

Household food waste collections guide



This publication updates the 2009 guide and pulls together the findings from more recent studies and pilots conducted by WRAP and others. Through the various sections, this guide is designed to support local authorities by detailing good practice and evidence which can help inform the design and delivery of high capture, cost-effective food waste collections

Section 2: Householder perceptions of food waste recycling

Public support is vital to the success of any food waste collection scheme. How householders view their local service has a major impact on participation. This section summarises WRAP research on residents' views of food waste recycling, barriers to participation and the effectiveness of measures to reduce the number of people not using the collection service.

WRAP has carried out several studies over the past few years. This section covers focussed studies with large sample sizes looking at householder attitudes in well-established food recycling schemes and opportunities to encourage lapsed and non-users to the service.

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2.1 Food waste collection trials 2007 to 2009

The original WRAP food waste collection trials supported 19 English local authorities implementing weekly food waste collections in 2008. Whilst the research may now be considered a little old the responses are included here to set the scene for the recent barriers research which was designed to probe similar themes around participation and attitudes to sustaining food recycling. The trials covered over 110,000 properties across England and ran for over a year. Door to door surveys were carried out with 4,500 residents from five of the local authority areas that had been provided with the service.

The feedback from regular scheme users is summarised in Table 2.1. The results suggest high levels of participation for each collection cycle. However, claimed participation is consistently much higher than the actual measured participation by an order of approximately 20%. Findings from a more recent study (see Section 3.2) are similar.

Around 80% of the participants did not experience any problems with their use of the service during the year-long trial. On average, less than 0.4% noticed any incidences of vermin, and very low levels of flies or odour as single incidences were reported over the duration of the trial. Around one year's supply of liners was provided to each resident and users reported very high levels of satisfaction (over 95% on average) with the containers (external and internal kitchen caddy) and liners. There appeared to be some concerns over missed collections and suggestions that this may have affected residents' experience of the service.

Table 2.1 Summary of householder feedback following food waste collection trials

	Local authority (%)					Average (%)
	A	B	C	D	E	
Users: participating every time	83.0	73.9	85.3	67.9	75.0	77.0
No problems in period of trial	82.0	83.9	88	68	84.7	81.3
Insufficient liners	9.8	2.1	0.6	1.6	0.4	2.9
Smells	2.9	4.2	1.8	4.7	1.8	3.1
Flies	2.0	3.2	2.8	1.8	1.4	2.2
Vermin	1.0	0.4	0.0	0.2	0.0	0.3
Missed collection	2.2	2.3	0.9	11.1	2.3	3.8
Caddy satisfaction	93.4	94.7	96	95.6	96.6	95.3
Liner satisfaction	93.1	97.4	96.4	94.3	99	96.0
Outside container satisfaction	94.1	94.2	90.7	93	98.4	94.1

Key:

A = Mid Bedfordshire District Council (now part of Central Bedfordshire)

B = Newcastle upon Tyne City Council

C = Shropshire (South Shropshire District Council and Shropshire Waste Partnership)

D = Waveney District Council

E = West Devon Borough Council

The general perception of the service by non-participants appeared quite different to the experience of regular users (Table 2.2). Non-participants were principally those who had not tried the service or had given up shortly after the start rather than those who had lapsed over a longer time period.

Table 2.2 Non-users – reasons for not participating

	Local authority (%)					Average (%)
	A	B	C	D	E	
Don't produce any or enough food waste	30.0	14.7	24.5	26.7	34.4	26.1
Home compost instead	14.0	2.9	8.5	1.1	8.9	7.1
Too smelly	11.0	10.8	4.0	12.8	6.7	9.1
Attracts flies	7.5	6.5	4.0	5.5	0v	4.7
It's messy	5.0	7.9	2.0	1.4	1.6	3.6
Attracts vermin	4.1	4.3	2.0	3.8	3.3	3.5
Don't know about service	7.5	1.1	0.0	0.7	0.0	1.9
Barriers (grouped as themes):						
Practical	29.0	36.5	10.0	19.0	12.0	
Infrastructural	45.0	29.9	44.0	48.0	45.0	
Behavioural	10.0	10.3	14.0	19.0	17.0	
Other	16.0	23.3	32v	14.0	26.0	

Key:

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Issues related to hygiene are among the reasons given for not participating. There appeared to be a disparity between the hygiene experiences of service users and the perception of non-participants. However, the numbers of residents who were concerned about hygiene-related issues still appears low. For example, 9% of non-users on average had concerns over likely odour issues and 5% or less had concerns about flies, vermin and general messiness.

When grouped together, the key barriers relate to infrastructure (not having the necessary equipment to participate) and thinking they didn't have sufficient food waste to need the scheme. Knowledge issues including information requirement tended to be less important.

Non-users in all five of the local authority areas surveyed cited 'don't produce any or enough food waste' as the top reason for not using the collection service. This response tallies with other key surveys where residents with access to food waste collections

regularly state that they do not have any food waste or produce enough to warrant participating in the scheme.

