



Food Waste Prevention & Management in F&B

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Waste Prevention and Management in F&B

Introduction

Is food waste inevitable? Is the hospitality industry resigned to a certain amount of food waste, either through decades of habits or the challenge of not knowing where to begin? Food waste is a result of poor menu planning. Food waste begins when menus are being planned and this is where most of the work will need to be done to have long term success.

There is good news on food waste. There has been a growing awareness in the minds of the public that food waste is not only a societal problem but also one to which they may be a significant contributor. This gives the waste conscious operator a head start when a decision is made to tackle food waste in a systematic, consistent and measured way.

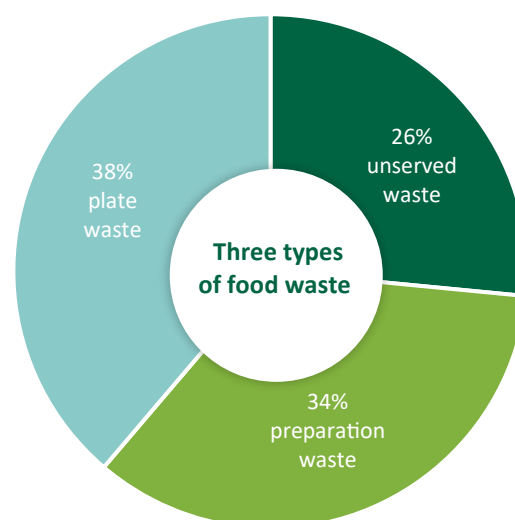
Getting the entire team on board from kitchen to bar, from housekeeping to banqueting is an essential first step and it has been proven that bottom line profits will benefit as a result.

It is essential that an operator does not allow staff or public pressure to tolerate an 'acceptable' amount of food waste or dictate how food waste is prevented and managed long term.

Food waste statistics

Of the 835,000 tonnes of food waste generated annually in Ireland, 21% originates in the hospitality sector. The hotel sector is responsible for 53 thousand tonnes of food waste, costing the sector an estimated €180 million per annum. The hospitality industry generated approximately 175,000 tonnes of food waste in 2023 (EPA). Of that waste, 66% is avoidable (i.e.) edible food. Hotels were found to have the highest level of food waste and vegetables are most common food wasted at 11%, followed by bread 9% and potatoes (7%).

Of the three types of food waste in hotels, 26% is unserved waste – food that was purchased but not generated any income; 34% is preparation waste and 38% is plate waste (EPA)



Food waste alone – without taking all ancillary costs into account, is costing your hotel the following:

- ✓ For example, one 140 litre bin of food waste typically weighs 85 kilos. If you have just one of these a week it could be costing 85kg/week @€3.38 per kg for 52 weeks = approx. €15,000.00 per year.
- ✓ It is estimated that the cost per kg of food waste in hotels is €3.38. Based on purchasing cost alone. A zero value is given to the inedible fraction of food waste.

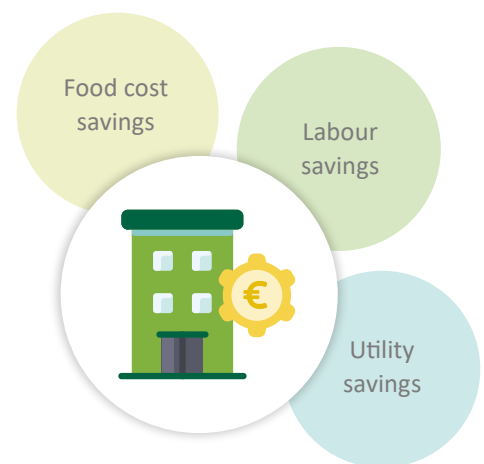
Shifting mindset

The prevailing conversation about food waste in hotels is about its inevitability. The discussion leads with 'waste management' rather than prevention. The emphasis, therefore, needs to change. The first step to eliminating avoidable waste is a change in mindset from waste management to waste prevention. This is a process and will not happen overnight. Recognising the problem is the first step and planning a long term and lasting solution is next.

It makes financial sense

Hotels can achieve substantial bottom line savings through systematic food waste reduction, with financial returns far exceeding initial investment. The hotel is not just saving on the cost of the food wasted, it is making multiple savings on labour and utilities as well.

