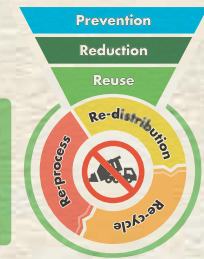


M | MECHLINE FOOD WASTE REDUCTION PROGRAMME



Unwrapped

1. INTRODUCTION

The amount of food thrown away in food service outlets is equivalent to 1 in 6 meals. Imagine you have planned, shopped for, prepared, presented and served 6 meals, only for one of them to be scraped into the bin without even making it out of the kitchen?

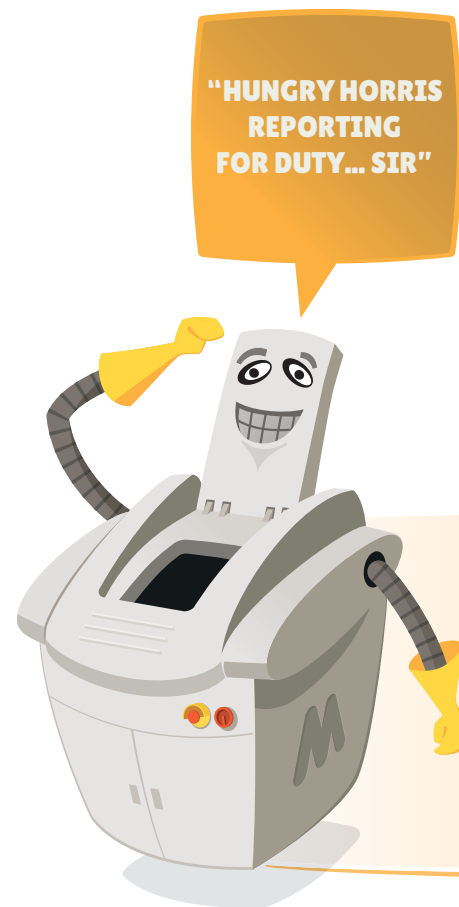
With the cost of food, energy and waste treatment all increasing, it is more important than ever to take action to reduce end-of-life food wastage wherever possible.

We at Mechline understand the challenges of operating an efficient commercial kitchen and how the focus on serving high quality meals and keeping your customers happy might mean that team members don't always take the measures to reduce kitchen food waste that you would expect.

Mechline is an active and signed up member of the hospitality and food service agreement headed by WRAP which organisations can join to demonstrate their commitment to reducing food and packaging waste.

With this in mind, we have developed this **Food Waste Reduction Programme** to present the business case for reducing avoidable and end-of-life food waste, help you review and understand how much food waste your business produces, how to take action to prevent, reduce or redistribute surplus food, and how to engage with staff to implement these actions.

In doing so, we will also introduce the tools and services, such as the Mechline Waste₂O digester, and the role that this technology can play in helping you reduce and manage your food waste in a resourceful and efficient way.



Who is this programme for?

- Catering Managers
- Food and Beverage managers
- Head Chefs
- Catering supervisors
- Facilities Managers
- Waste Teams/Managers

What is the aim of the programme?

- Outline how much food waste is really costing you, and the benefits of managing more effectively the food you buy and use
- Providing you with tools and techniques for undertaking a review of food waste, to establish a benchmark
- Give you some top tips and ideas on simple, low cost actions you can take to prevent, reduce or reuse food
- How to engage with your staff effectively, to obtain buy-in and support for waste prevention actions
- To demonstrate how Mechline products and services can work with you and your kitchen to manage your end-of-life food in line with circular economy principles.

Introducing Hungry Horris

Hungry Horris is the ambassador for the Mechline Food Waste Reduction Programme.

His friendly advice and guidance is sure to reduce food service outlets operating costs and increase your bottom line profit.

Throughout this booklet and the online support area, Hungry Horris is on hand to inform you on the best solution to reduce your food waste.

2. WHY 'MECHLINE'?

Mechline started life in 1984 as a commercial kitchen equipment service and installation company. This experience has enabled us to become an authority on products engineered to address common issues in the food services and environmental sectors – whether it's in function, design or operational ease-of-use.

We are dedicated to making life easier for the 'Hospitality and Food Service' industry, and have developed our **Food Waste Reduction Programme** and supporting materials with this in mind.

Mechline understand that food waste prevention needs to go hand in hand with treatment technology as part of any sustainable waste management strategy.

All businesses need to manage their waste in line with the European Waste Framework Directive's Waste Hierarchy and we help our customers to reduce the volume and cost of waste to their business. We help operators do this by optimising their use and treatment of end-of-life food waste throughout the waste hierarchy; helping them to waste less and profit more by choosing the best economic and environmental solution.

We practice what we preach, and take pride in working with our operators, assisting them in taking measures to prevent and reduce food waste where possible, before using our innovative Waste₂O technology as a sustainable and affordable solution for food waste.



The Food Waste Reduction Programme

We have taken the principles of the waste hierarchy one step further and developed our very own concept of how food waste can be managed and treated in a circular way. This includes the Food Waste Reduction Programme to highlight simple, step by step guide to prevent food waste and reduce the amount going to landfill.

The Mechline solution is key to this concept, by providing a means of recovering water from end-of-life food, reducing emissions and pollutants with no solids to dispose of to landfill.



3. THE BUSINESS CASE FOR FOOD WASTE **PREVENTION** & **REDUCTION**

There is a clear business case for your operation to reduce food waste – including financial, environmental and legislative benefits.

