

# Understanding why people waste food



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Continuing to encourage uptake, adoption and shifts in behaviours requires understanding why people act the way they do, and thinking about how people can make changes.

**Photo (above):**  
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## Examining the "food journey" to gain insight into how to change food-wasting behaviours

The United Nations Sustainable Development Goal 12 on sustainable consumption and production calls for reductions in food waste generated by retailers and consumers. As this goal suggests, concerns about food waste are rising. In the UK, many parts of the food and drink supply chains have signed the Courtauld Commitment 2025 to cut the cost of food and drink whilst achieving SDG goal 12.3, which aims to halve per capita global food waste at the retail and consumer levels, and to reduce food losses along production and supply chains.<sup>1</sup> Urgency is high. British homes dispose of 7 million tonnes of food and drink per annum; almost 50% of this could have been consumed, according to estimates by the Waste and Resources Action Programme (WRAP).<sup>2,3</sup> Despite a reduction in food waste between 2007 and 2012, this amount has stayed almost constant since 2012.<sup>3</sup> WRAP identified several reasons why people throw away food: they buy or cook too much, or they do not eat the food they have in time; the food becomes inedible before people eat it.<sup>1</sup> At the same time, recent surveys indicate a discrepancy: despite the large amount of food that is discarded, 59% of UK households claim that they throw away hardly any food.<sup>4,5</sup> These figures highlight a gap between personal awareness and an acceptance of households' responsibilities on this issue. This gap between perception and reality makes behaviour change difficult.

Technological solutions — such as mobile phone apps to share leftover food with strangers or refrigerator cameras that notify users when food will soon become spoiled — could prove critical in addressing the problem. However success will ultimately come down to how much people are willing to change the way they live.<sup>6</sup> Thus, to design effective interventions to reduce food waste, better understanding of what underpins the behaviour is essential. The task requires examining people's motivations (and whether these are linked to goals, habits and/or emotions), the opportunities and barriers to change, and people's perceived capabilities. Existing literature has begun to reveal potential opportunities for solutions, but also barriers that require further investigation.<sup>7,8</sup> SEI's research examines how the consumer "journey" affects behaviour, choice and decision-making at the household level, and, in turn, how these issues affect policy interventions.<sup>9,10</sup> Following this line of thought, research related to food waste needs to take into account the "food journey" — from shopping to disposal — to ensure that it captures behaviour, attitudes, and motivations relevant to each stage.<sup>9,10</sup> Gender is another important lens to use when looking at food-waste behaviour. The International Food Loss and Food Waste Studies Group states that "Continuing to encourage uptake, adoption and shifts in behaviours requires understanding why people act the way they do and how they can change, which is highly determined by gender norms."<sup>11</sup> In the UK context and beyond, gender can play a role in terms of who is responsible for the different parts of the food journey, and who decides when food is no longer edible.

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We responded to these issues by conducting a pilot study in a city in the United Kingdom to begin to understand:

- What actions do people undertake to try to reduce food waste along a food journey (from shopping to storage, preparation and cooking, eating, and, ultimately, to disposal)?
- What personal capabilities and habits, attitudinal factors, and contextual factors support participants to change their behaviour to reduce food waste? Which factors are barriers to change?
- Does gender play a role in food-wasting behaviour and decisions about when food should be discarded?

## Participants

A previous survey revealed that whilst throwing away uneaten food is something that the vast majority of UK consumers say they do, some groups are prone to wasting more food than others.<sup>4</sup> To begin investigating these issues in more depth our study deliberately targeted two of the groups: young families with children under 16 years of age in the home, with parents aged 25 to 44 who work or are at-home parents; and young professionals, aged 34 or younger, who are employed in full-time work, and who do not have children in the home. We worked with a small cohort of active participants, 13 households, of which nine households belonged to the first “young families” group, and four belonged to the “young professionals” group. Participants, comprised of 11 women and two men, reflected on their own behaviours and on those of their partners within their households, enabling us to explore gender dimensions of food waste.

