



Research into FOGO bin use -Short-form survey and focus group findings

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ak research & consulting,

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The research suggests that while the FOGO bin service is valued, there are significant opportunities to improve understanding, compliance, and participation through targeted communication, service enhancements/ refinements, and education.

Key data:

Disposing of food scraps:

- 85% use the council provided FOGO bins (62% use it as their main way)
- 38% use compost or worm farms (19% main way)
- 24% feed them to animals (4% main way)
- 22% use rubbish bins (6% main way)
- 15% use an in-sink waste disposal unit (4% main way).

Estimated weekly food waste:

- 36% at least one 2L ice-cream container
- 48% less than one container
- 16% none at all.

Amongst those who use the FOGO bins:

- 98% use it for garden waste, 84% for food scraps
- 23% use newspaper, 13% use compostable bags and 10% use paper bags to transfer food scraps.

Perception of what's allowed in FOGO bin

- Fruit and vegetables, citrus peels and onion skins (> 87%).
- Cooked food (78%), meat and fish (76%).
- More uncertainty regarding whether the following were allowed in the FOGO bins, with awareness of:
- 67% dairy, 60% avocado stones and corn cobs and 50% bones and shells.

Executive summary

Behavioural Change and Compliance:

- Many households mainly use the FOGO bin for garden waste, with food scraps making up a small volume of the FOGO bin (in the focus groups respondents estimated it was around 10% or less of capacity). Limited knowledge about permitted food scraps, beyond fruits and vegetables, suggests there is potential to increase the collection of other types of food scraps.
- Seasonal variations in bin use, particularly lower usage in winter, indicate that consistent messaging and education efforts may encourage year-round continuous participation.

Environmental Impact:

- The research highlights a gap in understanding about the environmental benefits of using the FOGO bin versus sending food scraps to landfills. Without proper education, many users may not fully appreciate how diverting organic waste can reduce greenhouse gas emissions and benefit the environment.
- There is an opportunity to increase awareness around the lifecycle of food waste and the role composting (both via the FOGO service and at home) plays in reducing our carbon footprint, but this requires strategic communication and education initiatives.

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Information Gaps Leading to Confusion:

- Misunderstandings around what can and cannot go into the FOGO bin, especially after recent changes, may be leading to contamination of the waste stream and lower use.
- The lack of detailed knowledge about the composting process and the final destination of the waste collected could lead to mistrust in the system and lower compliance. Providing more transparency and detailed information on these processes will be useful in maintaining and increasing user participation.
- The Council should offer clear and timely updates on the development of local composting facilities, including addressing community concerns such as odours and other potential impacts, to foster trust and participation in the service.

Service Modifications Could Improve Participation:

• The research points to potential improvements in the service, such as offering different bin sizes, allowing the use of appropriate compostable liners, or paper to wrap food scraps. These changes could remove some of the barriers to use and make the service more appealing to a wider audience.

Executive summary (cont.)

The survey showed high FOGO bin usage, with it being the most common way to dispose of food scraps. However, there remain some significant barriers to use.

Key data:

Frequency of use

• 71% use the FOGO bin weekly, while 18% use the FOGO bin fortnightly.

Key negatives of users of FOGO bins:

- 26% find the bins smelly and dirty
- 8% said it attracts animals.
- 42% said nothing bothered them about the bins.
- What was least liked about using the FOGO bin was the smell, that it attracts flies, hardly needs to be used and it was hard to clean.

Communication Strategies to Enhance Use:

- Different age groups and household structures have different preferences for how they receive information, which underscores the need for a multi-channel approach to communication. This will ensure broader reach and resonance across the population, especially among younger families who are generally more eco-conscious.
- Leverage trusted local experts such as waste management experts and staff directly involved in composting (like facility managers) to communicate important updates. Their proximity to the service operations fosters trust and they are perceived as credible voices. The more sceptical want more transparency around overall outcomes.
- Use minimal text, simple graphics, and bright colors to capture attention. The format should be easily digestible, using bullet points rather than lengthy paragraphs. Adapt materials to cater to different linguistic or cultural groups within the community.
- Emphasise the personal impact of using the FOGO bin, like reducing waste and contributing to a cleaner environment and highlight the local benefits (e.g., "Your food waste will become compost used in local parks and gardens"). Can highlight the practicality of using the FOGO bin to manage waste, as it's picked up weekly (so reducing smells) while also alleviating pressure on the red bin.
- Messages should focus on how small actions—such as separating food waste can lead to significant positive changes, appealing to residents' sense of responsibility and the impact on future generations.

Executive summary (cont.)

Potential for Increased Engagement with Proper Tools:

- The research suggests that the introduction of specialised kitchen caddies could act as a behavioral nudge, encouraging more people to participate in food waste recycling by making it easier, cleaner, and more convenient.
- If possible, allow the use of compostable bin liners as this may encourage some to use a kitchen caddy and the FOGO bin (especially those who dislike the smell and 'dirtiness' of the FOGO bin).

Key data:

Use of kitchen caddy or container to transfer food scraps Those who use the FOGO bins for food scraps:

• 40% use a special caddy and 37% use a repurposed container before putting them in their FOGO bin.

Kitchen caddy or container is mainly stored under the sink / in kitchen cupboard.

Those who use a container:

• 54% have it under their sink or in a kitchen cupboard and 40% keep that container on their kitchen benchtop.

Kitchen caddy/ repurposed containers

- Sealable (tight) kitchen caddy useful for some
- How to use repurposed container give examples of what some people are using

• Note compostable bin liners work for some

Addressing smelly and dirty bins

- Clarify use of newspaper, compostable bin liners (and reasons why they cannot be used if not permitted)
- Make service improvements where possible – annual cleaning of bins, match bin size to household needs etc.

How to use FOGO bin

- Weekly collection which helps manage load on 'red rubbish bin' which is collected fortnightly
- Acknowledge seasonal use
- Clarify viable amounts that can be collected (e.g. $\ensuremath{^{14}}\xspace$ full)
- Clarify use of newspaper, compostable bin liners (and reasons why they cannot be used if not permitted)

Specific communications

Target/ profile audience

- Those not using the bin (more sceptical about outcomes)
- Those using the bin but could be doing it better (lower knowledge of permitted food scraps)
- Smaller households, those with children (tips on reducing food waste)
- Target information to the lead householder (recycling and food waste management)
- Target information for those with large gardens (more likely to home compost/ use worm farm) may perceive FOGO bin as not that useful to them, not aware that FOGO bin can take food scraps not home composted/worm farm

Communications *Building support/ addressing barriers*

- Benefit to future generations:what happens to food scraps in landfill
- Benefits to local community: what happens to food scraps locally
 - Commercial composting facility/ local compost/ reduce need for more landfill/ cleaner, less smelly landfill
 - Local outcomes
- Use a trusted source Council staff(those close to the operation) along with compositing facilities spokesperson
- Multi-channel approach for different generations, target audiences

• Up-to-date information on what can and cannot go in the FOGO bin

Increasing knowledge

- Reaffirm what can go in FOGO bin that is different to home composting and worm farms
- Keep information up-to-date and simple in delivery

Introduction

Background

This research was commissioned by the Ministry for the Environment (MfE) as part of a larger study exploring food waste reduction and diversion for council managed Food Organics and Garden Organics (FOGO) collections. There were three parts to the research:

- Outcome 1: Audits of FOGO bin contents
- Outcome 2: Short-form survey among residents
- Outcome 3: Qualitative research among residents.

Five locations (local councils) were included in the research:

- The councils included all have a collection service operating and included: Central Otago District Council, Christchurch City Council, Mackenzie District Council, Timaru District Council and Waimate District Council.
- The FOGO bin audit research is reported separately. See hyperlink below:

https://environment.govt.nz/publications/fogo-research-bin-audit-findings

• A summary report is available. See hyperlink below:

https://environment.govt.nz/publications/fogo-research-summary-report

The initial short-form survey of residents in the local council areas was undertaken where residents were canvassed for their use of the collection service, how they were using the FOGO bin, knowledge of what was included as food scraps and how they currently disposed of their household food waste.

- As part of this survey, participants were informed they could be contacted to take part in follow-up qualitative research. All participants had the opportunity to opt out.
- The short-form survey was conducted in Mid-April Mid June 2024.

Follow-up qualitative research that comprised of 10 focus groups was conducted in July 2024 to explore in more detail residents' experiences of the service. The qualitative research included mainly those who were using the service but also included some participants who were not.

This report comprises the findings for both Outcomes 2 and 3 in a combined qualitative / quantitative report.

Objectives

Outcome 2: Short-form survey

The main objectives of the quantitative research were to understand how households were using their FOGO bins and to provide data for comparison with the FOGO bin audit.

Specific objectives were to:

- Understand how residents are using or not using their FOGO bin kerbside collection service
- Explore whether and why they use or do not use their FOGO bin for food waste
- Explore knowledge and awareness of what can /cannot go in their FOGO bins
- Explore how residents are disposing of their food waste if they are not using their FOGO bins.

In addition, the survey would inform participants of a follow-up qualitative stage to explore in more depth their experiences of using the FOGO bin. (Outcome 3).

Outcome 3: Focus group research

The objectives of the qualitative research were to explore with residents their experiences of using the service and specifically to explore:

- How they were using the service with a focus on understanding how food scraps were being disposed of
- Understanding and knowledge of what constitutes food scraps and what can and cannot go in the FOGO bins
- Improvements to the service and what might encourage others to use the service
- Knowledge and awareness gaps on benefits of the collection service
- What communications would work best to inform them about the service and any updates.

Target Audience

Outcome 2: Short-form survey

 Residents living in the local council areas for the research: Christchurch City Council, Timaru District Council, Mackenzie District Council, Waimate District Council and Central Otago District Council.

The survey sample was developed to include participants who use the FOGO bin service and those who do not in the specific council locations.

A range of streets in each council area were identified to provide a mix of household demographics.

Outcome 3: Focus group research

- Residents who were using the FOGO bin service. Some non-FOGO bin users were also included.
- The recruitment ensured we included residents from all five council locations and a mix of household types.

Reporting

Reporting

This report is an integrated summary report of the short form survey findings and the ten discussion groups conducted.

The quantitative research findings are based upon questions asked in a paper and online survey of n=1085 people

- Reporting notes:
 - In the writing up of this report we have used the term FOGO bin to streamline the reporting and make it easier for the reader.
 - The term **FOGO bin** is used throughout this report when commenting on the use of the green organics bin. Where the questions in the survey specifically refer to green organics bin (considered more user friendly to the respondent than FOGO) we use the term 'green organics bin'.
 - The term kitchen caddy is used throughout this report when referring to the kitchen bin or container used to transfer food scraps to the FOGO bin. Where the questions in the survey specifically refer to the kitchen bin we use the term 'kitchen bin'.
- Not all respondents answered every question. Given this, the base varies marginally from question to question as each result is out of only those who answered the question.
- All numbers are shown rounded to zero decimal places, hence specified totals are not always exactly equal to the sum of the specified sub-totals. The differences are seldom more than 1%.
 - (For example, 2.7 + 3.5 = 6.2 would appear: 3 + 4 = 6.)

The qualitative research findings capture the high-level themes across all participants from the discussion groups. Where there are local or demographic differences these are referred to. Verbatim quotes have been included in the report to provide context, these have been anonymised.

The different councils are anonymised and referred to as Council A, B, C, D when needed for any differentiation. Christchurch City Council has given permission to be identified.

