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Food Waste Measurement Report

Action for Local Food Project – Food waste and Citizen Science

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The Food Waste Diaries – Dec 21 – Mar 22

This document provides the top-line results of food waste measured in the Action for Local Food Project

Context: 20 food waste diaries were received.

Audience 1 – Octopus Community Network contacts,

Audience 2 – Hard to engage communities on Islington Housing Estates

Audience 3 – Volunteer Gardeners at Demonstrator Sites

Audience 4 – Young people (Diary #11, measurement of school waste)

Audience 5 – Community Hub lunch club (Diary #8, 18 people per week)

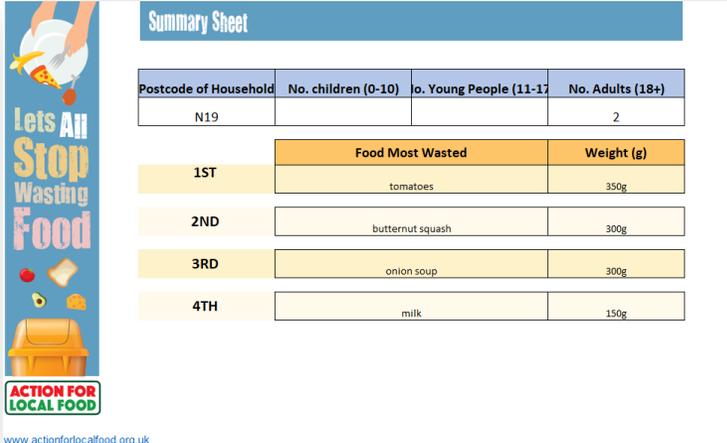
Majority of Diaries were 4 weeks in duration

Diary #16 recorded 1 week

Diary #6 and #20 recorded 3 weeks

Diary #7 and #15 recorded no food waste in week 4

Most diaries provided weights of individual items (with reasons), 2 Diaries reported aggregate per-day weights.



Summary Sheet

Postcode of Household	No. children (0-10)	No. Young People (11-17)	No. Adults (18+)
N19			2
	Food Most Wasted		Weight (g)
1ST	tomatoes		350g
2ND	butternut squash		300g
3RD	onion soup		300g
4TH	milk		150g

Let's All Stop Wasting Food
ACTION FOR LOCAL FOOD
www.actionforlocalfood.org.uk

Example of a front page of the Food Waste Diary, Household #1

Methods

Each household weighed their food waste on a scale and recorded into a paper or Microsoft excel spreadsheet.

Downloadable from <https://www.octopuscommunities.org.uk/news-and-updates-page/food-waste/>

Introduction Page:

In these strange times when going to buy food is a special outing, lots of our favourite foods are hard to come by – think pasta and tomato sauce, or fresh bread! – then the last thing we want to do is waste any of the food that we buy. Also, wasted food means wasted resources: water, fuel - all of which contributes to climate change.

The first step to reducing the amount of food we waste is to get to know what we throw out and why.

Here is a simple project for the next few weeks - Let's say a month.

You Will Need:

- 4 copies of the Recording Sheet attached – if you don't have a printer – no worries – just copy the form out onto some plain paper.
- One form for each week that you keep records – there is a line for each day.
- A pen
- Kitchen scales
- A small bowl or lightweight food box
- Your brown food-waste caddy if you have one (where the waste food will end up for collection).

Each time anyone in the house throws some food away – whatever it is, then write down

- What type of food it is: e.g. Bread, plate scrapings from a meal, milk
- A description: e.g. half a loaf, half a bottle
- Where it ended up: e.g. down the sink, in the bin, in the dog bowl
- Why it was thrown out: e.g. out of date, mouldy, uneaten
- Weight in grams
 - To weigh the food first weigh the bowl or food box (1)
 - Put the waste food in the bowl or box and weigh the two together (2)
 - Subtract weight (1) from weight (2) and record the result (3) on your form
- At the end of the week total up the weight of food wasted and record which type of food was wasted the most.
- Record these details on the Summary Form or a handwritten copy of it.

When you have completed the four week project and your Summary Form, take a photo of the Summary and send it to us here at Octopus
 Email: anita@octopuscommunities.org.uk

Don't stop there. Talk about the results in your family or household. Why did food get wasted? How could you waste less. Make a plan to cut down on waste – over the next few weeks we will publish some ideas to help you.

Record Sheet:

Record Sheet		Date: Week commencing _____			
	Food waste type e.g. yoghurt, bread	Details e.g. 0.5 tub, 4 slices	Where it ended up e.g. down the sink, bin	Why it was thrown out e.g. out of date, mouldy	Weight (grams) e.g. 100g, 50g
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					
Saturday					
Sunday					