National waste composition studies show that 7 million tonnes of food waste are generated by UK households each year, of which 4.7 million tonnes are presented for local authority collection. There is clearly a disparity between the perception by some householders that they don't produce food waste and the reality that the majority of households do produce food waste on a regular basis.

The responses could be explained by reasons such that either residents are unaware of the amount of food waste they produce or perhaps the style of interview at the doorstep makes householder uneasy when asked about their waste management behaviour. Another theory is that residents do not perceive the quantity of food waste they produce in the same way as they see the generation of packaging waste. This may simply be down to the volume of food waste being much denser than high volume plastic packaging or card, and residents mistaking the volume for quantity rather than weight.

However, it is difficult to pinpoint the precise reasons without extensive further surveying. Clearly there appeared to be a challenge to raise awareness that all households do produce food waste and that even small quantities or unavoidable food waste are important.

2.2 Recent research to better understand why non-users do not participate and how to be encourage them to start participating

Previous research studies have generally sought to understand which service aspects were important to residents who did participate and to highlight the barriers raised by non-participants. A recent WRAP project looked at how to encourage participation from non-users who might have given up using the service or had never participated. This project aimed to provide feedback on:

- which measures are more (or less) effective in addressing barriers to participation;
- their relative 'value for money'; and
- how they could be rolled out to other councils across the country.

The research element of the work had two key objectives:

- to understand the barriers that were specific to that pilot area; and
- to determine the types of measures that would be most effective at increasing performance.

The research findings presented here specifically cover ground level kerbside properties that were able to be interviewed on their doorstep. The research also covered one pilot area that reviewed barriers to food recycling in flatted properties and subsequently

implemented measures to improve performance. The findings for flatted properties are covered in Section 8.

2.2.1 *Methodology*

Door-to-door surveys were carried out in November 2013 with residents in five local authorities (Somerset County Council, Central Bedfordshire Council, Calderdale Council, Daventry District Council, Corby Borough Council). The Local Authorities had established food recycling services in place for several years and settled communities that were aware of the food recycling services available. Each Authority identified themselves as having some particularly low performing food waste collection rounds which were then selected for surveying.

Each interview covered a range of questions and lasted up to 15 minutes. All interviewees needed to be jointly or mostly responsible for the rubbish and recycling in their household. If this was not the case then an appropriate member of the household was sought, or the interview closed if no-one else was available. Potential respondents were then asked the frequency with which they put items out for the food waste recycling collection and their answers allocated to one of four categories: low users, lapsed users, non-users or oblivious. Residents who were not aware of the service for various reasons, including they had recently moved into the area, were classed as 'unaware of the service'.

The screening questions covering the regularity of participation and food types householders deposited into the scheme suggested there was a sufficiently large category of low users to justify inclusion as a distinct category in the results. Previous studies had suggested that households either use the weekly service every time or did not participate. It was therefore interesting to note that around 25% of households were using the service infrequently.

In addition, collection rounds included in the earlier trials were reviewed to try to ensure there were no key issues that might have recently affected participation such as poor communications, service disruption and change in scheme design.

2.2.2 *Key findings from the doorstep surveys*

The results are detailed below for: non-users, lapsed users and low users.

Routes used to dispose of food waste

Initially, each user group was asked how they disposed of various items of food. Nine main food categories were used to identify items of food waste that households might be producing. These were:

- bread and cakes;
- raw meat and fish;
- cooked meat and fish;

- cheese and yoghurt;
- ready meals;
- convenience foods or snacks;
- parts of food not normally eaten (e.g. peelings, bones);
- food you prepared too much of but didn't serve up or food left on the plate after the meal; and
- food that's gone off, mouldy or past its use by date, including unopened packs.