The methodology for both the survey and focus groups are outlined in more detail in the appendix: see slides 73-78.

Report findings: Attitudes towards environmental behaviours



Key findings: Attitudes towards environmental behaviours

- While the environment and climate change were important issues and figured in the top 3-5 issues for some respondents, the overriding issues were the cost of living, health and housing which impacted directly on everyday life.
- And for many having an impact on the environment and climate change goals seemed out of reach and more the remit of governments and business at a global level.
- Recycling was the top-of-mind environmentally beneficial behaviour that most claimed to do, reinforcing the fact that recycling was an embedded behaviour over a couple of generations now. Making efforts to reduce and purchase wisely, save power and petrol were also mentioned.
- Key motivators were that this was something all in the household could easily contribute to, was the right thing to do, and in addition helped save money. Living busy lives and for some living in small centres with less options, with longer travelling distances made it more difficult for these residents.
- While recycling was generally being undertaken respondents admitted to varying levels of commitment and adherence to the rules. Ensuring the right things were being recycled and that items were cleaned was not universally being done. While many said they shared the responsibility for managing the recycling, generally there was one lead in the household who would take responsibility for checking the rules and putting the recycling bin out.
- Most said they would try to get things repaired. However, the success of getting things repaired was highly dependent on the skills within the household (handy person, someone who can mend, sew, alter garments etc). Furthermore, sometimes the cost of the repair and lack of warranty resulted in the repair not being viewed as worthwhile.



Issues facing New Zealand

- The overriding issue facing New Zealand was seen to be the current cost-of-living crisis. This had clear implications, with the focus on the cost-of-living meaning that many people were more focused on short-term rather than long-term issues. However, there were also opportunities to leverage messaging around managing waste if actions could be linked with potential cost savings.
- Other key concerns were the health system and housing (mainly in relation to affordable housing, both in terms of purchasing or renting).
- The environment and climate change did feature as issues but at a lower level. Justifying its lower priority, many noted that it was not currently impacting on their day-to-day lives like the cost-of-living, which made the latter a more pressing issue. A small number, felt that New Zealand was lucky and that the environment here was in better shape than many parts of the world.
- For those with concerns, many felt that issues needed to be dealt with to preserve the environment for future generations. Some younger participants noted feelings of disillusionment about the state of the environment and the lack of progress to address issues. Environmental issues raised were spread across many areas, including, pollution generally, water quality, invasive species, pests, and overfishing. Waste was only specifically mentioned by one person. Climate change warranted its own category.
- A barrier to action was a view held by many who were both concerned and not so concerned with the state of the environment; namely, that the scale of the problem was too large for individuals to tackle so they tended to put it out of their minds. There was also a belief that it was a global problem that New Zealand has a limited impact on.



I think it's really important, but I think there are some really serious issues that need to be addressed before we can even look at talking about the environment because people's lives are not great. People aren't interested in looking after the greater good or what have you because they're looking after self first because all of their needs aren't met. (Urban/Provincial)

I come from the idea that most of the environment things that can be done to save or do better on the environment can't realistically be done at the individual level. It takes the government or large corporations to really pull their weight to make an impact. (Urban/Provincial)

The impact of households on the environment

- The most mentioned actions that households could do to help the environment were to recycle correctly, compost, reduce waste/ petrol use/ power use, to buy only what you need, and to purchase consciously.
- The key motivators for households to undertake environmentally friendly behaviours were that they felt like they are contributing and "doing the right thing" and as an added bonus, many of the actions were seen to save money.
- However, undermining commitment to environmentally friendly behaviour was the feeling that their actions were not really having much impact – and that businesses and other countries needed to be doing their bit, rather than just individuals.
- Other barriers to undertaking more action was the convenience and ease provided by non-environmentally friendly actions, especially given busy, modern lives.
- Some living in smaller centres, also noted that it was harder to access environmentally friendly options.

Obviously, recycling would be the top one and recycling properly, I mean washing your recycling and I'm pretty sure we don't recycle lids in [City], so I tell my partner to take the lids off the milk bottles and things like that and using reusable yogurt pouches for my little one instead of buying separate pouches five times a week. (Urban/Provincial) Actions undertaken by households:

- Recycling:
 - Ensure sorted correctly
 - Soft plastics
 - Compost/ worm farm
 - Use FOGO bin
- Reusing:
 - Use reuseable containers, bags, straws
 - Buy second-hand items/ donate
 - Reuse items
- Reducing:
 - Water use
 - Power use
 - Amount of packaging/ plastic/ waste
 - Only buy what you need
 - Petrol use walk, bike more, EV
- Educate family
- Conscious purchasing:
 - Source local
 - Buy environmentally friendly products
- Self-sufficiency:
 - Grow own vegetables and meat.

Recycling

- All participants claimed to recycle, however, it was clear that there were varying levels of adherence to rules and the care taken.
- Not seen to be helping was confusion over what can and can't be recycled with this impacting on their confidence that they were getting recycling 'right'.
- There was also seen to be a perceived burden in doing everything right. Including:
 - Needing to research the rules
 - Proper cleaning of items (which can be quite messy and dirty)
 - Time needed to clean items.
- Recycling tended to be a joint task, with most householders playing a part, even if this just meant putting empty containers into the recycling bin. It was talked about as being an ingrained habit in the household.
 - However, there was often one person that took the lead and was more passionate about getting the task done 'right' and one person that put the bin out.

But I myself probably am even guilty of not knowing what plastics are able to go in the recycling bin. You just sort of go, oh, well, generally plastic containers, this and that, that can all go in the recycling bin. But I have sort of been made more aware recently, I think that was sort of brought up nationally, that some plastics that people are putting in the bin and the recycling aren't able to be recycled. So then it's creating more waste and more time for the workers to then have to sort through what is able to be recycled. (Rural)

- Doing the right thing/ offsetting impact of humans
- Red bin full
- If done wrong, bin not picked up
- Seen as easy to do



Repairing

- In the focus groups most claimed that they would try to repair items, but this was very dependent on the type of item that was broken.
- The majority that said they would try to fix items noted that this would mostly apply to items that just needed a bit of glue or tape.
- For others, it was dependent on the skills they or someone in their household had. Common types of repair were related to sewing or building/ DIY skills. Fixing electronics was seen as a more specialist skills that most would not be willing to take on personally.



Barriers to repair:

- Finding places that will fix items (hard to get parts, businesses don't like to both fixing small items)
- For low-cost items it was seen as cheaper and easier to replace with a new item
- Items manufactured to be replaced not repaired, "we're a throwaway society"
- Belief that if an item broke, it is probably near the end of its life
- Items to be repaired accumulate and people felt that their house can become crowded with items
- Lack skills to fix many types of items
- Cost to repair (parts) or to pay someone
- Often unsuccessful fixing items
- Cost to fix nearly the same as replacing and there is no warranty.

Motivations to repair:

- Have the skills
- Internet a great 'how-to' resource
- Don't have the money to buy a new replacement item
- Know it is more sustainable
- Have 'give it a go' attitude.

Differences by Council – Background and context

Council A	Council B	Council C	Council D	Christchurch City Council
 Cost of living, health top issues Environmental issues – general, waste, climate change (more likely to be concerned on prompting) 	 Cost of living, health top issues Environmental issues – general, use of land/ resources, pollution, climate change 	 Cost of living, health top issues Environmental issues – general, climate change 	 Cost of living, health top issues Environmental issues – pollution (lower priority) 	 Cost of living, health top issues Environmental issues – general, climate change, water quality
 Range of household actions taken 	 Range of household actions taken but harder to buy locally 	 Range of household actions taken 	 Range of household actions taken but harder to buy locally 	- Range of household actions taken

- Similar attitudes across Council regions on repairing

Report findings: Defining and disposing of food scraps



Key findings: defining and disposing of food scraps

Defining food scraps

 Food scraps were generally described as organic, biodegradable, or animal or vegetable based. However, it was noted that some of these were not allowed in the FOGO bin which causes some confusion.

Amount of food wasted

- Across all the groups, the majority stated they wasted little food; leftovers were saved for lunches or frozen and food (in fridge and pantry) managed to ensure little waste. The current cost-of-living crisis has made people more conscious of their food bills and not wanting to waste food.
- This was supported by the quantitative research with 48% saying they waste less than one 2L ice cream container¹ and 16% saying they waste no food at all per week. Older residents were more likely to say they waste no food.
 - A third said they waste at least one 2L ice cream container a week.
- The tendency to waste more food appeared to be related to household type, with households with children and some smaller households claiming larger levels of food waste. Those with children noted they could be fussy eaters, while smaller households sometimes struggled to get through food or packaged goods bought were too large for one or two.
- Typical food wasted was usually due to young children (refusing some foods/ changing their minds/ dropping food), food lost at the back of the fridge/ freezer, food past is use by date, some foods more likely to go off and leftovers not being eaten in time.

Managing food waste

- Dealing with food scraps was mainly the prerogative of the cook. It was noted that dealing with food scraps was not as easy a household task as recycling with more variability among different household members.
- The FOGO (green organics) bin was often being used alongside home composting/ worm farms and in-sink disposal units. Less common food waste disposal methods but still in use by some were burying scraps directly into the garden, burning scraps and putting them into the red bin.
- The quantitative findings indicate the use of the FOGO bin was high with most using it for their food scraps and six in ten using it as their main way to dispose of food scraps. Over a third were composting or using a worm farm to dispose of their food scraps.
 - Overall, 85% of respondents used the green organics bins for disposing of household food scraps. Other ways of disposing of food scraps include:
 - 38% use compost or worm farms
 - 24% feed to animals
 - 22% place in rubbish bins
 - 15% in an in-sink waste disposal unit.
 - Nearly two thirds (62%) said the main way they dispose of food scraps was using the green organics bins, 19% compost or worm farm, 6% in rubbish bins, 4% to animals and 4% through a waste disposal unit.
 - Those with large gardens were more likely to compost or have a worm farm compared to those with a small garden.

19 1 This refers to the food thrown away that could have been eaten.

Definition of food scraps

- The definition of food scraps ranged from broad definitions to lists of specific items. In broad terms, food scraps were defined as:
 - Anything once living
 - Anything animal or vegetable based
 - Anything organic
 - Anything biodegradable this one is problematic as it covers many items that are not allowed in the FOGO bin.

- Specific items mentioned were:
 - Bones, meat, fish, shells
 - Off cuts, peels from food preparation
 - Fallen fruit
 - Leftovers
 - Vegetables and fruit that has gone off
 - Expired food
 - Mouldy bread
 - Flowers.



The amount of food waste

- Most claimed to only waste a small amount of food. This low waste approach appeared to be driven by a wish to be more sustainable and becoming more conscious of their consumption. The current cost-ofliving crisis was also making people not want to waste food (particularly meat).
- For those that admitted to wasting quite significant amounts of food, it was usually due to their children. Children were seen to be fussier and messier with their food, often leaving food uneaten and inedible.
- At the other end of the spectrum, smaller households also admitted to wasting more food, as they often accidentally overcooked or bought too much food which could not be eaten before going off.
- Low waste households were employing many tactics to limit food waste, like having meal plans, only cooking and buying what they need, routinely eating and reusing leftovers, and preserving food that was close to its end of life.

