.8%
Acreage: 1 to 5 acres	305	16.0%
Acreage: Over 5 acres	221	11.6%
Townhouse/Villa/Duplex	72	3.8%
Other	12	48.8%
Unit	8	18.8%
Retirement Village	1	16.0%

BEST METHODS OF CONTACTING COUNCIL



WOULD LIKE TO STAY UPDATED

YES	42.1%	NO	57.9%
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WASTE SERVICES

WHAT'S NEXT



STAGE 1 STAGE 2 STAGE 3 STAGE 4 STAGE 5



PAST SURVEY

WASTE AND RECYCLING SOCIAL RESEARCH 2021



WASTE AND RECYCLING SOCIAL RESEARCH 2021

Council in 2021 completed a representative phone survey within the Hawkesbury LGA asking residents about Council's waste services. Understanding residents' satisfaction with the current waste services, how they use Council's waste services and their receptiveness to the implementation of FOGO collections.

- Satisfaction with Council's Waste Services:
 - 75% of residents were satisfied or very satisfied with Council's Waste Services
- FOGO Collections
 - 66% of residents supported that Council should introduce FOGO collections
 - 56% of residents already using a separate bin to hold food waste
 - 40% of residents explained they see no barriers to using a FOGO bin system at home
 - However, the top three barriers for the remaining 60% of residents were:
 - 26% odour and mess
 - 17% lack of support from family and household members
 - 10% knowing what food types are eligible

BIGGEST BENEFIT OF FOGO:

- 33% of residents said the production of high-quality compost for farmers

RED BIN COLLECTIONS AND FOGO

- 60% of residents still prefer to retain a weekly red bin collection

KEY RECOMMENDATIONS:

FOGO COLLECTIONS:

- Further explore residents' receptiveness to FOGO collections and their preferences for kitchen caddies, compostable bin liners, and using a FOGO bin.
- Build support for FOGO collections by promoting the tangible benefits of diverting food waste from landfill, such as its role in the production of high-quality compost for farmers.
- When implementing FOGO collections be sensitive to residents' preference to keep red bin collections weekly, possibly by making incremental changes to the red bin service.

YOUTH ENGAGEMENT:

- For more efficient dissemination of information on its waste and recycling service Council could prioritise the use of social media amongst younger residents.

WASTE EDUCATION:

- Provide continued reminders about recycling "tricky" items such as meat trays and broken glass.



Appendix D

Detailed Plan for Strategy Implementation

This section provides a list of tasks associated with the key activities HCC has committed to in order to achieve the Strategy objectives. It is recommended that HCC review and update this task list as appropriate throughout the life of the Strategy to ensure the desired outcomes are being achieved, and to provide flexibility to respond to changing policy, market, or infrastructure developments.

Resource-responsible citizens

Goal 1: Reduction in waste generation per capita for households and businesses		
Action 1: Enhance existing waste avoidance awareness and education initiatives		Status
1.1	Maintain & where appropriate expand regional & community partnerships. Objective of task ensure HCC remain up to date with current programs, such that there are cross-jurisdictional campaigns have a consistent message, & efficiencies gained through collaboration	Current and Ongoing
1.2	Develop and support community-based sustainability initiatives that involve waste avoidance themes, including holding community workshops.	Current and Ongoing
Action 2: Targeted food waste avoidance and recovery programs for households and businesses		Status
2.1	Build upon HCC's Compost Revolution program to assist residents to home compost and reduce the amount of food waste they put in the household red bin.	Current and Ongoing
Action 3: Expansion of re-use initiatives		Status
3.1	Investigation opportunities to scale up Re-Use shed at HCWMF, and implement changes if it makes social, financial, and environmental sense to do so.	Current and Ongoing
3.2	Continue to support and promote community-based initiatives such as Hawkesbury Remakery, Men's Shed, and other similar organisations. Investigate opportunities to scale up this partnership to divert more bulky waste from landfill and foster a re-use culture in the Hawkesbury.	Current and Ongoing
Goal 2: Waste is sorted at source to maximise opportunities for recovery		
Action 4: Enhance existing recycling education to support correct usage of the existing and/or expanded services		Status
4.1	Conduct ongoing kerbside bin campaign, audit, and inspection programs, including Visual contamination audits Enhance use of In-Vehicle Monitoring System by collection contractor Composition audits every 3 years, or as required and other campaign/program in response to evolving issues	Current and Ongoing
4.2	Promote the container deposit scheme (CDS).	Current and Ongoing
Action 5: Council leads by example through waste reduction, recycling, and sustainable procurement		Status
5.1	HCC to audit their own waste generating activities and implement waste reduction measures where practical. HCC to share lessons learned with other Councils and local business.	New
5.2	HCC builds upon frameworks for waste free events and investigates opportunities to provide event waste management infrastructure (e.g., wash up stations or cup exchanges).	Current and Ongoing
5.3	Consider an industrial ecology platform for a materials exchange among local businesses.	New

