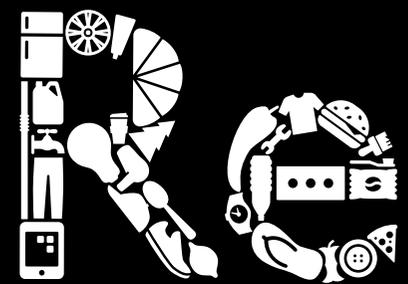




Food that doesn't cost the earth

How circular economy can help your business tackle climate change

June 2020



ReLondon

Welcome

What can you and your food business do to help protect the planet?

The fact you're reading this suggests that's a question you've been asking yourself. Well, you're in the right place. This guide is full of simple but effective things you can do to make a **real difference** – not just to the environment but to your business' bottom line as well.

We understand you're busy: You've got a restaurant, cafe, take-away, pub or catering company to run. **That's why this guide is designed to be something that you can dip in and out of.** Don't feel you need to read it from cover to cover. Focus on the areas that are most relevant to you. Make the changes that you think will have the biggest impact.

Once you've done that, and you've seen the results for yourself, you can always come back for more advice and inspiration.

If at any point you get stuck, please don't hesitate to contact the **business transformation team at ReLondon.** They're passionate about helping businesses like yours adopt more sustainable or 'circular' ways of working:

relondon.gov.uk/business/
business@relondon.gov.uk
020 3963 0675

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Foreword

Foreword for Circular Restaurant Guide by Raymond Blanc OBE, President of the Sustainable Restaurant Association

A long time ago, Maman Blanc told me “Raymond, you shall waste not”. Those wise words are at the heart of my values which I pass on to each member of my team.

Now, few things give me more satisfaction than our wonderful team of gardeners delivering to the kitchen the first of a new season crop of vegetables grown in our own garden using compost from our own kitchen food waste.

Of course, not every restaurant is as lucky as us here at Le Manoir. But, if you are serious about tackling the climate emergency, you absolutely must take at least some of the **seven ingredients in this guide** and **start to create your own menu** for a food future that improves rather than damages the environment and which extracts maximum value out of your precious ingredients.

2020 presents us with a fantastic opportunity to shift towards a more sustainable model. Take inspiration from some of the actions of the pioneering restaurants in this report, and together, we can create a truly circular model and fight climate change with better food.

Raymond Blanc OBE

Chef Patron at Le Manoir aux Quat’ Saisons





A word from our partners

This guide provides clear, scalable steps for any restaurant keen to play its part in tackling climate change, highlighting the huge benefits for business and the planet of getting more out of fewer resources and taking every possible step to waste as little as possible.

Andrew Stephen

CEO of the Sustainable Restaurant Association

Food is such a vital part of our social and cultural heritage but the current way our food is produced and wasted is crossing several planetary boundaries. With this guide, we want to help food establishments make a positive change and participate in London's transition to a low carbon circular economy.

Liz Goodwin

Chair of ReLondon and Senior Fellow and Director, Food Loss And Waste, World Resources Institute

As a Flagship City of the Ellen MacArthur Foundation Food initiative, London is one of the pioneering cities leading the transition to a circular economy for food. This guide presents important first steps for restaurants to help achieve this transition by redesigning their menus so that they eliminate waste and support local regenerative agriculture.

Emma Chow

Food Initiative Lead, Ellen MacArthur Foundation



Backing from leading chefs

“

In a state of climate emergency and with a food production system damaging the planet and peoples' health, chefs, farmers, policymakers and world leaders need to work together to drastically change the impact of the food we produce and eat on the environment.

We believe that chefs play a key role in driving the transition towards a Circular Economy and in driving change towards achieving the Global Goals. Chefs bridge the gaps between farm and fork – they decide what ingredients go on the plate and how they are sourced, how ingredients are prepared and cooked, and what happens with the waste that is being created. We sometimes feel that our actions have little impact but collectively, through networks such as the Chefs' Manifesto, and small changes such as those described in this guide, can make a big difference!”

CHEFS SIGNATORIES

Chef Justin Horne
Chef Chantelle Nicholson
Chef Tom Hunt
Chef Manjit Gill
Chef Patricia Nunes

Chef Ali Mandhry
Chef Arthur Potts Dawson
Chef Anahita Dhondy
Chef Conor Spacey
Chef Deri Reed

Chef JB
Chef Kamilla Seidler
Chef Mary Sue Milliken



The Chefs' Manifesto is a chef-led network bringing together 600+ chefs from 77 countries to explore how they can help deliver a sustainable food system. It empowers chefs with a framework tied to the UN Sustainable Development Goals (SDGs), consisting of 8 simple, practical actions to drive action on the Global Goals and deliver Good Food For All.



Contents

This guide is split into two main sections:

Section 1 tells you what a 'circular' food business is and why it makes environmental and commercial sense for you to become one.

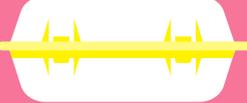
Section 2 is packed full of practical advice and simple things you can do turn circular economy thinking, concepts and ideas into concrete actions that will make your business more circular. The advice is grouped into seven key themes (or 'ingredients'). If you're viewing this document electronically, you can click on one of the seven themes in the diagram (right) to go straight to the relevant section of the guide.

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Section I: Setting the scene

Why the planet needs your help

We've been abusing our planet for too long; taking its natural resources for granted whilst turning a blind eye to the consequences. Now our actions are catching up with us and the effects on our climate and the natural world can no longer be ignored.

Experts agree that environmental disaster on a global scale is inevitable unless we all make changes to the way we live our lives.

And that includes our food: The way we grow it, farm it, catch it, distribute it, process it, prepare it, sell it, consume it and dispose of it.

Our current food system – the one we all rely on everyday to bring us nourishment and pleasure – is unsustainable. It's using up the planet's reserves of non-renewable mineral resources; it's polluting our air and our soils; it's responsible for a depletion of groundwater reserves and excessive soil loss; and it's contributing to climate change.

In fact, food and drink accounts for almost 10 per cent of London's total consumption-based Greenhouse Gas emissions, (mainly because of the type of food we eat and the way it is farmed). Globally, the agrifood sector is the second biggest contributor to greenhouse gas emissions. Only the energy sector produces more¹.

We must change, and fast.

There is some good news:

1. It's not too late

If we act now, there's still just enough time to keep global warming to manageable levels and to pull our planet back from the brink.

2. You have a role to play

There are lots of simple things you and your business can do to help with the transition to a more sustainable food system – one that future generations of Londoners can enjoy.

3. Your business can benefit

The changes you will need to make to help protect our planet can also help your business become more profitable.



¹ I. Smith, P., et al, Climate change 2014, mitigation of climate change. Contribution of Working Group III to the fifth assessment report of the Intergovernmental Panel on Climate Change

What is a 'circular' food business?

A circular food business is one that plays its part in tackling climate change by eliminating all types of waste. There are a number of ways that a circular food business achieves this:

There's no need to choose between profitability and sustainability – the two go hand in hand. It's perfectly possible to achieve both. This guide will show you the steps you need to take to get there. The case study on the next page celebrates a food business that is nearing the end of the journey and can truly call itself a circular food business.

Circular food businesses

Buy smart

Working with responsible suppliers who recognise the importance of the importance of sustainable business models. Buying local. Buying seasonal. Buying organic.

Buy less

This could be food, water, energy, materials; all the things needed to run a food business. Buying less in the first place is the most effective way of reducing waste.

Use more

Making sure that any resources that are bought are used to their full potential and that maximum value is extracted from them.

Throw less

Eliminating avoidable waste by recovering and regenerating products and materials when they reach the end of their life.

Throw smart

Ensuring that any unavoidable waste is disposed of in the most environmentally sustainable way possible.



The business benefits of going 'circular'

As if helping to save the planet isn't a good enough reason for going 'circular', the great news is that it also makes good business sense.

Fast forward to the year 2030. You've been busy! Inspired by this guide, you've made changes to your food business and you are now:

- ♦ Designing menus that use surplus ingredients and feature more plant-based dishes
- ♦ Producing zero avoidable food waste
- ♦ Sending all your unavoidable food waste to be composted or to anaerobic digestion
- ♦ Only using 100% renewable energy to power your business and have upgraded old and inefficient equipment to reduce energy use
- ♦ Recovering 100% of the heat generated within your kitchens
- ♦ Only sourcing ingredients and food that is grown regeneratively
- ♦ Exclusively using re-usable packaging for your products and supplies
- ♦ Using electric vehicles or other forms of sustainable transport to receive your supplies and make your deliveries

That would certainly make you a circular food business and you could easily be enjoying the following benefits:

- ♦ Saving (on average) around $\pounds 6000^2$ per year by preventing perfectly edible food from being thrown in the bin (London's food business sector as a whole could save $\pounds 240m$ each year by reducing food waste).
- ♦ Saving 20% on your energy costs by implementing simple energy efficiency measures, the equivalent for your profit margin of a 5% increase in sales. Collectively, food businesses could save up to $\pounds 80m^3$ and cut Carbon Dioxide equivalent emissions by 1.5 millions tonnes!
- ♦ Attracting and retaining customers who share your concerns about the environment and value your sustainable approach to business.
- ♦ Making your business future-proof by complying with existing and future legislation such as taxes on plastic packaging.

Don't take our word for it!

We've included a generous sprinkling of case studies (like the one on the previous page) and short 'take-aways' throughout this guide. These are all based on stories that have been shared by real-life restaurant and food business owners. Some are well along the path to becoming circular food businesses. Others have just started on their journeys.

These stories are designed to inspire you and show that the advice we're giving works in the real world.



Case study



'Take away'

2. <http://www.foodsave.org/wp-content/uploads/2014/07/FoodSaveFacts.pdf>

3. Food preparation and catering, Carbon Trust, 2012



Case Study

What a circular food business looks like



SILO IS A RESTAURANT THAT WAS BUILT FROM THE BIN UP; WHICH IS IRONIC BECAUSE IT DOESN'T ACTUALLY HAVE A BIN!

Diners enjoy delicious, creative and healthy food, lovingly prepared by Douglas McMaster and his team at this popular Hackney Wick restaurant. What's extraordinary about this place is that nothing – and we mean nothing – goes to waste.

Douglas explains that a key element to achieving zero-waste is his limited but ever-changing menu: “We offer just six main courses with specials thrown in. Keeping the options limited means we can accurately forecast what ingredients we're going to need – eliminating waste.”

Silo works directly with UK farmers and sources ingredients as locally as possible – sparkling wine for example is from Sussex. All ingredients delivered to the restaurant come in re-useable vessels such as crates, pails, urns or containers. Douglas has

worked hard to eliminate plastic or polystyrene from his supply chain.

By supporting nose-to-tail and stem-to-root ideologies, virtually nothing is wasted in the kitchen. Even veg scraps are turned into a hoisin sauce tasting syrup. The use of ancient food preservation techniques, such as pickling and fermenting, is also key to achieve Silo's ambitious zero-waste aspiration.

Even the dining space has been carefully thought through to minimise the impact on the environment. Furniture is up-cycled, made from materials that would otherwise have been wasted. Plates are formed from old plastic bags; tables from reconstituted yoghurt pots and the counter and crockery from recycled glass bottles. Most importantly it looks great and provides the perfect setting for customers to watch the drama unfold in the open plan kitchen, with its dramatic central open fire.



Section 2:

Seven ingredients to make a circular food business

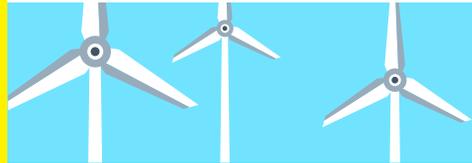
1. Food & drink



Food and drink is at the core of your business. So it's no surprise that making changes to the way you source, prepare, sell and dispose of food and drink can make a huge difference to your business' carbon footprint.

FIND OUT MORE >> PAGE 12

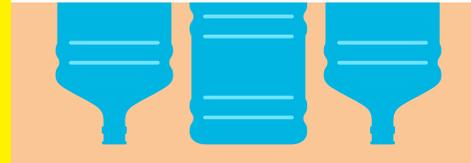
2. Energy



It's relatively easy for a typical food business switch to green power sources and cut its energy consumption (and costs) by up to 20%.

FIND OUT MORE >> PAGE 27

3. Water



Cleaning and treating your business' waste water is a very energy-intensive process, so the less of it you use the better.

FIND OUT MORE >> PAGE 35

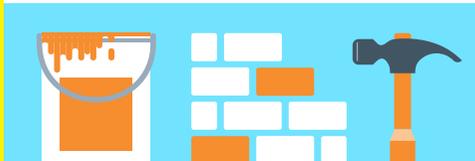
4. Packaging



Packaging can be a force for good, keeping things fresh and helping reduce food waste. But we have become over-reliant on single-use packaging. Luckily there are now lots of practical alternatives.

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5. Facilities management



The way you manage the physical space you and your staff work in and your customers dine in is a vital part of the circular economy jigsaw.

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6. Consumables



Workware, cleaning supplies and other consumables are sources of significant waste for a food business.

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7. Transportation



Food and drink is at the core of your business. So it's no surprise that making changes to the way you source, prepare, sell and dispose of food and drink can make a huge difference to your business' carbon footprint.

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I. Food and drink

Food and drink is at the core of your business. So it's no surprise that making changes to the way you source, prepare, sell and dispose of it can make a huge difference to your business' carbon footprint.



Things you can do to make a difference

Ia. Designing menus

- Reduce your reliance on meat and dairy products in your dishes
- Use a diverse variety of plant based ingredients
- Celebrate plant-based dishes on your menu

Ic. Preparing and serving meals

- Regularly monitor what's going in your bin – understand where your food waste is coming from
- Identify and adopt strategies to reduce food waste
- Use technology to tackle food waste

Ib. Sourcing ingredients

- Buy ingredients that would otherwise go to waste
- Grow your own
- Use organic ingredients wherever possible
- Ensure your meat and dairy products are sustainably sourced

Id. Managing food waste

- Made too much? Don't throw away surplus dishes – redistribute instead
- Bought too much? Don't throw away surplus ingredients – redistribute instead
- Recycle and re-use food waste
- Compost your own food waste

Become one of London's Circular Food Pioneers

We know that creating a more circular food system offers real opportunities to cut damaging greenhouse gas emissions. In London, emissions caused by the production, transportation, consumption and disposal of food equal 15,483 kilotons CO2 equivalent each year.

Reducing food loss and making better use of food waste, as well as shifting towards healthier and more sustainable diets, could reduce these food-related consumption-based emissions by up to 31% a year.