[Waste?] I mean it kind of varies weekly, I think it just depends on how fussy my kids are being during that particular period. (Rural)

Very little. Very little. My partner eats everything is a leftover, he doesn't even heat it up, he just eats it cold out the fridge. Anything that my partner and my daughter don't eat the next day my dog will eat.. We don't peel potatoes, we just cook them with the skins on and eat them. We don't peel carrots. So we only really have very minimal, I would say we use quite a lot of it for cooking. (Urban/Provincial)



Produce higher amount:

- Have children (tend to be fussy, throw/ play with food which makes it inedible)
- Some smaller households (tend to overcook so often have leftovers, get sick of eating leftovers)

Produce lower amount:

- Do meal planning/ just cook (and buy) what you need – often driven by current cost-of-living pressures
- Family members eat leftovers
- Dog/ animals eat leftovers
- Reuse leftovers
- Freeze/ preserve leftovers or food that is getting old

The amount of food waste (cont.)

There were minimal differences among the councils on the amount of food wasted each week estimated by respondents. Around three in ten said they threw away at least 2L of food scraps and just under a majority said they wasted less than 2L a week. 16% said they wasted no food that could have been eaten.





- Households with those aged over 65 years were more likely to say they wasted no food (24%).
- Households with those aged under 40 years and younger were more likely to waste two 2L of food scraps per week.

- Three 2L containers or more
- One 2L container
- One-quarter to less than one-half of a one 2L container

- Two 2L containers
- One-half of a 2L container to less than one 2L container
- Less than quarter of one 2L container

Typical wasted food

Food wasted	Reasons
Food wasted by children	 Food mostly inedible once children have started eating it
Food past use by date (cheese, spices, sauces etc)	Only check use by days sporadically
Food lost in the back of the fridge or freezer	 No set schedule to clean out fridge or freezer
Food like bread, fruit and vegetables that have gone mouldy or rotten – seen to be a bigger issue in summer when they go off faster	 Often cheaper to buy in bulk, even if don't need it, which means there is more waste Too busy, forget what is in fridge
Leftovers left too long so inedible	 Forget about leftovers, end up eating out etc Household dynamics – small households sometimes find it hard to judge right amount to cook (especially if children have left home), get sick of eating the same leftovers

It'll be things like I'll buy too much broccoli or something and we don't eat it and then it gets all floppy and horrible. That would be wasted. It's mainly probably fruit and veggies that just get past or brown bananas. Now I make those all into muffins, but before I just put them in the recycling. (Urban)

Well, things like a cucumber or bean sprouts that have got a high water content and don't last as long in the fridge and you'll go to use it and you'll go, that's a bit yuck. And even a bag of spinach leaves that's gone a bit like slimy and things like that. Or obviously bananas that have gone really rotten, might save it for a cake, but probably more likely to biff it. (Urban/Provincial)

I do buy the mixed kind of salad stuff in the bag. Mainly I was too lazy to prep and it's like 300 grams or something for the whole pack. I barely use a third or a half of it before I throw that out. That'd be once every two or three weeks, I'd just buy one of them or what I've not eaten during that week. Same with burger buns or something, maybe I just don't go through them all, like buy six, use four, the other two just get thrown out. (Urban/provincial)

Well, yeah, stuff that's been in the fridge for a couple of days and it's been pushed to the back. I think cooked chicken is one of those things. And rice you're quite paranoid about that hasn't been eaten quickly. We have a number of fruit trees on the property. We haven't really made the most of those, of the apples and peaches and things. (Rural)

I've noticed too, I don't know if it's living in a small town, but you buy like bread from a supermarket and three days later it's already mouldy. (Rural)

Managing food waste

- Dealing with food scraps was often the task of the cook. Therefore, if cooking was a shared activity in a household, dealing with food waste was also shared.
 - There was also more reluctance outlined relating to the management of food waste. It was not seen to be a task that was as easy as dealing with recycling. (See Section: Perceived benefits and barriers to using the FOGO bin slide 51).
 - The motivations and barriers to recycle food waste varied across household members, sometimes making adherence and consistency of recycling food waste variable, unless one household member took on the management of this role.
- Common ways to deal with food waste were to use the compost/ worm farm, feed to animals, and using the in-sink waste disposal.
 - Less commonly, some mixed food waste directly into their garden, burned them, donated them, or put them in their red bin.
- The rationale for using the different disposal methods are explored further in following sections.

Composting/ worm farms/ mixing scraps into garden:

- Seen as environmentally friendly
- Benefit from being able to use the resulting compost/ worm juice.
- Benefits the quality of their garden soil.

Feed to animals:

- Provides free food for animals
- Provides a more diverse diet for animals
- Relatively mess free.

Burning:

Not common but an entrenched habit among a small group.

Managing food waste (cont.)

In-sink waste disposal

- There were some dedicated users of in-sink waste disposals, they tended to be older and liked the convenience and perceived cleanliness of using a waste disposal unit.
- They did not think about the negatives of using a waste disposal unit or felt there were minimal impacts.

Motivations:

- Easier to dispose of 'wet scraps'
- Can deal with waste instantly
- Easier and more convenient, especially when doing food preparation
- Too lazy to sort scraps and transfer to FOGO bin
- No smell from food scraps
- No space for a bin in the kitchen
- Bins are far away from house (more common for rural residents)
- No guilt as going into septic tank/ macerator and not into wastewater (rural residents).

So what would go into the red bin or the insinkerator would either be the bones from if I cook a lamb leg or something because it's too big to put it in the small container before taking out the green bin. And anything left over on the plate after a meal would just probably go down the sink or go in the red bin. I just want to clean the plate and get done. (Urban/Provincial)

So I'd be the insinkerator queen, but not stuff obviously that's too tough to go down the incinerator, like pumpkin skin or pumpkin seeds or bones or corn husks or whatever. That all goes into the green bin. We are quite good at that. Although I wouldn't put it in the red bin. I'd put it in the green bin if it didn't go in the insinkerator. (Urban/Provincial)

[Why are you using the insink disposal when you could be putting it in the food scrap bin?] *Convenience. Really to put it in the green bin, you either have to go outside with your food scraps and half a dozen plates or you have to put it in a small container in the kitchen and then take it out. Certainly for convenience reasons, now just put it down the sink and make it disappear. (Urban/Provincial)*

Managing food waste (cont.)

Red bin

- Putting food scraps into the red bin was claimed to be a relatively rare occurrence. The key drivers to use the red bin revolved around convenience factors.
- Perceived negatives of using the red bin were mitigated by the belief that they only put a small amount of food waste in the red bin and also that the food waste naturally broke down in landfill.

Motivations:

- Easier and more convenient when rushed, no extra step to take outside or transfer to FOGO bin
- If food is really decomposed, congealed or messy and would make it hard to clean out the FOGO bin – easier to wrap or put straight into the red bin. Most tend to have a bin with a liner in their kitchen for general waste which keeps messy waste contained
- For messy food waste like fat or oil, will put whole container into the rubbish bin rather than empty it out
- Only produce a small amount of food waste so don't feel it's a major problem to put in the red bin
- Misconception that some foods can't go into FOGO bin such as bones or meat.

Tea bags and if something's been right at the back of the fridge that's beyond salvaging the packaging, trying to clean it for recycling, then that has gone in the red bin as well.(Rural)

Yeah. If I buy the wrong baking paper and I don't get the biodegradable stuff often our scraps will go into the baking paper and then I just upend the whole lot into the red bin because it's the, it's on the wrong baking paper and if I pour the fat into the wrong container, it ends up in a plastic container and goes hard, I'll just bin that in the red bin. (Rural)

So our food scraps like veggie peelings and that sort of thing go into the green bin and like I say, protein goes into the red bin. Okay.(Rural)

[So avocado stones, they take too long for your home composting system, What do you do with those?] To be honest, they probably just go in the red bin. And that's just because, well, it's like 50:50. If my green bin is up near my kitchen area, then I will put the avocado stone in there. But if it's at the front of my house, it would be a two-minute walk to go and put it in there while I'm cooking. I'm probably not going to do that to be honest. (Urban/ provincial)

Disposal of food scraps

■ Overall ■ Council A ■ Council B

 Among a range of different ways to dispose of food scraps the vast majority dispose of food scraps using the FOGO bin. Other ways that featured highly were composting or having a worm farm. Two in ten said they dispose of food scraps in their rubbish bins.

Council C



What are the different ways you dispose of your household food scraps? Tick ALL that apply =



Council D

Christchurch City Council

Christchurch residents more likely to

Council B residents more likely to feed

sink waste disposal unit.

food scraps to animals.

place food scraps in FOGO bin or in in-

Main way to dispose of food scraps

• Nearly two thirds use the green organics bin as their MAIN way for disposing of food scraps. While around two in ten said their main way was composting or having a worm farm.

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And what is the MAIN WAY you dispose of your household food scraps? Tick only ONE



Compost or worm farm

Feed to animals

Other

- Place in council-provided green organics bin
- Place in rubbish bin

Dispose of through an in-sink waste disposal unit

- More likely using the green organics bin as their main way:
 - Council C residents.
 - Those with a small garden (67%)
 - Those who say they have one 2L container or more of food waste (69%).
- Council B residents less likely to use the green organics bin.
- Council B residents were more likely to feed food scraps to animals.
- Those with a large garden were more likely to compost or have a worm farm (25%) compared to those with a small garden (15%).

Base: All respondents (n=1080)

Differences by Council – Defining and disposing of food scraps

Council A	Council B	Council C	Council D	Christchurch City Council
- Consistent definition of food	scraps			
- Similar amounts and types o	f food wasted – more about hous	sehold type than Council region		
- Similar range of household activities to manage food waste	- Similar range of household activities to manage food waste	 Similar range of household activities to manage food waste higher use of insink waste disposal unit and red bin 	- Similar range of household activities to manage food waste	 Similar range of household activities to manage food waste – higher use of insink waste disposal unit
	 More likely to feed food scraps to animals Less likely to use the green organics bin as their main way 	 Less likely to have a worm farm or compost bin to dispose of food scraps More likely to use green organics bin as their main way 		- More likely to place food scraps in green organics bin or in in-sink waste disposal unit.

Report findings: Attitudes, knowledge and use of the FOGO bin



Key findings: Attitudes, knowledge and use of FOGO bin

FOGO Service

- The FOGO bin rated highly across all groups. All praised the weekly service and valued the ability to use it for garden waste and food scraps.
- The FOGO bin was filled mainly with garden waste, with most saying that food scraps only made up around 10% of the bin's capacity.
- This was confirmed in the quantitative survey; nearly all (98%) who use a green organics bin used it for garden waste and eight in ten for food scraps.
 - A much smaller proportion used the green organics bin for compostable packaging (17%) and paper or cardboard (13%).
- Those in the rural areas rated it very highly and were extremely pleased with the service. There were indications the ratings were slightly higher than urban/provincial areas mainly due to smaller bin size or minor service issues.
- Key positives were the weekly service, its convenience and ease of use, large size for some locations, perceptions that it was a good use of rates, and that it provided the ability to support the environment.
- In the quantitative survey a strong majority were using the green organics bin weekly (71%).
 - About a fifth (18%) used it fortnightly. 10% used it monthly or less, while only 2% don't use it at all.

