

Food waste measurement guidelines for the Hospitality and Food Service sector

Introduction

The aim of these guidelines is to improve data-reporting accuracy for source-separated food waste collections made from businesses in the Hospitality and Food Service (HaFS) sector. The guidelines have been written in consultation with signatories to the [Courtauld Commitment 2025](#)

Good practice will enable food businesses to track the amount of source-separated food waste collected, and understand how much food (and packaging) remains in the general waste stream. In turn, this will help business managers identify how much they might save financially by throwing away less food.

Primarily, the guidelines will be of interest to:

- Operations managers in the HaFS sector that have responsibility for waste-contract management and waste-data reporting; and
- Waste Management Contractors (WMCs) that are tasked with supplying accurate waste collection data or working with new accounts.

The document provides insights into current waste data practices, as well as providing key considerations when interrogating data returns by site, and for the company as a whole. The intention is to continually improve waste-data reporting and supply the necessary prompts for new staff that may have no previous understanding of waste management, to continually monitor performance with a high level of confidence in the data.

Tip: If you can't measure it, you can't manage it. The provision of regular and comprehensive management information will allow you to effectively monitor and manage your contract; saving you money, helping you identify further opportunities to reduce waste, and your carbon footprint.

Current practice

Until recently, commercial waste collection and disposal data relied heavily on weighbridge data, which offered overall collection weights, but failed to provide the accuracy and granularity that customers required. This situation has improved and customers can be supplied with weekly, monthly or real-time data taken from two principal sources:

On-board vehicle weighing (OBW) equipment – These systems require bins to have a Radio-Frequency Identification (RFID) chip installed (although other examples are also used, such as 'Geo-Tagging'), which is used to identify the customer and the individual bin. The RFID chip is read whilst the bin-lift registers the weight of each bin during tipping. The collection vehicle is fitted with a transponder, which then communicates the weights of the bins collected to a central database. Geographic Information System (GIS) mapping is incorporated into the system, which provides information on the last known location of the bin and its weight.

Average bin-weight estimates – Two main methods are used here: 'Industry Standard' measurement of an average bin size of food waste (that has emanated from previous research work undertaken, principally by WRAP); and 'Business Specific Standard', an estimate tailored to the client based upon samples and composition analysis. Contracts should always be in place that require the WMCs make it transparent in their monthly reporting what percentage of waste (for each segregated waste stream) is based upon 'real' and / or 'estimated' weight data, both in terms of data collected from their own vehicles and those operated by third-party sub-contractors. [See Suez case study here.](#)

Furthermore, the provision of data for a multi-site HaFS organisation may require data from multiple organisations in the waste collection supply chain. In this instance, WMC collaboration is required to ensure consistency; the HaFS organisations should be aware of this and 'qualify' the provision of data (actual / source of data / estimated) as part of their due diligence.

On-board vehicle weighing (OBW) equipment – key considerations

Before discussing the use of OBW, it is assumed that the HaFS business is already source-separating food waste and other Dry Mixed Recyclables (DMR), and that the use of OBW will help improve this practice.

1. OBW is becoming increasingly prevalent and most new vehicles come equipped with it, although older vehicles, hire trucks and fleet support do not always have it installed. Check with your WMC whether the vehicles collecting food waste have OBW installed.
2. New OBW equipment is dynamic (i.e. the bin is weighed while in motion) and offers accuracy typically to - / + 1kg, although all OBW equipment should be regularly maintained and calibrated, at least once every year or in accordance with manufacturer guidelines. This may be 'Weights and Measures Approved', which is regulated by Trading Standards. Request from your WMC evidence of maintenance schedules and calibration certificates.
3. Check with the WMC whether all operational staff are trained in the use of OBW. This includes seasonal, temporary and Agency staff.
4. It is important to note that in some cases, up to 100% of food waste collection services may be sub-contracted out to third parties. Check what OBW provision those third parties have and whether they comply with points 1 to 3, above.
5. Food waste services are now often provided using top-loading vehicles rather than traditional refuse collection vehicles (RCVs) where the introduction of weighing technology can be more complex and typically, does not include OBW equipment. It is important to check the type of vehicles used for food waste collections.
6. RFID tags are not infallible, so weights can be collected that are not assigned to a specific customer. Equally, operational error can affect data – bouncing and shaking of bins can sometimes cause duplicate entries. So, if there are identical weight data entries for a particular site on a particular day, scrutinise this further with the WMC.
7. Any monthly reported data from the WMC should always be cross-referenced with waste transfer notes (WTNs) and season-tickets to ensure consistency. Check that assigned collections have not been incorrectly reported. This will not only save money and increase performance, but will also highlight any anomalies.

