

# Research into FOGO bin use - Summary report

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### Full reports available here:

Research into FOGO bin use - FOGO bin audits

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

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

<https://environment.govt.nz/publications/fogo-research-short-form-survey-and-focus-group-findings>

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## 1. INTRODUCTION

In early 2024, the Ministry for the Environment (MfE) commissioned research into the use of Food and garden organics (FOGO) collections in the South Island.

The aim of this research was to address key information gaps related to the Government's ongoing food waste reduction and diversion efforts. These gaps include the lack of good quality data on the amount of food scraps collected in FOGO kerbside collections, and an understanding of people's attitudes and behaviour in relation to such collections.

The research includes three separate outcomes:

1. Measuring household food waste collected in FOGO kerbside services (via FOGO bin audits)
2. Understanding household usage of FOGO collections (via a short-form survey)
3. Understanding people's views on FOGO collections and benchtop food waste caddies (via focus groups)

Key findings from the research include:

- There is a high level of satisfaction with the FOGO bin service.
- About a third of 240-litre and a quarter of 80-litre FOGO bins contained no food scraps. These bins were used to dispose of garden waste only.
- Many households use a variety of methods to dispose of food scraps (FOGO bin, composting, worm farming, in-sink disposal). While 84% of survey respondents claim to use their FOGO bin for food scraps, 62% say they use it as their main disposal route for food scraps, while 6% claim their rubbish bin is.
- Households using a kitchen bin to collect food scraps set out more food scraps and are more likely to set out food scraps than households that put food scraps directly into their FOGO bin.
- There is confusion as to what materials can be disposed of to FOGO bins, and a lack of clarity as to why it is beneficial to divert food scraps from landfill.
- Households with 80-litre FOGO bins set out more food scraps than households with 240-litre FOGO bins, though the reasons for this are not known.

While the results are presented in two comprehensive reports, one on the FOGO bin audits and the other on the short form survey and focus groups, this summary report presents the key finding from all three outcomes combined.

## 2. METHODOLOGY

This section provides a summary of the methodology used for each of the three research outcomes. All research across the three outcomes was undertaken in five council areas in the South Island: Central Otago District, Waimate District, Timaru District, Mackenzie District, and Christchurch City. Christchurch City provide households with an 80-litre FOGO bin, while the other four councils provide 240-litre FOGO bins. All five councils provide weekly FOGO bin collections and fortnightly rubbish collections.

### 2.1 FOGO bin audits

FOGO bin auditing was undertaken in April/May 2024, and included the contents of 1,012 FOGO bins collected from the kerbside across the five council areas. The contents of each bin were sorted separately into nine categories, including food scraps, garden waste, and seven types of contamination. A record was also made of the types of food scraps in each bin (based on sixteen different food groups).



Once the contents of each FOGO bin had been sorted, each category of material was weighed out and the weight recorded.

### 2.2 Short form survey

The main objectives of short form surveys were to understand how households were using their FOGO bins and to provide data for comparison with the FOGO bin audit. Specific objectives included:

- To understand how residents are using or not using their FOGO bin
- To explore why they use or do not use their FOGO bin for food scraps
- To explore knowledge and awareness of what can / cannot go in their FOGO bin
- To explore how residents are disposing of their food scraps if they are not using their FOGO bin

In addition, the survey informed participants of follow-up focus groups that would explore their experiences of using the FOGO bins in more depth.

During the collection of the contents of FOGO bins for the audit, a short form paper survey was placed in the letterbox of each household from which the contents of a FOGO bin was collected. At the same time, surveys were distributed to other households in the area, that did not have their bins collected. Altogether, 3,000 surveys were distributed.

Residents had the option of returning the short form survey in a pre-paid envelope, or of completing the survey online.

Of the 3,000 surveys delivered, 1,085 responses were received, for a 36% response rate. Of these survey responses, 294 were from households that also had their FOGO bin audited (27% of the surveys). These surveys were able to be linked to the audit results from the same households, through a unique ID. Fieldwork for the survey was from mid-April to mid-June 2024.

## 2.3 Focus groups

Ten online focus groups were conducted between 10th July – 24th July 2024. A recruitment process was undertaken by identifying potential participants from the short form survey and inviting them to take part.

The objectives of the focus groups were to explore the experiences of residents using the FOGO service.

A discussion guide was used within each focus group. This guide 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 FOGO service
  - Message testing on what would be most likely to convince more people to use the FOGO service for food scraps
- Communications about the service
  - Communications channels, trusted sources.