That's where London's [Food Flagship Initiative](#) (FFI) comes in. Led by partners ReLondon, the Greater London Authority and the Ellen MacArthur Foundation, the FFI aims to accelerate the transition to a low carbon circular economy for food in London.

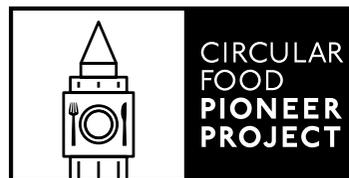
The FFI is supporting innovative and ambitious circular food projects that:

- ◆ Source food grown using agroecological practices and food grown locally
- ◆ Increase the prevalence of healthy and sustainable food items and menus
- ◆ Eliminate food waste wherever possible, and recycle any unavoidable food waste back into productive uses

It has launched a Circular Food Pioneer Project status to formally recognise good practice low carbon circular food activities in the city.

Circular Food Pioneer Projects are promoted through the FFI partners' networks, can use a special certification stamp, and receive strategic support and targeted introductions to potential partners where needed.

View some of our current [Circular Food Pioneers](#) and learn more about their inspiring work to reduce food emissions in London.



Circular Food Pioneer Project certification stamp



Are you working to make your London food business more circular? Do you have a new, collaborative and potentially transformative circular food project underway or in planning? If so we want to hear from you! **Apply today and tell us about your project** to be recognised as one of London's official Circular Food Pioneer Projects.

Ia. Designing menus

One very effective way of making your food business more circular and reducing your carbon footprint is to make some simple changes to your menu.

Reduce meat and dairy products.

Meat and dairy products have a much larger carbon footprint per calorie than either grain or vegetable products.

Globally 83% of farmland is used to produce meat and dairy products, but these products only provide 37% of the protein we consume and just 18% of the calories. Meanwhile, meat and dairy farming is responsible for 60% of the greenhouse gas emissions from the entire agriculture sector.⁴

So by reducing the amount of meat and dairy products you use in your dishes, you can make a difference and make our food supplies more environmentally sustainable.

Use a wider range of plant-based ingredients.

As a species, us humans are not particularly adventurous when it comes to what we will and won't eat.

Did you know, there are 30,000 edible plant

species on the planet but we only eat 150 of them? In fact, we rely on just three types of crop (wheat, rice and maize) for more than 50% of our plant-derived protein.⁵

This reliance on such a limited plate of ingredients is contributing to a loss of biodiversity (over 60% in the last 40 years), increased vulnerability to diseases and pests and a greater reliance on chemicals to help grow our food.⁶

So try branching out. Use new and interesting plant-based ingredients in your dishes and celebrate all the delicious natural produce our planet has to offer.

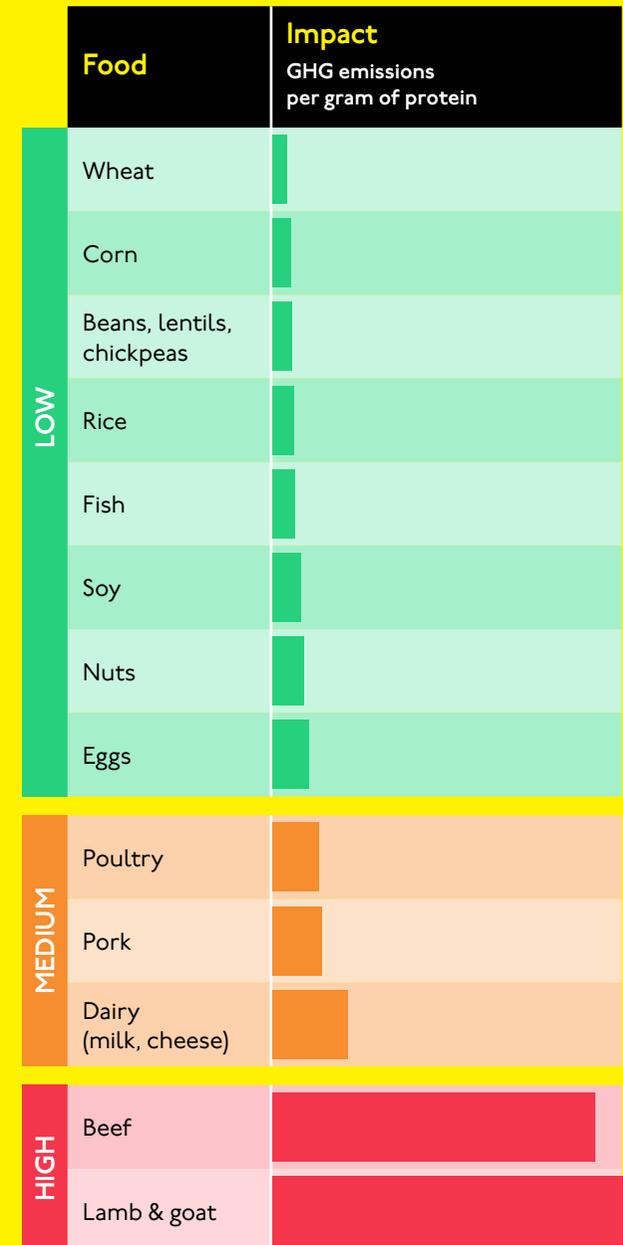
Are your customers ready?

You may be concerned that your customers aren't ready to swap meat and dairy-based dishes for new and interesting plant-based ones. Well, if that's the case, you might well be pleasantly surprised.

A recent poll of 2,000 adults conducted by Waitrose found that over a third are cutting down or cutting out meat from their diets; 21% were flexitarian; 9.5% were vegetarian and 3% were vegan.

Animal welfare, health, and environmental concerns were the top three reasons given for cutting down on meat consumption.

Protein scorecard



Source: WRI data 2016

4. Poore, J. and Nemecek, T. (2018). Reducing food's environmental impacts through producers and consumers.

5. Biodiversity International. Mainstreaming agrobiodiversity in sustainable food systems (2017).

6. WWF (Grooten, M., Almond, R.E.A.). Living planet report – 2018: aiming higher (2018)



Celebrate plant-based dishes

You already know that the way you describe dishes on your menu can have a big impact on how likely your customers are to order them. But without realising it, lots of menus celebrate meat-based dishes at the expense of plant-based ones.

Phrases like '28-day matured', 'flame-grilled' and 'barbecue-basted' make the meat-based dishes sound irresistible. Meanwhile, plant-based dishes are often presented as the alternative if, for some reason you are not able or do not want to choose the meat-based ones.

Try changing the language you use to describe your meat-free and plant-based dishes and see what happens.

- ♦ Don't use words like: 'meat-free', 'vegan', 'vegetarian'
- ♦ Do describe the provenance, flavour, look and feel of your ingredients to make your plant-based dishes sound as tempting as your meat-based ones.

Want to learn more about how you can actually measure the greenhouse gas emission reductions you could achieve by making changes to your menu? The World Resources Institute's (WRI) [Cool Food initiative](#) is designed to help larger food business do just that. SMEs can get similar support through the Sustainable Restaurant Association's [Food Print Programme](#). Meanwhile, the WRI has also published a ['playbook'](#) on how to guide diners toward plant-rich dishes.



Take-away

In 2018, one of east London's oldest pubs, **The Spread Eagle**, went vegan. All food, drinks, fixtures and fittings are now plant-based and sourced sustainably wherever possible. One thing that didn't change was this historic pub's focus on offering premium liquor, the finest food and only the best vibes. Who says you can't teach an old dog new tricks?



Case Study

Embracing the creative challenge of plant-based cooking



LOCATED IN THE HEART OF LONDON'S COVENT GARDEN TREDWELLS, FROM WELL-KNOWN CHEF MARCUS WAREING, IS A RELAXED CONTEMPORARY DINING RESTAURANT THAT SERVES 3,000 MEALS PER YEAR.

Sustainability is at the heart of Tredwells' business, with an emphasis on locally sourced produce, plant-based eating and sustainable methods of production.

Chef Patron, Chantelle Nicholson, explains: "Our menu champions seasonal British produce; plants and animals alike. We choose to focus on biodiverse ingredients, such as pulses and grains, and less popular cuts of meat that farmers and butchers find harder to sell."

Plant-based dishes are becoming increasingly important at Tredwells. "We want to show they can be

as delicious as their carnivorous counterparts," says Chantelle. "We recently introduced a five-course plant-based tasting menu as part of a monthly supper club we run. It kept selling out! So we decided to add it to the menu on a permanent basis. Now every menu has at least one plant-based option – we even offer a plant-based Sunday roast!

"It's been good for business, attracting new customers who specifically book to try the tasting menu. As a chef, I've also enjoyed the challenge of creating plant-based dishes that hold their own on the menu – and seeing the reaction of guests who can't believe what they're eating is plant-based is really satisfying.

"As a restaurant, we rely wholly on the supply of food. Given food has one of the biggest impacts on climate change, we feel we have a responsibility to work out how

we can minimise our impact. Our commitment is solid, and whilst each day brings new challenges, we are excited to keep innovating and creating, contributing to a sustainable and delicious future."

At Tredwells, a typical plant-based meal is 18 times less carbon intensive than the meat alternative. If all Tredwells customers were to choose a plant-based meal, the greenhouse gas saving would be the equivalent of 171 return trips from London to New York!



Ib. Sourcing ingredients

Two dishes can contain exactly the same ingredients, and have been prepared in precisely the same way, but one can have a much higher carbon footprint than the other. It all comes down to where those ingredients were sourced from and how they have been grown and produced.

Use food surplus that would otherwise go to waste

In the UK alone, 3.6 million tonnes of food is wasted every year before it even leaves the farm (7.2% of all food harvested) and a further 1.85 million tonnes is wasted at the processing stage⁷.

If this wasted and surplus food had been sold at market values, it would have fetched a staggering £1.8 billion. The vast majority of this food is perfectly edible. It's thrown away either for cosmetic reasons (it looks 'odd') or overproduction (there's too much of it).

It doesn't make sense, does it? You could have used those ingredients to prepare delicious dishes. Well, there's something you can do

about it. Ask your produce suppliers if they have a second selection scheme or if they have any edible by-products that typically go to waste. These may even be added to your order for free! Even the beer you serve can make a difference. Toast Ale for example, is a delicious craft beer brewed with surplus fresh bread that would otherwise be wasted.

#feastfairly is a new initiative that offers farmers a marketplace for their under-utilised and under-valued fresh produce that would otherwise go to waste: unsold fish, broken asparagus stems, odd-shaped carrots, eggs that are deemed too small for the supermarkets.

A growing list of more than 50 restaurants across London are now serving #feastfairly dishes on their menus, and donating £1 from each dish sold to Refettorio Felix, a not-for-profit organisation that works to ensure Londoners on low incomes don't go hungry. What's not to like? Find out more at: [instagram.com/feastfairly](https://www.instagram.com/feastfairly).

"We need to eliminate the word 'waste' from our dictionary: it gives the impression of worthless ingredients, but our point here is that these ingredients have this incredible value that we are not taking advantage of."

#feastfairly co-founder and CEO of Foodchain, **Richard Murray**



Take-away

Food experience company Clos19 has launched a new supper club series at Refettorio Felix, a dining space at the St Cuthbert's Centre. Guests enjoy a delicious three-course meal made from surplus food, with a different chef taking the lead for each evening. All proceeds go towards the work taking place at Refettorio Felix to support vulnerable people and promote social awareness about food wastage and hunger.

Source local or grow your own

When sourcing ingredients, many food businesses cast their net far and wide. But why not try and get what you need closer to home? It makes good sense on a sort of levels: your ingredients will have travelled less distance to reach your kitchen, which is good for the environment, and means they should be in tip-top condition. Shortening your supply chain and going direct to local farmers and producers also supports your local economy, which ultimately will benefit all local businesses, including yours. There are many food business who have made locally sourced produce a core part of their offering – see the En_Food Cafe case study on this page.

Sourcing produce from local suppliers is great, but even better is to grow your own! This approach eliminates transport all together, gives your chefs access to a supply of ultra-fresh produce and can enhance the dining experience for your customers.

There are several ways to grow your own produce. What's possible for you will depend on your building and the space available.

It could be as simple as growing herbs in pots. Basil, chives, oregano, parsley and rosemary are easy to grow indoors and can be used to brighten up your dining space.

Case Study

Embracing the creative challenge of plant-based cooking



THE EN_FOOD CAFE IS A CIVIC CENTRE RESTAURANT, SERVING ENFIELD COUNCIL STAFF AND THE PUBLIC WITH DISHES THAT ARE SEASONAL, AFFORDABLE AND THAT SUPPORT THE LOCAL ECONOMY.

Salads feature organic fruit and vegetables with traditional, hand-made cheeses. Coffee is ethically-sourced and fair-trade. Milk is locally produced and hand delivered in re-usable glass milk bottles. Sustainability is a theme that runs through the appetising menu.

Ben Murphy, Head Chef, explains: "The restaurant is a hub of the community serving food that's seasonal, affordable, nutritious, delicious and which showcases local suppliers and their produce."

If space is scarce but you have lofty ambitions, why not try a vertical garden? Off-the-shelf options are available to suit all budgets, from high-tech, high productivity hydroponic systems (like Evogro's Plant Growing System) to lower-tech but cheaper options (like Garden Tower). There are companies out there (like Rootlabs and Aponic) that can create stunning bespoke vertical gardens suited to almost any environment.

Rooftops are ideal places to grow vegetables, herbs and even fruit trees. They are also great for the urban environment as they improve air quality and provide a haven for wildlife. Just make sure you find out how much weight your rooftop can support and plan accordingly.

Last but not least, you could consider a greenhouse garden. Mini greenhouses are great for growing certain vegetables, salad greens and micro-herbs in small spaces. Lean-to greenhouses are especially good for an organic garden and can be placed right outside your kitchen. Be sure to opt for good old-fashioned glass greenhouses instead of plastic and polycarbonate ones.

Case Study

Grow your own

THE ROOFTOP OF THE CULPEPER PUB AND RESTAURANT IS AN OASIS IN THE HEART OF EAST LONDON.

It is here, in a stunning rooftop garden, that a wide variety of produce is grown, for use in their wonderful dishes. What's more, the plants and crops are fertilised using compost made from their own food waste.

Any fruit and vegetables that can't be grown on the roof are bought seasonally, with the menus adapting to what's available and at its freshest. They only buy British-sourced fish and seafood and all meat is free-range. Their 'nose to tail' policy ensures every part of the animal is used and waste is minimised.

Sandy Jarvis (Operations Director), said: "At the Culpeper we try our best to reduce all waste. We really celebrate the vegetables we grow, encouraging our customers to try them. Recently we've been focusing on preserving; we even renamed the rooftop garden 'Piculpeper'! We want to see if we could preserve enough of our home-grown cucumbers to make it through the winter before the garden starts producing again."