We were interested in trying out a novel approach to see if we could gain a deeper understanding of behaviour, particularly regarding the difference between what people actually do, and what they think and say that they do (and potentially report on surveys). Recent survey evidence highlights how questionnaires are not capable of capturing the full richness of household activities, including food-wasting behaviours, within UK homes. Moreover, the broad data estimating the amount of food waste suggest that people are either not truthful about their behaviours, or they do not understand the issue well enough to accurately assess the degree to which they waste food.<sup>5</sup> Our pilot project with this small cohort aimed to investigate whether more creative engagement could overcome these methodological shortfalls to better reveal the complexity of this issue, and to identify promising avenues for future research and for potential policy interventions. The work builds on ideas that the use of visual media offers an opportunity to come closer to the immediate, lived everyday life of participants.<sup>12</sup>

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Participants attended an initial focus group session in which they undertook participatory diagramming activities to identify what they considered to be food waste. This was followed by the development of individual diagrams to begin revealing where they believed that waste was being created in their food journeys. After this group event, participants received a “cultural probe kit”, which included: daily food diaries; postcards with different food waste-themed images; a food journey map; instructions for sending in photos; and instructions for leaving voicemail messages. The participants also received a weekly question via text message. The “probe” engagement took place over a period of four weeks to allow people to reflect in their own time and space, and to send back their reflections either via mail, phone or email. The creative activities we selected were intended to make the research more accessible and enjoyable, whilst also revealing deeper insights into the topic. We also wanted to identify which of the various activities were most successful in engaging people to reflect on their food-wasting behaviour. At the end of the project, participants returned for a group workshop to discuss the findings and to share reflections.

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## Food-waste behaviour: the findings

Our pilot study did not aim to find generalisable conclusions; however, it did reveal the complexity of food waste behaviour within households. It also identified a range of motivations that underpin these behaviours, and offered ideas for behaviour-change interventions that aim to reduce food waste.

### Personal capabilities and habits: activities people undertake to try to reduce food waste along the food journey

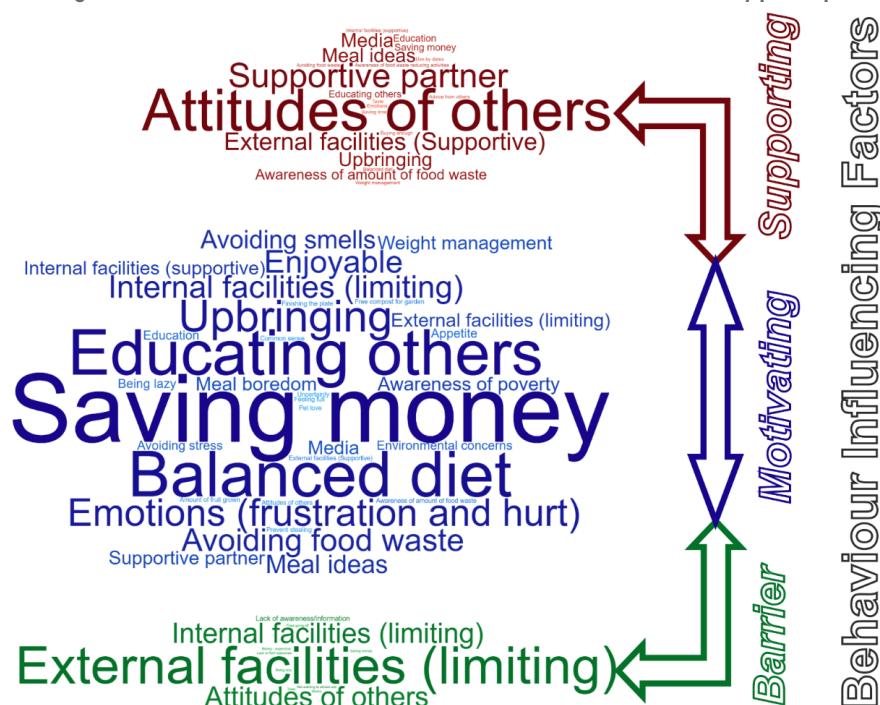
At the initial workshop participants framed food waste as strictly related to edible products. Consequently, most activities mentioned involved reducing the amount of edible food going to landfills. Under this definition of food waste, therefore, composting was considered a means to reduce food waste. By contrast, at the final workshop, several participants said that they had started to broaden their definition of food waste to incorporate packaging. With this new insight, some participants had started making changes to reduce their food *packaging* waste as well as their *edible* food waste.