FOGO Issues

- Conversely, there was some confusion about what can and cannot go in the FOGO bin (due to recent changes), the smell and difficulty cleaning the bins, the quality of the compost being made (may be contaminated by people not following the rules) and not being able to use newspaper to wrap food scraps in or line their bin. Confusion had been sown with changing rules and people tended to apply the same rules to the FOGO bin as they would to home composting.
- Only a few were not using the green organics bin service (quantitative survey). The main reasons mentioned for not using it were:
 - It was smelly
 - Not being able to use newspaper/ recycled cardboard to line the bin
 - Using alternatives such as composting, feeding animals or burying food scraps.
- While over eight in ten respondents were aware that fruit and vegetables (97%) and citrus peels and onion skins (87%) were allowed in the green organics bin, the quantitative findings highlighted lower knowledge of what other food scraps were allowed in the green organics bin.
 - Around three quarters were aware that cooked food (78%) and meat and fish (76%) were allowed; conversely around one in four were not aware.
 - There was also some uncertainty around bones and shells (50%), avocado stones and corn cobs (60%), and dairy (67%) with lower proportions stating they were allowed in the green organics bin.

Key findings: Attitudes, knowledge and use of FOGO bin

FOGO improvements

- Suggested improvements included; up-to-date information on rules, the option for bigger/ smaller bins, allow use of paper (newspaper/ recycled cardboard) to wrap food scraps and line bins, emptying bins properly, help with cleaning the bins, sealable lids and more consistency of rules across New Zealand.
- As the FOGO bin was filled mainly with garden waste this was impacted by the seasons and what was happening in the garden. Spring, Autumn and Summer were busy times while Winter was quieter.
 - While the weekly service was valued some noted that there were times especially during winter when the bin was not full each week and consequently the bin was put out less frequently. Some did not want to trouble the collectors with having to stop for a less than half-full bin.
 - It would be helpful if residents were informed what was a minimum amount that was viable for the collectors to stop and collect the food/garden waste.



Rating the FOGO bin

- The FOGO bin was rated highly across all groups with an average score of 8.9 out of 10.
- While only indicative as based on small numbers the FOGO bin was rated higher across residents of Council A, Council B and Council D, while it was lower across Council C and Christchurch City Council.
- The size of the bin in that latter area as well as some service issues may be the reasons for the lower scores.

Positives:

- Frequency: people liked that the bins were picked up weekly
- Convenient and easy to use: regularly use the service and means they don't need to take green waste to transfer station
- Size of bin: areas with the 240l bin liked that the bin was large and could take large amounts of green waste
- Good service: fixed broken bins promptly, takes all organic waste
- Value: seen as good value for their rates
- Helps the environment reduces landfill, raises awareness of waste, recycled into compost.

So, an eight, the weekly service is great because you get the food scraps or whatever are disappeared and there's no maggots and really, especially in summertime. (Urban/ provincial)

Yes, similar rating in eight. All of the positive is just towards the bin being there. I mean it's one of the things I feel like that we like most use from all the rates we pay that we most appreciate from what the council provides. So, no complaints with the actual bin. (Urban/ provincial)

I mean, I would give it a hundred. I cannot rave enough about how much I love it. I think it's convenient for garden waste. I feel better environmentally when I know that something is going to be turned into compost or whatever. I feel good using it. I don't feel guilty for putting things into it. When I put things into my red bin, I'm like, what could I have done better? (Rural)

I gave it a 10. [And how would you describe the service?] *Easy, convenient, helpful. I think it's pretty good. (Rural)*

I'd have to give it a 10. I've got no complaints or improvements. I feel like if mine was any bigger I wouldn't be able to drag it down the road to put it out. I feel like it's good because it does stop people putting their organics into the red bin, which in turn helps our landfills and I wouldn't have room at home for any of the clippings and stuff from the garden. So yeah, I really like the service. (Rural)

I say 10. I think it's really excellent. When they've been emptying the bin and they have spilled some they've picked it up as best they can and carried on and I think certainly no complaints there. (Urban/Provincial)

Rating the FOGO bin (cont.)

Negatives:

- Confusion: due to changes people were now confused about the rules
- Poor service: cracked bin when picked up, bins sometimes not picked up, bins not emptied properly, staff unfriendly
- Dislike changes: don't like that you can't wrap scraps in newspaper or line bin with newspaper, don't like that you can't use liners
- Smells: dislike smell, especially during summer. Noted that being able to wrap scraps used to help with the smell. Dislike having to clean a smelly bin
- Question quality of compost: worry that compost will be contaminated by pesticides, dog poo
- Location of composting facility: don't like that scraps are transported outside the area for processing, seen to negate some of the environmental benefits
- Size of bin: would like option for larger or smaller bin (mostly want larger bin) at no extra cost
- Separate bins: a few would like separate bins for food scraps and green waste.

Suggested improvements were raised in the groups:

- 1. Provide information on updated rules, purpose and importance of using
- 2. Have sealable bins in case they are knocked over
- 3. Provide option for bigger or smaller bins
- 4. Be allowed to wrap scraps in newspaper or paper towels/ line bin with newspaper
- 5. Council to clean bin once a year or rotate and provide clean bins
- 6. Have better communication about service non-pick-ups etc
- 7. Empty bins properly, shake the bin and check that it's empty
- 8. Find bin liners that can work in the FOGO bin
- 34 9. Have consistency of rules across New Zealand.

I would've preferred a smaller separate collection for food scraps. So it was food only and green only. [Why is that?] So mainly because if you don't in the middle of the winter and you don't have lawn clippings or you're not doing much gardening, the food waste gets stuck to the bottom of the bin. It's blooming hard to clean a big bin like that. (Rural)

But I do find the council to have a reputation for being quite combative. I've been told that the council employees are quite combative and then I called one day when they didn't pick up the bin and it wasn't close enough. They have a measurement of how far it needs to be to the edge of the street and I just feel like they have these internal rules that they don't publish and if you don't meet the internal rules, they're just like, well, tough luck. It was like two feet away from the curb and they were like, it was just a foot too far away from the curb or something. (Urban/Provincial)

The only thing I'm not too happy with, and that is if you get, as I have noticed with one or two neighbors, they'll end up with food stuff and it gets stuck in the bottom. I won't empty out, it goes off and you can smell it from miles away. To me, that's the only downside of putting food waste. Well certain types of food waste into that green bin. (Rural)

And I do wonder about how much contamination and things that are going into compost shouldn't really be going into compost too. [Is that from the food scraps or the garden waste?] Both. You'll have green waste, that'll have weed killers and things going in there too. I imagine that people are still putting in crap and then, I mean we can put dog poo in our green bin and who knows what's been in that. (Rural)

Use of the FOGO bin

- A majority used the FOGO bin mainly for green waste rather than food scraps.
- The focus on garden waste meant that some pigeonholed the bin as only for green waste, noting it would be seen as of limited value if only used for food scraps.
- The mix of waste put into the FOGO bin was seen to change seasonally. There was generally more green waste put in the FOGO bin during fast growing months (summer, spring, autumn), while in winter it may be less full and mainly comprised of food scraps.
- The heavy use of the FOGO bin for green waste, meant that many planned gardening tasks around bin pick up.
- The FOGO bin was generally kept with their other waste bins.
- Explored in the next section, the range of barriers and motivations for using the FOGO bin, meant that there were often differences to adherence and use by different members of a household. Often there was a person in the household that took on the role of overseeing the use of the FOGO bin to varying degrees of success.

Look, I put out very little food waste from my kitchen. Yeah, probably it would be 80 to 90% from my garden including lawn clippings, ruins and weeds and stuff like that. And maybe 10% food waste where I'm meal prep and stuff like that. (Urban/Provincial)

Mostly food scraps in the winter so it hardly goes out. I mean there's hardly anything in the bin at the moment. And when it's frosting like it is, I don't think it's getting too smelly. (Rural)



Use of FOGO bin (cont.)

Nearly all were putting garden waste in their green organics bin, while eight in ten put in food scraps. Across all, less than twenty percent were putting in compostable packaging or paper/ cardboard in the FOGO bin.



- By region:
 - Council C residents more likely to put food scraps and compostable packaging in the FOGO bin.
 - Council D residents less likely to put food scraps or paper/ cardboard in the FOGO bin.
 - Christchurch residents more likely to put in paper/ cardboard in the FOGO bin.
 - Council A residents less likely to put paper/ cardboard in the FOGO bin.
- By age:
- Those with people in household 65 plus were less likely put food 65 plus were less likely put food scraps, compostable packaging, or paper/ cardboard in the FOGO bin.
Frequency of bin pick up

- For users of the FOGO bin, the majority would diligently put out the FOGO bin each week for pick up. The main reasons for putting out the bin regularly were:
 - Have a reasonable amount of waste to put out most weeks (mostly green waste)
 - Wanting to ensure bin remains empty and capacity is available each week
 - Waste will start smelling and congealing if left longer
 - If not put out each week, they may decide not to pick up weekly
 - Ensures a regular flow of waste, rather than nothing, then a lot.
- For the minority that did not put out the bin as regularly, this tended to be based on seasonal trends.
 - In winter they had less green waste so the bin was often quite empty
 - In winter, the waste was not so smelly so it was okay to leave semi-full bins sitting for longer
 - They did not want to waste the time of the collectors by getting them to empty bins that were not very full.



Frequency of FOGO bin usage

• The majority are using the green organics bin weekly, with higher weekly usage in Christchurch (they have a smaller bin size) and lower weekly usage in Council B





ak research & consulting Base: All respondents (n=1079)

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The main reasons for not using the green organics bin were that they were composting, feeding to animals or burying in the garden. While those who have stopped using the green organics bin cited the change in not being able to use newspaper to line or wrap food scraps, or not liking the smell



Why don't you use the green organic bin collection?

Why don't you use the green organics bin collection anymore?	Why don't you use the green organics bin collection?	
Due to being told we are no longer allowed to put newspaper in there I no longer	We use a compost bin and feed to animals	
use this service. I wrapped my food scraps in paper prior to placing in bin to	I have a compost bin	
reduce the amount of things sticking to base and going from in there.	Compost instead	
• We would use it regularly until the rules were changed. Now we can't line the bottom with recycled cardboard so the food sticks and it gets smelly. We now	• We haven't signed up for a green organic bin as we would never use it. We compost all our scraps.	
wrap and place in the red bin, and burn garden waste.	Feed to chooks, pigs, worms	
• We are sick of tourists placing incorrect items in the green bin which then we have to dive in and remove, which makes it disgusting unhygienic and a waste of our time having a green bin. Increase the size of the red bin. We have put the green bin away!	Foods scraps are buried in the vegetable garden and plant material waste is composted	
	• Waste of time. Too big. Just put waste in red bin and down insinkerator	
	• I either have a trailer load of green waste (twice a year) or nothing. Bin is a	
It's smelly, attracts pests, and not lockable.	waste of time	
Haven't got time and can't be bothered with it. (too many bins)	The day does not suit, needs to be a Friday or Saturday	
Only one person in house and can't fill it	Its a holiday house	
Unsure of what is allowed to go in	Have other means of disposal	
Total n=7	Total n=8	

Base: Respondents who don't use the Green organic s bin

ak research & consulting

Misconceptions

• There were still a number of misconceptions about what can and cannot go into the FOGO bin. Confusion had been sown with changing rules and people tended to apply the same rules to the FOGO bin as they would to home composting.