Whilst there are costs savings to be made in the way you choose to manage your food, the greatest opportunity for your business to save money is to prevent food waste in the first place.

Business Case – Economic

So, how much does end-of-life food actually cost? Recent research carried out by WRAP determined that the cost of end-of-life food to the UK hospitality and food service sector is £2.5 billion¹. Around 920,000 tonnes of food is thrown away each year, 75% of which could have been eaten¹.

These are clearly big numbers, but what does this mean for you and your business? Food waste will be a significant cost to your business, regardless of which part of the hospitality and food service sector you are in. On average the cost of avoidable food waste is £3,700 per tonne (£3.70 per kg)².

Research carried out by WRAP reviewed end-of-life food across different types of food service outlets and identified that the true cost of end-of-life food will vary, depending on your

type of business operation². For example, if you run a restaurant, the average cost of avoidable food waste is estimated to cost £0.97 per cover. If you are running at 1000 covers per week, this would add up to £50,440 per year. The cost of end-of-life food to hotels is estimated at £0.52 per cover, or £27,040 per year for a hotel serving 1000 covers per week. Even those organisations such as Quick Service Restaurants who have the lowest cost of end-of-life food at £0.14 per cover, could save £7,280 per year based on 1000 cover per week.

What is important to remember here is that these costs are referring to 'avoidable' food waste. This is food waste that could have been eaten, as opposed to unavoidable end-of-life food such as egg shells, bones, etc.

Avoidable food waste could include leftovers, plate scrapings, and food that has reached its expiry date before it could be eaten. Much of this could be prevented, generating significant cost savings.

EXAMPLE:

A restaurant operator producing 50kgs a day of food waste, 6 days a week, could be throwing away 15 tonnes of food waste per year, which could represent a cost of between £42,000 to £55,500.



Type of food service outlet	Average cost of avoidable* food waste per cover	Cost per year (£)		
		500 covers per week	1,000 covers per week	1,500 covers per week
Restaurants	£0.97	£25,220	£50,440	£75,660
Hotels	£0.52	£13,520	£27,040	£40,560
Leisure	£0.46	£11,960	£23,920	£35,880
Services	£0.43	£11,180	£22,360	£33,540
Pubs	£0.41	£10,660	£21,320	£31,980
Healthcare	£0.22	£5,720	£11,440	£17,160
Education	£0.22	£5,720	£11,440	£17,130
Quick Service Restaurants	£0.14	£3,640	£7,280	£10,920

* Food that could have been eaten

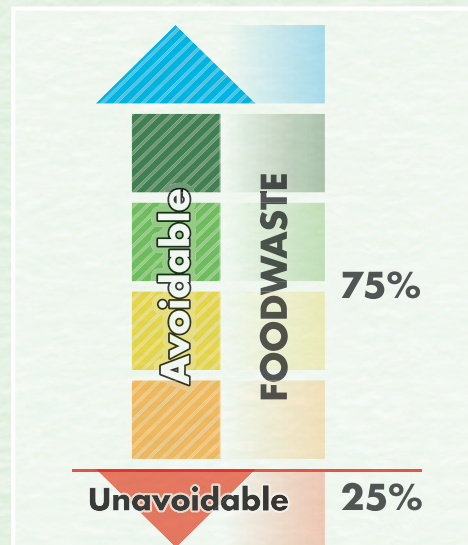
¹ WRAP (2014) - www.wrap.org.uk/content/food-waste-hospitality-and-food-service-sector

² WRAP (2013) - www.wrap.org.uk/sites/files/wrap/The%20True%20Cost%20of%20Food%20Waste%20within%20Hospitality%20and%20Food%20Service%20Sector%20FINAL.pdf

Whilst the greatest opportunity to save money is by preventing food waste, you can also save money by reusing or recycling food before it becomes end-of-life food waste. Reusing food that would have otherwise been wasted is also a way of saving money. This can be done by either making use of leftovers in other recipes, or by redistributing surplus food to local charities or organisations such as FareShare and others.

Recycling and reprocessing, although an environmentally better option than landfill, will still incur waste management costs. Segregating food before it becomes end-of-life waste for recycling off site will generally be cheaper than disposing of this waste to landfill, but this will depend on the services available to you locally.

Disposing of end-of-life food to landfill is the most costly option and should be avoided at all costs. The Waste₂O machine by Mechline is an economical and environmental on-site solution for dealing with end-of-life food and avoiding costly waste management fees.



Summary

Whichever way you look at it there are a number of benefits from taking action to prevent and reduce end-of-life food waste.

The business case for preventing and reducing food waste includes:

SIGNIFICANT COST SAVINGS

- Reducing end-of-life food disposal costs
- Reducing food purchase costs by using ingredients more effectively
- Reducing the cost of wasted ingredients
- Minimising the overall cost of end-of-life food by reducing energy, labour and other costs

REDUCING YOUR IMPACT ON THE ENVIRONMENT

- Meeting with current and future Legislation
- Having seen the total costs of end-of-life food, can you afford to do nothing?

Business Case – Environmental

As well as making financial sense, managing waste in accordance with the Mechline Food Waste Reduction Programme is also much better for the environment. Disposal of food and other biodegradable materials to landfill releases methane, which is a potent greenhouse gas with a global warming potential 25 times higher than CO₂. Diverting 180kgs of food waste per day from landfill, will save approximately 96 tonnes of CO₂ each year.