## 3. RESULTS

This section provides an integrated summary of the findings from the bin audit, short form survey and focus groups.

### 3.1 What are people's priorities?

The focus groups found that while the environment and climate change were important issues and figured in the top 3-5 issues for some respondents, overriding issues were the cost of living, health and housing which impacted directly on everyday life.

Recycling was the top-of-mind environmentally beneficial behaviour that most claimed to do, though respondents admitted to varying levels of commitment and adherence to the rules.



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

### 3.2 How much food is wasted?

Across the ten focus groups, most participants stated that they wasted little food, and that the current cost-of-living crisis had made them more conscious of their food bills and of not wanting to waste food. This was supported by the short form survey, with 48% saying they waste less than one 2-litre ice cream container of edible food per week and 16% said they waste no edible food.

While the audit didn't specifically measure edible food, it found that there is little correlation between the amount of edible food households think they throw away per week, and the total amount of food in their FOGO bin. This may be due to the difficulty involved in guessing what volume of edible food is wasted in a week.

The bin audit found that on average 13.1% of the material, by weight, in 240-litre FOGO bins was food scraps. This varied from 9.8% to 20.3% across the four councils with 240-litre FOGO bins. The 80-litre FOGO bins contained on average 29.6% food scraps.

When only looking at FOGO bins that contained food scraps, there were on average 2.48 kg of food scraps in 240-litre bins and 2.86 kg in 80-litre bins. Across all FOGO bins (with and without food scraps), the average weight of food scraps in 240-litre bins was 1.68 kg and in 80-litre bins it was 2.25 kg.

While the bin audits found differences between the 240- and 80-litre FOGO bins, it is not possible to say whether the differences between bin sizes are causal or correlated. There may be other factors that contribute to the differences, such as how long the services

have been available, communications provided to the public, and differences in geography, housing types, and economics in the different areas.

According to the focus groups and short form survey, increased quantities of food scraps were related to household type, with households with children and some smaller households claiming larger levels of food waste. Those with children noted children could be fussy eaters, while smaller households sometimes struggled to get through food or packaged goods bought were too large for one or two.

Typically food wasted was due to young children (refusing some foods/ changing their minds/ dropping food), food lost at the back of the fridge/ freezer, food past its use by date, and leftovers not being eaten in time.

When the bin audit and survey responses were compared, it was found that households with children disposed of, on average, 1.14 kg of food scraps per resident per week to their FOGO bin, compared to 0.85 kg per resident in households without children (with residents aged under 65 yrs) and 1.03 kg per resident in households with only residents 65 yrs +.



The audit also showed that the more residents in a household, the less food scraps each resident disposed of to their FOGO bin. Single resident households had on average 1.37 kg of food scraps in their FOGO bin, while four resident households disposed of 0.99 kg of food scraps per resident per week.

### 3.3 How are food scraps disposed of?

The focus group research found that 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 in disposal methods among different household members.

The focus groups showed that the FOGO bin was often used alongside home composting/ worm farms and in-sink disposal units. This was supported by the short form survey, with FOGO bins shown to be the most common disposal route for food scraps (85% of households use it, and 62% of households use it as their main disposal method), while 38% of households compost/worm farm (19% as their main disposal method). Only 6% of survey respondents claim to use the rubbish bin as their main disposal route for food scraps.



The FOGO bin audit found that 68% of 240-litre and 77% of 80-litre FOGO bins contained some food scraps.

Survey respondents with large gardens were less likely to use a FOGO bin for food scraps (82%) but more likely to use a compost or worm farm (47%).

### 3.4 How often is the FOGO bin used?

Most survey respondents use the FOGO bin weekly (71%), and about a fifth (18%) use it fortnightly. Ten per cent use it monthly or less, while only 2% don't use it.



When the survey results were matched to the bin audit results, it was found that households that set out their FOGO bin fortnightly set out more food scraps (per set out) than households that set them out weekly, but they do not set out twice as much food scraps every fortnight. Therefore, overall, households setting out their FOGO bins fortnightly are disposing of less food scraps to their FOGO bin.

The audit also found that households that set their bins out more frequently are more likely to have food scraps in their bin and set out more food scraps overall.

In addition, the focus group research found that there was different usage depending on the seasons with higher usage during spring, summer and autumn and lower usage during winter.