Wrongly think cannot go into

- Bones and meat

- Avocado stones, stone fruit
- Egg shells
- Onion, citrus, banana skins

Rationale:

- Unsure so put in red bin
- Believes it slows the composting process (apply same rule as to home composting)
- Meat too smelly, doesn't seem right to mix with green waste

Correctly know can't go into

- Pizza boxes
- Tea bags
- Newspaper
- Compostable packaging
- Dog poo
- Fibrous plants, sprayed plants

Rationale:

- Recall information – original information, information on changes to what can go into bin

Wrongly think can go into

- Pizza boxes

- Dog poo
- Tea bags
- Compostable bin liners (only accepted by some councils)
- Newspaper as a liner (only accepted by some councils)

Rationale:

- Confusion over changed rules, will continue to put into bin unless clearly notified
- Organic and biodegradable

Misconceptions (cont.)

Overall

Nearly all knew that fresh fruit and vegetables could be put in the green organics bin, along with citrus peels and onions skins. While over three quarters
were aware they could put in cooked foods/ takeaways and meat and fish. However, there was some uncertainty around dairy, avocado stones/ corn cobs
and bones and shells being allowed in the green organics bins.

■ Council D ■ Christchurch City Council



■ Council A ■ Council B ■ Council C

By region:

- Council C residents were less likely to think they could put in avocado stones/ corn cobs or bones/shells.
- Council B residents were less likely to think they could put in citrus peels and onion skins, meat and fish, dairy, and bones/ shells.
- Christchurch residents more likely to know they can put in citrus peels/ onion skins, dairy, avocado stones/ corn cobs and bones/ shells.
- By age:
 - Those with people in household 65 plus were less likely to know they could put in citrus peels and onion skins, meat and fish, dairy, avocado stones/ corn cobs, and bones/ shells.

Base: All respondents (n=1072)

Differences by Council - Attitudes, knowledge and use of FOGO bin

Council A	Council B	Council C	Council D	Christchurch City Council
 Rated FOGO bin service higher (average 9.75) 	 Rated FOGO bin service higher (average 9.25) 	 Rated FOGO bin service lower (average 8.3) 	 Rated FOGO bin service higher (average 9.3) 	- Rated FOGO bin service lower (average 8.13)
- Limited negatives about service – potential contamination to compost, scraps shipped to Timaru for processing, pro separate bins for green waste and food waste	 Limited negatives about service – having to clean smelly bin 	- Wider range of negatives about service – change to rules, service issues, want larger bin, more sensitive to the smell	 Limited negatives about service – messy dealing with liquid waste, want larger bin 	- Wider range of negatives about service – change to rules, service issues, want larger bin, more sensitive to the smell
- Most commonly raised improvements consistent across regions – information on new rules, larger bins, able to use newspaper to wrap or line bin, source approvable bin liners (in Timaru and Christchurch improved communication on service)				
- Similar usage of bin - more about household type (e.g. large garden) than Council region				
 Some confusion about rules more putting in items that shouldn't 	 Some confusion about rules more not putting in items that should 	 More confusion about rules both putting in items that shouldn't/ and not putting in items that should 	 Some confusion about rules more not putting in items that should 	 More confusion about rules both putting in items that shouldn't/ and not putting in items that should
- Less likely to put paper/cardboard in the green organics bin	- Less likely to think they could put in citrus peels and onion skins, meat and fish, dairy, and bones/ shells	 Less likely to think they could put in avocado stones/ corn cobbs or bones/shells More likely to put food scraps and compostable packaging in green organics bin 	- Less likely to put food scraps or paper/ cardboard in the green organics bin	 More likely to know they can put in citrus peels/ onion skins, dairy, avocado stones/ corn cobs and bones/ shells. More likely to put paper/cardboard in the green organics bin

Report findings: Use of kitchen caddy



Key findings: Use of kitchen caddy

Using a repurposed container

- In the absence of distributed special purpose kitchen caddies most had improvised and were using a repurposed container such as an ice cream container or cookie time bucket to collect and transfer food scraps to the FOGO bin.
- Some preferred to use a kitchen bowl (no lid) that they would empty out at the end of the day rather than have a container with a lid in the kitchen over several days.
- Those with animals or home compost bins would have separate containers for the animals/ compost.
- Kitchen caddies were mainly kept under the sink or on the benchtop.
- Some however disliked using a kitchen caddy and preferred to transfer directly to the FOGO bin to eliminate smells and the chance of flies.
- In the quantitative survey four in ten use a kitchen caddy (special bin) and over a third use a repurposed container to transfer food scraps to the green organics bin.
 - Amongst only those who use the green organics bin for food scraps, 40% use a kitchen bin (kitchen caddy) and 37% use a repurposed container before putting food scraps in their green bin. 22% put food scraps directly into their FOGO bin (not using a kitchen caddy or repurposed container).
 - Note: the question was asked of all who use their green organics bins, but it is specifically about food scraps and there was no option for respondents who don't use the bins for food scraps to answer the question properly. Given this, the results have been filtered to only be out of those who use the bins for food scraps based on an earlier question.
 - Among those who use a kitchen bin, the majority (55%) store it under the sink or in a kitchen cupboard/ drawers. Around four in ten store it on the benchtop.

Using newspaper/ bin liner with their kitchen caddy: to line bin, wrap or transfer food scraps

- Many had been using newspaper/paper towels to wrap food scraps or line their containers and were finding this a difficult change. For some, it was a key reason leading to some scraps ending up in the red bin.
- In the quantitative survey, 23% of respondents use newspaper, 13% use a compostable bag and 10% use a paper bag to transfer food scraps to the green organics bin.
 - A small majority (59%) however don't use newspaper, bin liners or paper bags etc. to collect and transfer food scraps to the green organics bin
 - Of the 6% who mentioned other ways to collect their food scraps, respondents mentioned using an ice cream container (2%), a bowl or bucket (1%) or other plastic containers (1%).

Special purpose kitchen caddy

- Exploring the idea of providing special purpose kitchen caddies, it appears that these might be useful for some, however, many in the groups were already using their own repurposed container or had bought their own.
- They were seen by some as useful to make it easier to capture their food scraps and transfer them to the FOGO bin, being of a size to easily scoop leftovers into, and as a visual reminder.
- The main negatives were supporting the use of more plastic, taking up bench space (as larger) and another step for those not currently using anything.

Use of kitchen caddy

- Of those that used the FOGO bin, a majority used a container to transfer food scraps to the bin. Those that did not use a container to transfer food scraps transferred scraps directly to the FOGO bin.
- Only a few used a council provided caddy, and of those, people in Council C noted that not being able to use a bin liner meant that they would no longer be able to use the caddy provided as it had ventilation holes.
- Also, while kitchen caddies appear to help increase usage of the FOGO bin, a number will only use a kitchen caddy if they can also use a bin liner in the caddy which allows the caddy to be more easily cleaned.
- In a similar vein, there were some complaints over no longer being able to wrap scraps in newspaper or paper towels, this was seen as especially useful dealing with particularly messy or wet scraps. For some, it was a key reason leading to some scraps ending up in the red bin.
- A few had bought a special caddy for their food scraps but most had repurposed a container. Usually, the container chosen had a tightly fitted lid such as an ice cream or Cookie Time container to contain smells and minimise flies. A container with no lid was used by those that tended to empty the container more regularly (usually daily).
- Some had separate containers in the kitchen for scraps that go into the FOGO bin, for compost, and to feed to animals.
- Most kept their food scrap container either on their kitchen bench or in a cupboard under the bench. If they kept the container under the bench, it was usually because they liked a clear benchtop. In this case, it was less likely to have a lid.
- Some however disliked using a kitchen caddy or repurposed container mainly due to the flies that it would attract and the smell. They would scoop up all kitchen leftovers immediately and put straight into the FOGO bin or for convenience the kitchen rubbish bin.



[Would you use your kitchen caddy without a bin liner?] *It gets too* gross, right? In the summer it needs to be changed every day, and then I need to buy a new one because at the bottom, even no matter how much I wash it or scrub it, it is just got some yucky stuff that's just stuck, caked to the bottom. And yeah, it's a gross thing. So to be honest with you, you need to buy a new one probably every six months. (Rural)

Use of kitchen caddy (cont.)

Nearly eight in ten use a kitchen bin or repurposed container to collect their food scraps before putting in the green organics bin. More residents in Council A use a specially purchased kitchen bin.

Do you use a kitchen bin or container to collect food scraps before putting them in your council-provided green organics bin? Tick only ONE



■ Yes, I use a specially purchased kitchen bin

■ Yes, I use a repurposed container, bucket, or bowl

■ No, I put my food scraps directly into my green organics bin

Storage of kitchen caddy

• The majority store the kitchen container under the sink, while around four in ten have it on their kitchen benchtop. Other places it is stored were with the other rubbish / recycling bins, in the fridge, kitchen/ on the floor and the pantry.

Where is it stored? Tick only ONE



Transferring food scraps to FOGO bin

It is most common for people to transfer food scraps directly to the FOGO bin. Newspaper and compostable liners were most likely to be used if they were to use something for transfer, with use of these items higher in Council A and Council C.

Do you use any of the following for collecting food scraps to transfer to the organics bin? Tick ALL that apply



- By region:
 - Council A residents more likely to use newspaper and less likely to use nothing.
 - Council D residents less likely to use newspaper and more likely to use nothing
 - Council C residents more likely to use newspaper and compostable bin liners.
 - Christchurch residents less likely to use newspaper.
- Garden size:
 - Those with a large garden more likely to use nothing.

Base: Those who use the green bins (n=1029)

Kitchen caddy as a motivator to use FOGO bin

- Provision of a kitchen caddy by Council was tested to see if this would encourage use of the FOGO bin. The impact appeared minimal, as most had already repurposed or purchased a container to use for this purpose.
- A few were quite keen on the idea, especially if it was replacing a caddy that was no longer fit for purpose like the one in Council C or if the container had additional benefits such as being totally sealable but easy to open.



Positives:

- Good reminder, visual cue to use the FOGO bin
- Keeps scraps contained and less messy
- Don't need to empty immediately, can collect scraps over a few days
- Makes it easier to transfer scraps to FOGO bin
- Current container provided by Council has a good sealable lid (another area).

Negatives:

- Takes up bench space/ cupboard space (hard in a small kitchen)
- Promoting the use of more plastic
- Unnecessary step, rather get rid of smelly scraps immediately.

[Most of you have reused something around the house and it seems to be working pretty fine. Do you think that council providing a kitchen caddy would've been helpful for you?] *I don't' know, it's no different to using the lunchbox. So may as well reuse something rather than make something else out of plastic and just have it sit in the garage even now. There's the monetary cost of stuff, but then there's going to be the environmental cost in the long term I suppose, unless someone else uses them for something else. (Rural)*

Differences by Council – Use of kitchen bin

Council A	Council B	Council C	Council D	Christchurch City Council
- Similar usage of kitchen caddy (either Council provided or a repurposed container)				
 Limited interest in a Council provided kitchen caddy, unless had additional benefits 	 Limited interest in a Council provided kitchen caddy, unless had additional benefits 	 More interest in a Council provided kitchen caddy – potential replacement for caddy that was now not fit- for-purpose 	 Limited interest in a Council provided kitchen caddy, unless had additional benefits 	 Limited interest in a Council provided kitchen caddy, unless had additional benefits
 Less likely to put paper/ cardboard in the green organics bin More likely to use newspaper and less likely to use nothing 		 More likley to put food scraps and compostable packagin in the green organics bin More likely to use newspaper and compostable bin liners 	 Less likely to put food scraps ore paper/ cardboard in the green organics bin Less likely to use newspaper and more likely to use nothing 	 More likely to put paper/ cardbaord in the green organics bin Less likely to use newspaper

Report findings: Perceived benefits and barriers to using FOGO bin service



Key findings: Perceived benefits and barriers to using FOGO bin service

Low knowledge of what happens to food scraps in landfill

Across the groups there were a minority who had little idea what happened to food scraps in landfill. The remainder were polarised with some thinking that food scraps would decompose naturally (and seeing little harm in this) while the others were more aware of the production of the greenhouse gas, methane. They were also aware of the negative impacts of landfill generally with food scraps attracting more vermin and seagulls, being smelly and filling up landfill with something that could be recycled.