Global demand for energy and resources is accelerating. Reducing end-of-life food will also mean you use less energy to store, prepare, cook, and serve of food which is not eaten. You might also use less water. These issues will become increasingly more important as by 2030 the world's population grows, placing an increasing demand on food by 40%, water by 30% and energy by 50%. As demand for these resources increases, so to will the price. Having a secure supply of food and using the ingredients you have as efficiently as possible will reduce the risks associated with this.

Customers are increasingly demanding more environmentally responsible performance from the businesses they buy from. Although you may be unaware, sustainability is an important issue for consumers and can affect purchasing decisions. You should consider a Corporate Social Responsibility policy for how you manage food by developing a strategy to source quality ingredients and use them in a responsible way. The policy should include reusing and preventing food waste. Set yourself clear goals to drive your improvements and review regularly to check progress.

Business Case – Legislation

All businesses have a legal duty of care to manage their waste responsibly. The European Waste Framework Directive requires member states to take appropriate measures to encourage firstly, the prevention or reduction of waste, and secondly the recovery of waste by means of recycling, re-use or reclamation, or any other process with a view to extracting secondary raw materials, or the use of waste as a source of energy.

It is a duty of every business to consider the waste hierarchy in how they manage their waste streams. Every member of staff needs to be empowered to make good decisions and know which options are the most economic and environmentally sound for reprocessing end-of-life food waste. Working now to prevent avoidable waste and manage it in a more resource efficient way will ensure you stay ahead of the game.

FURTHER INFORMATION:

Others have already taken action and save money – see how much you could save:

www.wrap.org.uk/content/good-practice-case-studies

“Love Food, Hate Waste”
www.lovefoodhatewaste.com

4. FOOD WASTE REVIEW – HOW MUCH FOOD WASTE DOES YOUR BUSINESS PRODUCE?

Conducting a review is really simple with a little bit of planning and some helpful resources. Once you have carried this out you will have a good starting point (your baseline) to measure the impact of any changes you implement to reduce food waste.

Creating your food waste baseline

Food Waste is a significant cost to your business and the most significant savings can be made by preventing food waste in the first place. In order to start looking at where the opportunities to prevent and reduce food waste are, it is first essential to understand the amount and type of food waste you are currently producing. You will need to understand:

- **Where and why food waste arises**
- **The cost of food waste to your business**

Some of this information may be available from your waste contractor if you are already segregating your waste, but you will also need to dig a little deeper and carry out your own food waste review.

Conducting a food waste review

Understanding where and how food waste is produced in your business is key – without this understanding you are less likely to identify appropriate opportunities to prevent and reduce food waste and implement any meaningful change. The good news is there is an easy to follow 4 step method you can use to conduct a review within your own business.

In order to make the changes you introduce sustainable, it is important that all staff 'buy in' to the project and understand why it is so important. Incentive and reward schemes can often encourage long term change in behaviour by sharing in the success. Strong visual prompts can also be useful ways of keeping the momentum going.

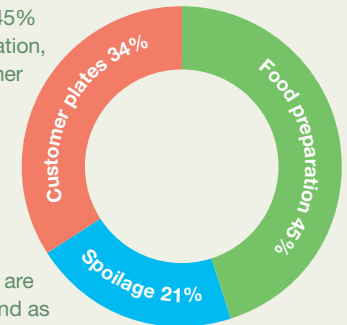
MECHLINE 4 STEP PROCESS TO MEASURE YOUR FOOD WASTE:

STEP 1 SEGREGATE FOOD WASTE FROM GENERAL WASTE TO ESTIMATE SAVINGS POTENTIAL

The first step is to segregate food waste from your general waste stream, if you are not already doing so. A good way of doing this is to introduce clear plastic buckets, in which food waste from all areas of the kitchen can be put in to, including food prep areas, cooking and pot wash/dish wash areas.

Make sure all staff are aware of the food waste review and they understand that they need to put all food waste in to the buckets over a set period of time. It is important to stress the importance of not contaminating the food waste with non-food material.

consists of 45% food preparation, 34% customer plate waste, and 21% spoilage, as shown in the chart to the right.



These ratios are estimates, and as they can vary according to different kitchen operations and the processes used, it is important to understand the types of food waste at your own individual organisation.

There is a useful food waste tracking sheet you can download from WRAP to help you do this – see here <http://hafsva.wrap.org.uk/measure/page1>

STEP 2 MEASURE THE DIFFERENT TYPES OF FOOD WASTE

To measure the overall quantity of food waste, simply weigh or count the number of buckets or other end-of-life food containers filled throughout the day. However, what is more useful if you are able to measure the different types of food waste produced. Consider measuring the food waste from different areas of the kitchen, in order to identify how much of each type of food waste your business produces. The main sources of end-of-life food are:

- **spoilage (in storage, inc. out of date)**
- **preparation; and**
- **plate scrapings (customer leftovers – service returns including over produced food)**

WRAP research has shown that the food waste produced in a typical business in the Hospitality and Food Service sector generally

STEP 3 GATHER DATA OVER A SENSIBLE TIME FOR YOUR BUSINESS

When gathering this data, it is important that you do this over a reasonable amount of time. Consider how many covers you serve each day, and if possible collect data over 1 or 2 weeks, to ensure it is as representative as possible of your normal business operations.

STEP 4 REVIEW FINDINGS

Having gathered your data, you will now need to analyse it to determine your baseline. You will need to scale your data in order to estimate the quantities of food waste produced over the course of a year. Multiply this figure by the true cost of food waste (see Table in Section 2) in order to calculate the annual cost of food waste to your business.