### 3.5 What is accepted in FOGO bins?

Over eight in ten survey respondents were aware that fruit and vegetables (97%) and citrus peels and onion skins (87%) were allowed in the FOGO bin. About three quarters were aware that cooked food (78%) and meat and fish (76%) were allowed.

There was some uncertainty around bones and shells, avocado stones and corn cobs, and dairy with lower proportions stating they were allowed in the FOGO bin.

The FOGO bins audits found that, of the bins that contained food scraps, 87% included some fresh vegetable scraps, and 75-88% of bins contained fresh fruit scraps. Dairy products were present in 49-53% of bins, and meat and fish in 46% of bins.

Two-thirds of FOGO bins contained some kind of contamination, either a type of garden waste that is not accepted, or paper, plastic or other type of contaminant. On average,

240-litre FOGO bins contained 5.2% contamination, by weight, and 80-litre bins contained 7.4%.

### 3.6 How is the FOGO bin used?

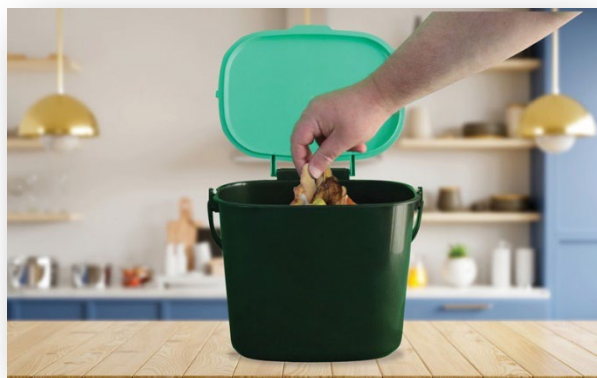
Amongst the survey respondents who use a FOGO bin, 98% say that they use it for garden waste, 84% for food scraps, 17% for compostable packaging and 13% for paper or cardboard (despite compostable packaging and paper/cardboard not being accepted). This was supported by the focus group research.

The FOGO bin audit found similar results, with 90% of 240-litre and 80% of 80-litre FOGO bins containing garden waste, and 68% of 240-litre and 79% of 80-litre FOGO bins containing food scraps. It is expected that households that set out materials do not necessarily set them out every week, hence the slightly lower numbers in the audit.

The survey found that amongst those who use the FOGO bins for food scraps, 40% use a kitchen caddy and 37% use a repurposed container before putting food scraps in their FOGO bin. Twenty-two per cent put food scraps directly into the FOGO bin.

The focus groups found that in the absence of council provided 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. Kitchen caddies were mainly kept under the sink or on the benchtop.

The bin audit showed that households that used a kitchen caddy or a repurposed container place more food scraps in their FOGO bin (2.39-2.61kg) than households that put food scraps directly into the FOGO bin (1.56 kg).



A higher proportion of households that say they put their food scraps directly in the FOGO bin did not have any food scraps in their bin during the audit (28% of these households, versus 15-20% of households using a kitchen bin).

### 3.7 What are key attitudes towards FOGO bins?

Participants in all focus groups praised the weekly FOGO service and valued the ability to use it for garden waste and food scraps.

The focus groups found that key motivators for using the FOGO bins were the environmental benefits and contribution to a circular food cycle; the bin's convenience

and ease of use; compost being great for gardeners; increasing capacity in their rubbish bin; and the perceived value for ratepayers.

Conversely, there was some confusion about what can and cannot go in the FOGO bin, the smell and difficulty cleaning the bins, the quality of the compost being made, and not being able to use newspaper to wrap food scraps or line their bin. There was also confusion caused by changes in the rules as to what can be disposed of to the FOGO bin earlier in 2024, and people tended to apply the same rules to the FOGO bin as they would to home composting. This finding was supported by the survey results.

Across the focus groups there were a range of views as to whether food scraps were beneficial or harmful in landfills. There was an underlying assumption that food scraps collected in FOGO bins are being processed into compost, however, there was confusion about the process and outcome for local communities. There was also some concern about the transport of food scraps out of local areas and the resultant cost and increased carbon footprint.

The focus groups found that the main barriers for not using FOGO bins were the inconvenience (distance to bin/ easier to use kitchen rubbish bin/ in sink-waste disposal), the smell, mess, flies and the hassle (of sorting food waste/ and dealing with another bin).

The survey found that 26% of respondents thought that FOGO bins are smelly and dirty and 8% said they attract animals. However, 42% of respondents said that there was nothing about the FOGO bins that they didn't like. When comparing the results of the survey and the bin audit at the household level, there is a correlation between households placing more food scraps in their FOGO bin, and finding that the bin smells, is dirty, or attracts flies/rodents/vermin.