Use of food scraps for compost

There was an underlying assumption that food scraps were being recycled into compost, however, there was confusion on the process and outcome to local communities. There was some awareness of the composting facilities in Council C and Christchurch while those in rural areas were less aware of where their food scraps were being processed. There was some concern expressed regarding the transport of food scraps out of local areas and resultant cost and increased carbon footprint. Main barriers to use FOGO service

- The main barriers for not using the FOGO bin were the inconvenience (distance to bin/ easier to use kitchen rubbish bin/ in sink-waste disposal), smell and mess, flies and hassle (of sorting food waste/ and dealing with another bin).
- In the quantitative survey the main dislike was that it was smelly and dirty (26%) with a quarter stating this. Conversely four in ten said there was nothing they disliked about it.
 - 8% disliked using the bin as it attracted fruit flies, rodents and / or vermin.
 - Of the 9% who mentioned other things they disliked the main things were; that it was equally smelly and attracts flies and not being able to use newspaper to wrap/ line the bins.
- However, most people either said nothing (42%), or they don't use the green organics bin for food scraps (15%).
- Generally, respondents from households with younger members were more likely to say they find it smelly or it attracts animals, while older households tended to be more likely to say nothing about it bothers them.

Main motivators to use FOGO service

 The key motivators to use the bin were the environmental benefits and contribution to a circular food cycle, alongside being great for gardeners, management of their red bin (as usually smaller) and good value for ratepayers.

Key findings: Increasing usage of the FOGO bin service

Actions to support use of FOGO service

- To enhance use and encourage more to use the service the main way was to provide more education and information to dispel myths, clarify where food scraps go, benefits to the community and impact on landfill.
 - Educating children and families was seen as important for future generations.
 - Reminding residents of the more frequent pick up for the FOGO bin versus the red bin, and how this can help people manage their waste, may also motivate more use.
- Other more specific actions included:
 - Addressing concerns around smelly and messy food scraps, including not being able to wrap messy food scraps in newspaper/line bins with paper
 - Kitchen caddies for those who might use one
 - More bin size options (that were free/ low cost)
 - Incentives such as free compost.



Food scraps in landfill

- Just over a fifth claimed to have no idea what happened to food scraps that ended up in landfill.
- The remainder were polarised but there were a significant number that felt that food scraps just naturally rotted and broke down in landfill, which meant that they did not see food scraps going to landfill as a major issue.
- The remainder, outlined negative impacts from food scraps going to landfill, the largest being the production of more carbon emissions.
 Other negatives included:
 - Not breaking down properly due to lack of aeration
 - Attraction of vermin and seagulls, smelly
 - Filling up of landfill unnecessarily and the resultant cost to develop new landfills
 - Losing a resource that can be recycled into something useful.



You would think if you throw a banana peel anywhere, it's just going to produce the amount of emissions that it's going to produce because it's a banana. I don't really know why. If it's with a rubbish, it produces more, I guess, or it's worse if that's even true. (Urban/Provincial)

Encourage rodents and it rots and pollutes the environment. That's why seagulls and rats and mice and everything else hang around the landfills. (Urban/Provincial)

I know that a lot of the compostable rubbish when it goes to the landfill, it actually will give off gas. And that's not a green gas that you're getting. It's probably got a lot of methane or something like that, which is not a good gas to be the atmosphere. So if there's a better way of being able to utilise it so it doesn't give off climate change and gases I think that would be good. (Rural)

Food scraps in FOGO bin

- Only a small number had no idea what happened to foods scraps that were put into the FOGO bin. Most were aware that the food scraps were composted, however, there was confusion over where and how this was done.
- The recycling of the scraps into compost was universally viewed as positive. This was slightly lessened for those that felt that food scraps naturally broke down in landfill anyway.
- Most in Christchurch and Council C were aware that food scraps were processed in a purpose-built facilities in Christchurch or Council C. However, while some in other areas were aware of this, others still believed scraps were processed locally.
- Transporting the scraps large distances was seen to potentially lessen the benefits of using the FOGO bin, due to the increased carbon footprint. They were keen to know when or if a more local facility was being built.

It goes into a composting facility and [Council] has just invested in a very sophisticated composting center for it and it gets composted locally. (Urban/Provincial)

Is there any word on when they're going to do it here? Because I mean, you think of everyone in Central Otago green waste being transported by truck to [City], which is three hours away every week. I mean, that's a lot of trucks to [City] with green waste every week. (Rural)

Well, I thought it would go into a big commercial kind of compost heap where you see sifting and turning it over, aerating it. I guess I assumed it was going out of [Name] district. I've never seen that heap. (Rural) Benefits to recycling food scraps

- Reduces pressure on landfills: diverts waste from landfills and reduces the need for bigger and/ or new landfills.
- Personal avenue to help environment: provides an easy way for households to help the environment, feel like they are contributing.
 Allows households living in flats or high-density housing to contribute
- Reduces emissions: less emissions produced as waste that would be broken down from landfill is diverted. Also reduces carbon footprint from people having to drive to landfill to drop off green waste
- Sustainable and circular recycling: waste is made into a useful product that is used by Council and households, that is used on gardens to produce more food
- Educational: makes people more aware of food waste which may then encourage them to reduce it
- Improves landfills: will make landfills less smelly and less attractive to vermin.

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Barriers and motivations to use FOGO bin

There were a number of barriers and motivations to using the FOGO bin, with the number of barriers greater than the number of motivations. It was also clear that households could have people that were influenced by different barriers, meaning that using the FOGO bin could be variable, unless one person took on the role to 'police' its use.

Barriers:

- Distance to bin: having to walk and put food waste in the FOGO bin while there is always a rubbish bin in the kitchen. This was particularly an issue for rural residents. Also easier to use in-sink waste disposal (for those who had one)
- Smelly and messy: food waste gets smelly and messy, especially in summer
- Attracts flies/ vermin: food waste attracts flies (both fruit flies and blow flies) and vermin
- Hassle: takes work to sort and collect food waste. Another bin to put out for collection
- Not worthwhile: if producing little waste, it was sometimes not seen as worthwhile to bother managing food waste separately
- Size of bin: for some the bin was either considered too big or too small for their household
- Pigeonholed: only see the FOGO bin as a bin for green waste, not food waste
- Access to FOGO bin: no individual FOGO bins at some retirement villages.

Motivations:

- Environmental benefit: seen as the right thing to do as it benefits the environment, reduces landfill, made into compost
- Gardeners: keen gardeners avidly use the FOGO bin but mainly for green waste
- Management of red bin: alleviates pressure on the red bin which often gets full. Fortnightly pick up of the red bin also meant that food waste also got smelly in this bin
- Good value: a service they feel is good value for their rates and want to use it to maximise this value.

Well, I was just going to say it's obviously better for the environment, so it's not just going to go to waste, and I've just heard about how it sits in the landfill for ages if you don't do it and it's better than that option. And then it's generating money for the council as well because they're reselling it and also it's providing a job for someone. So, the economy, it's all there. (Rural)

So, the council can make money by selling the compost. Well, I guess to use as compost and to regrow, use it again and more food, young ones, things nature, plants a seed, yeah. To keep the food cycle going, I guess is what I'm trying to say. (Urban/ provincial)

Negatives of FOGO bin

The main things disliked about putting food scraps in the green organics bin were that it was smelly/ dirty and that it attracted fruit flies and rodents/ vermin. Also mentioned that it was equally smelly and attracted fruit flies/ vermin and not being able to use newspaper or compostable bin liners for wrapping or collecting food scraps. Although around four in ten had nothing they disliked.

What do you like LEAST about putting food scraps in your council-provided green organics bin? Tick only ONE



- household members were more likely to state the smell and attracting fruit flies etc
- Those with household members 65 plus were more likely to say nothing bothered

Increasing motivation and what would stop use

The strongest suggestions to strengthen motivations to use the FOGO bin related to education and providing more information, as it was acknowledged that there were some information gaps and misconceptions. For some, addressing negatives around smells by allowing previous measures like wrapping scraps and allowing bin liners would also help.

Motivating use

- Education: dispel myths, clarify where food scraps go, what is done with food scraps and benefits of using the FOGO bin, impact of food scraps on landfill.
- Fix negatives: allow to wrap scraps in newspaper, allow bin liners.
- Incentives: suggestions for monetary incentives, along with things like star stickers, free compost, promote 'green' zone neighbourhoods to encourage use of bins.
- Caddies: provide small, sealable kitchen bin to help transfer food scraps to FOGO bin. Provide a kitchen caddy that would be a visual cue to put scraps in the bin.
- More bin size options: facilitate use by providing bin options that suit different households at the same cost (some want larger, some want small bins).
- Provide support system: have a buddy system to help and support people.
- On prompting, freezing of scraps to stop the FOGO bin smelling was not seen as a practical option by most, as many people say they have limited freezer space and would be likely to forget it was there.
- Similarly, using coffee grounds to mask the smell from the bin was not seen as viable for many as they either did not drink coffee or preferred to use the coffee grounds on their garden.

Stopping use

- For users of the bin, most could not think of any reasons why they would stop using the FOGO bin. The few reasons mentioned were:
 - If pick up was less frequent
 - If reduced size of bin
 - If rules got too complicated, more rules added
 - If charged more for service
 - If charged for repairs to bins
 - If moved to a house with a small section/ inner city house.

I think about education. If we do it, then it actually encourages us to think about the lifecycle of products and that also starts to look towards yellow bin and then trying to reduce what we're putting on the red bin in totality. So it's just, again, it's a stepping-stone towards doing things. It's an easy thing to do. (Rural)

Have a visual cue, so maybe even something like as part of the green bin people were supplied or given the option to pick up from the council if they need it something for their bench that's tidy with a lid, maybe fits a brown paper bag inside something just to make it really simple and visual. (Rural)

Think maybe for people who aren't, putting their bin out or not putting the right thing in, perhaps giving them a reminder of the time needed to have to take it to the dump. It's a horrendous price to take green waste to our local dump. I mean, and then there's the inconvenience of having to get it there. (Urban/provincial)

Differences by Council – Perceived benefits and barriers to using FOGO bin service

Council A	Council B	Council C	Council D	Christchurch City Council	
 Lower knowledge about what happens to organic waste in landfill, and also less care about issue 	 Seemed to have higher knowledge of what happens to organic waste in landfill 	 More likely to believe organic waste just breaks down in landfill 	 Lower knowledge and misconceptions about what happens to organic waste in landfill 	More likely to believe organic waste just breaks down in landfill	
- A majority aware that food scraps in FOGO bin were composted					
 Some aware composted in Timaru/ some not aware. More negative about transport miles associated with FOGO bin service 	 Some aware composted in Timaru/ some not aware. More negative about transport miles associated with FOGO bin service 	 More aware scraps were processed in Timaru 	 Lower knowledge of what happened to scraps from FOGO bin 	 More aware scraps were processed in Timaru and Christchurch 	
- Similar barriers and motivations – more about household type (e.g. large garden) than Council region					

- A quarter across the sample dislike using the green organics bin due to the smell and that it is dirty, conversly four in ten were not concerned at all

Report findings: Communication



Key findings: Communication

- More information on the FOGO bin service was needed across all areas about any recent changes and what can and cannot go in the FOGO bin. Alongside this information was a need to provide the reasons (simply conveyed) for the change and explanations that would help alleviate discontent towards no compostable bin liners, use of newspaper to wrap or line bins and not being able to put in cardboard pizza boxes and tea bags for example.
- Specific updated information with the bins was needed as some had heard of changes and others had not.
- There was an education component needed on the benefits of the FOGO bin service to address low knowledge of what happens to food scraps when in landfill with the production of greenhouse gases and that food scraps do not decompose well in landfill.
- Key messages that resonated were those that had a local benefit and that were relatable personally. Having a clear call to action that was doable for households was helpful. Also having an impact was relating to future generations, relevant for both parents and grandparents.
- The main trusted communications sources was their local Council. Having knowledge of the local region and community engendered trust as well as having expertise in waste management – those managing the composting facilities and those within council managing waste management were key.
- A multi-channel approach was needed with Council information via direct mail, council Facebook pages and rates bill were suggested with direct mail or leaflet/ stickers attached to the bin preferred. Meeting the needs of diverse communities was also mentioned.