THE AIM OF REVIEWING YOUR FOOD WASTE IS TWO-FOLD:

- Understanding how much and the type of food waste will enable you to identify and prioritise waste prevention opportunities.
- Setting a baseline will enable you to re-measure once you have implemented food waste reduction opportunities to see how much food waste you have prevented and how much money you have saved.

How can the Waste₂O food reduction reporter help you review and understand the food waste you produce?

Having gone through the key steps in the programme, any food waste at this point is considered end-of-life and available for reprocessing. The key to managing end-of-life food waste is understanding how much you are producing and your many disposal options. Mechline has developed a data analysis tool

to help you appreciate your end-of-life food generation patterns and manage the efficient use of your Waste₂O. The food waste reporter uses sensors placed within the Waste₂O to monitor and record the end of life food waste levels within the digester over time. This tool can be found at www.waste2-0.com

The information recorded from the food waste reporter can be exported to our online Waste₂O tool. This gives operators an opportunity to view and monitor the changes in end-of-life food digested by the Waste₂O. The results are presented clearly to understand trends and patterns in your end-of-life food production. For example the food waste reporter may identify that greater volumes of end-of-life materials are added to the digester after a specific service period or type of event. With this data and regular reviews, peaks of food waste production can be highlighted and help to identify opportunities to prevent, reduce and redistribute food waste. The tool also includes an indication of under and overuse, and logs the times the lid is opened. This will enable you to know how much food waste goes into the device and help you to optimise its operation.

With this information you will be able to see how well it is being used and help highlight operational issues before they become a problem. The tool enables you to monitor and report end-of-life food waste volumes, costs and food carbon

emission savings. Armed with this information you will be able to target your food waste reduction programme on those areas of your business that are generating the most food wastage. It is through good information you will be able to communicate to staff the information they need to understand their impacts and the progress they are making on reducing food waste. In essence, the tool gives you the information your team needs to reduce food wastage and improve profit through cost savings.



Recording your Food Waste

Once you have completed your review, you should record your results and use these to help identify opportunities and priorities for end-of-life food prevention.

An example of how to record your food waste is shown below and is also available from WRAP [www.wrap.org.uk/sites/files/wrap/Food_Waste_Tracking_Sheet_v1.1_0_050115.pdf]

Day	Date	Spoilage		Preparation Waste		Customer Plate Waste	
		Number of bins filled	Weight (kg)	Number of bins filled	Weight (kg)	Number of bins filled	Weight (kg)
1							
2							
3							
Bin Volume (Litres)							
*Total Volume (Litres)							
Total Weight (kg)							

* Total volume (litres) = bin volume x number of bin fills

FURTHER INFORMATION:

WRAP Hospitality and Food Service – Reducing Food Waste: Starting off - www.wrap.org.uk/sites/files/wrap/Reducing%20Food%20Waste%20-%20Starting%20Off.pdf

WRAP guidance - Want to cut costs? - www.wrap.org.uk/sites/files/wrap/info_signposting_Jan%202015.pdf

WRAP's food waste recycling hub - www.wrap.org.uk/content/sme-food-waste/recycling-guidance

WRAP's Summary Report: 'Opportunities for contract changes in recycling collection in the hospitality sector' - www.wrap.org.uk/sites/files/wrap/Opportunities%20in%20glass%20hospitality%20contracts.pdf

It may be useful to record the types of food waste being produced and at what stage the wastage occurs. There are products on the market which can help record the types and weights of food waste being produced in selected areas of your kitchen.

Go Green Tomato - www.gogreentomato.com

Winnow solutions - www.winnowsolutions.com/winnow-works

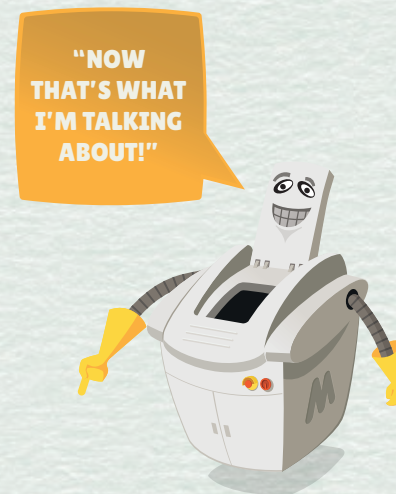


5. THE MECHLINE FOOD WASTE REDUCTION PROGRAMME

As already highlighted, it is estimated that 75% of the food waste that is thrown away by the Hospitality & Food Service sector could be avoided.

This is food waste that if more effectively managed, could have been prevented. The financial business case for preventing and reducing food waste is clear, as is the case for managing waste further up the hierarchy.

This section presents some top tips on managing food waste at each stage of the Mechline Food Waste Reduction Programme.



FURTHER INFORMATION:

Additional information and case studies on how to prevent and reduce food waste:

WRAP's Food waste resource centre
www.wrap.org.uk/category/sector/hospitality-and-food-service

Unilever
www.unileverfoodsolutions.co.uk/our-services/your-kitchen

IGD's Working on Waste
www.igd.com/Research/Sustainability/Workingonwaste



Prevention

Reduction

Reuse

Re-distribution

Re-cycle

Re-process

STOCK MANAGEMENT

- [✓] Keep a tight control on purchases and tailor your stock orders to the planned menu to ensure you only order what you need.
- [✓] Check fresh food on delivery – reject any bruised or damaged goods.

Review current stock levels, so you are only ordering the quantities needed.

- [✓] Consider product specifications when ordering – for example have you considered frozen vegetables versus fresh vegetables for a longer storage life and a greater use of dried and tinned products?