To estimate the bottom-line savings for hospitality in Ireland when tackling food waste systematically and consistently, we can apply the general statistics to the Irish context with some reasonable assumptions and aiming for modest savings – far greater savings are possible e.g. a midlands hotel last year saved €83,000.00 by removing chips from their carvery (F&B360° programme participant).



Steps to eliminating avoidable waste and managing unavoidable waste

1. **Mindset shift:** Kitchen team and department heads workshop - increase awareness, and develop an agreed shared action plan to address it
2. **Data tracking:** Gather and interrogate – what, where, when, who, why?
3. **Menu planning:**
 - a. Food waste begins at the point of planning the menu
 - b. All menus across the business to be fully reviewed for waste prevention
4. **Kitchen skills audit, habit shift:** Identify bad habits
5. **Sales analysis:** timely, accurate information

6. **Key Performance Indicator:** Embed the changes by including food waste control as a food and beverage KPI for all managers to be discussed at weekly HOD meetings

Golden KPI: Food Waste %



Wastage should be measured consistently as a percentage of food revenue:

Waste value (purchase price ex VAT) ÷ food revenue × 100

For example, if €500 of food is wasted against €10,000 in food revenue, this represents a 5% waste level.

As a guide, many operations aim to keep waste at or below 5% of food revenue, although this will vary depending on concept, menu complexity and trading patterns.

7. **Composting & recycling:** Set up organic waste composting to manage unavoidable waste sustainably
8. **Daily audit mindset,** by each HOD
- ✓ One item of food waste in **food preparation** category. For example, pepper preparation. The preparation of a pepper, depending on the Chef preparing it, can result in 5% waste or up to 40% waste. Implementation of Chef training.
 - ✓ One item of food waste in **plate waste** category. For example, salad garnish. Focus on the garnish for one dish and track wastage for one week and take appropriate action.
 - ✓ One item of food waste in **storage** waste category. For example, lemons going blue in a box of lemons in a cold room. Chef training on stock rotation.
 - ✓ One item of **utility waste** being caused by menu planning e.g. defrosting fish a sink full of running water. Chef training on organisation.
 - ✓ One item of **energy waste**, for example, turning on all the burners and salamander and leaving on all day. Chef education on cost of energy.
 - ✓ One item of **labour waste** caused by menu planning e.g. dish that is taking either too long to prepare or too long to serve.
 - ✓ Assign responsibility and have constant monitoring of results, fixing issue and moving to next until as much avoidable waste as possible has been eliminated.
9. **Menu engineering:** Using sales performance information to better re-engineer the menu
10. **Menu design:** Using menu engineering information to design a menu which maximises gross margins while eliminating avoidable waste, and minimising unavoidable food waste.

Mindset shift

Before any waste prevention/management programme can begin, a shift is necessary in the minds of those who have influence over the future success of the programme. A half day workshop to surface attitudes to food and other types of waste would set the tone for the waste program and get the team working together to a common goal.

All the below departments and team members should be involved in the workshop

- ✓ All chefs
- ✓ Kitchen Porters
- ✓ Food and Beverage manager/ supervisor
- ✓ Purchasing Manager – where applicable.
- ✓ Bar Manager
- ✓ Marketing Manager
- ✓ Housekeeping Supervisor – room service aspect.
- ✓ Conference and Banqueting Manager.

Food Waste Workshop Topics



1. **Mindset shift** from 'waste is inevitable' to 'waste is avoidable'
2. **Menu planning**, critical for chefs to make the link between what they plan on the menu and the creation of food waste
3. **Categories** of food waste
4. **Cost**, the real cost of food waste
 - Purchasing food
 - Storing food
 - Prepping food
 - Serving food
 - Holding food
 - Discarding food
 - Food waste removal cost
 - Labour and utilities cost at each of these points
 - Environmental impacts
5. **Kitchen skills audit**
 - Poor habits, lack of standard recipe cards and lack of SOP's cause waste.
 - Are chefs trained to prevent waste in storing, prepping, service?
 - Do they care? How are they recognised and supported to make improvements
6. **Departmental waste**, department heads to identify exact waste that they have observed from storage/spoilage; production; service
7. **Menus analysis**, full analysis of all menus down to individual dish sales performance and ingredients in dishes.