Information of interest

- Participants felt that there needed to be more information on the FOGO bin service.
- Information on the rationale behind changes to the service such as no longer being able to use bin liners or wrap scraps was called for, along with an explanation around the lack of consistency on rules around New Zealand.
- Basic information was wanted on how to use the service. A few noted that they would continue to put stuff in the bin, unless explicitly told not to.
 - Updated information on what can and can't go into the FOGO bin.
 - Updated stickers on what can and can't go into the FOGO bin that can be put on the bin.
 - The size of branches that can be put into the bin.

It's hard now to find the information with the changes because [Name] Googles it and as [Name] said, the label, because I know it did come out in the newspaper and I was trying to keep it, but I know when I first moved to [Town/City], we had a thing on the fridge, and you could find it everywhere, what to do. And now it's like, oh, what can we, can't we? What's changed? So I agree there hasn't been any updates on the stickers. There hasn't been enough education out there exactly on what goes in, and the fact that our stickers haven't been updated for a long time. (Urban/Provincial)

- There was seen to be a need to educate the public more around the benefits for New Zealand of using the FOGO bin. It was felt that the lack of awareness around where food scraps go and the environmental benefits of food scraps going to landfill versus being composted through the FOGO bin service needed to be outlined.
- As noted earlier a number were confused about how more emissions were produced by food scraps decomposing in landfill versus decomposing in home compost or via the commercial composting facility.
- Along with this, knowing the local impact of diverting food scraps from the landfill was seen to encourage locals to do more. Seeing these figures by region could potentially create competition between regions to do better.
- Some also felt that knowing the length of time items took to decompose in landfill would be something that could potentially encourage people to use the FOGO bin service.
- In addition, there was interest in knowing the outcome of the commercial composting process and the quality of the compost.

Messaging

 Message '1' was the most preferred message as it had a local focus and showed real benefit for their community. This message also had an educational slant, as it outlined what was done with the food scraps and the resulting compost.

Just the local, it's probably easy in people's mind to think of local rather than global. The local benefit. (Rural)

 Message '2' came a close second, as it was viewed as a more personal message with a very clear 'call to action'. It also had a local focus and was seen to empower households.

I mean it's something that we can do. Okay. There's a lot of big stuff about climate change that we can't do, but if we all do our little bit, then it's the economy of scale, isn't it? Everybody does their little bit, then we make a bigger impact. (Urban/Provincial)

 Message '3' helped to raise the potential impact on their children and grandchildren from inaction by referencing 'future generations'.

And it's same thing I think about my grandchildren and worry what's going to happen in their lifetime. (Urban/Provincial)

- Message '4' resonated with those concerned about climate change and talking about greenhouse gases rather than directly mentioning 'climate change' was seen as less divisive.
- A number felt that promoting the FOGO bin by outlining its use and the impact on climate change could be off-putting for some. There were still seen to be many climate sceptics and also the view that targeting large emitters would make more difference than targeting individuals.
- Message '5' and '6' were not appealing to most. Message '6' was seen as too basic and bland, while message '5' was seen to offer little personal or community benefit. They did not feel it was appealing to call for people to help others make money and outside Christchurch and Timaru some noted that the business was not local.

Ranked by preference - messages to encourage use of FOGO bin



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Current and trusted sources of information

- There was a wide range of information sources outlined by participants but the main sources of information on food waste management and recycling were the Council (direct mail, website) and the local paper. Main recall was of information sent when the FOGO bins were first sent out.
- The most trusted source of information was the Council. Particularly if messages were from those that work in the area of waste management rather than politicians.
- Trust was based on having people with local knowledge (as specific areas were seen to have unique climates and viewpoints) and perceived expertise in waste management. On this basis, the Ministry for the Environment fell short as it was seen as too removed from the coal face.
- On prompting, lwi were seen to have a connection to this issue based on their stewardship of the environment but those outside Christchurch and Timaru felt that their closest lwi was not local enough to be aware of issues in their area.
- Celebrities would not be trusted unless they had some sort of experience in waste management and a local connection. They disliked the thought of the cost involved in using a celebrity and felt that messages would not be genuine. The only potential rationale to use a celebrity was with hard-to-reach audiences.

Current sources of information:

- Council information (with the bins, direct mail, newsletter, website, Facebook page, app, updated stickers)
- Local newspaper
- Social media (Facebook, TikTok, Youtube)
- Word-of-mouth
- Waste pick up, when bins are rejected
- Tour of composting facility.

Trusted sources:

- Council
- Waste management company contracted by Council
- Family and friends
- Ministry for the Environment only on prompting and while trusted, they were not seen to be across local issues
- Relevant content creators.

Preferred channels and information

- There was a perceived need for multiple channels to be used, however, the most nominated channels were via the Council (direct mail or leaflets or information stuck to their bin). One person suggested having a point of contact at Council that could provide leadership and answer questions.
- They wanted any information to be kept simple and in bullet form. There was a reminder to include visual information and ensure information met the needs of diverse communities.



Preferred channels:

- Council via direct mail or leaflets, social media, emails, app, website, stick information on bin etc
- Social media, mainly Facebook
- Rates bills (although they acknowledged that not all residents are ratepayers)
- Local newspaper
- Through children and schools
- Via events tours of composting facilities, giveaway of compost in conjunction with 'how to' sessions on gardening etc, be at regattas
- Billboards
- Through large local businesses like Meridian
- Informative videos online of facilities and facts
- Via influencers such as 'Kate' on waste minimisation.

Differences by Council - Communication

Council A	Council B	Council C	Council D	Christchurch City Council
 Consistent calls for updated information on the new rules and reasons for changes. Along with – what happens to food scraps, how they are used, and benefits of using the service 	 Consistent calls for updated information on the new rules and reasons for changes. Along with – what happens to food scraps, how they are used, and benefits of using the service 	- Consistent calls for updated information on the new rules and reasons for changes.	 Consistent calls for updated information on the new rules and reasons for changes. Along with – what happens to food scraps, how they are used, and benefits of using the service 	- Consistent calls for updated information on the new rules and reasons for changes.
 Top messages: Using the food and organic waste collection service is a way for our household to do their bit for climate change Food and organic waste is recycled and used to create local compost for council gardens/ parks and the community 	 Top messages: The food and organic waste collection service reduces the effects of climate change for future generations [Equal] Food and organic waste is recycled and used to create local compost for council gardens/ parks and the community [Equal] Using the food and organic waste collection service is a way for our household to do their bit for climate change 	 Top messages: Food and organic waste is recycled and used to create local compost for council gardens/ parks and the community [Equal] Using the food and organic waste collection service is a way for our household to do their bit for climate change [Equal] Reducing food waste reduces the amount of greenhouse gases created 	 Top messages: Food and organic waste is recycled and used to create local compost for council gardens/ parks and the community [Equal] Using the food and organic waste collection service is a way for our household to do their bit for climate change [Equal] The environment benefits from the food and organics collection 	 Top messages: Food and organic waste is recycled and used to create local compost for council gardens/ parks and the community Using the food and organic waste collection service is a way for our household to do their bit for climate change
 Top sources of information Council information, local newspaper 	 Top sources of information Council information, local newspaper 	 Top sources of information Council information, word or mouth 	 Top sources of information – Council information, local newspaper 	 Top sources of information – Council information

Report findings: Non-users



Attitudes and behaviours towards the environment

- While the environment was seen as an improtant issue it was more likely to be in the top five to ten issues rather than in the top three.
- They were of the view that addressing environmental issues was more difficult to address as an individual and that the cost-of-living, health and education issues had more impacts on them personally.
- Also there was more scepticism around what an individual could do to make a difference regarding climate change.
- While involved in recycling, there were more participants who raised issues around the benefits and outcomes of recycling, noting concerns that recycling was ending up in landfill anyway.
- In addition they used stronger language such as 'lies from the Councils' and wanting more detail on the costs and benefits of the recycling services including green waste collections.

Well, I come from the idea of most of the environment things that can be done to save or do better on the environment can't realistically be done at the individual level. It has to take the government steps or large corporations to really pull their weight to make an impact. So for me personally, it's like I don't see environment as an issue because there's nothing realistically I can do to fix it is my thinking. But obviously it is somewhat important because without a world it's just disastrous essentially. So for civilization to continue you need to be able to live in it. (Non bin user)

Where does your council money go and show the income of the council through the rates and what gets distributed to, and I guess there's the same kind of chart as for what happens to the recycling. But for me, for the yellow bin recycling, I don't really trust it or do it, so I don't really care as much just because it's just lies, shipped overseas and you got a whole problem with all the different type of plastics. Plastic A or one and two. No, those just silly rules. It's just they made it too complicated to make it worthwhile. That's the of the whole green bin thing. But for me, if it was the showing us what happened to it, being more informed, I would think you're probably more proactive in using it. (Non bin user)

I have space in my red bin, so why would I have to use my yellow / green bin? It's quick and easy and I pay for my rates basically, and I pay for my rubbish, so I'll just shove it in there. It's not harming anybody or anything. (Non bin user)

Understanding of what food scraps are and current methods of disposal

Understanding of the food scraps

- While similar to FOGO bin users, there were more who were unclear about what could go in the FOGO bin e.g. meat and bones, banana skins, organic pet litter, avocado stones.
 - Also those who had poor experiences of odour from composting facilities refused to put in leftover meals, cooked food, meat and bones as they believed this was adding to the odour.
- Food scraps were more likely to be disposed of in the red bin or insink disposal unit; some were disposing in home composting, feeding to pets/ birds or burying scraps in their gardens.
- Those using the in-sink-disposal units:
 - Found them convenient, clean and fast, resulting in a clean and tidy kitchen for food preparation and also clean-up after meals
 - Had low awareness of the impact on waste water infrastructure
 - Disliked storing food waste inside (in any container); they disliked the smell and also the inconvenience of transfering food waste into a kitchen caddy (messy) and having a further step of getting it into the FOGO bin.
- Those using their own home compost bin:
 - Some were putting food and meat in the red bin rather than their compost bin as they did not want to attract rats. Having another container for the FOGO bin was another step. Some had not taken much notice of what can go in the FOGO bin and relied more on their knowledge of what could go in their home composting bin.