- [✓] Pre-prepared vegetables can minimise the time required to prepare in house and create less trimmings waste for disposal.

STORAGE

- [✓] Food waste can be prevented by storing food properly. This includes chilled and ambient stock. Seek best advice for the storage of fresh products – store appropriately. Foods should be stored separately to prevent contamination and spoilage and to ensure safety.

- [✓] Ensure you have a clear labelling system to monitor and rotate stock.

- [✓] Ensure all 'use by' data is recorded and stored food is used before the recommended deadlines. This can help with menu planning and forecasting food orders accurately.

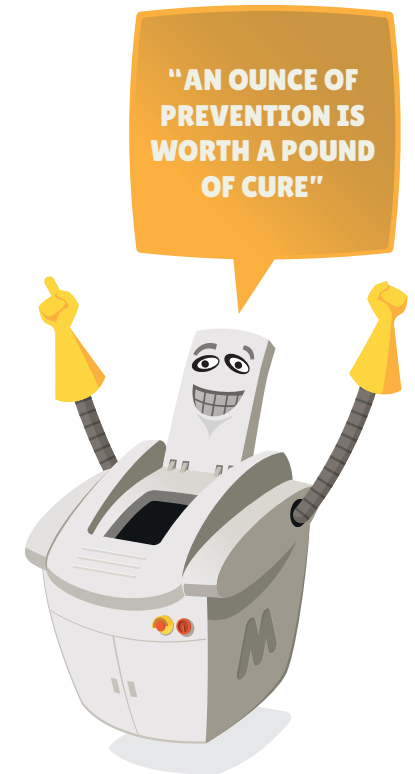
- [✓] Develop a 'Just-in-Time' system when ordering. This will reduce spoilage and storage requirements.



- [✓] Check fridge and freezer temperatures regularly. Consider installing a monitoring and alarm system.

CATER FOR DIFFERENT CUSTOMER TYPES

Ensure menus promote 'light meals', half portions and options to remove or substitute ingredients or sides. Offering smaller portions with the opportunity for refills/second helpings can be particularly effective in preventing food waste. By giving customers more choice and control in ordering their meal they are likely to have greater satisfaction while reducing the creation of food waste.



WRAP have developed the following resources to help you prevent food waste:

Stock control templates:

www.wrap.org.uk/sites/files/wrap/Stock_Control_Sheet_v1.1_0_050115.pdf

Menu Planning:

<http://www.wrap.org.uk/content/menu-planning-preventing-food-waste>

Prevention

DEMAND MANAGEMENT AND MENU PLANNING

- [✓] Review your menu and offers, frequently.
- [✓] Make the most of the stock you have by using special boards and 'dish of the day' to prevent excess food going to waste. Consider stream lining the menu with fewer ingredients and include seasonal items where possible.
- [✓] Ensure you offer realistic portions.
- [✓] Plan menus which feature meals including common ingredients. www.wrap.org.uk/content/menu-planning-preventing-food-waste
- [✓] Constantly Measure and Review.



Reduction

MONITOR OVER PRODUCTION/ PLATE WASTE

- [✓] Are there certain items of food which routinely seem to be left on customer plates? Are there items on the menu that are always prepared but rarely ordered?
- [✓] Such food waste can be reduced by monitoring where this occurs, and making changes to the menu or portion sizes to reduce end-of-life food. This allows for less popular items to be removed from the menu and large portions of certain ingredients to be reduced which can then be adjusted as part of your plate portioning and purchasing.
- [✓] WRAP has produced useful material to help measure and monitor end-of-life food and offer waste action tips. www.wrap.org.uk/content/supporting-resources-hospitality-and-food-service-sector-3
- [✓] Constantly Measure and Review.

Reuse

Re-distribution

Re-cycle

Re-process

OPERATIONAL PROCEDURES

- [✓] Consider ordering pre-trimmed and prepared foods, to avoid food waste on site.
- [✓] Try to avoid over preparation and over cooking of food for service. Review planning and procedures with the kitchen.
- [✓] Smaller batch cooking through high speed cooking equipment will provide greater flexibility.
- [✓] Vacuum packing offers a quick and efficient way to pack and store food as there is reduced risk of contamination and offers food a longer life to reduce spoilage.
- [✓] Blast chilling is another method of enabling you to extend the shelf life of certain food items by quickly and efficiently reduce the temperature of food, so that it can be safely stored without impacting on quality.
- [✓] Constantly Measure and Review.

SERVICE STYLE

- [✓] Buffet style serving of food and self-help counters can be hot spots for creating food waste, in terms of both plate waste and over production of food. Review service styles, equipment and options.
- [✓] Review introducing pre-ordering systems that allow for pre-qualified requirements, helping food control.

- [✓] Simple measures such as using smaller plates and serving spoons can help prevent customers taking too much food that is then wasted.
- [✓] Offer different portion sizes, depending on your clients – Children, Elderly, Healthy eating.
- [✓] Reduce the amount of food prepared and cooked towards the end of the service. Consider rationalising the number of dishes served to reduce end of service leftovers.
- [✓] Consider cooking to serve for some items - Quick service restaurants, are proven to produce less food waste.
- [✓] Use serving staff to control portions of expensive ingredients such as carvery meats.
- [✓] Constantly Measure and Review.