Categories of food waste

Waste Type	Description	Examples from Hotel Departments
Avoidable	Food that could have been eaten but was wasted due to overproduction, spoilage, or disposal.	Leftover buffet food, uneaten meals from room service, overproduced dishes in kitchen or restaurant.
Unavoidable	Food waste that is naturally not edible and cannot be prevented but alternatives use can be found.	Vegetable peels, meat bones, coffee grounds from kitchen and bar.
Possibly Avoidable	Some parts considered waste but can be reused in other ways.	Bread crusts, potato skins, some trimmings.



See appendix for supporting resources

Department-wise waste types and reduction suggestions

Department	Waste Type	Waste Examples	Reduction / Management Strategies
Kitchen / Food Preparation	Avoidable & Unavoidable	Trimmings, overproduction, spoiled ingredients	Use standard recipe cards, precise portion control, monitor stock closely, repurpose trimmings (e.g., stocks), implement FIFO (First In, First Out) system
Banquet and Catering	Avoidable	Leftover buffet food, overproduction	Accurate guest number forecasting, post event waste analysis to 'fix' waste sources, use smaller serving portions/service spoons etc, offer "take-away" options for plated food not eaten
Restaurant / Dining Outlets	Avoidable	Plate waste, surplus food	Menu analysis, train staff on portion sizes, use portion control equipment/service spoons etc, encourage guests to order smaller portions, use standard recipe cards including agreed garnishes (if garnishes are needed)

Department	Waste Type	Waste Examples	Reduction / Management Strategies
Room Service	Avoidable	Uneaten meals returned by guests	Revise rooms menu based on most wasted items. Confirm guest orders in advance, encourage ordering of only what guests will eat, improve delivery timing to maintain food quality.
Housekeeping	Avoidable	Food left in rooms (mini bars)	Regularly check expiry dates, offer smaller mini-bar options. Study data and remove altogether if warranted. Also saves electricity – hotel standard will dictate.
Storage / Inventory	Avoidable	Spoiled or expired food	Menu Plan review. Implement strict inventory rotation (FIFO), monitor storage conditions (temperature/humidity), order stock based on demand.
Bar	Avoidable & Unavoidable	Garnishes waste, expired mixers	Implement SOP for daily prep. Use garnishes efficiently, recycle peels for infusions or composting, monitor expiry dates for mixers and spirits.
Laundry (Indirect)	N/A	Soiled linens with food	Train staff to minimise linen soiling. Use correct bin.
Waste Handling / Disposal	Avoidable	Improper segregation leading to edible food waste	Train staff on waste segregation, introduce composting for organic waste, Clear signage on bins.

Data

Of the three main types of food waste, preparation, unserved food and plate waste; plate waste consistently accounts for the highest proportion. As studies show that 66% of this waste is completely avoidable, a systematic and consistent approach is necessary. All this waste can be traced back to **Menu Planning**.

- ✓ Collect data on the real cost of food waste to your hotel at the given point in time.
- ✓ Set targets for a percentage reduction on that waste.
- ✓ Everyone must play their part.
- ✓ Each HOD chooses one area in their department to begin the food waste process.
- ✓ Go for an easy win to get started. Example below.
- ✓ Track food waste originating in that department by visual examination over a period of two weeks. Is it plate waste, storage waste or preparation waste. Is there another reason?
- ✓ Point of discussion and follow up every single week at HOD meetings.



Menu planning to prevent waste

Food waste begins with **menu planning**. Every single decision made when planning a menu has the potential to either cause food waste or avoid it.

- ✓ Interrogate every decision made on the menu to find the root causes of waste
- ✓ What is the exact make up of these dishes?
- ✓ What items are superfluous or merely a wasteful distraction on the plate?
What items are creating labour hours waste?
What items are creating utilities waste?
- ✓ What can be changed without affecting the customer experience?
- ✓ Using sales analysis information to identify the top ten sellers, analyse which elements of these may be generating waste
- ✓ Take the **'One Dish'** approach. Having identified the best sellers, break each dish down – see example below
- ✓ Monitor the individual elements of this dish over a period of one to two weeks to determine which elements are the cause of food waste
This will not work unless the whole team has 'bought in' to the process.
- ✓ Take action to fix