Average bin-weight estimates – key considerations

1. The use of 'industry average' bin weights for monitoring individual business waste arisings is not recommended as good practice. For Courtauld 2025 signatory businesses, it is expected that at least average bin weights from individual businesses are used (based on, say, 50 or 100 actually weighed bins), and evidence (such as paper notes or electronic data entry) that the fullness of each bin has been taken into account at each lift. This is necessary to ensure that small reductions in food waste arising (insufficient to change the number or type of bins being set out but sufficient to affect their fullness) are recorded on a lift-by-lift basis.
2. Unless a WMC has reliable OBW equipment, obtaining accurate tonnage data per premises / customer is difficult. Overall tonnage data is easily obtainable from weighbridge tickets if the WMC has dedicated food waste collection vehicles. However, individual bin-lift data will be reliant on collection crews logging the number of uplifted bins and then multiplying them by the adoption of a typical bin weight. In the absence of effective OBW vehicle capability, collection weights will be derived from estimates. To be of reasonable quality, the data must be based on a sample of bins from that business. Data based on estimates from published numbers is unacceptable for Courtauld 2025 data reporting purposes and signatories should all report data on this basis within 12 months of having signed up to Courtauld 2025.
3. Where average weights are used, it should be made explicit in the contract whether this is 'industry standard' (see point 1 above) or 'client specific'. If it is client specific you should expect to know how big a sample size has been used to derive the standard and from which sites it was derived, so that you can assess whether or not it is a genuinely representative sample. The WMC should periodically revisit the sampling regime to reset the client specific standard on a regular basis (at least once a year) to reflect any changes in underlying operations, menu mix or food waste initiatives.
4. It is recommended that you agree a minimum target percentage for accurate weight data in your contract. For example, a Courtauld 2025 signatory recently requested that 50% of the food waste data reported by their WMC is derived from 'real' weight data derived from on-board weighing. A minimum 50% real weight data should be achievable in most cases. [See Pizza Hut case study](#). This will improve over the next two years. Transparency is crucial to enable progress to be monitored and strategic decision-making to be made.
5. For commitments related to minimum targets on accurate weight data, it should be made clear whether this applies to just the fleet operated by the WMC, or the total fleet including the sub contracted elements as this could make a huge difference to the overall accuracy.

6. Unlike general waste and Dry Mixed Recyclables (DMR), food waste is relatively homogenous and the bulk-density is fairly consistent, although it can vary according to the food types and how it has been prepared. This means that cooked foods from over-ordered canteen wastes with high water content (e.g. rice and pasta) will be especially heavy. Equally, the destination for the collected food waste is of importance. Most food waste now goes to Anaerobic Digestion (AD) plants, some of which have de-packaging capability, allowing packaged foods to be deposited in the bins. It will also help dictate procurement regarding the types of packaging material used within the business. As a company, you need to be clear about how food waste should be presented, which can vary depending on the final destination for the material.
7. Food waste is typically collected in a 120, 140 or 240-litre bin and when full, it can be extremely heavy. For example, a 240-litre wheeled bin of food waste could weigh more than 150kgs when close to being full, which poses a health and safety risk for the HaFS business site staff and the WMC. Previous WRAP commercial food waste collection trials¹ have shown that the average quantity of food waste collected from businesses, based on available data, is 77kg / business / collection. However, there are limitations with providing average figures for quantities collected due to the wide range of business types and large variation in the amounts of food waste they generate. If you are aiming to create an average bin weight estimate, be sure to undertake a comprehensive sampling exercise that is fully representative of the entire business estate and range of bins used.
8. Clear communication channels should be created between the manager at each collection site, the WMC Account Manager and the primary contact at the HaFS business to enable issues associated with contamination, missed (and wrong) collections to be quickly reported and effectively dealt with. This will have a strong bearing on effective food waste data reporting.