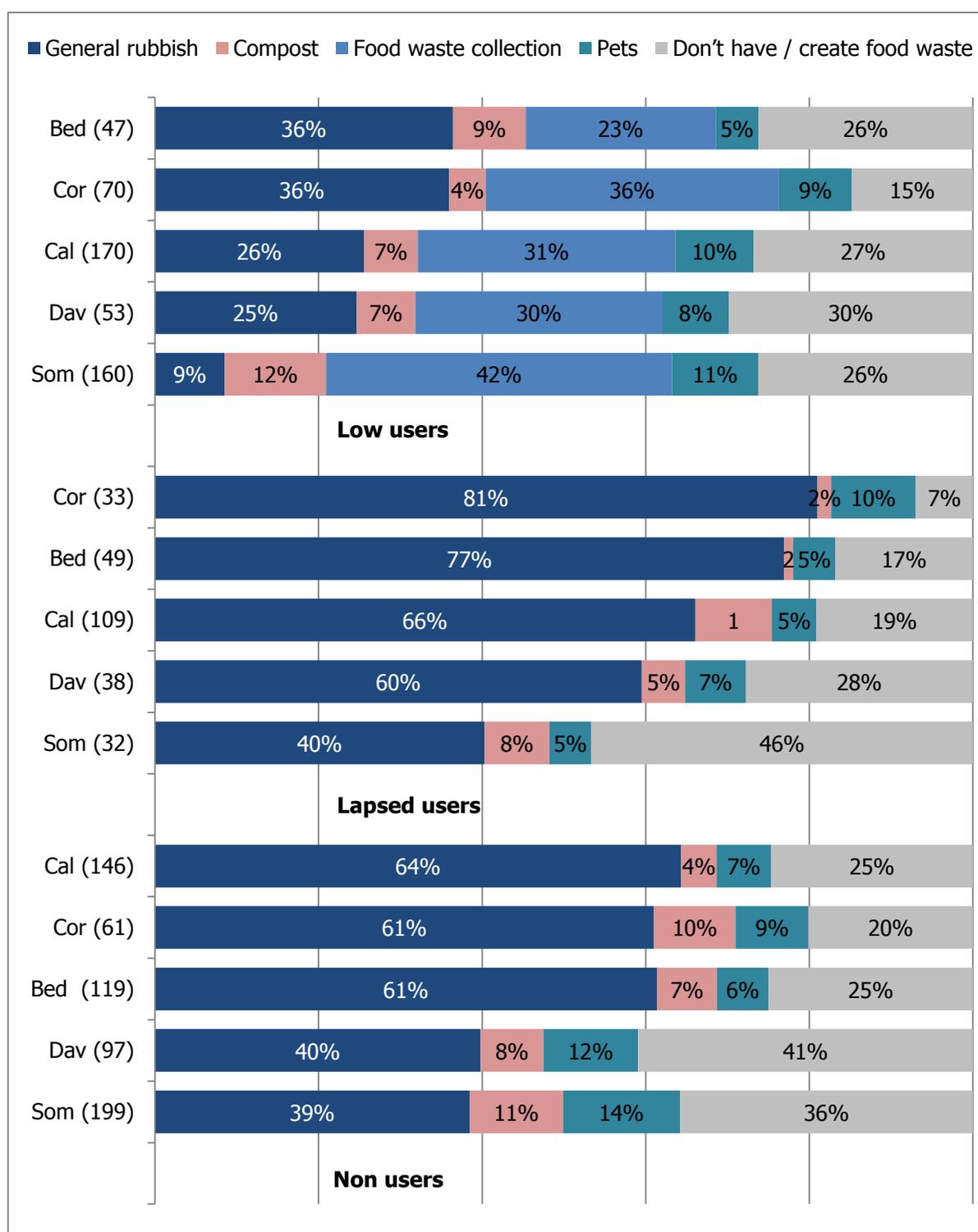
For each item residents could detail what they did with the item. They were offered five options.

Did you:

- put it in the general rubbish?
- compost at home?
- put it in the food waste collection?
- feed it to pets?
- not have/ eat/ create this food item?

Figure 2.1 summaries the responses across user types and local authority areas for all food categories combined.

Figure 2.1 How survey respondents claimed to dispose of their food waste



Notes: The bars are the average across nine food categories for each user type.
 The number of householders interviewed in each local authority area is shown in brackets.
 Key: Bed = Central Bedfordshire Council; Cal = Calderdale Council; Cor = Corby Borough Council; Dav = Daventry District Council; Som = Somerset County Council

For this research study the questions were designed to manage the answer if the common interview response was 'we don't produce any/ enough food waste to justify participating in the service'. Rather than challenge the respondent on the legitimacy of their initial response and affect the quality of other responses, the survey was designed to then ask the residents what they did with certain food categories.

In general, there were low levels of disposal to home composting or pets. Across the board with low, lapsed and non-users there continues to be a high proportion of residents claiming not to produce any food waste. On average, 29% of non-users claimed they did not produce any food waste – a higher proportion than in the other two categories.

Around 65% of lapsed users stated that they now used the residual waste stream as the main route of disposal for their food waste. However, there were also high proportions of non-users (53% on average) who stated they were putting food waste into the residual bin.