Take the 'One Dish' approach

Fish and Chips



Dish Analysis			
Ingredients	Presentation	Waste Issue	Fix
Chips	Scattered on plate. Plate shape, weight, and size works.	No portion control, ¼ coming back on plates.	Weigh or confine in chip container. Monitor.
Fish	2 pieces	Are these weighed?	Standard portion control.
Coleslaw	Large bowl with cress	Half to ¾ comes back in 80% orders. Is this always eaten? Is it necessary?	Reduce container size and monitor. Optional as paid extra side. Replace with a lemon wedge.
Lemon Mayonnaise	Large bowl mayo	¼ to ½ comes back	Reduce size to 50ml compostable container and monitor or offer a choice in taking the order.
Napkin	Under bowl	Gets dirty and customers request more.	Take napkin off plate.

Menu Engineering Category	Action required		Responsible
Ploughhorse (i.e. popular dish, but with a low margin)	Fix items above to improve margin	Monitor	Chef and F&B Manager



See appendix
for supporting
resources

Take the 'One Dish' approach

Scone



Dish Analysis			
Ingredients	Presentation	Waste Issue	Fix
Scone	Long oblong heavy plate with napkin under	Plate too big, heavy and awkward to carry and stack. Time waste. Napkin waste.	Replace with smaller round plate. Remove napkin and serve separately.
	2 butters	Customer may only use one	One butter per scone.
	2 jams	Customer may only use one Poor quality jam. Plastic use	Source better quality jam – little pot.
	Cream	75% cream is washed down sink as customers don't eat it.	Remove cream. Have available if customer requests only.
	Fruit coulis	Washed down sink.	Remove fruit coulis.

Menu Engineering Category	Action required	Responsible
Ploughhorse	Complete fixes above. Encourage sales of other higher margin pastries. Train FOH staff in upselling. Monitor.	Chef and F&B Manager

Missing piece, menu engineering and menu design

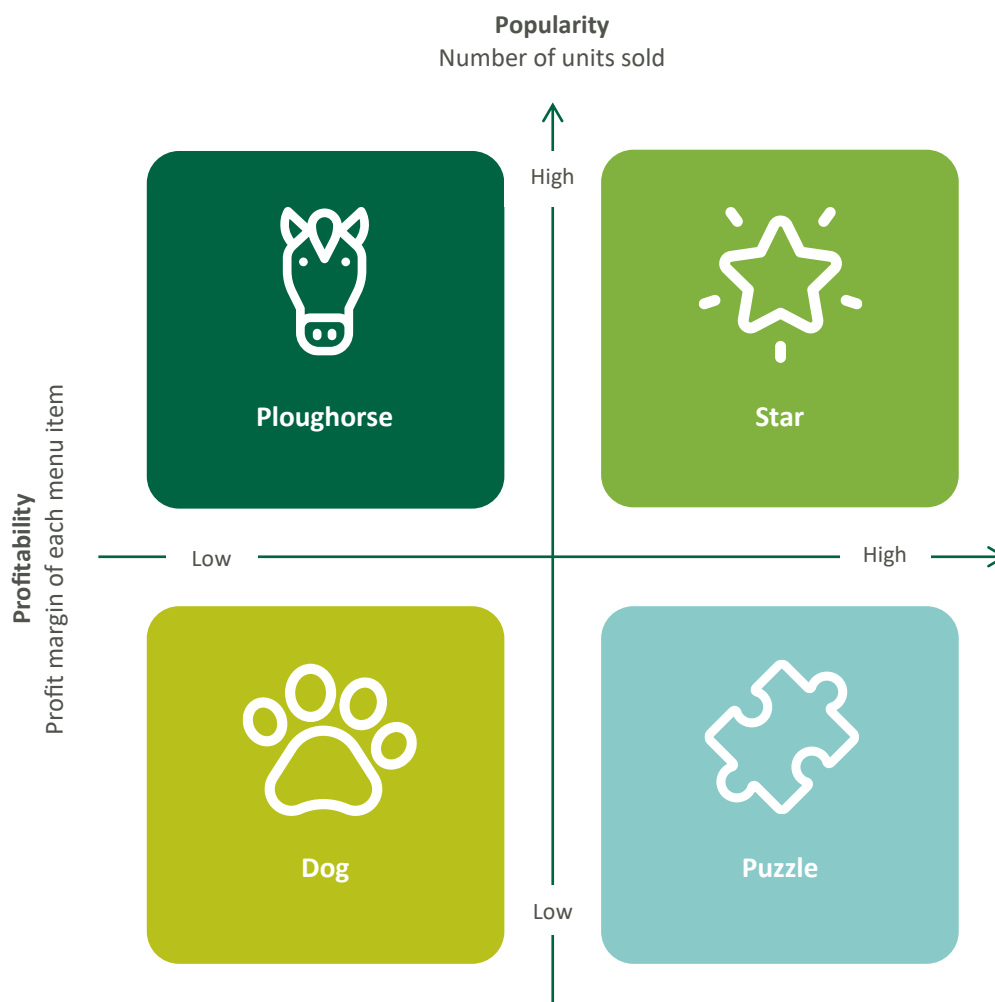
Menu planning is what you put on the menu. Menu Design is what you put where on the menu. Even when a menu has been well planned and has ticked all the best practice elements of menu planning, it can be wasted effort if the menu design does not then translate that effort into high margin sales.