Support regenerative farming

Conventional, intensive methods of growing food, involving the use of mineral synthetic fertilizers and pesticides, has the potential to cause great damage to our environment.

It reduces soil fertility (39 million hectares of soil are degraded each year globally – an area the size of Zimbabwe⁸), releases toxic chemicals into the air and waterways, emits nitrous oxide (a greenhouse gas 300 times more potent than carbon dioxide) and places demand on approximately 70% of global freshwater⁹.

Thankfully, there is a solution. Agroecology and regenerative farming principles are becoming more and more important in shaping our food future. They have the potential to:

- ◆ Improve soil health – through minimising disturbances
- ◆ Protect biodiversity – by farming with nature firmly in mind
- ◆ Ensure a closed loop approach to the entire farming system.

There are numerous certification and assurance schemes that can help you identify and support producers who follow regenerative farming principles. These include Organic, LEAF Marque, Pasture for Life and Biodynamic.

Source sustainable meat and dairy products

In the previous section, we explained why it's important that food businesses start offering more plant-based dishes on their menus. But we're not suggesting that every food business in London goes vegan.

Whenever you do buy meat, dairy or egg-based products, make sure you choose carefully. There are many fantastic farmers out there who are working hard to cut their emissions, restore their soils and protect their local ecosystems. By making a conscious decision to source your ingredients from them, you are making an important step in the right direction.

Throughout history, the balanced breeding of animals has played a fundamental role in maintaining soil fertility and ecosystem health. Farming of livestock helps reduce food waste: natural fodder or by-products that are inedible to humans, can be eaten by animals. These non-food resources are transformed into useful and valuable protein in the form of meat, milk, eggs, and even blood.

The animal manure produced can then be applied as a prime source of nutrients for the cultivation of new grains and vegetables.

So choose your suppliers carefully, make sure you're supporting sustainable farmers and you can continue to offer meat and dairy-based dishes on your menu whilst also lowering your carbon footprint.



Take-away

Elysia is an event catering company with a focus on sustainability. They specialise in making canapés from artisan surplus ingredients. They have reduced their food waste by 11 tonnes per year since 2017 by finding suppliers who provide them with their 'naturally imperfect' surplus food such as organic granola, bread or cheese. Elysia has published a guide to becoming a sustainable catering business which is available to download [from their website](#).



8. CEMF Cities and Circular Economy for Food analysis

9. AQUASTAT – FAO's global water information system, 2014



Ic. Preparing and serving meals

The ingredients that make it to your kitchen have already had to run the gauntlet.

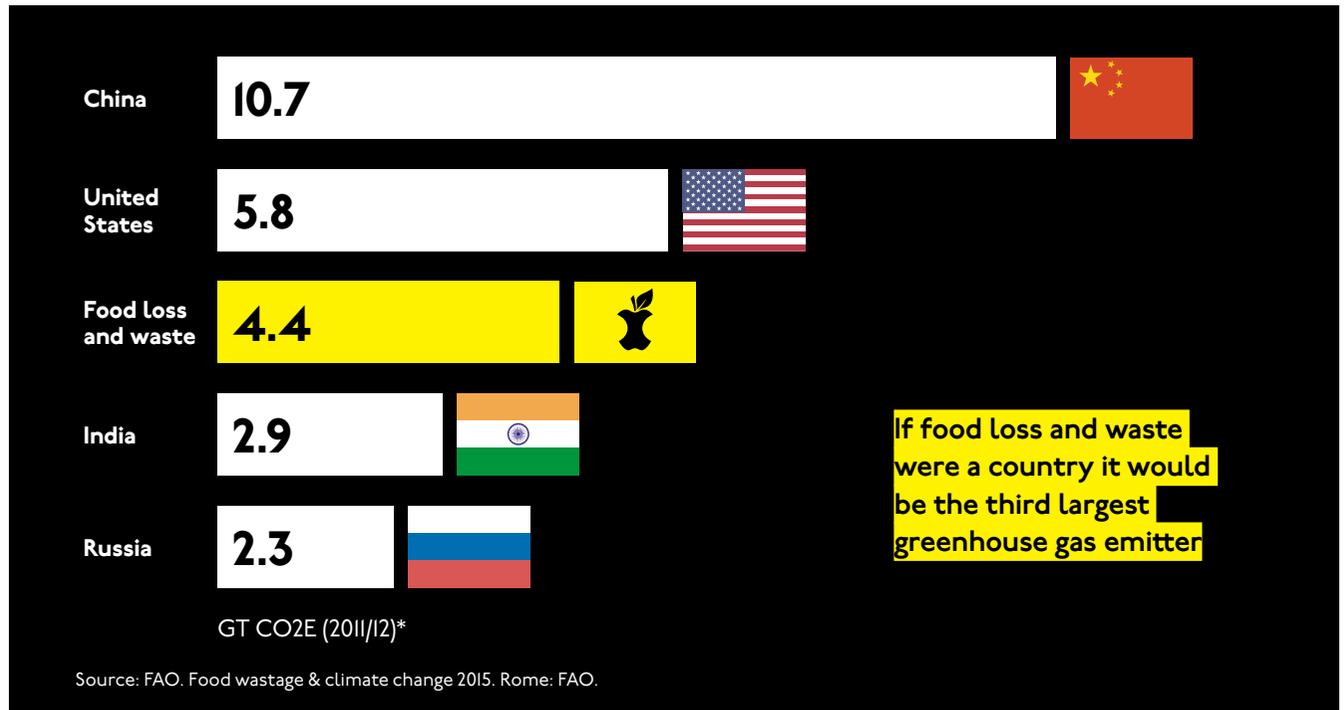
In the previous section, we highlighted the fact that millions of tonnes of food are thrown away before they even leave the farm. Your ingredients have had a difficult journey getting to your kitchen. Now they've arrived, they deserve to be treated with love and care.

Unfortunately, far too many food businesses in London do not take good enough care of their ingredients and are responsible for further avoidable food waste.

It is estimated that each small food business throws £10,000 worth of food in the bin each year¹⁰. For restaurants the cost of avoidable food waste on every plate averages 14p.

Food waste is a really serious problem – 1.1 million tonnes of food is wasted at outlets each year, of which a staggering 75% is avoidable and could have been eaten¹¹.

Any food waste that ends up in landfill lets off a powerful greenhouse gas (methane) as it decomposes, which in turn makes a significant contribution to climate change. In fact, if food waste was a country, it would be the third largest greenhouse gas emitter in the world!



Keep an eye on your bin

Understanding where your food waste is coming from is a vital first step to reducing it in the future.

Food waste in food businesses tends to come from one of four sources:

- ◆ **Food preparation** – peelings and trimmings
- ◆ **Spoilage** – food that has gone off
- ◆ **Customer plates** – leftovers
- ◆ **Over-production** – buffets and platters

Estimate how much of the food waste your business produces falls into each of these four categories. Then see if you're right: use four separate bins (one each for preparation, spoilage, customer plates and over-production) for one typical week. Weigh each bin every day – this will help you understand where your food waste is coming from. You are then in a much better position to do something about it.

¹⁰. WRAP, The True Cost of Food Waste within Hospitality and Food Service, 2013

¹¹. WRAP, 2018 – tiny.cc/jy37pz



Strategies to reduce food waste

There are lots of things you can do to reduce food waste within your business. Six ideas are shown in the table to the right – the results of your bin monitoring will help you decide which ones are likely to be most effective.

Want to know more?

The charity WRAP (Waste and Resources Action Plan) has lots of ideas and tips on ways to reduce food waste. Their **'Guardians of Grub'** campaign is aimed specifically at food businesses like yours. It shows how everyone in your business – from the boss, to the chef, to the waiter – has a role to play in reducing food waste. It issues a rallying call to all food businesses to come together and rise up against food waste.

There's an excellent short introduction video on the campaign website (Guardiansofgrub.com), where you will also find a toolkit of practical 'operational resources' to help you track, reduce and learn about food waste.

These include:

- **7 day tracking sheet** – helps you monitor and measure food thrown away over a 7 day period
- **Food tracking calculator** – automatically calculates how much your food waste is costing you and shows what savings your business could make
- **Summary checklist** – a handy way to tick off your progress on the necessary actions to prevent food from being thrown away.

Strategies for tackling food waste

Tackles food waste from the following sources:

Action	Food preparation	Spoilage	Customer plates	Over-production
Zero waste recipes	✓			
Food procurement and menu planning	✓	✓		
Food portion optimisation			✓	✓
Provide 'doggy bags' to all customers			✓	✓
Redistribute				✓
Staff training	✓	✓	✓	



If you need that extra help to get you started on your food waste reduction journey, the Sustainable Restaurant Association runs a 4-6 week programme called [Food Waste Bad Taste](#). This delivers practical, hands on approach to food waste and gives you a personal action plan to build confidence within your business.

Case Study

Recipes that tackle food waste

EXECUTIVE CHEFS AT VACHERIN – ONE OF LONDON'S LEADING INDEPENDENT CATERING COMPANIES – HAVE GONE ABOVE AND BEYOND TO CREATE A WIDE RANGE OF RECIPES THAT TACKLE AVOIDABLE FOOD WASTE.

For example, leftover pulp from their popular made-to-order juices is now used in baked goods and veggie burgers. Genius!

They love 'wonky' fruit, using over 9,000kg of the stuff in their dishes each year. And they're working with partners like Olio and Food Donation Connection to redistribute any surplus. They've done an excellent job of telling existing and prospective customers about all the food waste reduction initiatives in place – including a dedicated 'Vacherin Cares' section on their website.



Zero waste recipe books

- Bread is Gold, *Massimo Bottura*
- The Whole Fish Cookbook: New ways to cook, eat and think, *Josh Niland*
- Scraps, Wilt & Weeds: Turning Wasted Food into Plenty, *Mads Refslund*
- The Zero Waste Cookbook: 100 Recipes for Cooking Without Waste, *Amelia Wasiliev and Giovanna Torrico*
- 30 Easy Ways to Join the Food Revolution: A sustainable cookbook, *Ollie Hunter*
- The Natural Cook: Eating the Seasons from Root to Fruit, *Tom Hunt*
- Love Food Hate Waste Recipes
- The Whole Beast: Nose to Tail, *Fergus Henderson*
- Eat Green, *Melissa Hemsley*
- Jellied Eel's sustainable and zero waste recipes



Using technology to tackle food waste

Whilst regular audit processes are quick and easy for smaller sites, technology is a good solution to keep on top of your waste for larger sites, with multiple kitchens.

For example, Winnow uses digital scales and artificial intelligence to help chefs run more profitable, sustainable kitchens by cutting food waste.

Kitchens using Winnow are able to cut food waste by a reported 40-70% and reduce costs by 3%-8%, improving margins whilst helping the environment.

More details at winnowsolutions.com



Case Study

Monitoring food waste

HOW DOES SAVING £2,324 PER YEAR SOUND? HOW ABOUT CUTTING FOOD WASTE BY 1.8 TONNES AND ASSOCIATED PACKAGING BY 3 TONNES?

Well, that's what the **Roebuck Pub in Southwark** was able to achieve. And it all started with them looking carefully at what was ending up in their bins.

Staff at the pub took part in the Food Save initiative and monitored what they were throwing away over a four-week period. The Roebuck's chef, Jareth Mills, was already a 'food waste warrior' in the kitchen – he was proud to have 'never peeled a potato' and had even found a use for cheese rind (battered and deep fried, it makes a perfect bar snack!). So it was no great surprise when the bin monitoring revealed that 80% of food waste was coming from customer plates.

Staff set about putting that right, evaluating portion sizes and reviewing key sources of left-overs. Reducing food waste became everyone's responsibility – not just Jareth's!

As a result, food waste from customer plates reduced by 16%. This has been good news all round, as the Roebuck Management Team confirm: "We also have happier customers. By offering more thoughtful portion sizes we are not only reducing our waste, but allowing healthier options for our customers along with more choice."



Id. Managing food waste

Reducing food waste should be your aim, not eliminating it completely; that's an unrealistic goal for the vast majority of food businesses.

Some food waste is inevitable. But there are still things you can do to minimise the impact unavoidable food waste has on the environment and your business' bottom line.

Redistribute surplus

Made too much of something? The best thing to do with surplus food is to redistribute it. . Redistributing that food will:

- ♦ Save you money through reduced waste disposal costs
- ♦ Encourage new customers to try your products
- ♦ Help the environment
- ♦ Mean that you're supporting vulnerable people in your local community

Many solutions are springing up all over the place that help food businesses redistribute surplus food that would otherwise have gone to waste. 'City Harvest', 'Plan Zheroes', 'Felix Project', 'FareShare', 'Olio' and 'Too Good to Go' are just some examples. These food redistribution organisations can put you in touch with local people who hate food waste as much as you do.

Liability – should you be worried?

We often hear from food businesses who say they like the idea of redistributing surplus food via apps and other methods, but are worried about being liable for any health implications to the people that consume it.

You don't need to worry. Follow these rules and you'll be fine:

- ♦ Make sure you don't redistribute any food that's past its 'Use By' date (it's fine to redistribute food – including fruit and vegetables – that is past its 'Best Before' date)
- ♦ Choose a reputable and recognised food redistribution partner to work with – they should take on any liability for the quality and safety of the redistributed food, but make sure you've got a formal agreement in place with them that makes that clear. For more information, download and read [WRAP's Framework for Effective Redistribution Partnerships guide](#)
- ♦ Keep a record of the redistributed food
- ♦ Educate and engage with your customers and staff



Take-away

Via its [Food Waste Heroes Programme](#) – where volunteers collect and redistribute unsold food from local businesses via the app – Olio has had over 2 million portions of food shared. This has saved over 300 million litres of water, and has had an environmental impact that is equivalent to taking 6 million car miles off the road. Businesses Olio is working with include Pret a Manger, Selfridges, Planet Organic, Compass and Virgin Trains.

Recycle and re-use – seeing food waste as a valuable resource

One person's trash is another person's treasure. That is certainly the case with food waste. Many food businesses are starting to recognise that their food waste is a valuable resource that can be re-used.

For example, the company Bio-Bean has partnered with waste management companies to collect coffee grounds from cafés and restaurants. Each year, their factory in Cambridgeshire re-processes 50,000 tonnes of this waste into low-carbon 'coffee logs' for use in domestic wood-burners.





Take away

Over 1,000 litres of waste cooking oil is being collected every month from 18 stallholders at Mercato Metropolitan, London's first sustainable community food market. Collections are made by Proper Oils who recycle and refine the waste oil into biodiesel. This initiative alone is cutting the food market's carbon dioxide equivalent emissions by 12 tonnes per year.