Participants reported on many activities across the food journey: menu planning, cleaning the refrigerator before shopping, storing different foods correctly, making enough for two meals when cooking, finishing the food on their plates, eating leftovers, and composting. This corroborates the WRAP survey's finding.<sup>4</sup> At the final workshop, participants reflected on these activities, which were summarised in a list pertaining to each part of the food journey. Participants underscored that whilst most items on the list were neither surprising nor innovative, several items consisted of obvious tasks — measures that they seldom or rarely undertook, but could easily adopt. The number of activities was largest for the early stages of the food journey, offering particular promise for reducing food waste at that stage. Asked what they would suggest as possible messages for food waste campaigns and as motivation for individuals, they suggested messages that focused mainly on the shopping stage: "Review what's in the fridge and freezer." "Plan what you're going to eat." And "buy only what you know you will use."

Though the project aimed solely to increase food-waste awareness, participants reported back that they had also started to change their behaviours. Several participants, for example,

Workshop participants suggest that campaigns to reduce food waste focus on the shopping stage: "Review what's in the fridge and freezer." "Plan what you're going to eat." And "buy only what you know you will use".

Figure 1: A variety of factors provided motivation for or barriers to the reduction of food-wasting behaviours. The size of the word reflects the number of mentions by participants.



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mentioned that after the initial workshop, they had taken a good look at the contents of their refrigerator and cupboards, and that this had allowed them to better plan their meals, and to reduce food waste. Several said they had tried to create a new habit of checking the refrigerator and cupboards before shopping.

#### **Attitudinal factors and contextual factors that supported participants to reduce food waste**

The initial workshop showed that a mixture of factors motivated people's behaviour to minimise food waste. These were interrelated with physical and social contextual factors. Figure 1 shows the diversity of factors that either provided motivation for or proved to be a barrier to minimising or reducing food waste.

During the initial workshop people mentioned "saving money" and "having a balanced diet" as main motivating factors. Participants were also greatly motivated by wanting to educate others about food waste, and wanting to set an example to others by their food waste-reducing activities. Findings from the "cultural probes" (especially the responses via text messages and post cards) added considerably to the richness of our understanding of participants' thoughts. For example, participants wrote, "Each item of food I throw away I convert to a price tag, so I know how much money I'm wasting," and "I don't like to throw away what I worked to pay for." Participants also included motivations that had not come up initially, especially, the impact of food waste on the environment. People said that they did not want to waste resources, and they said that it is important to reduce "the impact that food production has on the environment".

The attitudes of others (partners, friends and family circles) played a key role in supporting people's behaviours, highlighting the importance of social norms. Physical contextual factors (termed "external facilities" in the analysis) came up often as barriers. Frequently mentioned examples included the (lack of) local council composting facilities, portion sizes in restaurants, and retailers' prices, packaging and sell-by dates.

#### **The role of gender in food waste-reducing behaviour**

Did gender play a role in the food journey in the participating households? The results of the study show that either women only or men and women together shared the responsibility for matters related to the household's decisions related to food. Women overall were more often responsible for making decisions concerning food shopping, storage and cooking. Food disposal was more often a shared responsibility. The two male participants indicated that all food stages were a shared responsibility between them and their female partner. Though our sample was far too small to draw any wider conclusions, the pattern that emerged dovetails with findings from surveys done by the UK Food Standards Agency, which found that women were more likely to report that they were responsible for all or most of the shopping, and that they cooked at least one meal a day for other people.<sup>13</sup>

The ways in which gender played a role in food-waste behaviour came up in different parts of the exploratory process. In the first workshop, participants reflected that having a supportive partner was one of the motivating factors to reduce food waste, and that attitudes of others, including their children, influenced how much food was wasted. Gender roles also surfaced in other activities. For example, in response to a text message question about who decides when things are thrown away, participants further illustrated the role of gender. Female responses included: "I decide when food is starting to make [the] fridge smell;" "It is usually me if something has gone bad or majorly out of date;" and "I do most of the general throwing away." Other responses suggested that responsibilities were shared between male and female partners: "We both (make the decision to throw food away)." "We both agree (that) as little as possible should be thrown away."