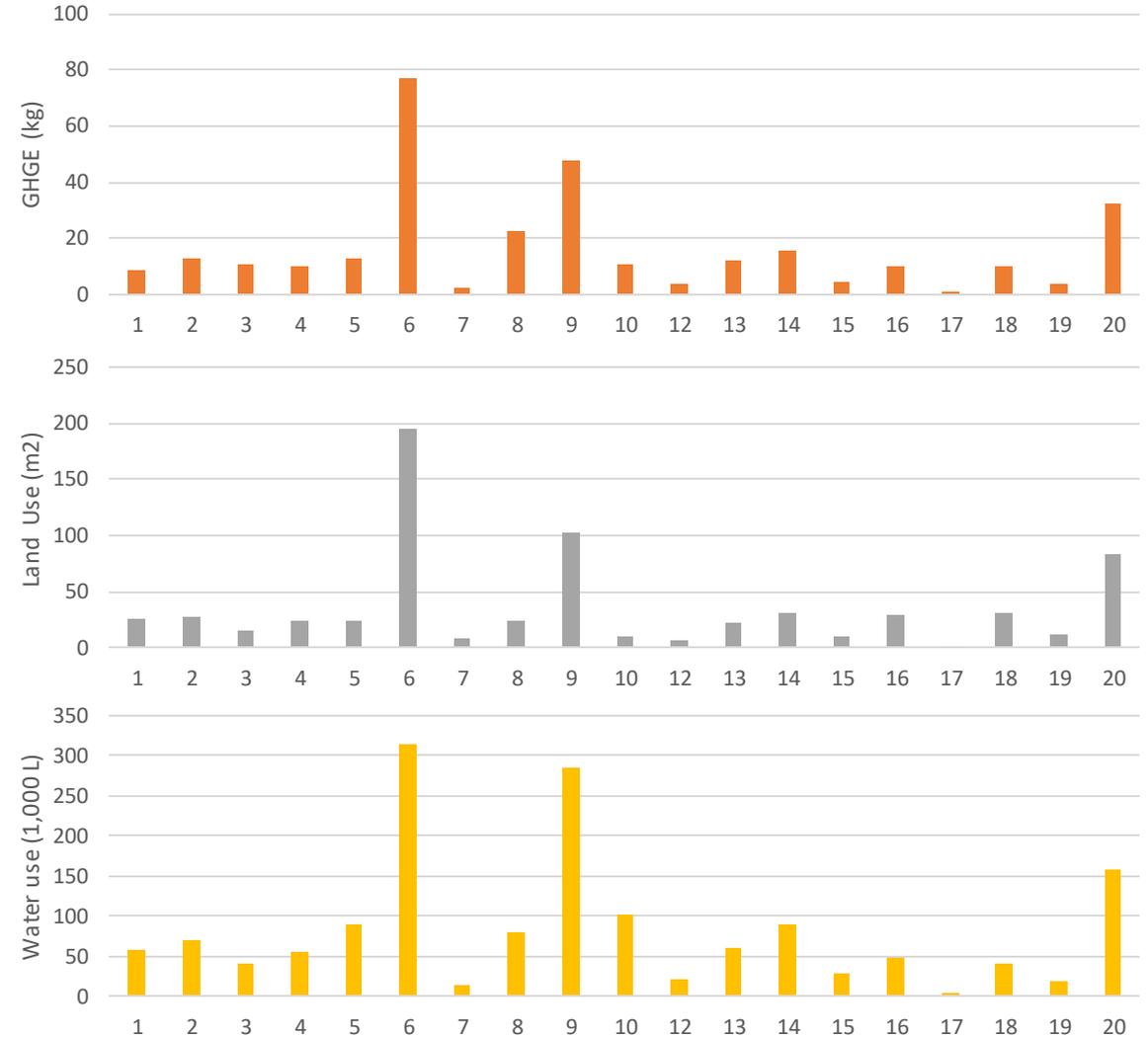
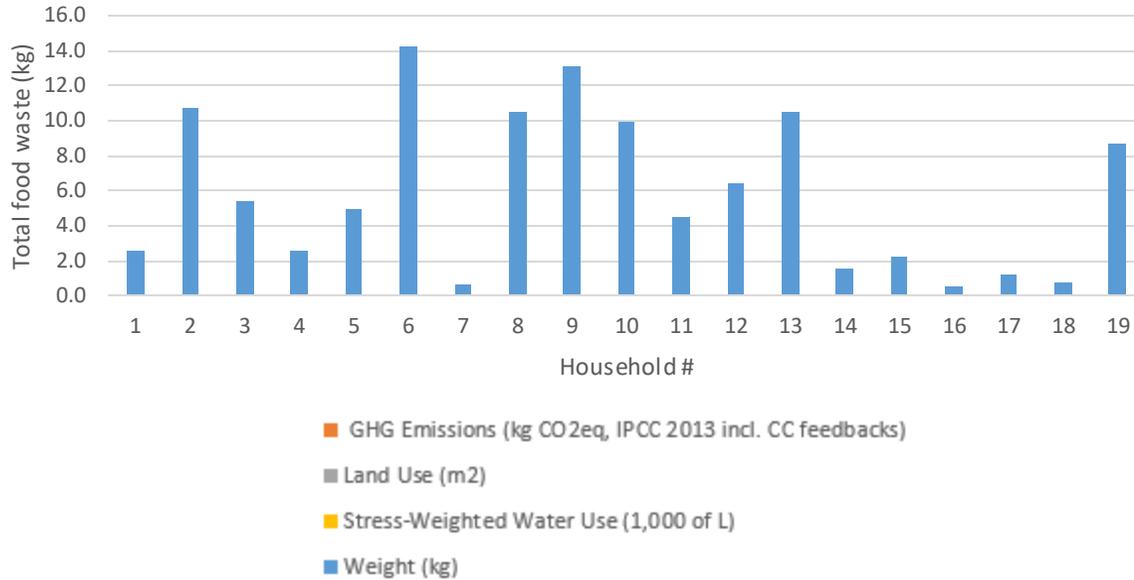
Summary Sheet:

Postcode of household	No. of children (0-10)	No. of Adults (over 16)	No. of Young People (11-16)
.....
Food most wasted			Weight (grams)
Week 1			
Week 2			
Week 3			
Week 4			

Paper copy of the food waste diary and instructions

Diary's were based off previous [Love Food Hate Waste](#) diary's.