Prevention

Reduction

Reuse

Re-distribution

Re-cycle

Re-process

PREPARING FOR REUSE

Consider investing in blast chiller/freezer technology and vacuum packers if you don't already have them. This will enable you to keep unused food for reuse. Make sure you freeze in the correct portion size so it is easier to defrost portions individually as needed.

EATING LEFTOVERS

Offer staff prepared meals rather than freshly prepared food on meal breaks. Providing take away boxes at the end of a meal offer an excellent way to reduce end-of-life food as well as improving customer satisfaction.



Many customers don't like to waste food, but don't always feel comfortable to ask can they take it away. Make it clear that they are welcome to do so, perhaps including a note on the menu? If you do provide 'doggy boxes' be sure to provide the customer adequate safety advice reminding them of the storage requirements and the dangers of not reheating food correctly, perhaps with a simple, but informative reminder label.

Visit Too Good to Waste for the latest information on using 'doggy boxes' for your customers to take home leftovers:

www.toogood-towaste.co.uk

REUSE TIPS

There are lots of ways in which you can use 'leftovers' to avoid throwing them away. Here are just a few suggestions:

- [✓] Consider introducing a stock bin for vegetable peelings and make your own stock
- [✓] Use leftover bread to make croutons and breadcrumbs, which can then be frozen
- [✓] Leftover tomatoes from breakfast can be used to make soup served at lunchtime



[✓] Bacon and sausages from breakfast can be used in casseroles and pasta dishes

[✓] Use carvery joint ends in baguettes and salads


[✓] Freeze berries and fruit for coulis and smoothies.

'Rescue recipes' from Love Food Hate Waste, used by professional chefs to reduce their food waste.

www.lovefoodhatewaste.com/recipes



Prevention	Reduction	Reuse	Re-distribution	Re-cycle	Re-process
<p>Although there are lots of ways to prevent and reduce food waste, some food waste through over production can inevitably occur. In these circumstances and where food is in a condition fit for human consumption, it may be possible to redistribute to others to help support feeding programs.</p> <p>✓ FareShare ensures that surplus edible food is redistributed across the UK to help feed those most in need. FareShare have 20 regional centres which collect surplus food from manufactures, suppliers and retailers. They ensure all food products are traceable and adheres to all food safety regulations. FareShare deliver the food to local projects and charities such as homeless hostels, day centres for the elderly, women refuges and breakfast clubs.</p> <p>www.fareshare.org.uk</p>	<p>✓ Plan Zheroes goal is to achieve zero waste and hunger. They have a social network of food businesses and charities to allow for quick communication and transfer of excess food to those in need, safely and conveniently. Food is collected from manufacturers and suppliers and donated to charities or local groups who serve food to homeless or refuges.</p> <p>www.planzheroes.org</p> <p>✓ Food Cycle is a national charity that combines volunteers, surplus food and spare kitchen spaces to create tasty, nutritious meals for people at risk of food poverty and social isolation.</p> <p>http://foodcycle.org.uk</p>		<p>✓ Local food banks such as the Trussell Trust work with churches and local communities to provide food boxes that contain non-perishable food to people in crisis.</p> <p>www.trusselltrust.org</p> <p>✓ Why not look for any local 'food waste cafes'? A number of small pop up cafes</p>		<p>are offering customers excess food from different organisations such as supermarkets, restaurants and market stalls. Food that would previously been destined to go to landfill is now being served to help vulnerable people and those in food poverty. Some of these organisations also offer training opportunities to help develop people's skills and confidence.</p>
					

Prevention	Reduction	Reuse	Re-distribution	Re-cycle	Re-process
<p>Whilst most people are aware that materials such as plastics and metal can be recycled, many don't realise that certain food 'wastes' can be recycled too. One way in which end-of-life food can be recycled is by using it for animal feed, although current legislation doesn't allow for catering food waste to be recycled into any form of animal feed. However you may have a separate bakery</p>		<p>area which produces large amounts of segregated and clean food waste such as bread, cakes, pastry, biscuits, pasta which have not come in to contact with animal by-products. To check the latest regulatory law please visit:</p> <p>www.gov.uk/supplying-and-using-animal-by-products-as-farm-animal-feed</p>		<p>Mechline supports such schemes as the PIG Idea which aims to change European law to allow food waste including catering waste to be diverted for use as pig and chicken feed; and to introduce a robust legal framework for its safe processing and use to prevent the outbreak of animal diseases. For further information, please see:</p> <p>www.thepigidea.org</p>	

Prevention

KEY PREREQUISITE – SYSTEMS EVALUATION

Article 4(2) of the Revised Waste Framework Directive allows member states to depart from the waste hierarchy in order to deliver the **best environmental outcome if it can be justified by life cycle thinking** giving consideration to impact indicators such as the **general environmental protection principles of precaution and sustainability, technical feasibility and economic viability, protection of resources and the overall environmental, human health, economic and social impacts.**

‘There exist many different factors and influencers that require different approaches to provide the most suitable economic and environmental solution to suit an individual situation.’

Reduction

You should always choose the best economic and environmental solution to re-process end-of-life food for each site. There are numerous considerations to factor in to such evaluation including:

- [✓] Transportation costs
- [✓] Carbon emissions pollutants and particulate discharges
- [✓] Storage costs and facilities
- [✓] Labour costs
- [✓] Energy consumption and costs
- [✓] Hygiene
- [✓] Ease of operation
- [✓] Waste recovery awareness, segregation and undertaking

Whilst recycling end-of-life food off-site is an option, there will still be a cost associated with this, and in some cases it is not much cheaper than general waste disposal costs. Transportation of end-of-life food waste may not represent best environmental and economic options, when the nett value of the waste product reprocessed output is fully evaluated. Mechline Developments strongly supports the objectives of preventing and minimising waste, maximising the optimum use of food by caterers and encouraging the efficient use, re-use and re-distribution of resources and minimising energy and resources consumption and pollution.