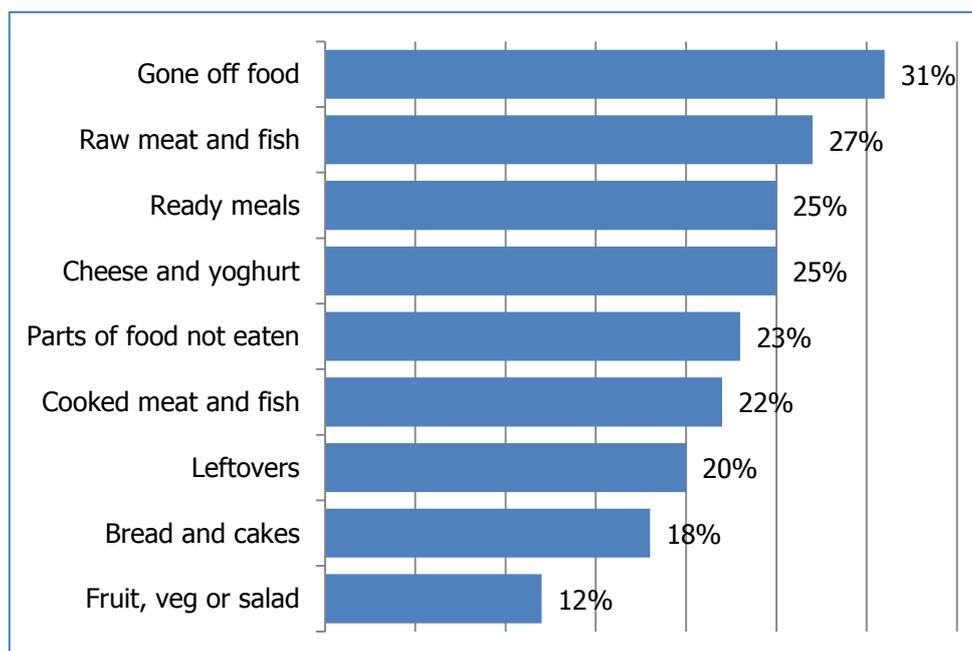
Among the non-users, 76% stated that they generated at least one of the nine food waste categories:

- 20% produced 1–3 categories;
- 12% produced 4–6 categories;
- 42% produced 7–9 categories; and
- 24% produced none of them.

Once prompted and the food categories explained more fully, residents seemed much more comfortable in describing when they used the residual bin. A high proportion of non-users (42%) who initially stated they did not have any food waste admitted they did produce between 7–9 of the food categories. Nearly a quarter still believed they did not produce any food waste.

The vast majority of items produced were said to be disposed of into the residual bin. Figure 2.2 shows, overall, what types of food were most likely to be disposed of in the residual bin by low users.

Figure 2.2 Types of food most likely to be disposed of in the residual bin by low users



As with an earlier Defra study,¹ the types of food waste least likely to be captured were the same as those least likely to be recognised by residents as being accepted by their food waste collection service. The challenge for communications continues to be how to encourage better recognition and capture of a wide range of food types.

Behaviour of low users

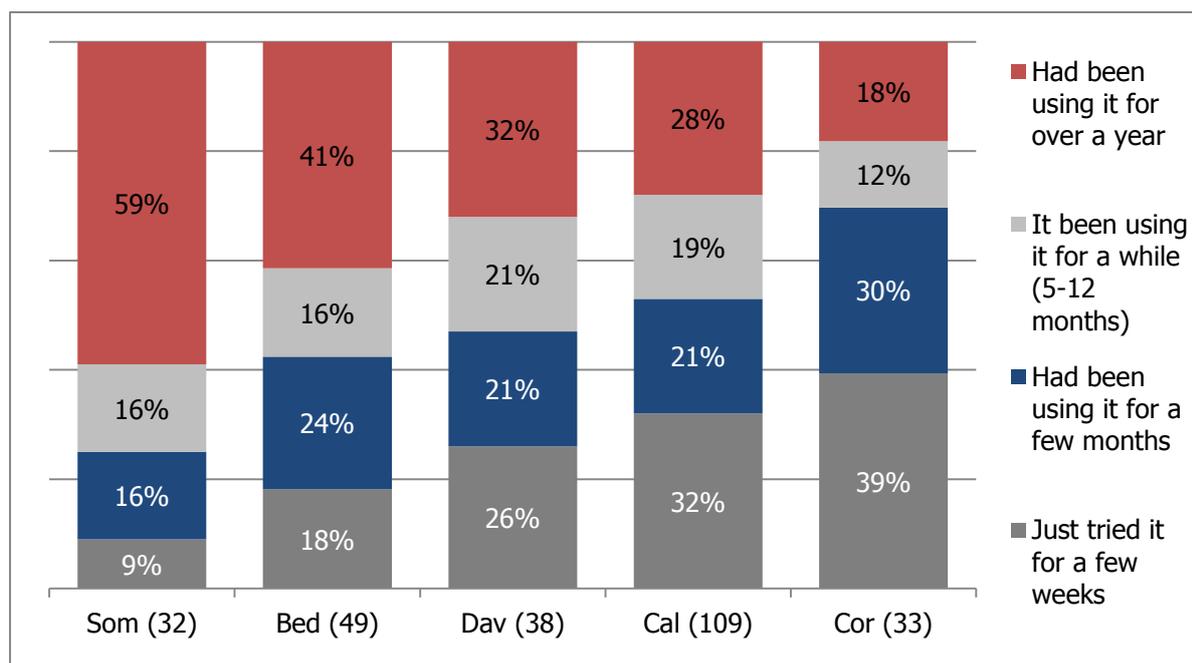
The majority of low users claim to be using the scheme sporadically for particular materials at varying times of the year – Christmas, summer barbeques, family celebrations, etc. – rather than continually through the year.