The total weight of food waste & environmental impacts

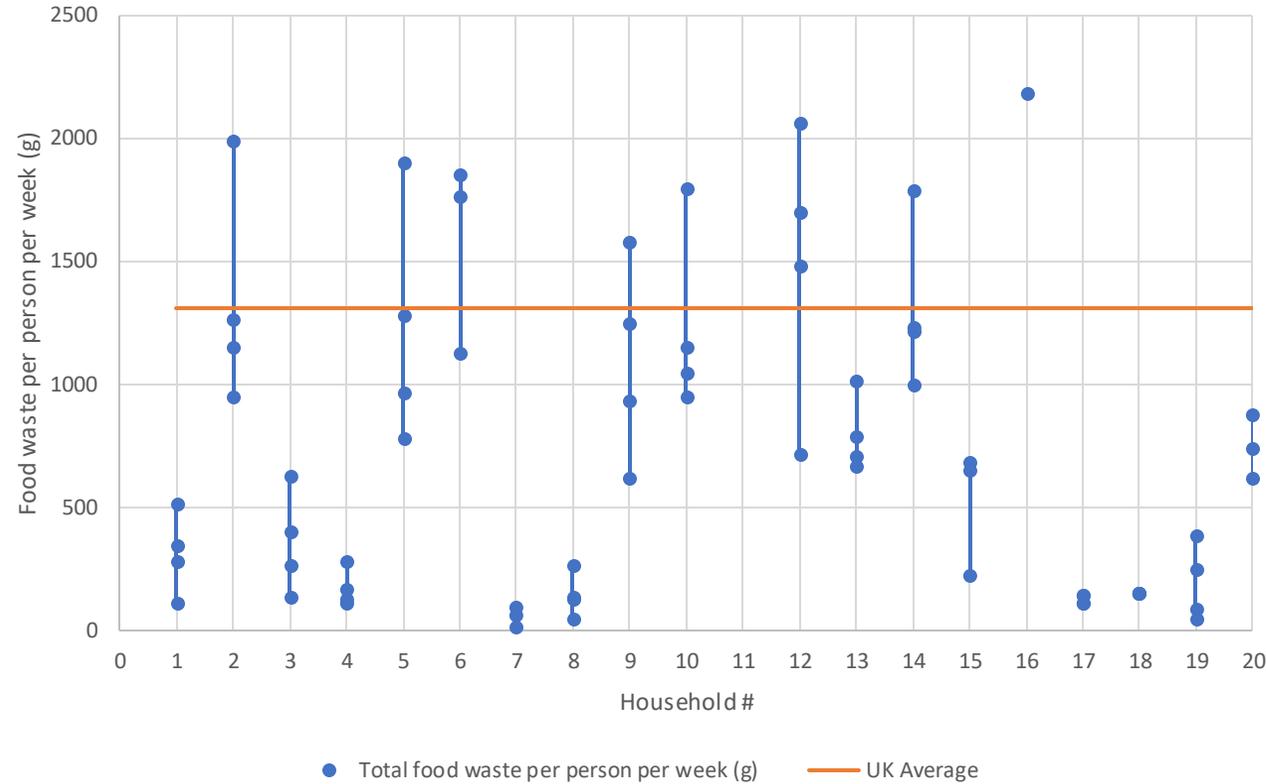


There was a spread of total weights of food waste disposed of across the diaries (0.5kg to 13.1kg). This spread is due to the number of people per household, time of year, and other factors relevant to each diary.

Larger weights thrown out are typically linked larger environmental impacts for each diary (see Diary #6 and #9).

Some households had relatively lower footprints due to wasting low environmental impact foods e.g. less waste of animal products (see Diary #2 and #13) .