Suggested improvements to the service included: up-to-date information on the rules; the option for bigger/ smaller bins; allowing use of paper to wrap food scraps and line bins; trucks emptying bins properly; help with cleaning the bins; sealable lids; and more consistency of rules across New Zealand.

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.

### 3.8 What communications are recommended?

The focus groups provided key findings around additional communication requirements. Participants requested more information on FOGO bin services and any recent changes in service. This includes what items are accepted in the FOGO bins, and a clear

explanation as to why paper and compostable bin liners are no longer accepted in most council areas.

They also identified the need to outline the environmental benefits of FOGO bin services and address local and intergenerational benefits. Other messages that were identified as being necessary included dispelling myths; and clarifying the impact of sending food scraps to landfill.

Councils were identified as being the most trusted source of information, as well as those managing composting facilities. It was suggested that a multi-channel approach is required, with information provided via direct mail, council Facebook pages and rates bill, as well as direct mail or leaflet/ stickers attached to the bin.

In addition, the survey and FOGO bin audits indicate the need for specific communications. Recommendations for these communications are summarised in Appendix A.

## APPENDIX A

Communications recommendations		Evidence
<b>Target/ profile audience</b>		
1	<p>Profile key target audiences:</p> <ul style="list-style-type: none"> <li>Those not using the FOGO bin (more sceptical about outcomes, dislike smelly and dirty bins)</li> <li>Those using the FOGO bin but could be doing better (lower knowledge of permitted food scraps)</li> <li>Smaller households, those with children (tips on reducing food waste)</li> </ul> <p>Target information to:</p> <ul style="list-style-type: none"> <li>Lead householder/cook responsible for recycling and food scraps management</li> <li>Those with large gardens (more likely to home compost/ use worm farm) who possibly perceive FOGO bin as not useful to them, not aware that FOGO bin can take food scraps that cannot be home composted or put in worm farm</li> </ul>	Survey and focus group research
<b>Building support/ addressing barriers</b>		
2	<p>Messages that resonate:</p> <ul style="list-style-type: none"> <li>Benefit to future generations: what happens to food scraps in landfill</li> <li>Benefits to local community: what happens to food scraps locally, how small actions can help your community</li> <li>Tell the story: commercial composting facility/ local compost/ reduce need for more landfill, local outcomes (use of compost etc)</li> </ul> <p>Communications channels:</p> <ul style="list-style-type: none"> <li>A trusted source - Council staff (those that are close to the operation of the service), along with composting facilities spokesperson</li> <li>Multi-channel approach for different generations, target audiences</li> </ul>	Focus group research
<b>Increasing knowledge of permitted food scraps/ other material</b>		
3	<ul style="list-style-type: none"> <li>Up-to-date information on what can and cannot go in the FOGO bin <ul style="list-style-type: none"> <li>Increase knowledge of FOGO bin permitted foods currently going to rubbish bin, also help reduce contamination</li> </ul> </li> <li>Reaffirm what can go in FOGO bin that is different to home composting and worm farms</li> <li>Keep information up-to-date and simple in delivery</li> </ul>	Survey, focus group research and bin audit
<b>Inform on how to use the FOGO bin</b>		
4	<ul style="list-style-type: none"> <li>Reminder that weekly collection helps manage volume in rubbish bin which is collected fortnightly</li> <li>Clarify viable amounts that can be collected (what amount is enough?)</li> <li>With changes to use of newspaper, compostable bin liners - provide reasons why they cannot be used</li> <li>Acknowledge seasonal use</li> </ul>	Survey, focus group research and bin audit
<b>Addressing smelly and dirty bins (low or no FOGO bin users)</b>		
5	<ul style="list-style-type: none"> <li>Clarify use of newspaper, compostable bin liners; provide reasons why they cannot be used if not permitted (a number are aware that other parts of NZ allow compostable bin liners). Make service improvements where possible – annual cleaning of bins, match bin size to household needs etc</li> </ul>	Survey and focus group research
<b>Use of kitchen caddy/ repurposed container</b>		
6	<ul style="list-style-type: none"> <li>Explore availability of sealable kitchen caddies for those not currently using one</li> <li>Provide examples of repurposed containers that some are using</li> <li>Note compostable bin liners useful for those who dislike smell and dirty bins</li> </ul>	Survey, focus group research and bin audit