Reuse

Re-distribution

Re-cycle

Re-process

Mechline's Waste₂O bio-digester provides an on-site re-processing system for end-of-life food waste which converts the waste to water. Suitable end-of-life food is loaded into a chamber throughout the day and is mixed with enzymes that safely break down the end-of-life food completely. The waste water goes straight to drain leaving no residue to deal with.

The **WRC** approved product is considered as 100% safe for discharge to drain where valuable resources such as water and trace elements can be recovered.

Waste₂O allows operations to responsibly and economically dispose of their end-of-life food waste with considerable benefits to the environment.

WASTE₂O
manufactured by **MECHLINE**



6. ENGAGING YOUR STAFF

Only PEOPLE can actually prevent & reduce food waste. In your kitchen, you need to change current (wasteful) behaviours to new (waste-less) ones.

GREEN TEAMS & CHAMPIONS

Green teams/champions can be very effective ways to spread the messages and behaviours of the **Mechline Food Waste Reduction Programme**.

A good programme should have:

- [✓] a clear remit and a clear programme of activity the resources to do the job

- [✓] support from managers and central co-ordination/guidance

Green (waste) champions must be:

- [✓] trained so they can deliver actions, give advice and answer basic question, etc.
- [✓] empowered to 'make a difference' in their workplaces
- [✓] support from managers and central co-ordination/guidance

Your staff are your greatest end-of-life food prevention asset and to get them to reduce end-of-life food they need to understand:

Who	is affected?
What	do they need to do? How do they do it?
Where	is the equipment?
When	do they need to use it?
Why	do they need to do anything?

ADDRESS PEOPLE'S BARRIERS

People have lots of barriers to doing new things:

- 1 Established routines and habits
- 2 Lack of knowledge
- 3 Fear of getting it wrong
- 4 No interest
- 5 Language

Make sure you understand and remove their barriers so nothing can stop them preventing food waste!

Talk to your team

- Discuss with your staff your concerns about how much food is being wasted
- Explain why it is important to change
- Look at what sort of food you throw away and why
- Come up with ideas on where to make improvements
- Explain cost, environment, food security, etc. "Big Pointers"

Engage and involve managers and staff

- Work out with your team where food waste can be prevented
- Discuss and create targets to cut food waste and how staff can help meet them
- Get staff and manager's support to make changes
- Focus on priority areas
- Make individual staff responsible for specific actions and support them as needed. Appoint a '**champion**'
- Train staff (e.g in new or changed procedures, new equipment, etc.)
- Measure/Targets
- Create a 'Waste Reduction Programme'

Communicate change

- Remove barriers to change - change procedures if necessary
- Identify the main messages and the best way to communicate them
- Use posters and checklists to reinforce instructions
- Do you need to talk to anyone else (other staff, suppliers, contractors)?

Embed change - continual improvement

- Use suggestion boxes or team meetings to get new ideas
- Review and share performance against targets
- Make sure new procedures are followed and recognise efforts
- Encourage staff to support each other
- Set-up staff recognition or reward schemes and run competitions
- Make budget available to support these activities
- Share achievements with the team and explain the next steps
- Keep managers informed of progress to ensure their continued support



ADDRESS THE LANGUAGE BARRIER

If you have staff with different language or literacy abilities, focus on communicating the most important messages and train them by physically showing them what to do. Then they will do what you want even if they might not quite understand why.

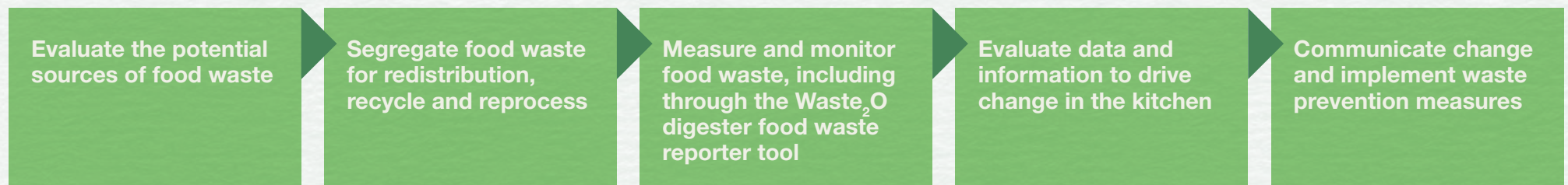
STAFF ENGAGEMENT

As part of Mechline's Food Waste Reduction programme, Mechline have produced a series of posters designed to communicate key end-of-life food prevention messages.

There are 8 posters you can use in the areas of the workplace where end-of-life food is generated:

1. Meal planning, forecasting and portion control		
Spoilage 2. Food storage (dry and wet stores) 3. Fridge/freezer	Food preparation 4. Food preparation 5. Cooking area	Plate and counter waste 6. Food service area
7. Re-distribution/Re-use 8. A blank "notices page" for your own messages		

ADOPTING THE MECHLINE FOOD WASTE REDUCTION PROGRAMME



7. MECHLINE PRODUCTS AND SERVICES

Mechline has over 30 years' experience in the catering and food service industry and has used this knowledge and experience to develop innovative and environmentally responsible products.