When a thorough waste prevention program has been carried through on an area of the hotel, be that bar, restaurant, banqueting or rooms, this new waste savvy menu must be backed up by clever menu design.

Menus are not designed to be pretty; they should be designed to be pretty and profitable. Too many menus are pretty with no thought to profit.

With full and continuous sales analysis information, the business can then use that information to 'engineer' the menu to favour high margin items and work on the other categories to improve performance. In the graphic below, the menu items are categorised according to gross margins and popularity. This is valuable information which can now be used to design the menu strategically.

Using menu psychology, the highest margin items can be placed where the customer is most likely to choose them. This will be backed up with well-trained front of house staff who upsell these items.



Unavoidable waste: practical and sustainable ways to repurpose

As waste is charged by weight, it is important to try to repurpose as much unavoidable waste as possible to reduce the weight of waste.



Coffee grounds

- ✓ Use as fertiliser in garden soil to enrich nutrients
- ✓ If you don't have your own garden in the business or at home, contact local farmers and garden centres to discuss a collaboration
- ✓ Create natural deodoriser by drying and placing in open containers
- ✓ Use in composting to add nitrogen-rich material
- ✓ Incorporate into homemade scrubs or cleaning abrasives
- ✓ Repel pests in garden by sprinkling around plants
- ✓ Bag and give out to customers for their own gardens



Vegetable peelings and fruit peelings

- ✓ Compost to produce nutrient-rich soil conditioner
- ✓ Make vegetable stock or broth to reduce food waste
- ✓ Treacle from vegetable peelings to be used in breads, sauces and other savoury dishes
- ✓ Fruit juice from fruit peelings
- ✓ Dry and grind into powder for seasoning or flavouring
- ✓ Use peels in animal feed where allowed
- ✓ Create natural cleaning agents (e.g. citrus peels with vinegar)



Shellfish shells

- ✓ Crush and use as a soil amendment to add calcium (e.g. crab, lobster).
 - Incorporate into compost, ensuring proper breakdown.

Final tips

Badly planned menus cause waste. Getting it right at that point is critical in preventing waste in the first instance. Good menu planning combined with sales data and menu engineering informs menu design which will optimise high margin items and bottom-line profits.

Food waste prevention and management is a marathon, not a sprint. Making the decision to take it on in a systematic and consistent way is the first step in saving your business money in terms of food, time, labour and utilities.

Turning a 'waste is inevitable' mindset to 'let's aim for zero waste' will impact on every department across the hotel and will change attitudes to all kinds of waste.

Appendix

Supporting resources

learnFI

Minimising Food Waste	Minimising Food Waste
F&B Finance Menu Engineering and Upselling	F&B Finance: Menu Engineering and Upselling

Sources

1. Environmental Protection Agency (EPA), [Food Waste Prevention](#)
2. Food Waste Charter, [Food Waste in Hotels - Daily Service Factsheet](#)
3. Environmental Protection Agency (EPA), [Reducing Commercial Food Waste in Ireland](#) (2019)
4. Surplus: The Food Waste Guide for Chefs (2021) by Vojtech Végh
5. Case Study, [Pass It On: John Keane - One change saves 500kg of trimmings a year, less is more](#)