¹ WRAP, [Collecting food waste from small businesses and Schools](#), 2011

Effective waste measurement allows Suez to make client cost savings



Background

SUEZ Recycling and Recovery UK has been working with one of the leading UK supermarket brands as its waste and resource management partner since 2012. The contract portfolio includes over 150 sites that are comprised of large retail outlets, distribution centres and service centres. SUEZ provide collection and disposal services for general waste, food waste and dry mixed recycling waste streams.



The Suez commitment

There are two aspects to this commitment:

1. Unit cost control: every unit cost is kept as low as possible through regular market benchmarking.
2. Process improvement project work: each year an activity plan of projects is agreed with the customer to reduce waste and costs.

Data is captured by SUEZ each time a bin is collected via their on board weighing system. This data is analysed with the aim of maximising bin usage, removing unnecessary vehicle movements and reducing cost.

The benefits

- The first review was implemented shortly after the contract was mobilised. This initial optimisation realised annual cost savings of £119,000.
- Savings continue to be achieved on a regular basis as a result of this ongoing and dynamic process. In the most recent quarter a saving of approximately £30,000 was achieved.
- The schedule reviews have allowed SUEZ to capture the benefit of otherwise intangible projects (e.g. improved waste awareness and signage) as a cost reduction for the customer.

Suez are a development partner to Courtauld 2025 and are collaborating with other Hospitality and Food Services sector businesses and waste management companies to create solutions to industry-wide problems

“Effective data management makes good customer and business sense. Through the provision of accurate, regular data we are able to now make service improvements that help divert more food waste into the generation of green energy”.

Cassie Brice-Bennett, Corporate Account Manager, Suez Recycling & Recovery UK Limited

Pizza Hut's new measurement protocols improve food waste management



Background

Pizza Hut is an American restaurant chain and international franchise founded in 1958 by Dan and Frank Carney. The company is known for its Italian-American cuisine menu including pizza and pasta, as well as side dishes and desserts. Pizza Hut has over 15,000 locations worldwide as of 2015, and is a subsidiary of Yum! Brands, Inc., one of the world's largest restaurant companies.



The challenge

- Food waste data provided to Pizza Hut were estimates and not linked to store performance.
- The cost of food waste to Pizza Hut was significant therefore a system was required to ensure improvements could be identified.

The solution

- Veolia has invested further in On Board Weighing (OBW) technology to ensure that vehicles can weigh containers at the point of collection.
- Data was unlocked across the whole supply chain so Pizza Hut Restaurants could access all information.
- Pizza Hut Restaurants now receive site-to-site peer comparisons to highlight both good and bad kitchen practices.
- Since July 2017, Pizza Hut Restaurants have received accurate reporting for their food waste collections. The reports highlight any inefficiencies and where possible, the potential to reduce containers generating cost savings.

Pizza Hut Restaurants are a signatory to Courtauld 2025 and Veolia are a development partner, collaborating with other Hospitality and Food Services sector businesses to create solutions to industry-wide problems.

“The size of the economic and environmental prize far outweighs the operational complexity and I would urge anyone to start measuring their food waste now, for the good of their business and the planet.”

Steven Packer, Head of Supply Chain, Pizza Hut Restaurants Restaurants Ltd

Additional sources of information

Other documents that may be useful in improving food waste data reporting:

[Clauses for measurement, monitoring and reporting on food waste arisings](#)

[Commercial food waste collections guide](#)

[Waste contract review guidance](#)

Supporting resources for the [Hospitality and Food Service sector](#)

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