Mechline and waste prevention

Mechline practice what we preach, and we take pride in working with our customers to assist them in taking measures to prevent and reduce food waste where possible, before using our innovative Waste₂O technology as a sustainable and affordable end-of-life food waste processing solution.

Responsibly disposing of end-of-life food waste with Mechline's Waste₂O organic food waste bio-digester is just one element in the fight to reduce food waste. Mechline has developed the food waste reduction programme to help caterers and staff to understand more about organic waste reduction.

The food waste reduction programme has six key stages prevent, reduce, reuse, redistribute, re-cycle and re-process end-of-life food. The Mechline programme is an integral part of Mechline's 6 step plan to achieving a viable environmental and economic solution for end-of-life food processing.

Mechline Waste₂O bio-digester

The Waste₂O food waste bio-digester is an on-site, cost effective solution to end-of-life food. Naturally occurring micro-organisms can digest up to 180kg of end-of-life food waste in 24 hours, converting it to safe to discharge waste water for treatment at water treatment plants.

ECONOMIC BENEFITS:

- [✓] No solid end-of-life food disposal costs.
- [✓] No licenses required.
- [✓] Increasing margins by reduced operating costs.
- [✓] Increased profitability by reduced collection costs.

ENVIRONMENTAL BENEFITS:

- [✓] Fewer end-of-life food collections reducing your Carbon footprint. Less fuel/energy used.
- [✓] Reduces end-of-life food going to landfill and the associated generation of landfill gases.
- [✓] By diverting 180kg of end-of-life food from landfill you can save up to 96 tonnes of CO₂ P.A.
- [✓] Uses safe and naturally occurring microorganisms.
- [✓] Recovery of up to 86% of the water content of food.

OPERATIONS BENEFITS:

- [✓] Compact design, easy to use and operate.
- [✓] Digests anything a person can digest.
- [✓] Integral part of the Mechline end-of-life food reduction programme.
- [✓] Reduced issues with vermin, insects and bad odours - associated with waste storage
- [✓] Improved hygiene
- [✓] Produces only waste water suitable for disposal through foul water drain.
- [✓] End-of-life food reporter can help the operator understand how much end-of-life food is being treated and provide opportunities to prevent, reduce and redistribute surplus food.
- [✓] A practical solution for restricted access sites such as prisons, hospitals and MOD.



How the Waste₂O machine can help prevent and reduce food waste

Supporting the programme and the Waste₂O machine is an end-of-life food reporter. This is an optional application to help site operators monitor how much end-of-life food is being processed through their machine, prompting good practice in the prevention of food waste. The reporter helps to inform the operator of the food waste being produced and the opportunities to prevent, reduce and redistribute food waste.

Mechline strongly believes that by introducing the programme to kitchen staff, the resultant behavioural change learned from keeping viable food waste out of the bin will extend to staff recycling other waste – packaging for example.



For more information on how Mechline can help you reduce and monitor your food waste please call us TODAY on 01908 261511 or visit:
www.waste2-0.com
www.mechline.com

WASTE₂O
manufactured by **MECHLINE**

REFERENCES:

WRAP

The Old Academy, 21 Horse Fair, Banbury OX16 0AH England

WRAP's vision is a world in which resources are used sustainably. It works in partnership to help businesses, individuals and communities improve resource efficiency. WRAP is backed by government funding from England, Northern Ireland, Scotland, and Wales.
www.wrap.org.uk/

LOVE FOOD, HATE WASTE

Love Food Hate Waste aims to raise awareness of the need to reduce food waste and help us take action.
www.lovefoodhatewaste.com/

HaFSA

The Hospitality and Food Service Agreement is a voluntary agreement to support the sector in reducing waste and recycling more.
www.wrap.org.uk/content/hospitality-and-food-service-agreement-3

IGD

We are a research and training charity that helps the food and consumer goods industry deliver the needs of the public.
www.igd.com/

FOODSHARE

Foodshare is a national not-for-profit, volunteer-powered charity which connects growers (schools, allotments, community and kitchen gardeners) with local charities.
www.foodshare.org.uk/

PLAN ZHEROES

Inspire and help connect businesses with charities to give surplus food to people who need it.
www.planzheroes.org

FOOD CYCLE

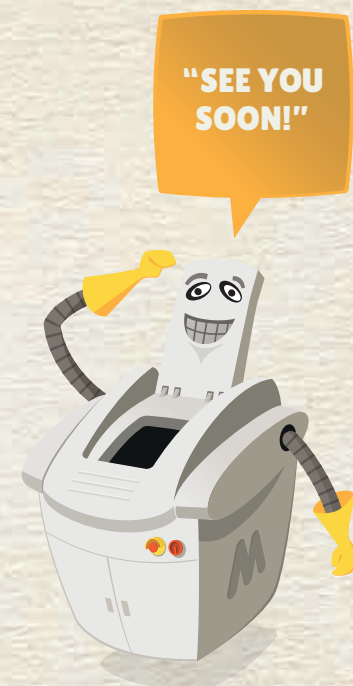
We're FoodCycle – a national charity that combines volunteers, surplus food and spare kitchen spaces to create tasty, nutritious meals for people at risk of food poverty and social isolation.
www.foodcycle.org.uk

THE TRUSSELL TRUST

Our mission is to develop, run, and enable communities to replicate sustainable projects that combat poverty and exclusion, sharing our experiences to raise awareness of the issues.
www.trusselltrust.org

THE PIG IDEA

Encourage more use of already legally permissible food waste as pig feed
www.thepigidea.org



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