Generational legacy

Goal 3: HCC's waste management system is adaptable to changing policy and market circumstances		
Action 6: Engage the NSW and Federal governments to advocate broader policy review, reform, and strategic infrastructure planning that is sensitive to the needs of the Hawkesbury and the broader Western Sydney Region		Status
6.1	Engage with the NSW Government regarding waste regulation, policy and standards that have implications for Hawkesbury's strategic objectives.	Current and Ongoing
Action 7: Research partnerships that benefit HCC and broader waste industry		Status
7.1	Explore opportunities to build on the previous collaboration or new partnerships with Western Sydney University, University of Technology Sydney, TAFE, and other institutions to facilitate trials and research.	New
Goal 4: HCC's waste management system is in alignment with principles of the waste hierarchy and ecologically sustainable development		
Action 8: Review service delivery models for best practice resource recovery and cost effectiveness, and where appropriate implement changes		Status
8.1	Waste Collection and Processing Contracts: Progress procurement processes, through market sounding, partnership investigations & confirming performance expectations. HCC to remain flexible for opportunities to respond to changing policy & market conditions, & new infrastructure in the pipeline.	New
8.2	HCWMF continues to provide sorting & disposal opportunities for residents, & over time increases re-use & recycling opportunities (e.g., recovery niche waste streams, hosting social enterprise recovery initiatives & supplementary on-site recycling activities where feasible)	Current and Ongoing
8.3	Offtake opportunities for waste and industrial by-products are considered in HCWMF master planning. The principles of circular economy and industrial symbiosis are at the forefront of planning for future uses of HCWMF.	Current and Ongoing
8.3.1	Small Scale Technology to support recovery of food waste has been identified as a particular focus area. However, scale and secure offtake markets is required for this to be a viable solution for HCC. This would need to be competitive with third party organic waste recovery services currently on the market.	New
8.4	Educating the community about future waste management needs, such that they are part of process for change. HCC to consider providing public updates on their progress away from landfill and towards solutions that maximise resource recovery.	Current and Ongoing
8.5	HCC has contingency waste management plans and processes in place to respond impacts of natural disasters, climate changes and other potential disruptions.	New

Goal 5: Services are simple to use, accessible, convenient, and sustainable to the community		
Action 9: Improving upon and expanding the existing service offering to residents		Status
	Status	New
9.1	Where feasible to the community, consider increasing residual waste collection service frequency from fortnightly to weekly.	New
9.2	Investigate potential solutions for residents on un-serviced roads to better access collection services.	New
9.3	Review opportunities for smaller satellite drop-off facilities or event-based services. For example, the existing Remote Area Problem Waste Collection Events	Current and Ongoing

Environmental stewardship

Goal 6: Reduce litter		
Action 11: Implementation of targeted education, awareness, and enforcement activities to address littering.		Status
11.1	Education and awareness activities are consistent and efficiently delivered through utilisation of existing state and regional programs.	New
11.2	HCC (in collaboration with EPA where relevant) investigate incidents of litter, issue fines and promote this to the community.	Current and Ongoing
Action 12: Key government, non-for-profit and private sector stakeholders are involved in environmental management.		Status
12.1	HCC work with stakeholders in the shared responsibility of litter management and protection of the environment.	New
Goal 7: Reduce incidences of illegal dumping		
Action 13: Implementation of targeted education, awareness, and enforcement activities to address illegal dumping.		Status
13.1	HCC (in collaboration with EPA where relevant) investigate incidents of illegal dumping, issue fines and promote this to the community.	Current and Ongoing
Goal 8: All waste management activities are undertaken to meet or legislative environmental compliance requirements		
Action 14: HCC's takes a pro-active approach to environmental legislative compliance in all aspects of their waste management activities.		Status
14.1	Continue to undertake compliance assessments at HCWMF and implement measures to improve environmental performance.	Current and Ongoing



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