Capture fats, oils and greases

What better way to embed circularity than capturing all the fats, oils and greases (FOGs) used in your kitchen to be re-processed into something else.

FOGs generate major issues within sewer management; £80m is spent each year in the UK on clearing blockages and 70% of these are down to FOGs. A high proportion of this comes from what food businesses throw down their sinks, toilets and drains. When you consider that FOGs can be captured and turned into a valuable bio-fuel, it is literally throwing money down the drain.

Want to learn more about how you can capture your FOGs? Check out the Sustainable Restaurant Association and Kingspan's [FOG toolkit](#), [Grease is the Word](#).

Composting and anaerobic digestion

If you were to empty out the rubbish bin of an average UK food business, you would find that 40% of that rubbish is food waste. After it's been collected, all of this food waste will either be buried in a landfill site or burned in an incinerator. All those nutrients going up in smoke – what a waste!

More and more food businesses are now keeping their food waste separate from other waste streams. If it's stored and collected separately, food waste can be taken to an anaerobic digestion plant, where it is turned into high quality soil conditioner that farmers can use to help grow their crops. Gases released during the digestion process are captured and turned into green electricity.

The environmental benefits are significant – an average food business can cut its CO₂e by 2.26 tonnes per year. And it's possible to save money. Yes, you may need to pay for an extra collection, but recycling food waste is much cheaper (by weight) than throwing it away. So you may be surprised how cost-effective separate food waste collections can be.



Take away

“As soon as I started separating food waste for recycling I was saving an average of £100 per month.”

**Charlie Searl, Head Chef,
Red Lion Hotel**

“As soon as chefs started to separate out the food waste, they were physically more able to see what was being thrown away and this made them instantly less wasteful which helps to improve gross profit margins”

**Shaun Alpine-Crabtree,
Proprietor, The Table Cafe**

Source: WRAP, [Why recycle food? SME food waste recycling guidance](#).



I. Food and drink

WRAP has developed a tool to help food businesses assess the environmental and economic impact of recycling food waste. The [Business Waste Performance and Cost Calculator Tool](#) takes less than 15 minutes to work through and could save you thousands of pounds.

Once you've convinced yourself that separate food waste collections make good environmental and business sense, the next step is to get in touch with your waste management supplier. Ask them how much food waste collection will cost. Compare the price they give with other waste management companies – your local authority may be able to provide advice on operators that work in your area.

Getting the collection set up will be quick and easy. Your waste management company will provide you with all the bins you need. Then it's just a case of reminding your staff to start using them through regular staff training, clear and interactive bin signs. Before long, it will be second nature to them.

Case Study

Reducing costs by 44%

PETERSHAM NURSERIES GOES TO GREAT LENGTHS AT ITS CAFÉS AND RESTAURANTS IN RICHMOND AND COVENT GARDEN TO REDUCE FOOD WASTE.

Coffee waste is separated and sent to Bio-Bean, where it is turned into 'coffee logs' which are sold in the Petersham Nurseries Shop. Preserving

workshops have been introduced for the kitchen team and new recipes have been created and uses found for previously binned items. Leftover oil from customers' plates is even used to polish the tables!

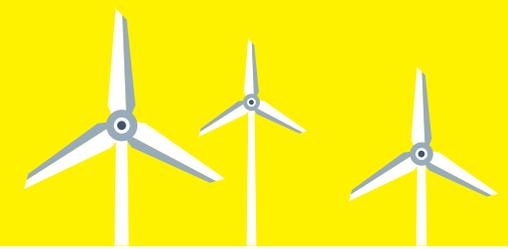
Any food waste that is produced is managed as sustainably as possible. All

food preparation waste is composted on-site in anaerobic digesters and used in the nursery.

Working with consultants Petersham Nurseries has reduced waste costs from over £45,000 per annum to around £20,000 representing a saving of over 44%, or £2,000 per month.



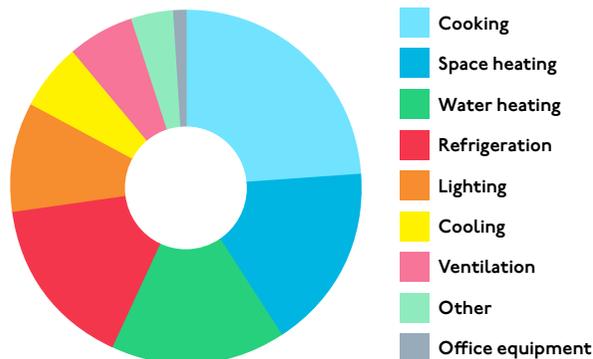
2. Energy



The UK hotel and catering sector spends around £400 million per year on energy (electricity and gas). Cooking and heating accounts for over half of that energy consumption¹².

It's relatively easy for a food business to cut its energy consumption (and costs) by up to 20% by making moderate improvements to its energy efficiency. This section shows you how to do that.

Catering energy consumption



Things you can do to make a difference

2a. Energy provenance

- Understand your energy use
- Speak to your energy supplier about switching to a 'renewable energy' tariff
- Shop around – see what deals are available on the market for 'green energy' and don't be afraid to switch suppliers if necessary

2b. Energy use

- Set your baseline energy consumption and identify and implement energy saving measures across your business
- Train your staff (on an ongoing basis) on good energy efficiency practices
- Buy energy-saving equipment and supplies
- Implement a 'switch-off' policy to ensure equipment is only on when its needed

2c. Energy recovery

- Look into installing a heat recovery system in your kitchen that could provide you with free hot water and heating supplies



2a. Energy provenance

You probably know lots about where your ingredients come from. After all, food provenance is an increasingly important issue for your customers. But do you know where your energy comes from?

Making careful choices about where you source your energy from can make a big difference to our planet.

What is 'green energy'?

Green energy reduces our reliance on the planet's finite fossil fuel supplies (natural gas, coal and oil) by harnessing natural, renewable resources to meet our energy needs.

In the case of electricity, those renewable sources are wind, solar, hydro-power, geothermal and biofuel.

In the case of gas, we're talking about something called 'biomethane' – a natural gas that is produced by biodegradable material (such as food waste) as it decomposes. This gas is captured in anaerobic digestion facilities, refined, and then pumped into our National Grid.

Won't it cost more?

You may be surprised to learn that green energy does not have to cost any more than standard energy.

A number of smaller 'challenger' suppliers have entered the market recently. They are taking on the 'Big Six' energy companies by offering incredibly competitive rates on green energy supplies.



Take-away

Most green energy suppliers offer packages to their customers that combine genuine renewable energy with carbon-neutral energy (where the emissions produced are off-set by investing in carbon reduction schemes). But it is possible to go the whole hog. **The Buxton Pub** in east London is powered by 100% renewable energy. The owners reduce their power needs by exclusively using low energy light bulbs, which adds to the atmosphere of the beautiful old building.



2. Energy

How to make the switch

Follow these simple steps to switch to green energy supplies:

1. Look at your current energy deals – when do your contracts expire? How much energy are you using? What unit rates (per kilowatt hour) are you being charged?

2. Contact your existing supplier – find out the best green energy deal they are able to offer.

3. Compare – check average business energy prices online to see if you're being offered a good deal – don't forget to include any standing charges (fixed costs that are set and don't go up and down depending on your energy use) in your calculations.

4. Shop around – speak to a few other green energy suppliers to see if they can offer you a better deal.

You could also opt to use the services of an energy broker. These are third party intermediaries who will guide you through the whole process.

Green energy suppliers

There are a number of energy suppliers whose green energy products are well worth exploring. These include:

- ♦ [Good Energy](#)
- ♦ [Green Energy UK](#)
- ♦ [Ecotricity](#)
- ♦ [Octopus Energy](#)
- ♦ [Outfox the Market](#)
- ♦ [Pure Planet](#)

Want to learn more? Download the Carbon Trust's [SME Guide to energy procurement and green tariffs](#) or the Energy Saving Trust's [Guide to Buying green energy](#).



Source: WRI data 2016



2b. Energy use

Reducing the amount of energy you use makes perfect business sense; it saves money, enhances corporate reputation and helps in the fight against climate change.

Food businesses consume (and waste) large amounts of energy, typically accounting for 4-6% of total operating costs¹³. In some kitchens, as little as 40% of the energy consumed is used for the preparation and storage of food; the rest is dispersed into the kitchen as waste heat.

So effective energy management in food businesses can deliver substantial savings, as well as improving working conditions in the kitchen.

Set your baseline energy consumption using the [Carbon Trust energy benchmark tool](#). Take a good look around your business (in particular your kitchen). Think about your cooking, washing and refrigeration equipment; your heating, ventilation and lighting. You will soon see that opportunities to save energy are everywhere. The rest of this section provides some hints and tips to get you started.



Switch-off policy

It is common in professional kitchens for all equipment to be switched on at the beginning of a shift and left running throughout the day.

Not only is this extremely wasteful, but equipment left on unnecessarily generates heat, making the kitchen unpleasantly hot and uncomfortable to work in.

You can save energy and money by implementing a simple 'switch-off policy' and providing staff with information about preheat times, control settings and good practice.

Staff training

Staff training is an essential part of the solution. But due to the relatively high turnover of staff in the food business sector, it's essential that this training is delivered on an ongoing basis. Why not make it a regular discussion topic in your team meetings?

Some food businesses have cut their energy bills by more than 15% simply by adopting good housekeeping measures, reinforced through effective staff training and regular refresher courses.



Equipment purchase

When purchasing new equipment, it can be tempting to go for the cheaper option. But that is often a false economy: the cost of running equipment over its lifetime can be several times higher than the initial purchase price itself.

So make sure you do your research. Carefully consider the running costs (or the 'total-life cost') when making your decision. Energy efficient models may cost a little more in the first place, but you'll be pleased when they start saving you money every day.

For example, a restaurant that replaces 18 Halogen Lamps (50W) with the same number of LED lamps (6W) will save £278 per year. With an initial cost of £166 for the LED lamps, the investment will be paid back in just 7 months! After that, the savings are just profits for your business.

In order to compare the energy consumption of equipment you need to look at the power consumption, expressed in watt (W) or kilowatt (kW). When purchasing new appliances look out for energy labels which will rank the efficiency from A to G according to the appliances energy consumption. Class A (green) is the most energy efficient and Class G (red) the least.



Take-away

Hilton's Birmingham Metropole Hotel is saving over £11,000 per year on energy costs after installing extractor fans that automatically monitor cooking activity and adjust their operation accordingly. The Cheetah Energy Control system has contributed to cutting the hotel's energy use from 220.67kWh/day to 105.59kWh/day.

Refrigeration

Your fridges and freezers are on all day and all night, so choosing energy efficient models can be one of the best investments a food business can make. The following tips will help you make the right decision:

- ◆ Use the official energy efficiency rating to help you compare models and make an informed choice – ideally you should be choosing A-rated appliances'
- ◆ Choose a model with an automatic defrost system – this will ensure it runs efficiently at all times
- ◆ Self-closing doors are a handy feature – they help save energy
- ◆ Stable door fridges are also great for saving energy – you only open the door of the side you need access to, keeping the other side nice and cool.

Washing

When purchasing new washing equipment, look out for the following energy-saving features:

- ◆ Well insulated dishwashers that retain heat within the unit
- ◆ Low water-use dishwashers with efficient filtration and recirculation of rinse water which can save on both water and the energy used to heat it
- ◆ Washing equipment with pre-installed heat recovery
- ◆ Machines that are capable of taking a hot water supply (preferably from a central gas boiler) and do not rely on expensive hot water generated within the machine from electricity.

Cooking

It will come as no surprise that the things that create the most heat in your kitchen (ovens, hobs and grills) are also amongst the most energy-hungry. But some are much hungrier than others.

The energy requirement of an induction hob is 15-50% less than that of a conventional gas or electric hob. As less heat is generated, further savings are also achieved through reduced ventilation requirements. Combi-steam/convection ovens are suitable for all types of catering operation and can reduce energy costs by around 25-50% when compared to other equivalent cooking appliances such as electric hobs.



2. Energy

Microwave ovens can also be a very energy-efficient way of cooking and reheating meals. Bear this in mind when purchasing new equipment.

Equipment use

Refrigeration

Make sure you've got your refrigerators set to the ideal temperature. Too warm and you won't keep your food fresh. That would be awful – there's nothing worse than food waste.

But many kitchens also have their fridges set too low; just 1°C can increase running costs by 2-4%.

So make sure your equipment is set to the manufacturer's recommended temperature and don't over-chill.

Other things worth considering:

- ♦ Try to locate refrigerators and freezers away from heat sources
- ♦ Check that door and lid seals are in good condition and replace as necessary
- ♦ Replace old equipment with new energy-efficient models – don't forget to recycle your old items; companies like Environcom can help with that.

Washing

When using washing equipment, follow these energy-saving rules:

- ♦ Maximise dishwasher loads by fully loading and correctly stacking
- ♦ Ensure that taps are switched off after use and that food and utensils are not washed under running water
- ♦ Keep equipment well maintained – ensure heating elements, jets, sprays, thermostats and drains are clean and unclogged
- ♦ Use the economy setting on dishwashers
- ♦ Ask staff to report leaking washers or taps
- ♦ Consider the use of low temperature sanitising liquids.

Cooking

Simply keeping hot plates and gas burners nice and clean can significantly improve their performance. Introduce regular servicing of cooking appliances and make sure those services cover thermostats and automatic timers.

Simple things like keeping lids on pots when bringing water up to boiling point and only not over-filling pans can make a big difference.



2. Energy

Heating, ventilation and extraction

Heating, ventilation and extraction are vital to maintaining a safe and pleasant working and dining experience. There are many things you can do to reduce their environmental impact.

One of the simplest things is to clean filters, grilles and fan blades regularly to prevent a build up of grease and maintain efficient operation.

You should also consider:

- Installing energy-efficient ventilation hoods and locate these directly over ovens, fryers and grills which need air ventilation
- Making sure that ventilation controls are set correctly and reflect demand – don't draw excessive air from dining areas
- Ensuring kitchen fans are switched off when no cooking is taking place
- Install separate heating controls (e.g. thermostatic radiator valves) in kitchen areas and don't rely on cooking appliances to heat your kitchen.

Lighting

Lighting accounts for more than 10% of the total energy consumption in food businesses.

Good levels of illumination in kitchens must be maintained for efficient working practices and health and safety requirements, so light must be well distributed to avoid shadow.

The visual appearance of food is an essential part of producing an appetising meal so catering operations require lighting with good colour rendering properties. LED lights for the kitchen and either fluorescent tubes or LED lights for the dining space would be the optimum choice to produce good colour reproduction and light output with reasonably high energy efficiency.