Behaviour of lapsed users

Lapsed users were asked how long they had taken part in the food waste collection before they gave up. Somerset residents appeared to have continued with the scheme for a longer period than other areas before dropping out (Figure 2.3).

¹ *Enhancing participation in kitchen waste collections, Defra, 2010*

Figure 2.3 How long lapsed users had taken part before giving up

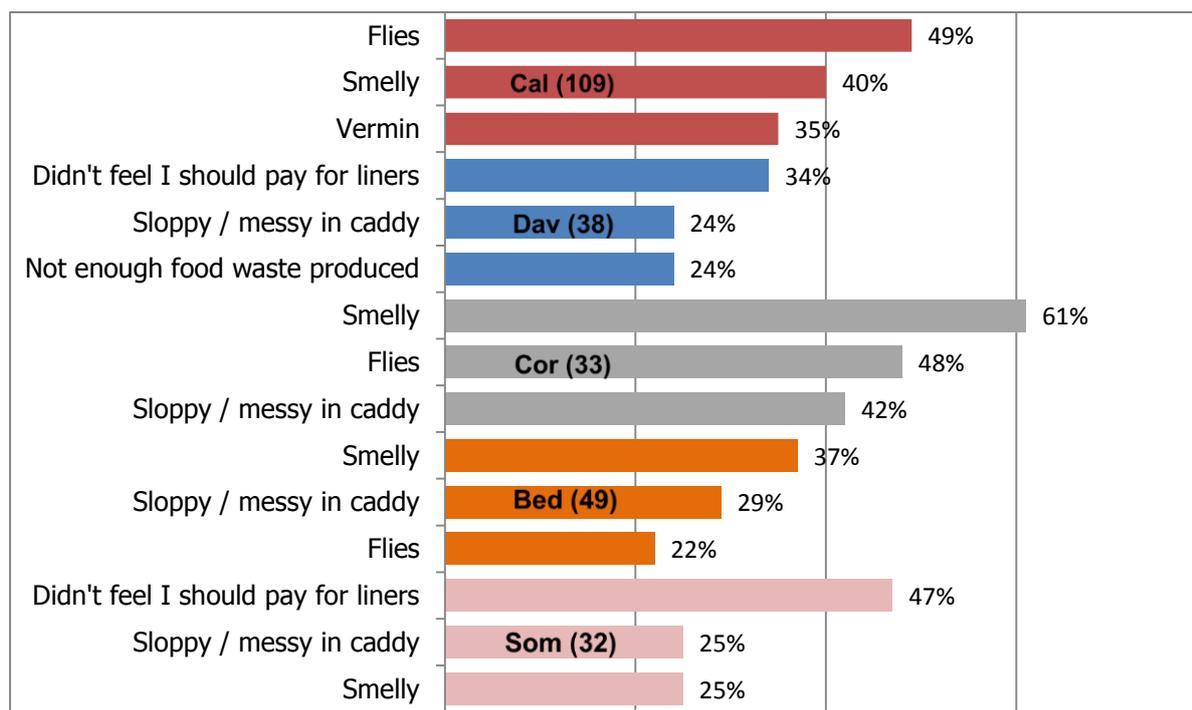


Note: The number of householders interviewed in each local authority area is shown in brackets.
 Key: Bed = Central Bedfordshire Council; Cal = Calderdale Council; Cor = Corby Borough Council; Dav = Daventry District Council; Som = Somerset County Council

In general, the majority of households that lapse have participated beyond the initial first few weeks and appeared to have used the scheme for several months before stopping. Even in this time frame, they would not normally have had any follow-up communications about the scheme. However, it appears that the initial scheme design is fine to get residents on board but that something changes over the period of a few months, which affects their persistence and consequently their participation.

Lapsed users provided a variety of reasons for stopping using the food waste collection service (Figure 2.4). These are specific to each area and show an interesting picture, which tallies well with what low users say (Table 2.2).

Figure 2.4 Reasons why lapsed users stop using the food waste collection service



Notes: The number of householders interviewed in each local authority area is shown in brackets.
 Key: Bed = Central Bedfordshire Council; Cal = Calderdale Council; Cor = Corby Borough Council; Dav = Daventry District Council; Som = Somerset County Council

Lapsed users generally accepted that they did produce food waste and did not tend to give this reason for stopping. The main reasons related to smell, messiness and likelihood of attracting flies. Where liners were available to help mitigate these issues, residents were not keen to pay for them. In the areas where liners had not been made available, Somerset and Daventry residents' top reason for lapsing was that they had been expected to pay for them in the first place. From the focus groups in Woking, it may be inferred that they find the collection a hassle in other ways ('messy/ yucky') and feel the council should pay for liners if they want people to go to extra effort and not just throw their food waste in the refuse bin.