84% households reported waste lower than UK Average



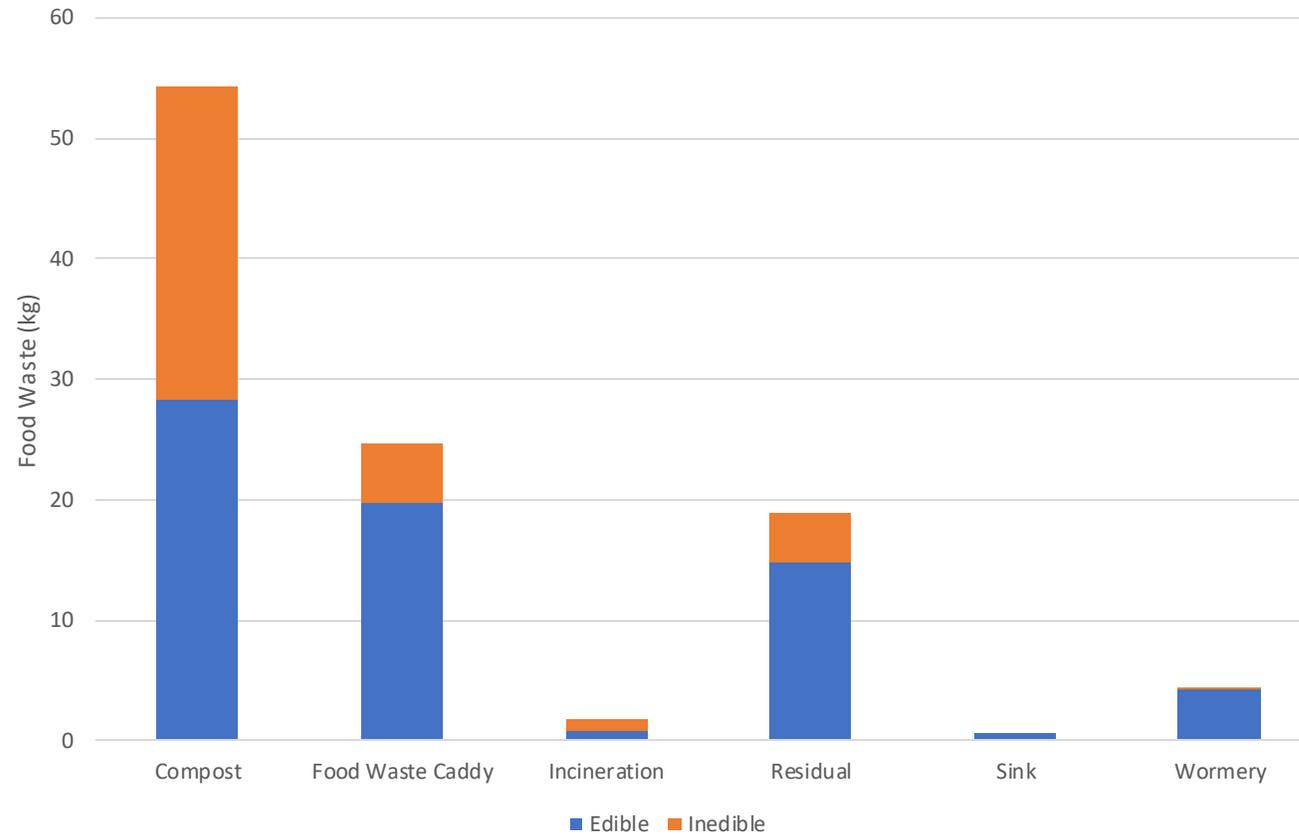
The average UK household wastes 68kg a year per person, or 1.3kg per week per person ([WRAP 2021](#)).

84% of the weekly household diaries were under this amount. However, 8 households recorded at least one week with above the UK average waste generation per person.

The measure of 'per person' is used to normalise the data due to the number of people in a household typically impacting the amount of food waste generated.

Each blue dot represents a household's total food waste per person per week. The four connected dots show the spread of per person waste per household over the 4 weeks.

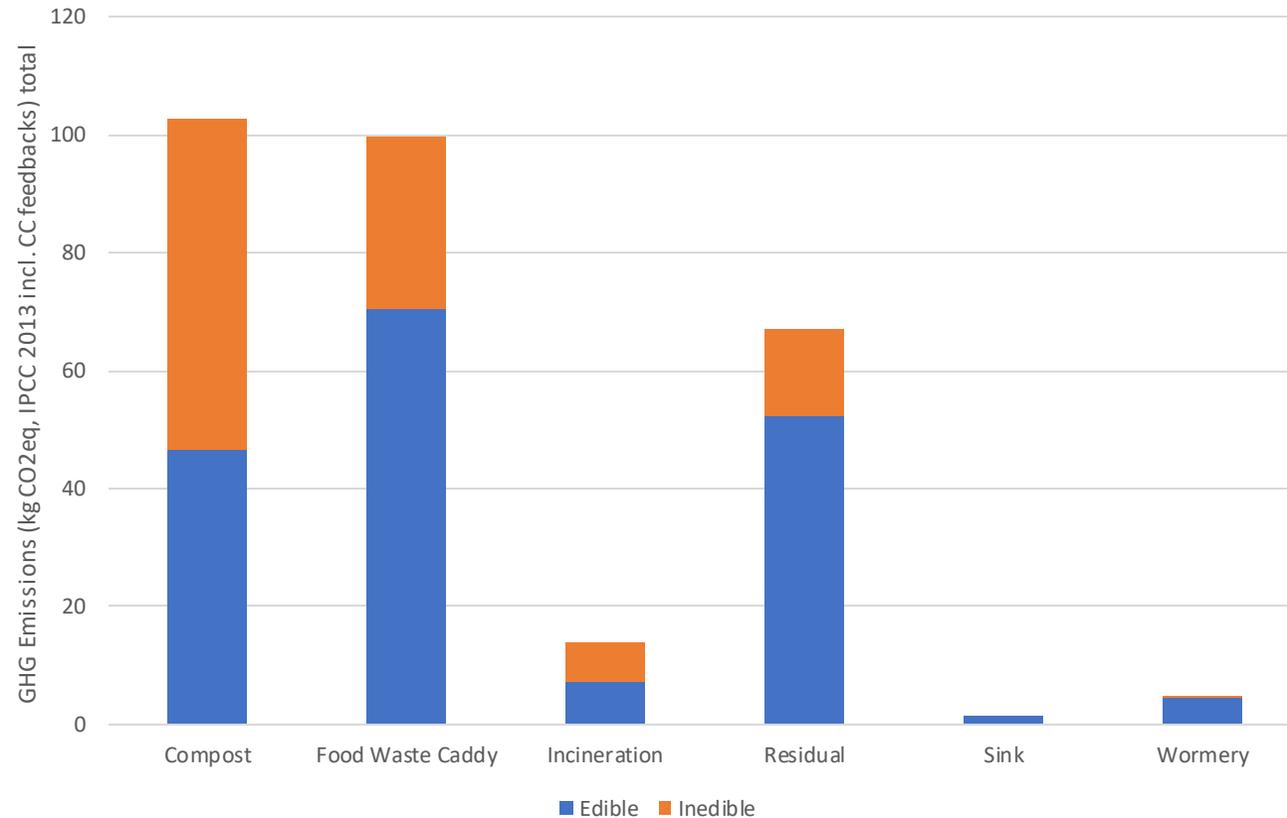
Composting & caddies the main disposal routes.