Keep light bulbs, lamps and light fittings clean to maximise efficiency, and, whilst we don't mean to nag, please don't forget to turn the lights off when the area is not in use!

There are so many things you can do to reduce your energy use – the ideas provided above are just a taster. For more information and advice, we recommend you download and read the excellent [Hospitality sector energy saving guide](#) by the Carbon Trust.

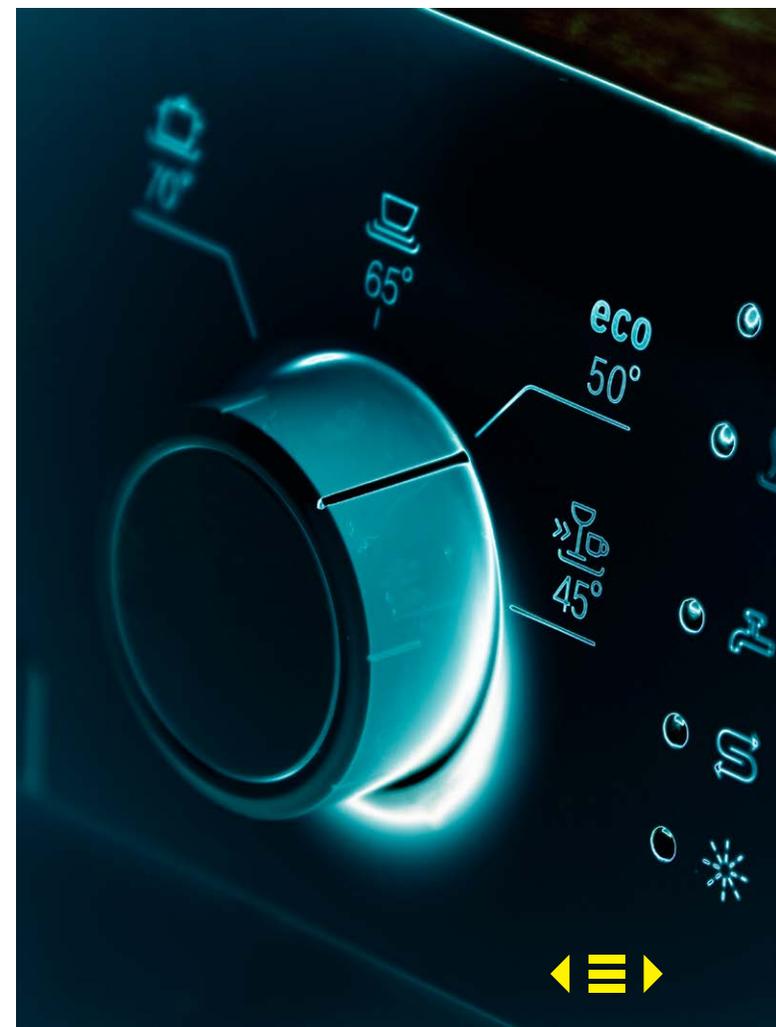
Suppliers of energy-saving products you may want to check out:

[Tala & Plumen](#) – sell beautiful, sustainable LED lighting, designed to last:

Tax incentives

The government is keen for food businesses like yours to invest in new energy-efficient equipment and they encourage it through the [Annual Investment Allowance \(AIA\)](#) scheme.

The Annual Investment Allowance is a tax relief scheme that allows your business to deduct the total amount spent on qualifying equipment from your taxable profits in the same tax year. Just one more reason to go green!



2b. Energy recovery

Kitchens and dining rooms are not natural bedfellows. Maintaining a pleasant dining experience when right next door (or sometimes in the same shared space) you have an operation that produces, heat, steam, odours, grease and oil is a challenge.

Good ventilation and heat extraction is key. But it's a great shame that most food businesses simply pump all this heat outside when 95% of it could be captured and re-used. Putting this waste heat to good use could save you money, reduce your environmental impact and improve your green credentials.

Installing a heat recovery system in your kitchen needn't be disruptive and you could make your money back in as little as 18 months, thanks to the significant savings you'll be making on your energy bills.

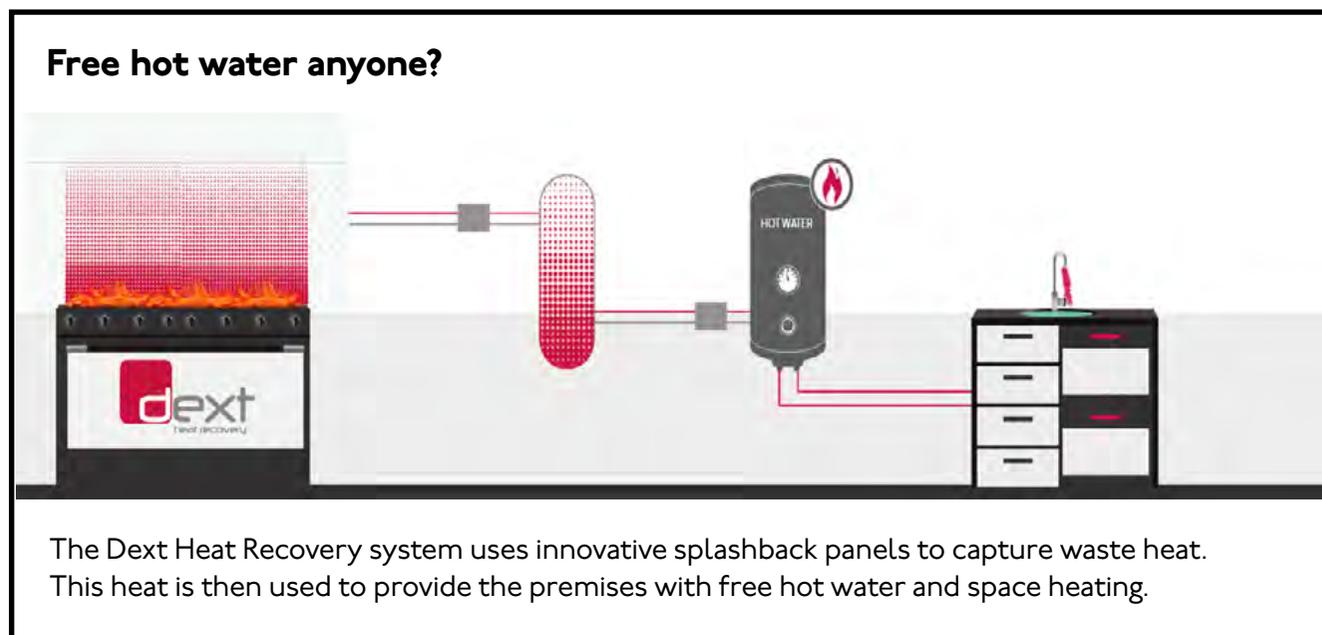
There are lots of different systems available, to suit different budgets, buildings and kitchen arrangements. Some (like [Nuaire](#)) are air exchange systems that feature a heat recovery element. Others (like [Dext](#) and [Kers](#)) use the heat they capture to provide hot water.

It's worth getting some professional advice from a suitably qualified engineer who can conduct a detailed feasibility study and tell you more about the benefits a heat recovery system could deliver for your business.



Take-away

Popular Indian restaurant, **Dishoom**, was having problems with the reliability of its hot water supply. They installed two Dext heat recovery systems – one behind the robata grill and the other next to the tandoor ovens. They now have a storage system full of low-carbon hot water produced on-site, which provides ample supply during busy periods. Problem solved.



3. Water

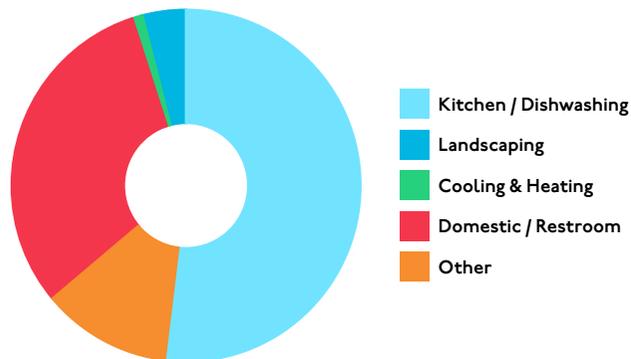


Most people don't give much thought to what happens to their water after it's disappeared down the plug hole.

You might be surprised to learn that cleaning and treating your waste water is a very energy-intensive process. So the less water your business uses, the better it is for the environment.

If you're one of the growing number of food business that are on a water meter, then cutting back your water consumption could also save you a bob or two.

End uses of water in restaurants



Source: [EPA, Saving Water in restaurants, 2017](#)

Things you can do to make a difference

3a. Water provenance

- Harvest rainwater and reduce your reliance on external supplies
- Switch to a water supplier that will support you in your quest to reduce consumption

3b. Water use

- Identify where in your business water is being used and lost
- Invest in water-saving products and technology
- Implement water-saving practices and policies
- Involve and train your staff

3c. Water recovery

- Recycle your 'grey' waste water



3a. Water provenance

The water you use can come from all sorts of sources. You can now change your water supplier. You can even become your own water supplier.

Rainwater harvesting

One of the most effective ways of reducing your water use is to use 'green water' that you've harvested yourself.

Rainwater collection systems, typically located on rooftops, harvest rainwater and store it in tanks. This green water can then be used for flushing your toilets, irrigating your kitchen garden, supplying your dishwashers and for general cleaning purposes.

Food businesses often put signs in their washrooms informing customers that their toilets use harvested rainwater – it goes down very well with guests who are as concerned about the environment as you are.

You may even be able to get help paying for rainwater harvesting systems from leading suppliers like [RainCatcher](#) and [Aquaco](#) via the Government's [Annual Investment Scheme](#).



Want to learn more about how to harvest rainwater? Download the European Commission's [Best Practice Guide to Rainwater and Grey Water Recycling](#).

Switching supplier

It's also worth remembering that not all suppliers of water are equal.

It may come as a surprise to you that you're able to switch water supplier. In April 2017, changes were made to the water market which means businesses across England can now decide who they buy their water from, even if the wholesaler remains the same.

That puts you at a distinct advantage to residential customers, who are still not allowed to make that choice. It means you can shop around and choose to buy your water from a company that is committed to supporting you – through practical tools and expert advice – in your quest to reduce waster consumption.

3b. Water use

There's no avoiding the fact that food businesses are water-hungry environments. Preparing and cooking food; washing up; keeping kitchen and dining areas clean – water is a vital ingredient for all of these essential tasks.

But don't despair. There are many things you can do to cut back on your water use, and the good news is that most of them are incredibly simple to implement and won't break the bank.

Hunt down water waste

Before you can reduce your water use, you need understand how much water you're currently using and where you might be able to cut back. WRAP have published an excellent guide to help you do this: [Water Efficiency in the Food and Drink industry](#).

Invest in water-saving products

Once you've got a better understanding of your water use, you're in a much better place to know what you need to do to cut back. There are lots of products and technologies available on the market that are designed to help you do just that.

Case Study

Cutting water bills by a third

WHEN THE FAMILY-OWNED HENDERSON'S RESTAURANT IN EDINBURGH DECIDED THEY WANTED TO REDUCE THEIR WATER USE, THEY REACHED OUT TO ZERO WASTE SCOTLAND FOR HELP.

With the experts on board, the first step was to conduct a water mass balance survey to understand where water was being used and where it was being lost (including evaporation during cooking, water used in beverages and waste water going down the drain). The results allowed Henderson's to clearly identify two key actions that would reduce water use and cut costs.

Making leaks a thing of the past – Henderson's took water meter readings on a Saturday evening when all activity had ceased and then again on the Sunday morning before work started to determine if any water

had been used when the premises were unoccupied. This allowed them to identify, investigate and fix leaks.

Flush right – it was estimated that flushing the toilets at Henderson's was costing over £2,500 per year. The capacity of the toilet cisterns was reduced from nine litres to six litres, reducing annual water use by 350m³. Fitting passive infra-red sensors to the urinal flushing controls further reduced water consumption by 75%.

With the help of Zero Waste Scotland, Henderson's not only reduced their carbon footprint, they also cut their water bills by a third.



3. Water

Here are just a few ideas to get you started:

- ♦ Replace old spray nozzles with new high performance ones – they can reduce water consumption by up to 90%
- ♦ Fit urinal flushing controls and cistern volume adjusters in your toilets. If you're doing a re-fit of your toilets, consider installing waterless urinals as well as low-flush or dual-flush toilets
- ♦ Upgrade dishwashers to newer energy-efficient models that don't use excessive amounts of water
- ♦ Ask your water supplier to fit a water meter (if you're not already on one). It will help you track your water use, identify where efficiencies can be made and reward you for reducing your water use.

Implement water-saving practices and policies

You don't need to spend lots of money on fancy new gadgets to start cutting back on your water use. Just introducing some simple, common sense policies and practices can make a big difference. For example:

- ♦ Carry out regular checks of your water supply system so that problems are identified and rectified early
- ♦ Fix leaking taps promptly – simple but incredibly effective

- ♦ Make sure your kitchen staff wash fruit and vegetables in a bowl of water instead of under a running tap
- ♦ Don't defrost food under running water
- ♦ Don't overfill pots and pans
- ♦ Only turn dishwashers on when they're full.

Involve and train your staff

Once you've come up with your water-saving action plan, it is vital that you train all your staff so they understand how to save water, and why its important. You could even get your staff involved in developing the plan itself - giving them ownership will help change behaviours.

Want to learn more about how to conserve water? Read Zero Waste Scotland's [Guide on how to save money on your business water bills](#).



3c. Water recovery

Yes, it's possible to recycle your water!
Well, your 'grey water' at least.

'Grey water' is the relatively clean waste water from dishwashers, sinks and kitchen appliances (it's clean relative to the water used to flush your toilets, which is called 'black water' – you can't re-use that!).