Interestingly, at the final workshop, participants' suggestions for possible food waste campaign messages mainly related to the first part of the food journey, the shopping stage. This could be interpreted as having gendered implications in the household. If women are more likely to be in charge of the early food stages, and if most solutions involve these earlier stages, the responsibility to reduce food waste may fall more heavily on women than on men.

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### **Methodological innovation**

The outputs from our study indicate that more creative approaches could be useful for revealing the complexity of food waste-related behaviour patterns. Our probe contents and activities were carefully selected to match the topics of interest. Generally, these were well received by our participants with feedback including: “I like the fact that there was no right or wrong answers and so it resulted in something like a stream of consciousness!” “I enjoyed [the task] very much...far more than I would have done had I just been filling in surveys or something similar.” And, “really enjoyed doing the activities. Managed to get my kids involved too. Has really made us think about food waste as a family.”

Some elements of the probes were more successful than others, supporting recommendations that there is no one-size-fits-all toolset to explore food-waste behaviour and to address the matter of how to reduce food waste.<sup>14</sup> For example, our more abstract activities, such as “mapping” the food-waste journey, proved challenging for some participants.

## **Conclusions**

Whilst our study with a limited number of households is not intended to provide generalisable results, it does offer a richer understanding of activities, motivations and barriers along the food journey related to food waste. It should be stressed that our activities were designed to reveal possible points where behaviour interventions could be used — rather than to directly change behaviour — to reduce waste. However, most of our participants reported that participating in the process made them more aware of the issue, and, as a result, they changed their behaviour.

WRAP’s UK-wide “Love Food Hate Waste” campaign offers many tips and ideas that are similar to the ones the participants suggested in this pilot project.<sup>14</sup> These include planning meals; checking the contents of the refrigerator, freezer and cupboards before shopping; improving food storage; cooking correct-sized portions; and learning more about what to do with leftovers.

The campaign website could potentially consider listing these ideas along a food journey to make it easier to see which tips are related to which stage of the food journey. The material on the campaign website tries to connect with motivations of food waste-reducing behaviour, and it features many money-saving ideas. Saving money was one of the main motivators for our participants as well, but we suggest that other motivations, including setting a good example for children, are also worth emphasising.

Recognising that contextual factors are important, future research should examine the differences between food journeys and food-waste behaviours in different settings, for example, between home and work settings. In previous work on pro-environmental behaviours, researchers found that behaviour “stuck” with some people, and thus these behaviours transferred between different settings; for other people, by contrast, behaviour remained largely confined to a particular context.<sup>15</sup> (Data in our project were insufficient to analyse this issue.) Understanding behaviour in different settings could identify key points for interventions aimed at promoting the uptake of positive environmental actions.<sup>16</sup>

This study suggests the value of creative engagement, including the use of “cultural probes”, to reveal people’s motivations for and barriers to changing behaviours. The process enabled participants to engage with the topic of food waste in more imaginative ways than conventional themed discussion groups or survey approaches alone. Discussions about our approach with behavioural psychologists indicated that these approaches would be useful in scoping issues of environmental actions, which could then be assessed with larger sample sizes.

Results suggest that these methods should be trialled more widely across a range of contexts and other topics to explore more fully the complexity of environmental behaviour choices – potentially identifying new and novel opportunities to influence behaviour. This might help with the design of interventions that can help reduce the large amount of food waste in the UK.

Participants said that many measures with the potential to reduce food waste were not onerous. They said that such measures consisted of tasks they seldom undertook but could easily adopt.



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