Looking at the issues raised by lapsed users and when they tended to drop out, the issues of odour, smell and general messiness would materialise quite quickly and long before the users quit. It could be that, after the free liners run out, residents are less willing to buy them and start to see problems with alternatives they might be using such as wrapping in newspaper. Schemes users tend to report very high levels of satisfaction with liners and report low incidences of hygiene-related issues when they are provided. Only two of the five areas surveyed provided free supplies of liners to residents. The majority of collection schemes in the UK do not provide liners continuously, but they are often supplied as a starter pack.

Reasons why non-users didn't participate

The top three reasons given as to why non-users didn't use the food waste collection service in their local authority area are shown in Figure 2.5. While issues with liners featured high up on the list of reasons, only 1–2% of non-users mentioned liners when asked why they did not participate. This low figure may be because the question did not prompt that free liners could be an option and interviewees assumed that the council would always require them to be purchased through retail outlets. Similarly it could be that non-users had not engaged enough with the scheme to appreciate the benefits of liners in reducing hygiene concerns.

Figure 2.5 Top three reasons why non-users don't use the food waste collection service

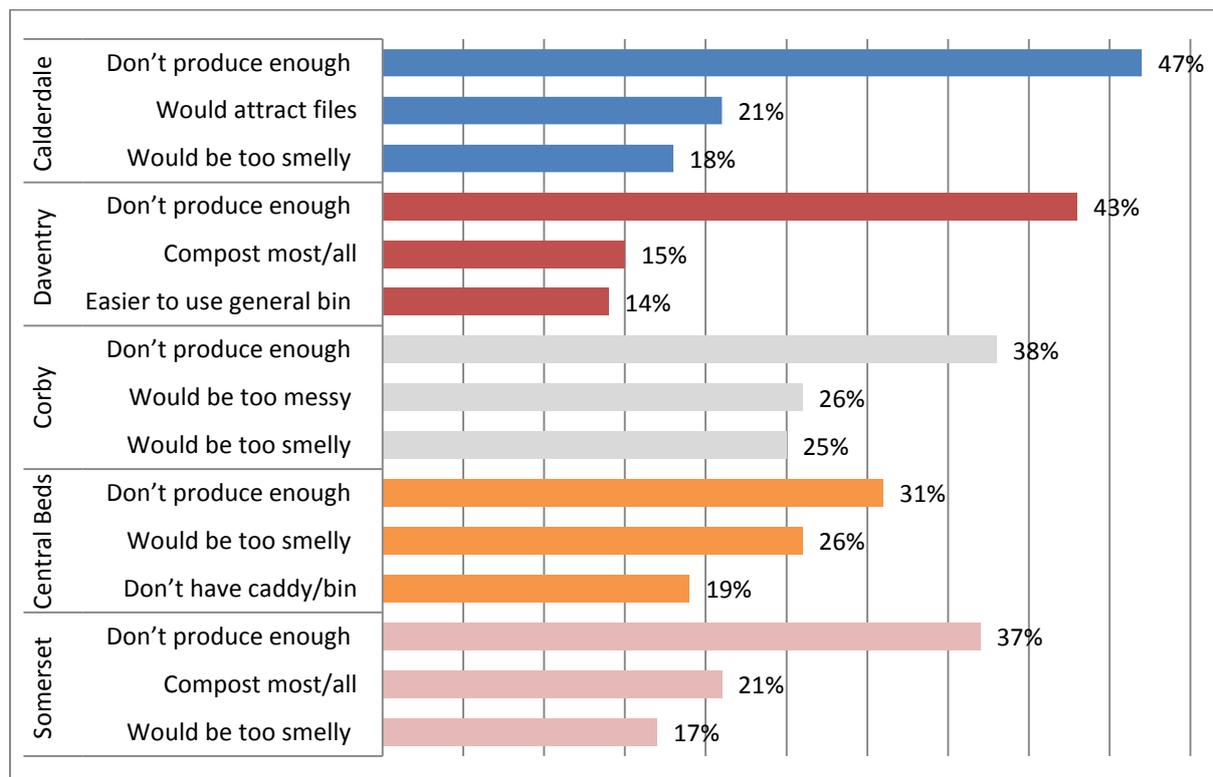
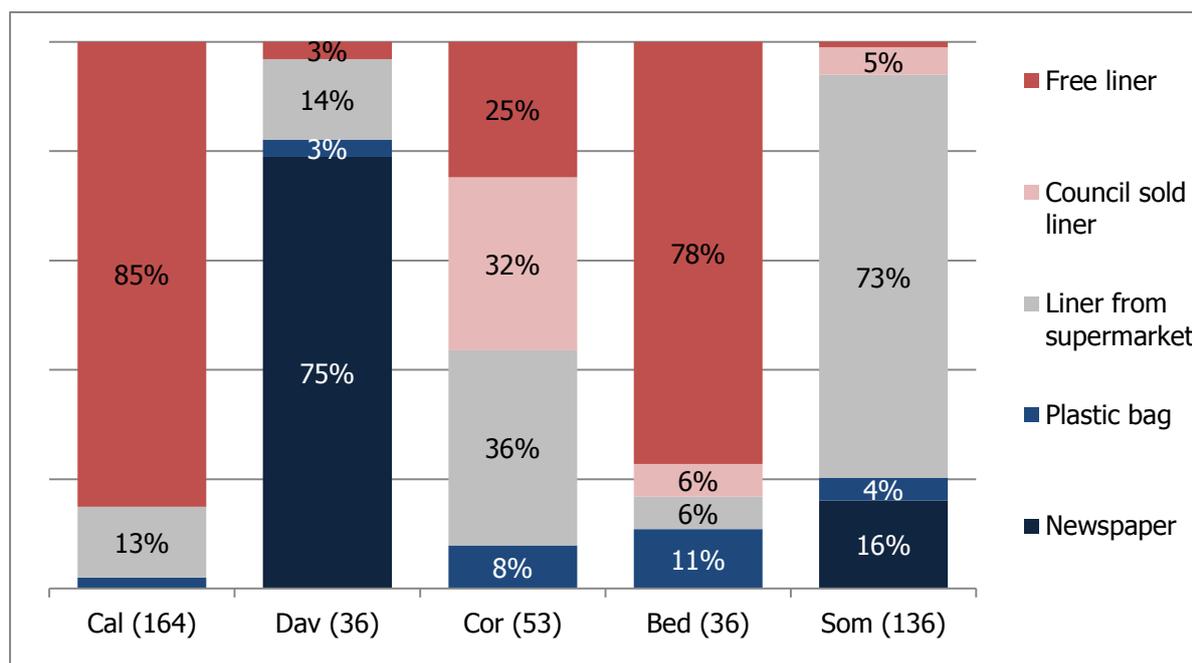