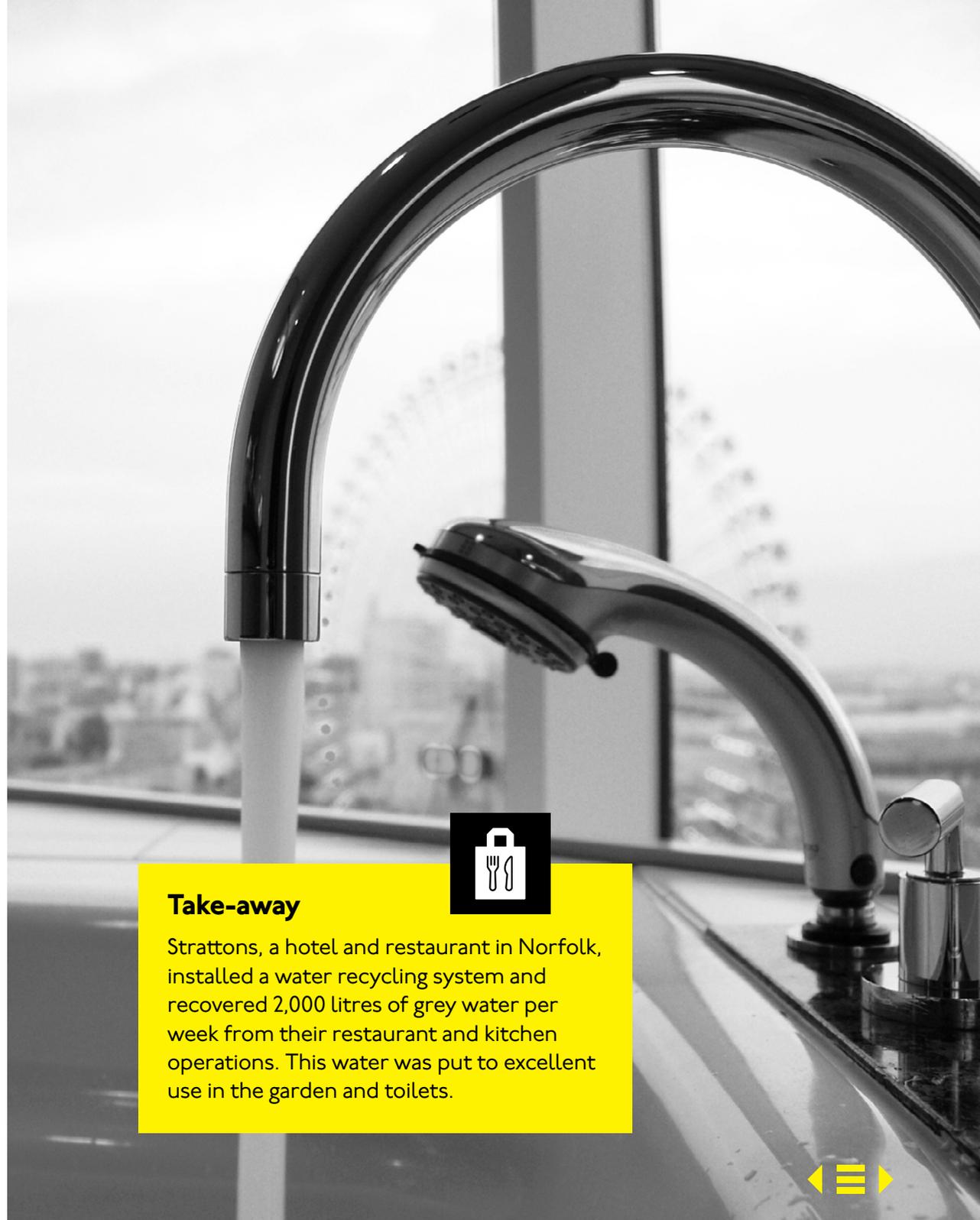
Grey water can be collected and re-used for non-potable water applications such as toilet flushing and irrigation.

To do this, you need to install separate waste water drainage systems for your grey water sources and a supply feed to your toilets. This is often too expensive and impractical to retrofit, but can be installed at relatively low-cost during construction, and at reasonable cost during major renovations and re-fits.

Studies have shown that recycling grey water makes it possible for food and hospitality businesses to reduce their water consumption by an additional 10%¹⁵.

Read the [rainwater and grey water recycling](#) section of the European Commission's Best Environmental Management Practice guide

¹⁵. EU commission, 2013, Best Environmental Management Practice in the Tourism Sector 39



Take-away

Strattons, a hotel and restaurant in Norfolk, installed a water recycling system and recovered 2,000 litres of grey water per week from their restaurant and kitchen operations. This water was put to excellent use in the garden and toilets.



4. Packaging



Packaging has transformed the way we store and consume food. It can be a force for good, keeping things fresh and helping reduce food waste. But we have become a throw-away society addicted to the convenience of single-use packaging. The damaging impact this is having on the environment cannot be over-stated.

The UK's hospitality and food service sector throws away 1.3 million tonnes of packaging each year¹⁶.

Many food businesses are waking up to the seriousness of this issue and are working hard to help bring this staggering figure down. This section of the guide shows you how you can play your part.

Things you can do to make a difference

4a. Incoming packaging

- Reduce – Buy in bulk, switch to refills and work with your supply chain to cut down on transit packaging
- Re-use – explore the many benefits of returnable packaging such as crates and trays
- Recycle – Separate all single-use packaging out for recycling – set up a recycling collection if you don't already have them

4b. Outgoing packaging

- Reduce – Stop selling products in single-use packaging
- Reuse – Set up or join a re-use/refill scheme – incentivise your customers to join in
- Recycle – Make it easy for customers to recycle your packaging and set up a recycling collection point for products that your customers can't easily recycle at home or on the go



4a. Incoming packaging

When seeking to reduce your business' reliance on packaging – and single-use packaging in particular – your supply chain is a good place to start.

What supplies are coming into your business? How are they being delivered? Could your suppliers be doing more to reduce the amount of packaging your business has to deal with?

Reduce

We've all been there. You order a stapler, or something similarly small, online. It's delivered the next day in a vast cardboard box; the item you purchased surrounded by copious amounts of bubble wrap and brown paper. You raise your eyebrows, frustrated by the wastefulness.

You know it's always best to reduce waste by not creating it in the first place. But are your suppliers pulling their weight when it comes to the fight against unnecessary packing?

Carry out a review of all the ingredients, consumables and supplies coming into your food business. Is all the packaging they arrive in really necessary?

Could you be ordering the goods and supplies you rely on most in larger volumes? Buying in bulk can reduce the amount of packaging needed and can also lead to a lower cost per unit. Could you be purchasing supplies like cleaning products in refill packaging?

Speak to your suppliers and ask them what they can do to help eliminate all unnecessary packaging. You'll be amazed at what can be achieved.

Re-use

Once you've reduced any avoidable transit packaging, the next step is to replace single-use transit packaging with re-usable packaging wherever possible.

There are many benefits to having your supplies delivered in re-usable, returnable packaging:

- ♦ **Space-saving** – re-usable transit packaging like crates and trays are usually collapsible and, when not in use, can be stacked allowing optimum use of space. And don't forget, you won't need as many bins if you're not throwing as much packaging away!
- ♦ **Improved protection** – returnable transit packaging is inherently designed to be robust and durable, to withstand repeated use. This higher quality packaging does a better job of protecting produce when in transit.
- ♦ **Environmental** – re-using packaging is even better for the environment than recycling it.



Take-away

POCO, a Bristol-based tapas restaurant, has halved the amount of packaging waste it generates since it introduced a range of sustainability practices in 2013. The restaurant sources the majority of its food from local suppliers, who are discouraged from using single use packaging. Food not purchased daily, such as cheese, is stored in re-usable containers.

Ask your suppliers if they can deliver their products in re-usable transit packaging – you shouldn't expect to be asked to pay any more for this. If they say no, look for new suppliers that can.

Want to learn more?

[IFCO](#) and [Teacrate](#) are good examples of returnable packaging for fruit and vegetable deliveries.

[pluumo](#) is sustainable thermal packaging made out of surplus feathers for temperature-sensitive deliveries.

Some companies like [Raynors Foods](#) provide a take-back scheme to reduce packaging waste.



4. Packaging

Recycle

Give it your best shot, but it's unlikely, in the short-term at least, that you'll be able to reduce and re-use all your transit packaging. So the next stage is to ensure that any single-use packaging that does come into your business is recycled.

Recycling bins are becoming a more common sight in commercial kitchens and offices, but UK businesses are still lagging behind householders, who are now expected to separate out their recycling by their local council.

This hasn't gone unnoticed by your customers: more than a third (36%) of people in the UK believe that a system of fines or taxes should be introduced for businesses that don't take responsibility for recycling their packaging¹⁷.

By separating and recycling all your packaging waste, you can:

- ♦ reassure your customers that you are playing your part in the fight against waste
- ♦ reduce your environmental impact
- ♦ cut costs through cheaper waste management (it costs less to recycle packaging than it does to throw it away)
- ♦ motivate your staff – most of whom will be recycling at home and probably feel uncomfortable not doing so at work.

If you already have separate recycling collections in place, make sure that staff are clear on what materials can and can't go in the different bins (and that they are clearly labelled) so that you can recycle as much as possible.

If you don't already have separate recycling collections in place, speak to your waste management supplier. Compare the price they give with other waste management companies – your local authority may be able to provide advice on operators that work in your area.

And don't forget to keep an eye out for schemes that allow you to recycle materials not commonly collected by waste management companies. [Recorked UK](#), which recycles used wine bottle corks, is a great example.

17. Ecover, survey of 2,007 shopper, 2018



4b. Outgoing packaging

Your suppliers could probably be doing more to reduce single-use transit packaging. Working with them to tackle packaging waste will make a big difference. But it's likely that your food business is also responsible for producing its own packaging waste.

The convenience of wastefulness

Most of the packaging you provide to your customers is driven by convenience. Small sachets of salt and pepper; single-serve containers of butter, spreads and milk. These are common items in the food business sector.

Yes they are convenient, but they are also incredibly wasteful. This small-format packaging can be difficult to recycle and worst of all, it is often thrown away unfinished or even unopened.

When it comes to take-away food, convenience is the name of the game. But the amount of packaging this thirst for convenience is creating is mind-blowing. For example, British workers' habit for on-the-go lunches is creating 11 billion items of packaging waste per year, according to new research from environmental charity Hubbub.

If your food business involves some sort of takeaway element, your customers are unlikely to be willing to give up the convenience of packaging entirely. The challenge for you is to transition to sustainable alternatives to single-use packaging (particularly plastics) without disrupting your businesses.

Reduce

The first step is to review all the packaging used in your business and identify what could be eliminated or reduced.

For drinks consumed on your premises, you may decide to stop selling them in single use packaging such as plastic bottles, aluminium cans or glass bottles – consider serving fizzy drinks from a 'beverage gun' or dispenser.

Simple things can make a huge difference – stop automatically giving cutlery, napkins and straws to your customers. They're still available if needed, but you will see a big reduction in their use just by asking customers if they need them instead of assuming that they do.

Re-use

It's relatively easy to replace single-use products (such as napkins, straws and cutlery) with re-usable ones.

You could also introduce or sign up to an existing re-use, refill or bring-your-own scheme. Refillable coffee cups and water bottles are all the rage at the moment. Let's make this excellent trend spread to all sorts of takeaway containers and even cutlery. Why not? It's just a matter of customers and retailers getting used to the idea – and incentives being put in place to encourage the change.



4. Packaging

If you're tempted to introduce a re-use or refill scheme to your customers, there are two ways you can go about it:

Create your own scheme – offer customers a discount if they bring their own food or drink container. Savure, a pasta restaurant near Old Street in London, gives a 35p discount to customers who bring their own container and 50p discount to those who use a re-usable stainless steel container purchased at the shop. Meanwhile, Spicebox (see case study, right) provides Indian take-aways in traditional, re-usable tiffin boxes.

Join an existing managed scheme – team up with a trusted partner who will manage the logistical side of things for you. These schemes provide stickers for your windows and offer customers maps and information via apps to make participating outlets easier to find. Some even collect, wash and re-supply the re-usable containers and cups. [Cupclub](#), [Ozarka](#), [#LongLiveTheLunchbox](#) and [CauliBox](#) are just a few examples.

Case Study

Cutting water bills by a third

THE TIFFIN TIN IS ONE OF INDIA'S MOST SUCCESSFUL CONCEPTS. IT'S A HOMEMADE MEAL, DELIVERED TO OFFICE WORKERS WITH CLOCKWORK EFFICIENCY IN A REUSABLE METAL TIN; AND NOW IT'S COME TO WALTHAMSTOW!

When **Spicebox** opened its doors in January 2019, it decided to offer take away meals in reusable tiffins as an alternative to single-use foil or plastic cartons. Customers enjoy the fully plant-based menu safe in the knowledge that they're producing zero

waste. Spicebox estimates they've avoided the use of approximately 2000 takeaway trays and naan bags in the first year of operation!

It goes without saying that all paper, cardboard, glass and hard plastics are recycled and Spicebox recently introduced 'flexi-plastic' recycling, so even clingfilm and soft plastics don't end up in the bin. Next step on the hit list is tetra-packs, which remain surprisingly difficult to recycle commercially, despite it being available to the majority of households in London.



Take-away

Have you **#GotTheBottle** to put your tap on the map and join over 20,000 businesses who are already part of the Refill Campaign? The average Londoner buys three single-use plastic water bottles per week – that's 175 bottles per year, per person! By making a tap publically accessible you could be keeping Londoners hydrated and helping to prevent plastic pollution. Simply register the details of your refill station on the [Refill London website](#) and you can create a profile on the app-based map. Once your station is live, you'll be ready to welcome thirsty refillers and benefit from increased exposure and footfall as a result



4. Packaging

Whichever option you go for, be sure to consider how you're going to incentivise your customers to take part; how you're going to measure portions at the point of sale; and that all your hygiene and public health requirements are met.

Recycle

Ultimately, the responsibility to recycle the take-away packaging provided by your food business is down to your customers. But you can make life a lot easier for them, and encourage them to 'do the right thing', by thinking about the packaging materials you use.

Make sure any packaging you use can be easily recycled by your customers, ideally using the doorstep collection service provided by their local council. More information can be found on the [Recycle Now](#) website.

Avoid using black plastic tubs and trays – these can be difficult to recycle as the recycling machines (which rely on optical lasers to sort the recycling) struggle to pick up black plastics.

It's becoming increasingly popular for retailers and food outlets to use compostable packaging. This can be a good option, but there are some things to watch out for:

Make sure the packaging is certified as compostable – look out for the 'compostable' logo (right). This confirms that the packaging meets strict standards for compostability (EN13432) and that it can in theory be accepted by industrial composting or anaerobic digestion facilities used by London's local authorities.

Think about the recycling services available to your customers. It's all very well providing them with packaging and tableware that 'in theory' could be composted, but it's not as simple as that: the majority of anaerobic digestion and composting facilities used by London's 32 local councils do not currently accept these products, which means they're not included in doorstep recycling collection services. This just leaves the customer confused and frustrated; with their local council and with the food business that supplied the product to them in the first place.

You can help by setting up a collection point for compostable packaging that is not currently easily recycled from home. Ticking environmental boxes isn't good enough; you have a responsibility to make recycling easy for your customers.

Download and read the [Unwrapping Plastics toolkit](#) developed by the Sustainable Restaurant Association and Belu to identify easy ways to make a big difference on packaging.