Why not using the FOGO bin service

- Myths: Some had concerns on where the recycling went, how it was managed, with thinking it still ends up in landfill.
- Busy lives: making it easier to not use the FOGO bin.
- Lack of knowledge: Not knowing that meat and bones (not good in home compost) can go in the FOGO bin.
- Smell: Composting facility creating strong odours the Living Earth facility in Christchurch was viewed negatively on this basis.
- Little waste: Very few think they are wasting any food; perception that they are low food wasters (smaller households) and the small amount they had was not worth putting in the FOGO bin. It was easier to put in the rubbish bin.
- Cannot be bothered.
- For garden waste: Viewing the FOGO bin as for garden waste only.

I wouldn't have put bones in there, I just wouldn't think. For me, I just don't see that as breaking down for whatever reason. And, I wouldn't put any kind of liquidy soft foods food waste in there. (Non bin user)

Banana skins take years to break down, they will go into the red bin, but they won't go into the green bin. (Non-bin user)

Main barriers and motivators

Using the FOGO bin for garden waste

- They were more likely to be using the FOGO bin for garden waste only for these reasons:
 - Easier to put what little food waste in the red bin and use the FOGO bin for all the garden waste
 - Garden waste was cleaner, not smelly (unless lawn clippings that are heating up) and they had a sense of satisfaction in tidying up the garden
 - Higher awareness of the garden waste guidelines.
- Main barriers are:
 - FOGO bin located too far from back door (without having to put on shoes, getting wet feet or socks etc)
 - Don't want a small bin inside for food scraps that is not needing to be emptied for 3 days or more
 - More convenient to use in-sink disposal unit or throw in the kitchen rubbish bin/ don't want to have to open lid
 - Emptying food waste from leftover dinners it is more convenient to put in the kitchen bin / insink disposal unit.

What would make it easier?

- Using the FOGO bin needs to be convenient and easy to do.
 - Having a special purpose kitchen caddy with a lid that reduces the smell would be helpful, also needs to be large enough to easily slide leftover food into it e.g. ice cream container too small and creates more mess, don't want to make it more work to clean up.
 - Liked the idea of compostable bin liners; many supported that idea.
 - Information on what constitutes what is worth putting in the FOGO bin (to address those who have little food waste and don't see the worth of putting it out each week and dont like the smell and mess after two weeks).

I think it's a bit of a faff to, if you're doing your vegetables at night, then you put everything into a container and then cart it out to the bin either that night or the next morning or whenever it's convenient rather than being able to wrap it in something and just take it out or wrapped up and plop it in the bin. (Non bin user)

But then it's like for after the waste of your dinner plate or something, I wouldn't take that container out, open it up and try to scrape it in. It's just, once again, convenience. Wash your plate under the sink and scraps to go down there into the in-sinkerator. (Non bin user)

Knowledge and awareness of the benefits of the food scraps in landfill/ FOGO bin service

- There was low knowledge of the impact of food waste in landfill, with the majority assuming that being organic it will decompose; there was low/ no understanding of the process and impact on greenhouse gases.
- There was low knowledge of the outcome of food waste collected in the FOGO bins:
 - Generally, there was the 'hope' that it was composted rather than being seen as a fact
 - Some scepticism of recycling and whether it ends up in landfill which spilled over into scepticism about food waste and composting facilities
 - Quality of the compost was called into question with some querying how comtaminants were handled.
- The benefits of the FOGO bin service were similar to users but with some reservations on how realistic actual benefits were and the cost benefit.
- Main communications messages that resonated were ones that appealed personally rather than generally:
 - Future generations (kids and grandchildren), abillity to lead by example
 - Doing their bit; again a way to actively participate as a household.
- There was acknowledgement they had knowledge gaps that affected their ability to fully participate and because of their own attitudes and behaviours were less likely to seek out information that would clarify things.

When you guys were talking about the lawn clippings that had poison in them. When you're buying compost from the council that has had all sorts of lawn clippings in them. I mean, you don't know what you're getting there to put on your garden where you've invested in plants and I don't know how it works. (Non bin user)

I see big piles over there and I think, do they crush it up or just throw it in a hole because I get quite skeptical where the stuff goes to. (Non bin user)

Communications

 Overall, there was a need for trust, transparency, and ongoing communication from local councils with non-users. They also emphasised the importance of consistent guidelines and evidence of the environmental benefits of the service.

Trust:

- Non-users were more distrustful of Council messages especially due to recent changes to recycling with some questioning what was going on.
- The importance of local Councils and waste management professionals in providing accurate and reliable information about the FOGO bin service.
- Non-bin users expressed frustration with changing goals and guidelines related to recycling and had transferred these attitudes towards the FOGO bin service.
- Consistency and stability were needed to build support and some acknowledgement of the confusion when conveying updated information on the guidelines would be helpful.

Transparency:

- Participants expressed a need for more information and transparency from their local Councils regarding the recycling process and the destination of the organic waste and how it is used.
- Some participants questioned the environmental benefits of the FOGO bin service and suggested that the Council should provide evidence of the positive impact, such as the amount of waste diverted from landfills and the production of compost.
- Information on the costs and benefits were also suggested (detail wanted more by the detractors).
- Some suggested that an independent organisation or factory report could help build trust and accountability.
- There was a need for some information about the composting process and the quality of the resulting compost. This will support some of the key requirements of what can and cannot go in the FOGO bin.
- There also needs to be communication with an education focus to build support from the less engaged.

What I would like to see from the council to motivate us to recycle is to prove, to actually show what they're doing with the green waste to show that's how much waste we collected. That's how much compost we made out of it. That's how much we sold and that's what the money meant. If they're not accountable, people are not going to be recycling because there is that natural distrust, especially in my region. (Non bin user)

Perhaps would like to add to it that lots of council recycling policies or procedures, the councils or recycling things, lost trust, public lost trust because there were kind of occasions, or it happened that people were thinking their recycling bottles went into landfill. (Non bin users)
Appendix: Methodology



Questiionaire development

- The questionnaire was designed as a print survey that could be returned via reply paid envelope or completed online using an online link or QR code.
- The questions were developed with the research teams from AK Research (AKR), Sunshine Yates Consulting Limited (SYCL) and Ministry for the Environment.
- The questionnaire was designed using visual graphics and colour to help respondents follow the routing and also maintain interest and enhance response rates.
- The questionnaire was kept short to enhance response rate.
- Invite letters specific to each local council were included with the printed questionnaire. Councils logos were included to provide legitimacy and enhance response rate. Solid waste team contacts for each council area were also included.
- A prize draw for each council area was included to enhance response rates.
- The questionnaire, invite letter and reply paid envelope were packaged inside an outer envelope that indicated a survey on the FOGO bin was inside and addressed to the householder.

Methodology: short-form survey

Questionnaire key topic areas

- Disposal methods of food waste
- Amount disposed
- Knowledge of what can go in the FOGO bin
- Use and experience of the FOGO bin and kitchen caddies / bin liners
- Why some are not using the FOGO bin
- Household demographics

Questionnaire distribution

- Surveys were distributed by the FOGO bin audit team to a predetermined plan that included residents that were having their bins audited and other households that were not.
- The FOGO bin audit team undertook 1000 audits of the FOGO bins across the five council areas and distributed the printed surveys to each of these households and to a further 2,000 households in the vicninty of the FOGO bin audits.
- In total 3,000 surveys were distributed.
- Fieldwork was conducted from 8th April to 24th May 2024.

Methodology: short-form survey sample demographics

- Nearly all respondents in the survey had gardens with a small majority having large gardens and four in ten having a small garden.
- The majority of respondents were older with 43% having at least one household member aged 41 years to 65 years; and 49% having at least one household member aged over 65 years.
- A small proportion of households had children and young people as part of their households; 12% had at least one household member aged 11-20 years and 13% had at least one household member aged 0-10 years.



Methodology: focus groups

Recruitment process

- Potential participants were identified from the short-form survey and were invited by email and/ or phone to take part. Contacts at MfE and AK research were provided if participants wanted further information about the research.
- Follow-up calls were undertaken to confirm attendance.
- All participants received \$100 reimbursement for their time and input.

Fieldwork:

- The research was conducted between 10th July 24th July 2024.
- The research comprised of 10 online focus groups.
- The full specifications for the focus groups are outlined on the following slide.

Discussion Guide

The discussion guide was developed in consultation with MfE and covered the following areas:

- Rubbish and recycling/ repair behaviours
- Food waste management
- Collection experiences
 - Attitudes towards the FOGO bin collection service
 - Use of kitchen caddies, newspaper, bin liners
 - Service improvements/ encourage others to use the service for food scraps
- Knowledge and understanding of food scraps impacts in landfill, benefits of the green organic bin service
 - Message testing on what would be most likely to convince more people to use the FOGO bin collection service for food scraps
- Communications about the service
 - Communications channels, trusted sources.

Methodology: focus group specifications

GROUP NO.	SPECIFICATIONS		DATE	NUMBER OF PARTICIPANTS
1	1 x online focus group with participants from Council A	Rural, some with children	10 July	5
2	1 x online focus group with participants from Council B	Provincial, some with children	10 July	3
3	1 x online focus group with participants from Council C	Rural, some with children	15 July	5
4	1 x online focus group with participants from Council D	Urban, some with children	11 july	6
5	1 x online focus group with participants from Christchurch City Council	Rural, some with children	15 July	6
6	1 x online focus group with participants from Council A	Older, smaller householdes, rural	17 July	5
7	1 x online focus group with participants from Council B	Provincial, some with children	17 July	5
8	1 x online focus group with participants from mix of councils	Not using kitchen caddy	18 July	5
9	1 x online focus group with participants from mix of councils	Mainly non users of the FOGO bin service	23 July	6
10	1 x online focus group with participants from mix of councils	Mainly non users of the FOGO bin service	24 July	5
TOTAL PARTICIPANTS		51		

Methodology: our participants

GROUP NO.	Our participants	Main characteristics	
1	Retired	FOGO bin users	
	Families with young children	Rural/Large gardens	
	Couples	Council A	
2	 Families with preschool/ primary / secondary school Semi-retired 	FOGO bin users	
		Provincial/ Large gardens	
3	Families with preschool/ primary / secondary schoolSemi-retired	FUGU bin users	
Λ	Families with preschool children/ primary school/ adult children	Pural/mix of small/large gardens	
-	Retired		
5	Eamilies with primary school/ secondary school	FOGO bin users	
	Retired	Urban/ some no garden/ mix small/ large gardens	
	Single household	Council E	
	Retired,	FOGO bin users	
6	Couples, single households	Rural/ mix of small/ large gardens	
		Mainly older/ small households	
7	Retired	FOGO bin users	
	Families with preschool/ primary/secondary schools	Provincial/ mix of small/ large gardens	
	Retired	Not using kitchen caddy	
8	Families with preschool/primary/ secondary school	Mix of urban / provincial	
	Single household	Mix of small/ large gardens	
	 Single household Small household/ adult children have left home Retired 	Not using FOGO bin for food waste	
		Use compost/ insink waste disposal unit/red bin	
9		Mix of urban/provincial/rural	
		Large garden/ no gardens	
		Mainly retired/small households	
10	Single householdWorking, no children living at homeRetired	Not using FOGO bin for food waste	
		Use insink waste disposal unit/red bin	
		Mix of urban/provincial/rural	
		Mix of small/ large garden	
		Mainly small households	

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