Composting and food waste caddies were the main disposal routes, taking 71% (79kg) of food waste generated. However 17% (18kg) of food waste was reported to be disposed of in the residual waste bin. Diaries reported that households disposed to wormeries (4%, ~4kg), incineration (2%, ~2kg), and sink (1%, >1kg).

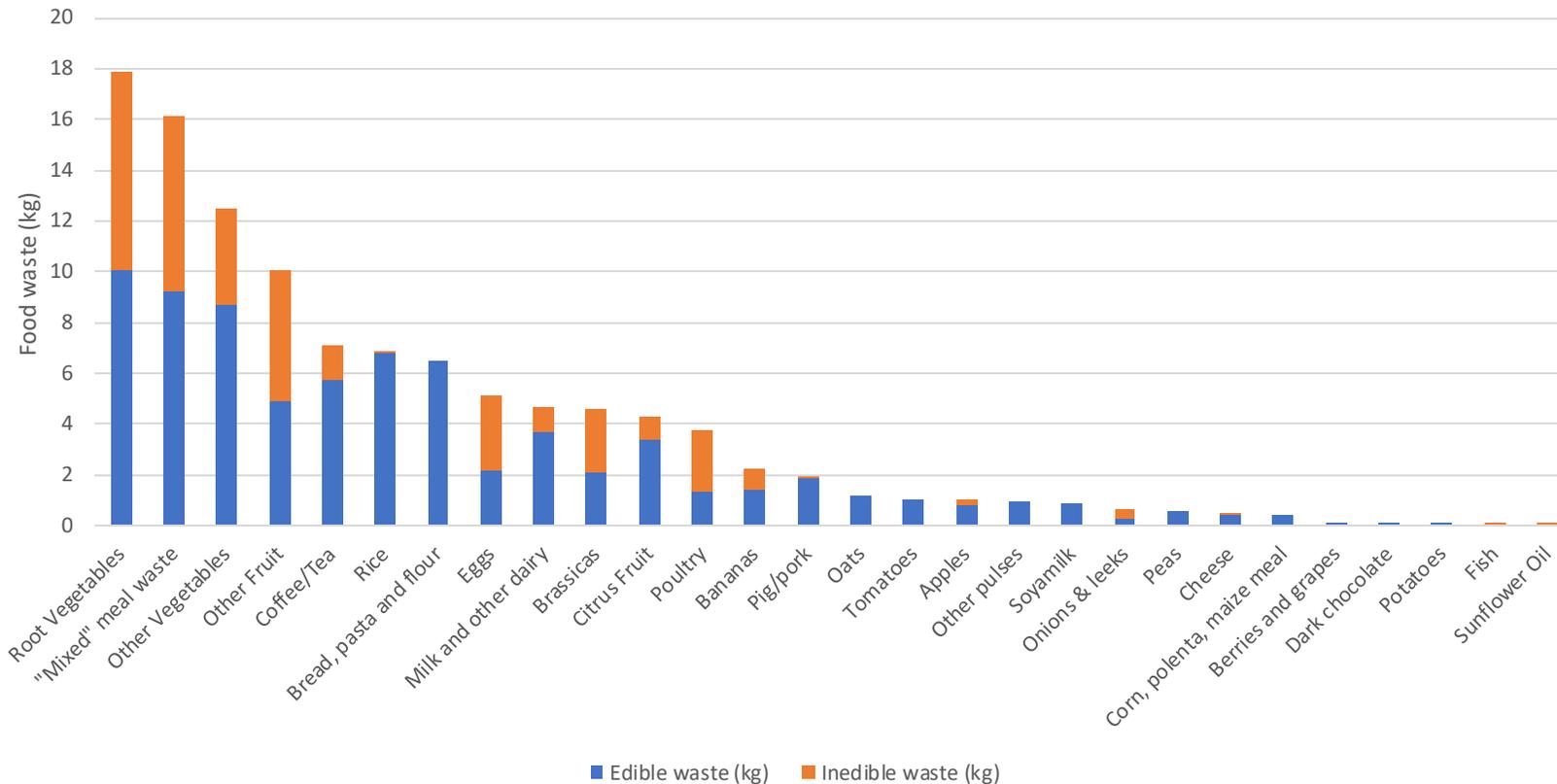
Most of the inedible waste was disposed of to compost (72%) and caddies (13%). 11% of inedible waste was disposed of in the residual bin.