Take-away

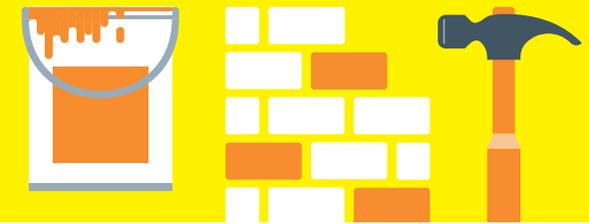
[Vegware](#) manufactures a wide range of packaging and tableware products made out of plants. Following use, these products that can be composted at commercial facilities and turned into soil conditioner and green energy.

To help clients access these specialist facilities, Vegware launched its own dedicated collection service called 'Close the Loop'. Food businesses can set up their own collection points for customers to use – Vegware will collect and ensure they are composted in a sustainable way.

Vegware has also partnered with RecycleBox (powered by [First Mile](#)) to offer a collection service of its products for food businesses or even individuals with small quantities of compostable Vegware products.



5. Facilities management



The way you manage the physical space in which you and your staff work, and your customers dine is a vital part of the circular economy jigsaw.

The furniture you buy; the carpets and paint you specify; the kitchen equipment you invest in – these are decision points that need to be thought through carefully. They are big investments, but it's all too easy for them to hit the planet as hard as they hit your pocket.

But if approached in the right way, they also offer an opportunity for you to make your business more circular and sustainable in the long term.

Things you can do to make a difference

5a. Supply – resource specification

- Buy second-hand and refurbished kitchen equipment
- Renovate, refurbish and re-use furniture, fixtures and fittings
- Decorate floors, walls and ceilings with sustainable materials

5b. Use – resource efficiency

- Share your kitchen space when you're not using it

5c. End of life – resource recovery

- Fall in love with repairing
- Give pre-loved items a second chance in life
- Recycle what you can't repair or re-use
- Use refurbishments or facility end of life as an opportunity to replace with a more efficient solution - see chapter 2 & 3

5a. Supply - resource specification

There are lots of things to consider when choosing new equipment for your kitchen or furniture for your dining space and office.

Quality. Value for money. Style. They're all important, but at the very top of your list of priorities should be the impact on the environment.

Kitchen equipment

Before you invest in new kitchen equipment, explore whether second-hand or refurbished equipment can meet your needs. You'll be amazed what others consider to be surplus to requirements.

Buying second-hand is a perfect example of a circular economy as it saves money and preserves valuable resources. Just one word of warning – pay attention to the energy efficiency of older appliances as poor performance can cancel out any short-term financial and environmental benefits you might have achieved in the long run.

If you do decide buying new is the way to go, make sure you choose equipment that is built to last and is designed to be easily repairable. Although the upfront cost might be higher, you will prolong the life of the equipment and replace it less often.

Furniture, fixtures and fittings

The cost – both financial and environmental – of making new furniture, fixtures and fittings is considerable. So wherever and whenever you can, you should renovate, refurbish and re-use existing items.

With a bit of creativity – and there are people that can help you if that's not your forte – there are sustainable options for resizing, retopping or refinishing existing storage units, furnitures, soft seating – the list goes on...

Companies such as [Crown Workspace](#) and [Rype Office](#) re-use, repair and remanufacture commercial furniture. They also support businesses designing sustainable new working spaces. [Goldfinger Factory](#) transforms reclaimed and sustainable materials into exquisite furniture and interiors for restaurant and cafes. [Opendesk](#) is 'changing the way furniture is made by connecting customers to local makers'. And [Smile Plastics](#) make a wide range of stylish products including counter tops, table tops, partitions, bathrooms and toilet cubicles made out of recycled plastic.

Incorporating re-use into your interior design can help achieve cost and carbon savings and leave budget for other investments.

Where new items do need to be bought in, try to choose ones that are:

- ♦ Re-used, repurposed, remanufactured or recycled
- ♦ Fully recyclable, re-usable and easy to repair/upgrade
- ♦ Bio-based (for example, [Adaptavate](#) and [Biohm](#))
- ♦ Leased/shared rather than owned by your business.

For more ideas and inspiration, download the Business in the Community's [Circular Office Guide](#), 2019



Floors, walls and ceilings

When it comes to decorating your floors, walls and ceilings, there are plenty of opportunities to make more environmentally conscious decisions.

Some flooring companies, like [Interface](#), use recycled materials (including old fishing nets) for their carpets. They also offer customers a take-back scheme for their old carpets – some of which are provided to low-income households via the not-for-profit [Greenstream Flooring](#).

When it comes to ceilings, less is more. It's now very popular to do away with ceiling tiles all together – the resulting 'industrial look' is certainly very fashionable but it also offers some real practical benefits – the exposed services are easier to adjust, maintain and repair.

Where ceiling tiles are needed or desired, companies like [Armstrong](#) offer new tiles that have been upcycled from old ones. Their mineral fibre tiles are also fully recyclable.

Turning attention to the walls, and innovative companies like [Paint 360](#) and [Newlife Paints](#) produce high quality products that have been manufactured using waste paint that's been diverted from landfill or incineration.

Meanwhile, [Ecor](#) and [Adaptavate](#) are two examples of environmentally sustainable alternatives to traditional plasterboard products.

Case Study

Kind on the environment and on the eye

THE REFURBISHMENT OF THE BUXTON HOTEL AND PUB IN EAST LONDON WAS A THREE-YEAR LABOUR OF LOVE.

Throughout, the focus remained firmly on preserving and restoring as many original features as possible. Original elements were stored off site before being brought back at the end of the project.

Materials re-used include: decorative bricks, facade stonework, parts of the original steel structure, floorboards as well as some beautiful fireplaces, tiles and chimney pots.

This approach saved around 21% of the whole life carbon emissions that would have been generated in comparison to fitting-out a new pub and hotel to a similar specification. Just as importantly, it also helped add character and provided an element of continuity, celebrating the original features whilst removing the old parts that don't have function any more. The building just looks and feels 'right'.

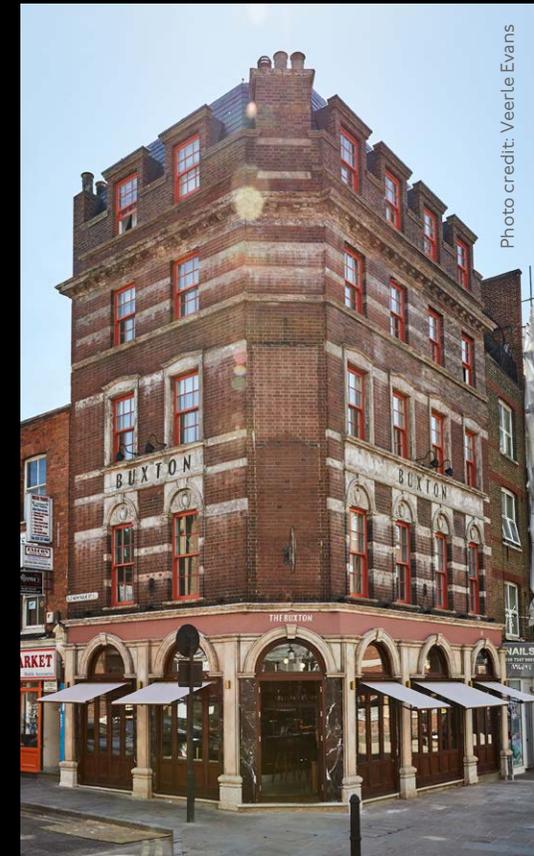


Photo credit: Veerle Evans

Lighting

Have you ever thought of lighting as a service and not a product? With the 'Pay Per Lux' solution, conceived by Philips, you don't own your lighting – you rent it.

The benefit is that the responsibility for the performance of the lighting fixtures shifts from the consumer to the manufacturer, encouraging longevity and recyclability. It means you can always use the best lighting solution for your needs without ever having to purchase, maintain and responsibly dispose of the hardware.

5b. Use - resource efficiency

A low-cost airline can disembark passengers, clean the plane, re-load people and cargo and have it back in the air in as little as 25 minutes. Impressive stuff.

These companies have got turn-arounds down to such a fine art. That's because it costs them money – and lots of it – to have their planes sitting empty on the ground.

Now think of your kitchen. There are times when it's full of life and activity; the beating heart of your business. But there are probably also times when it's working at half capacity or even completely empty. That's a terrible waste of space and useful equipment time.

A kitchen shared is a problem solved

Sharing things is becoming all the rage. Companies like Zipcar and Airbnb have made sharing cars and accommodation feel like a completely normal thing to do. The food service sector could be next in line!

More and more food business owners are starting to rent out their kitchen facilities when they're not in use. All sorts of companies are on the look-out for commercial kitchen space they can rent, either on a short-term or ongoing basis. These include catering companies, small food brands, teaching organisations, food tasting and even photoshoots. The best bit is that they often need the space when you don't.

ShareDining is an online platform connecting kitchen owners across London with kitchen users. All potential kitchen users are vetted and must provide evidence that they hold all the required certifications and insurances.

You could also advertise your kitchen space on general sharing platforms such as Gumtree.



5c. End of life - resource recovery

Buying high quality equipment, furniture and construction materials will prolong their life, but eventually the time will come when you feel you need to upgrade or replace.

It's really important that you dispose of items that are surplus to your requirements in a responsible way – the circular economy relies on it.

Don't throw away – there is almost certainly someone out there who will very gladly take your old chair, fridge, mirror – whatever it might be – off your hands and do something useful with it.

The forgotten art of repairing things

The satisfaction of rolling up your sleeves and fixing something is a wonderful feeling. But it's an experience that few people enjoy these days. A chair with a wobbly leg? Replace it. A scratch on the floor? Buy a new one. A dodgy thermometer in the fridge? Chuck it.

Previous generations would be horrified at how quick we are to give up on items that still have plenty of life left in them. If we are to save our planet, we need to fall back in love with repairing.

So next time something goes wrong, why not have a go at fixing it? You might surprise yourself. And if it's beyond your capabilities, look into getting a professional in to help – it will almost certainly cost you a fraction of replacing the item like for like and it's much better for the environment.

Give pre-loved items a second chance in life

There are almost certainly people in your local community who could really benefit from items that are surplus to your requirements. Even broken items: just because you can't or don't want to fix them doesn't mean they're beyond saving in the hands of someone else.

Contact local charity shops, re-use organisations and local community groups to see if they can give your pre-loved items a second chance in life. At best you might be able to recoup some money for them; at worst you will save on disposal costs, and you'll be safe in the knowledge that you've protected the environment and given something back to your local community.

Don't forget there are websites that enable you to donate or sell your unwanted items to people who are based further afield. [eBay](#), [Gumtree](#) and [Preloved](#) are great if you're looking to get some money back for your items, or [Globechain](#), [Freecycle](#), [Frengle](#) and [Community Reuse](#) are more suitable if you're happy simply to donate.



5. Facilities management

Recycle what you can't repair or re-use

Items that are beyond repair and cannot be re-used can usually be recycled. It's highly unlikely these days that the only option available to you is disposal.

A quick internet search should give you lots of local options. If you're struggling, you can check out specialists in the sector such as [Ramco](#). They refurbish, reutilise and recycle food manufacturing and food service machinery and are a great outlet for more specialist equipment.



Take-away

Nando's is using the platform **Globechain** to ensure that equipment and furniture they are no longer using doesn't go to waste, but instead gets redistributed to charities and communities that really need them.

By listing over 6,000 items of furniture and equipment such as chairs and tables, lighting fixtures and cooking appliances for re-use, Nando's has been able to save charities over £37,000 and prevented 82,300 kilos of items from being thrown away.



6. Consumables



Consumables, and workwear and cleaning supplies in particular, are sources of significant waste for a food business.

By their nature, many of these products are single use – designed to be used once and then discarded. Clearly hygiene and health and safety standards need to be maintained, and we wouldn't suggest you do anything to jeopardise them. But there remains a lot you can do to reduce the environmental impact of your workware, cleaning supplies and other consumables.

Things you can do to make a difference

6a. Cleaning supplies

- Only buy cleaning products made from plant-based ingredients
- Buy in bulk and use refillable products whenever possible

6b. Workwear

- Buy workwear made from recycled fibres
- Buy good quality, durable workwear designed to last
- Explore the benefits of renting instead of buying workwear
- Dispose of your workwear responsibly

6c. Other consumables

- Make a list of all the consumable items you are using (e.g. candles, menus)
- Identify reusable, recyclable or more sustainable alternatives

6a. Cleaning supplies

Thanks to new products and services, it's easy these days to keep your food business spick and span and have a clean conscience when it comes to the environment.

Many cleaning products are based on chemicals that are harmful both for humans and other animals and plants in the environment. These chemicals, also known as "volatile organic compounds," (VOCs) include phosphorous (which constitutes about 30 to 40 percent of dishwasher detergents), nitrogen, and ammonia.

When you use these chemicals in your toilets, sinks, dishwashers, or other appliances, the chemicals are eventually rinsed down the drain and the contaminants can build up to have a substantial and negative effect on wildlife.

A wide range of cleaning products are available that have been manufactured from natural plant-based ingredients and have a low aquatic toxicity. Method and Ecover are two such companies.

Delphis Eco is another. Proud owners of not one but two royal warrants, all their products are made in Britain, are free of VOCs and have never been tested on animals. All their bottles are made from 100% recycled plastic taken from UK

waste streams and they're working toward being entirely plastic free in the future. They also offer customers the chance to refill empty bottles, with refill stations located at retailers across the country.

Meanwhile, Planet Minimal provides cleaning and personal hygiene products to the hospitality industry and zero waste shops across London. Delivered using electric vehicles, the products are animal cruelty-free, biodegradable and lack the harsh chemicals that can be found in many commercial brands. All the products are housed in refillable containers, meaning no single use plastic waste is generated.



6b. Workwear

90% of the 33 million corporate garments that are provided to UK workers each year end up being incinerated or sent to landfill.

Workwear is a common requirement for food businesses. But manufacturing, supplying and disposing of all those aprons, chef jackets and hats uses up valuable natural resources, creates pollution and generates greenhouse gases.

There are lots of things you can do to reduce the environmental impact of workwear and cut costs at the same time.

Shop smart

Make sure any workwear you buy has been manufactured using recycled fabrics or fabrics made from sustainable fibres or recycled content. Once you start looking out for it, you'll be pleasantly surprised by how much choice there is and the innovative materials used.

For example, [Dennys Brands](#) has a wide range of hospitality and catering clothing made entirely from recycled plastic bottles.

[Le Nouveau Chef](#) offers high quality workwear made from TENCEL® – a fibre made of eucalyptus wood which is extracted from responsibly-managed forests.