Figure 2.6 shows the different ways in which low users line their caddy. Despite the option of using carrier bags, few residents appear to do so. With introduction of the carrier bag charge in England, the cost of using carrier bags can be expected to become a barrier for more residents.

Figure 2.6 Different methods used by low users to line their caddy



Note: The number of householders interviewed in each local authority area is shown in brackets.
 Key: Bed = Central Bedfordshire Council; Cal = Calderdale Council; Cor = Corby Borough Council; Dav = Daventry District Council; Som = Somerset County Council

2.2.3 Residents' thoughts on communications

Residents were asked about their thoughts on aspects of how the service was communicated to them by the council.

In terms of addressing information requirements, the proportion of households wanting to know more about the treatment process and end uses was not as high as expected. Only 21% stated they would have liked to know more about what happened to the food waste after its collection (7% agreed strongly and 14% tended to agree).

However, a fair proportion felt that the importance of food waste could be communicated further. When asked their view of whether 'The council has communicated clearly why recycling food waste is important', 37% disagreed (20% disagreed strongly and 17% tended to disagree).

2.2.4 Suggested measures to get households recycling their food waste

Residents were asked for their views on how the scheme could be improved to get them either back on board or to start: 'What would encourage you to recycle food/ do more?' A very high proportion of people from all three groups of non-participants claimed that 'nothing' would persuade them to participate. The breakdown between groups was:

- non-users – 72%;

- low users – 68%; and
- lapsed users – 47%.

The lower proportion of lapsed users stating 'nothing' possibly suggests that there may be some aspect of the service they did like and may be more likely to give the service another try if the scheme was improved in some way.

'Make it more hygienic', 'provide liners' and 'provide a new caddy' were the main suggestions for what could encourage people to start or resume participation. Rewards, incentives and rebates got very few mentions. This is in contrast to earlier studies when council tax rebate was a popular suggestion.

The nature of unannounced time-bound interviews in engaging with residents means that trying to identify solutions on the doorstep can be quite difficult. Suggestions are usually based on their personal experiences of the service for the time they have used it and residents' knowledge of their collection service. Residents may sometimes be influenced by their awareness of schemes provided to friends or family in different parts of the country.

Generally, the types of suggestions are useful when considered as themes rather than specifics. For example, bin cleaning may be suggested although associated costs could be prohibitive. The core issue for the householder (that is, clean containers) might be mitigated by a sufficient liner supply or more frequent service.

Residents' suggestions

In terms of ranking the preferred suggestions, the feedback was as follows.

- Give local shops supplies of liners to distribute free.
- Allow people to put food waste into plastic carrier bags.
- Wash out bins each week so there's no residue left.
- Make liners free of charge and deliver in larger rolls.
- Introduce bins at local recycling centres.
- Offer a prize draw for areas that increase their rate.
- Improve the design of the internal food waste caddy.