The climate impact per disposal route



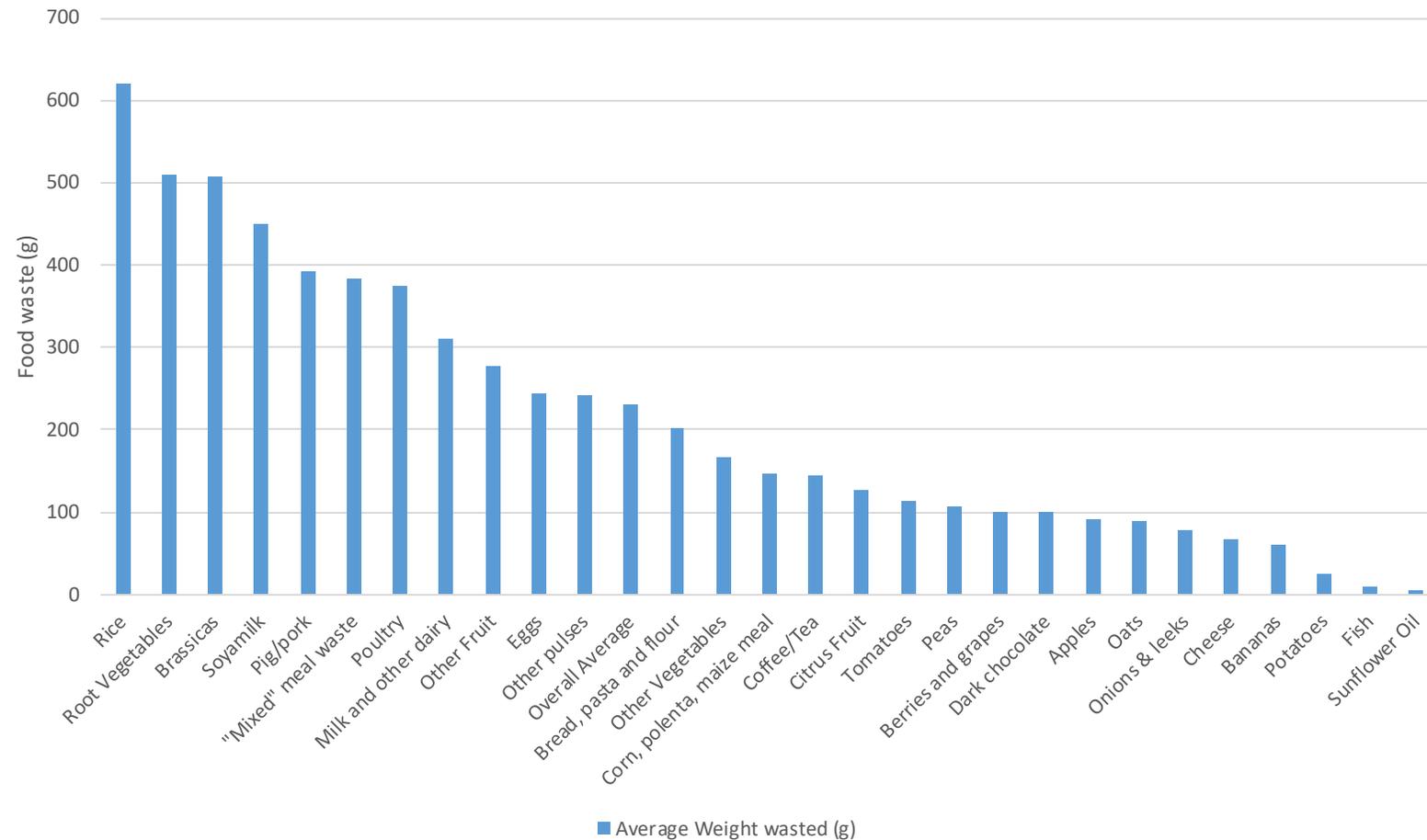
Despite having a lower amount of food waste thrown into it, the Residual waste stream had 67kg of GHG emissions embodied in the foods production This is 23% of total GHGE. This is due to the types of food disposed of by each treatment method. The majority of food waste was composted (103kg) and/or disposed of via waste caddy (99kg). Though this does not negate the environmental impact of production, it does ensure the GHGE impacts will be mitigated through future use as compost, rather than being landfilled and converted into methane.

Root veg & Mixed meals: most wasted for edible & inedible



Diary entries classified into 27 categories. Root Vegetables were the largest category of food thrown away (10kg edible, 7.7kg inedible), followed by "Mixed" meal waste (9.2kg edible, 6.8kg inedible), Other Vegetables (8.7kg edible, 3.7kg inedible), Other Fruit (4.9kg edible, 5.1kg inedible), and Coffee/Tea (5.7kg edible, 1.3kg inedible), rounding out the top 5 categories (these represented 63kg or 56% of total waste). This highlights the large amount of edible waste thrown out across in participating households, and is representative of wider UK trends. Note that the edible Root Vegetable waste was described as peelings – and so not peeling vegetables, could easily reduce this waste.