You should also make a conscious decision to buy high quality workwear that is designed to last. Favour durability rather than initial cost and you'll get garments that are fit for purpose and will last longer – meaning less waste.

Take care

Your workwear is an important investment. Take care of it. Follow the manufacturer's instructions on care, washing and storage.

You can extend the life of workwear by checking regularly for damage so that small rips and tears can be repaired as you go. Try not to wash it more often than necessary, as this wears out the garments more quickly, contributes to more water and energy consumption and releases more microplastic fibres into the ocean.



Rent don't buy

Why not start thinking about your workwear as a service? Renting your workwear instead of buying it makes environmental sense because:

- ♦ Rental companies like [Lindstrom](#) will collect and wash your workwear on an industrial scale, which is three times less carbon intensive than individual washing¹⁸.
- ♦ Rental workware is generally high quality and made to last.
- ♦ The company renting the workwear can dispose of the items responsibly at the end of their life.

Responsible disposal

- ♦ Eventually all workwear will reach the end of its useful life. You've taken good care of it and it's served you well; now all it asks is to be disposed of responsibly. There are a number of options available to you:
- ♦ Insist that your staff hand back their old uniforms before being issued with new ones – this will make sure you are in charge of what happens to them next.
- ♦ If you frequently dispose of workwear, there are recycling companies that will be happy to set up a recycling programme, including regular on-site collections.
- ♦ You could send the garments to a textile processor who can cut them up to be used for cleaning rags.
- ♦ You can upcycle uniforms by deconstructing them to create new garments.

- ♦ If there are no brand security issues (i.e. company logos) you can take the clothing to a textile bank, operated by organisations who will determine what can be sent to developing countries for re-use.
- ♦ Old clothing can be donated to charities who may be able to sell them to raise funds and extend the garment life.

Want to learn more?

Read the thought-provoking blog post from Hubbub – [Corporate uniforms: a chance to slow down?](#)

Learn about eco-friendly fibres on the [Sustain Your Style](#) website.

18. Lindstrom industrial washing efficiency calculator

6c. Other consumables

It's easy to over-look consumables. By their nature they are designed to be used, discarded and forgotten about.

Most food businesses rattle through consumables at the rate of knots – often without even realising it. Each of them, be it the menus you are printing, the candles you are lighting or the paper towels you are wiping your sides down with, present opportunities to apply the principles of the circular economy.

Individually these items may seem incidental – not big enough to worry about. But over the course of a year, across a city the size of London, all those menus, candles and paper towels really add up to a huge problem.

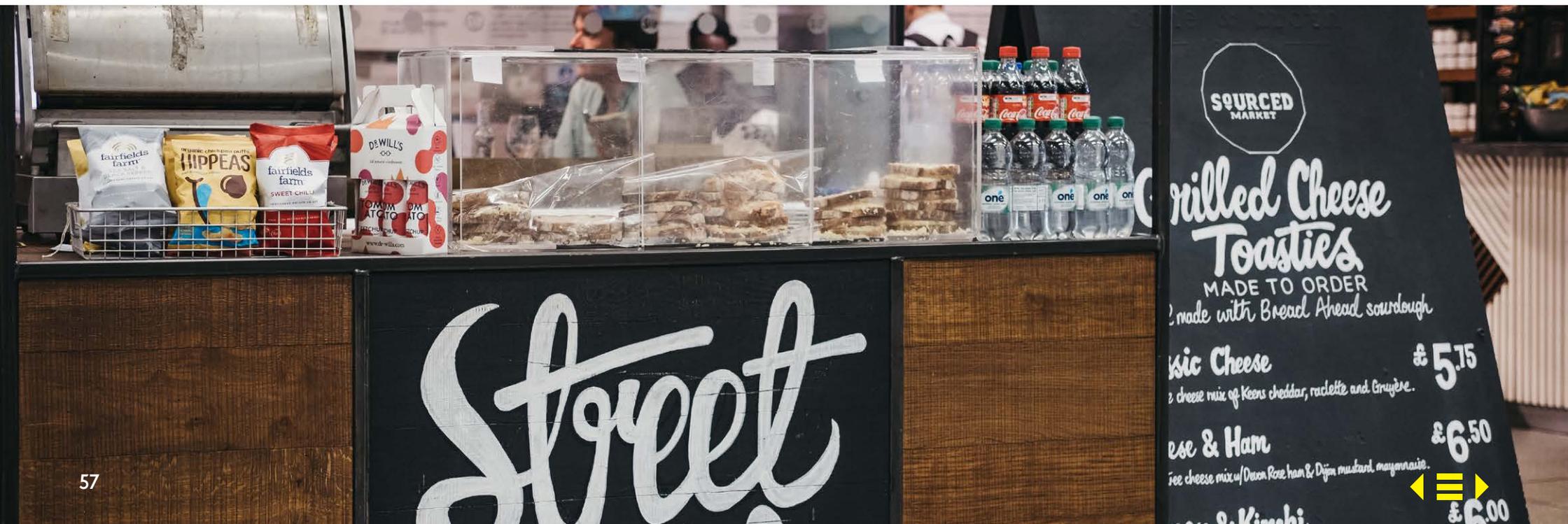
So get creative. Make a list of all the consumable items you use to support your business and come up with more sustainable alternatives. Taking the menu, candles and paper towel examples as a source of inspiration:

- ◆ **Menus** – could you project your menu on to a wall or write it on a blackboard instead of printing it?

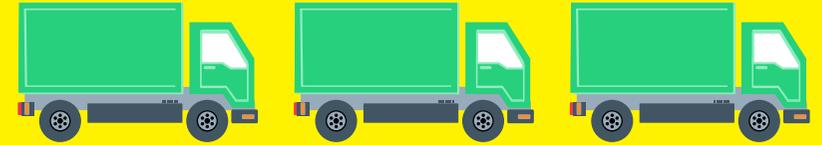
- ◆ **Candles** – you could use LED energy-saving lighting and essential oils to create the mood and scent of a candle-lit dining space – and if you do choose to use candles, make sure you get someone like the [Recycled Candle Company](#) to collect them after use

- ◆ **Paper-towels** – replace your supply of single-use paper towels with re-usable cloths.

Look around your business with an open mind – the opportunities for reducing waste and saving money will soon start to present themselves.



7. Transport



Moving food around the country – and indeed around the world – in a way that does not damage the environment is a huge challenge, but one that we must tackle.

Things you can do to make a difference

7a. Supply chain

- Introduce a no air-freight policy
- Explore green delivery options with suppliers
- Optimise deliveries to reduce unnecessary miles
- Explore options for locally-sourced, seasonal produce

7b. Fleet management

- Review and optimise your routes
- Invest in cargo bikes
- Upgrade your fleet of vehicles to electric

7a. Supply chain

Have you ever asked your suppliers how they get their produce and products to you?

What are they doing to minimise the environmental impact of their transport logistics?

Around 12% of the greenhouse gas emissions generated by food businesses comes directly from transportation¹⁹. Air freight is a particularly high impact method of moving food around – producing 100 times more carbon emissions than shipping. Indeed, just 1% of food transport in the UK is done by plane but it accounts for 11% of emissions²⁰.

Challenge your suppliers

Talk to your suppliers and challenge them if necessary on issues like:

- Whether or not they have a no air-freighted produce policy – if not, can they look at introducing one?
- Optimising the number and timing of deliveries (including consolidated deliveries with your neighbours)
- Explore options for sourcing seasonal fruit and vegetables more locally

- Upgrading delivery vehicles to reduce their impact (electric and hydrogen powered vehicles or even bicycles, which in congested cities like London make more sense than you might think).

Green logistics companies worth exploring with your suppliers...

Menzies Distribution – delivery service with the largest 100% electric vehicle (EV) fleet in London

WeGo Couriers – utilise ultra-low emission vehicles to provide same day and next day deliveries.

Green Courier – environmentally friendly courier service, that offers a carbon-balanced service.

CitySprint – zero-emission fleet includes pushbikes, cargo bikes, and electric and hydrogen vans.

Pedal Me – an on-demand and same-day cargo bike courier service for companies looking for a sustainable alternative to van delivery in central London.

Zedify – a zero-emissions courier service offering scheduled first and last mile deliveries for businesses.



7b. Fleet management

In addition to greenhouse gas production, the other negative impact of food transportation is local air pollution. Polluting vehicles account for around 50% of London's toxic nitrogen oxide (NOx) air emissions, and air pollution is estimated to cost the UK economy £20 billion every year.

Your food business may well have its own fleet of vehicles for picking up supplies and making deliveries. If that's the case, you're in an ideal position to make some changes that will reduce your carbon footprint and improve air quality.

Route review

A simple but effective place to start is to review your routes and make sure they are optimised. Could the timing or ordering of stop-offs be changed to maximise efficiency and reduce unnecessary miles?

If you have a number of vehicles in your fleet, it may be worth investing in specialist route optimisation software which incorporates GPS tracking on your vehicles.

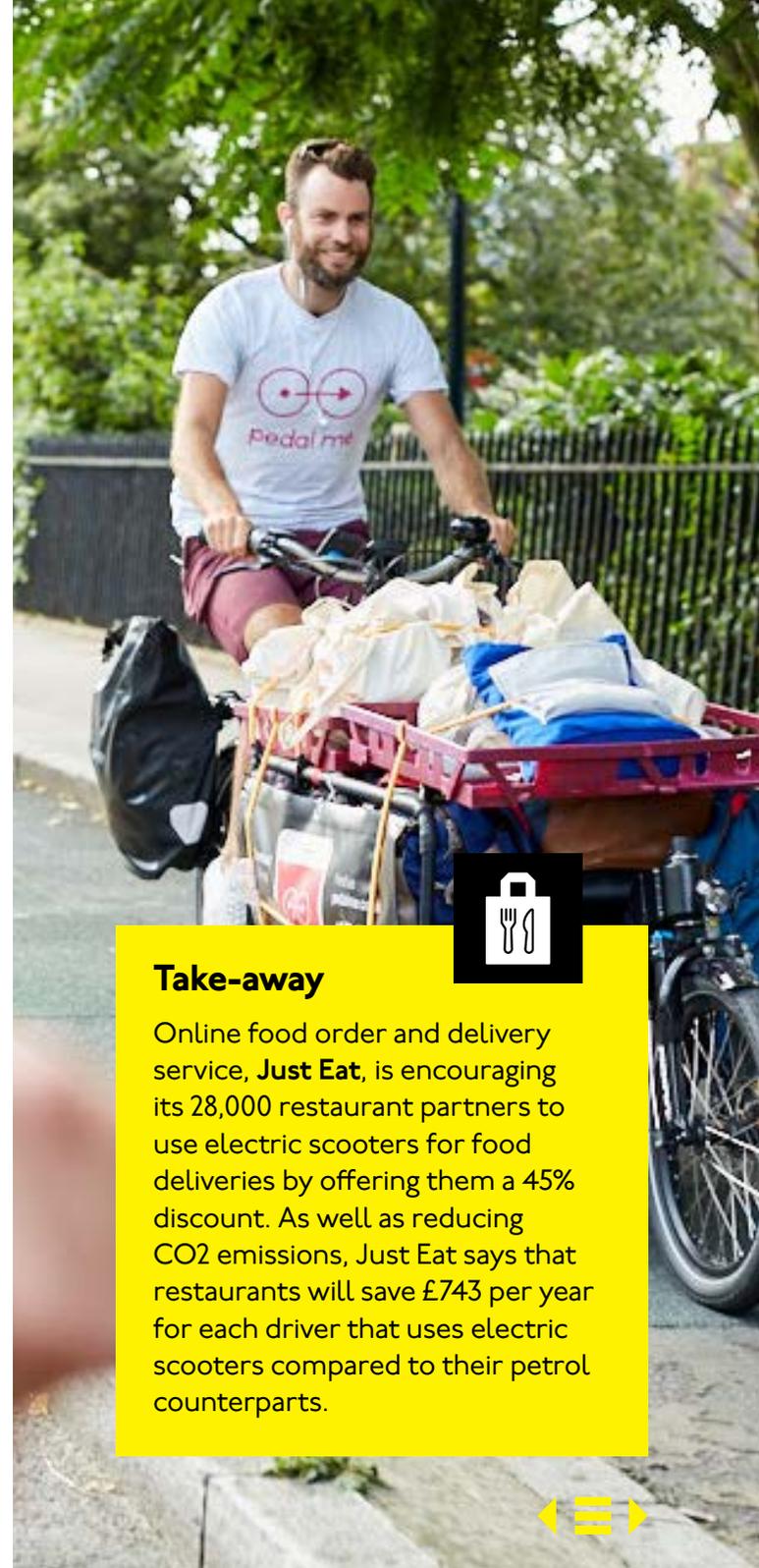
Green vehicles

Investing in 'green vehicles' is also an option, and it doesn't need to cost as much as you might think.

Cargo bikes are rapidly gaining in popularity, particularly in congested cities like London. These tandem-sized bicycles (where one of the seats is removed to make room for a storage box) are ideal for local deliveries. Unconcerned by parking tickets and able to use bike-only routes, cargo delivery riders can often deliver more packages in a day than their van-driving equivalent, even with the smaller payload requiring occasional returns to the depot.

The [Zero Emissions Network](#) offers businesses a two-week 'try before you buy' option on cargo bikes and grants of up to £2,000 for businesses who decide to take the plunge.

If cargo bikes aren't for you, then you could look into upgrading to electric or hydrogen vehicles. The Mayor of London operates a [scrappage scheme](#) to help improve London's toxic air. The scheme supports businesses with up to 50 employees, providing grants of up to £9,500 to replace vehicles that don't meet the Ultra-Low Emission Zone (ULEZ) standards with greener alternatives.



Take-away

Online food order and delivery service, **Just Eat**, is encouraging its 28,000 restaurant partners to use electric scooters for food deliveries by offering them a 45% discount. As well as reducing CO2 emissions, Just Eat says that restaurants will save £743 per year for each driver that uses electric scooters compared to their petrol counterparts.

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Thank you.

A few words on ReLondon's business transformation team

The business transformation team at ReLondon is an enthusiastic small team of people who are passionate about making the circular economy everyone's business!

Part of ReLondon, they help businesses across London to adopt more resource-efficient and resilient business models.

Since 2017, they have worked with more than 80 food businesses, helping them reduce their material and carbon footprint and handle resources in a circular way. Their work builds upon our other food waste reduction programmes aimed at businesses, citizens, community groups and schools. It also supports the findings of our flagship report on [London's food footprint](#). They are the proud winners of the IEMA Sustainability Impact Awards 2020 for best team at a small organisation.

reondon.gov.uk/business/

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