A number of the suggestions are unlikely to be practicable or affordable for the local authority providing the service, for example, providing a bin cleaning service.

Many residents were unaware that the carrier bag charge would increase the cost of using these for food waste.

Looking at the suggestions the vast majority of responses revolved around:

- making the service cleaner through regular (free) liner supply;
- increasing convenience within daily lives particularly in the home; and
- avoiding cost and hassle to residents.

The Department for Communities and Local Government has funded 14 projects in local authorities that will offer rewards to residents for recycling their food waste. Funding was only allocated in April 2015 so we await to see how effective these projects are in increasing food waste collection yields, but it is hoped they will provide further understanding as to what works in food waste-related recycling reward schemes.

2.2.5 *Key themes from follow-up focus groups*

The information from the surveys in November 2013 was used as evidence to inform the design of a series of measures to improve performance in a number of pilot areas (see Section 11). These measures included:

- free supply of liners;
- redesigned communications leaflet;
- reminder stickers on residual bins; and
- caddy stickers listing which food types could be accepted.

A number of follow-up focus groups were held after these measures were put in place to understand:

- responses from across user groups; and
- whether some aspects of the measures could be improved.

Change in participation

For current users, there was limited reported impact on behaviour. Few stated that they were now using the food waste collection service differently. However, the yield and participation results suggested that, as well as non- or lapsed users now participating in the service, more food waste must have been captured by existing users.

For lapsed/ new users, an increased positive view of the service and the council was generally reported. There was a feeling that the council had 'listened' to residents, which made them feel appreciated. There were indications that some were finding the process cleaner – in particular perceived improvements to the liners in terms of their strength and how they fitted the caddy.

Feedback on further measures

When residents were asked for ideas on what else could be done to improve take up by non-participants, the principal suggestions from users were around a role for enforcement measures delivered by the council. However, non-users had two distinct reactions to the suggestion of the service being compulsory: (a) do it/ get on with it; and (b) rebel.

Summary of residents' views from pilot studies

Improving the quality of service and listening to households was considered to be important to residents in getting them to consider coming back on board.

The results highlight that having 'one size fits all' in terms of a food waste collection is extremely difficult. Residents want different caddy choices and need different types of communications at different times according to their personal circumstances.

All focus groups felt that creating a social norm and focusing on everyday habits (that is, that everyone can use the service) should be emphasised in preference to other scheme benefits. This included understanding how residents from different demographics and in different circumstances use the schemes and incorporate food waste recycling into their daily routines.

Linked to the social norm, the reason why people should use the service is important. Food waste needs to be made more of a talking point and people need to be convinced as to why they need to participate.

Table 2.3 summarises the motivation, ability and triggers to participate identified during the focus groups among established users, lapsed users and those who have never used a food waste collection service.

Table 2.3 Motivation, ability and triggers to participate

Group	Motivation	Ability	Triggers
Established users	Already established among users – ranging from the highly committed through to those for whom 'like' is too strong a word but who are nonetheless content enough to use the service. Could be increased further by more information on outcomes and benefits.	Few problems – they have found routines that work for them. Pilots had clearly played a reinforcing role and been well received. There are some tangible benefits (e.g. liners fit the caddy better, making the process cleaner) as well as intangible (e.g. more positive towards the service/ council). There was some demand for better designed caddies or more attentive bin collection staff.	Not applicable

Group	Motivation	Ability	Triggers
Lapsed users	Motivation not an issue for some (i.e. they are committed recyclers and wanted to extend this to food waste); others were 'reluctant' users (they thought they had to). The former, much like 'established users', are interested in information about outcomes/ benefits; the latter, like 'never users', need a stronger reason as to why they should be using the service.	Primary reason for lapsing (i.e. they were motivated enough to use the service but it fell short). Some lapsed users had begun to use the service again, citing in some cases the trial (i.e. a sense of 'it was messy before but the council have now provided free liners – that might make it better, so I'll give it another shot').	The results suggest the trials were successful enough for some lapsed users, helping to address specific barriers and change behaviour. For others, additional measures would be necessary (i.e. a more compelling message as to why).
Never used	Primary barrier – many do not want to use the service; others do not see the need to use it (i.e. they compost). They have constructed 'non-user' identities to the extent that communications – and even new caddy/ liner provision – are perceived as 'not relevant to them'.	Although currently a secondary consideration to motivation, increasing ability will be important and could even help support motivation, i.e. the provision of more choice and flexibility from the council in terms of their circumstances (e.g. different sized caddies, or caddy alternatives); making it more likely they might reciprocate.	The scale of ambition of the pilots to date is insufficient for this group, who are unlikely to respond to smaller or piecemeal changes to the service. A larger 'push' is likely required (e.g. re-launch, specific area targeting, making the service compulsory). The use of bin stickers, where used in the right way, should be tested further.

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