Rice and Root veg: important for average weight wasted



The Average weight of food disposed of was 231g per diary entry .When calculated for each category Rice had an average disposal weight of 621g per entry (n=11), Root veg 510g (n=35), Brassicas 508g(n=9), and mixed meal waste 384g (n=42).

However some categories had few entries, e.g. Soyamilk has only 2 recorded instances (450g, n=2), and pig/pork waste (392g n=5).

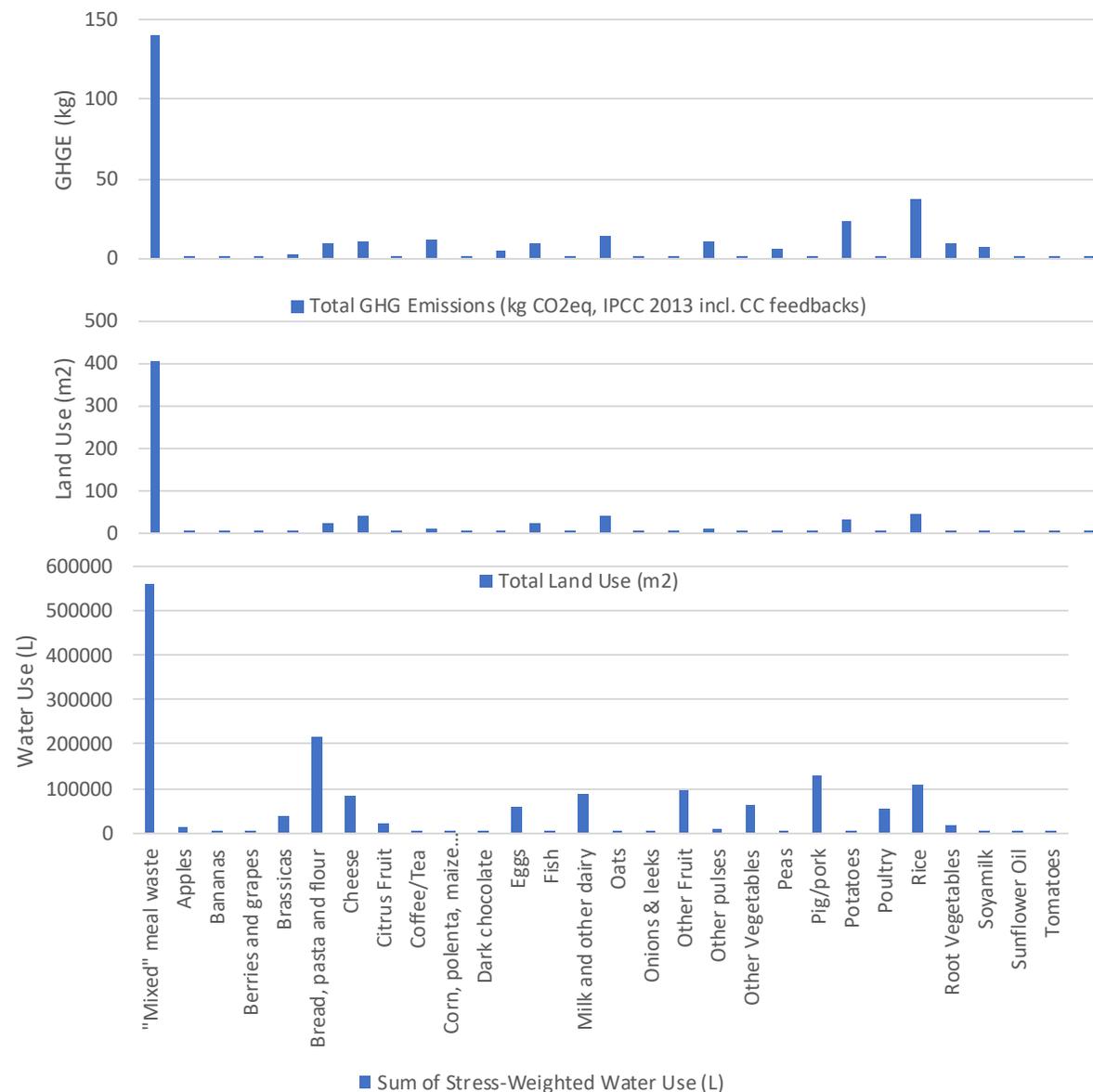
Mixed meal waste contributes most Environmental impacts

Environmental impacts were calculated for the food waste generated.

Mixed meal waste was found to embody the largest environmental impacts

- Greenhouse gas emissions equivalent to 140kg of co2e (45% of total GHGE).
- Land use equivalent to 407m² (60% of total LU)
- Water use equivalent to 560,000L (36% of total WU)

However, these Environmental impact factors were drawn from global averages published by [Poore and Nemecek \(2018\)](#). As there was not values for mixed meal waste we assumed mixed meal waste to embody 8.69 kg CO₂eq/kg, 25.23 m²/kg and 34779.39 L/kg. These factors could be to large if much of the mixed meal waste was not animal product derived.



Poultry & Bread waste also have major impacts

Excluding Mixed meal waste, many other items were found to embody the large environmental impacts:

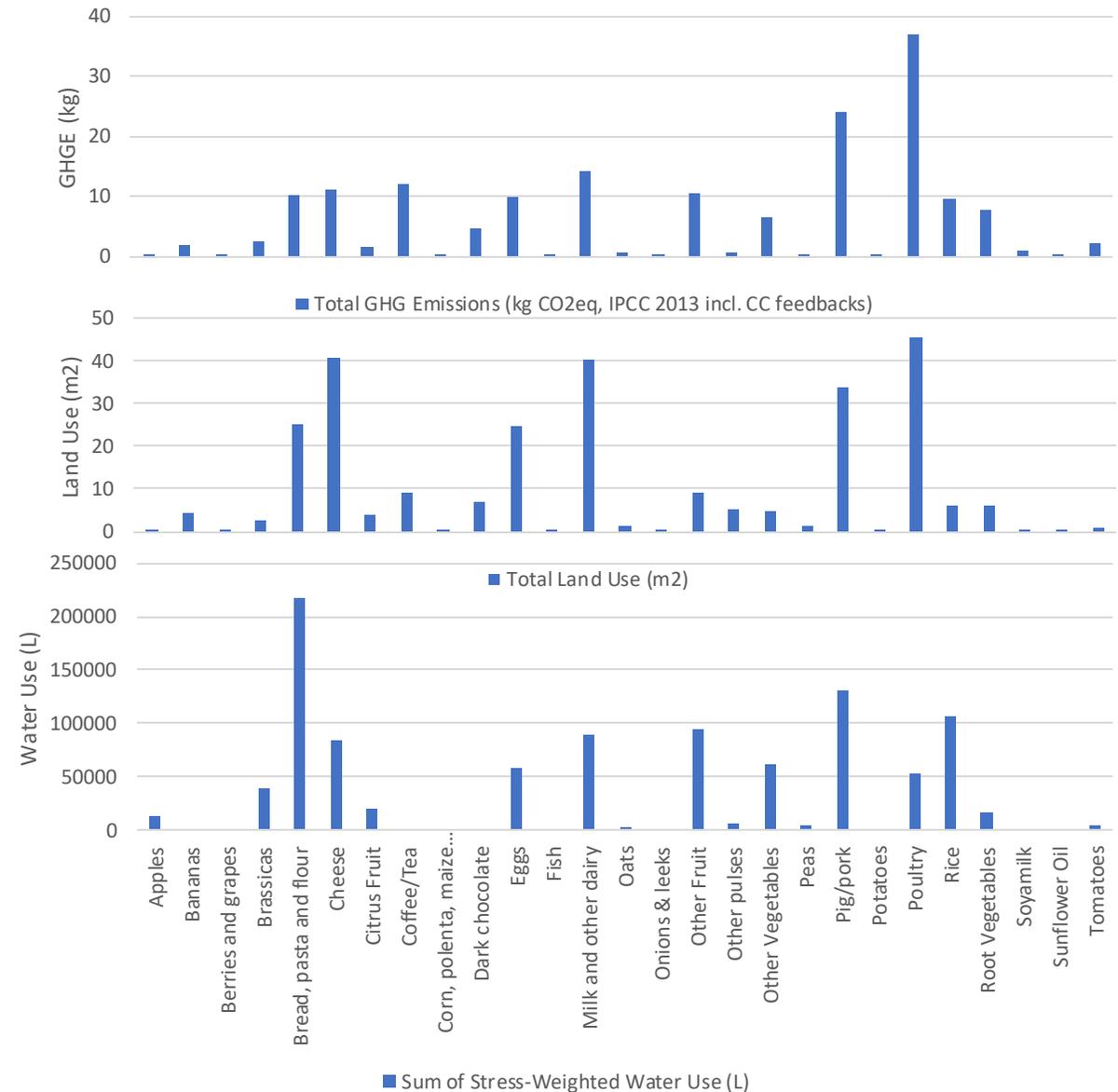
Poultry

- Greenhouse gas emissions equivalent to 27kg of co2e (12% of total GHGE).
- Land use equivalent to 46m2 (7% of total LU)
- Water use equivalent to 52,000L (3% of total WU)

Bread, pasta and flour

- Greenhouse gas emissions equivalent to 10kg of co2e (3% of total GHGE).
- Land use equivalent to 25m2 (4% of total LU)
- Water use equivalent to 216,000L (14% of total WU)

Many other wasted food also contributed to the overall environmental impacts.



Recommendations for future campaigns

This citizen science activity has shown many focus points for participants and the council. Future project could focus on three main areas:

- **Root Vegetables, Rice, and Bread products** are three categories of waste common across diaries. WRAP has existing Love Food Hate Waste (LFHW) citizen campaigns and information that could be used and co-branded. This includes [Save Our Spuds](#), and [Make Toast Not Waste](#).
- **Leftovers and Vegetable peelings** present a major opportunity for preventing waste of edible food. This represented a large share of the 38% of waste that was classified as “Not used in time”. LFHW’s [Compleating](#) campaign may be useful for reducing leftover and peeling waste.
- **Increasing food waste recycling** is still important. 17% of total weight of food waste reported, and 23% of total GHGE was sent to the residual bin. See WRAP’s [Food waste recycling toolkit](#).

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