

Good Practice Guide

“A sustainable restaurant demonstrates responsible sourcing and best kitchen practice delivered by well-trained staff using high-performing resource-efficient equipment and following good waste management policies. It is only with this holistic approach to the environmental, economic and social impacts of their business that the restaurant can be considered truly sustainable.”

Things to do and check now

Save Energy: Going green will help you cut costs on utilities immediately. Energy prices are doubling every five years and are predicted to increase at a faster rate. So, apart from all the other benefits, replacing energy-hungry equipment with more resource-saving versions is a great investment.

According to The Carbon Trust, energy used in catering accounts for 4-6% of operating costs. Savings of over 15% have been identified in commercial kitchens with less than 1 year payback.

- **Lower your energy bills.** Upgrade to more energy-efficient equipment to halve your energy usage. You can set up monitoring before the design process begins so you understand where the biggest investments are needed and to provide data to benchmark with when you have finished installation.

Save water: “Unless we change our current water management and behaviour and strive for lower levels of water consumption, we will face serious threats both to the security of our water supplies and to the health of our water environments and nature conservation sites.” (Defra, Future Water 2008)

- **Lower water bills.** Taking steps to conserve water can save you a surprising amount of money on your next utility bill. Due to shortages, water prices will soon begin to inflate as quickly as energy costs.

Reduce food waste: Around 20m tonnes of food waste is created every year in the UK food service sector.

- **Lower waste bills.** You pay twice for throwing food away. Plans to reduce food waste in your kitchen and space-saving waste segregation solutions will give you a more streamlined and efficient kitchen.

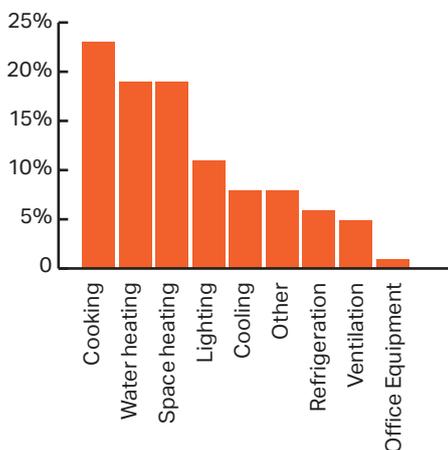
Involve your staff: Improve worker productivity. Studies show that using energy-efficient equipment and green cleaning supplies improves worker productivity by reducing heat levels and minimising the presence of hazardous chemicals.

Tell your customers: The National Restaurant Association 2008 survey found 62% of diners said they’d prefer to eat in an environmentally-friendly restaurant.

- **Customers value your efforts.** Communicate what you’re doing by including operational information on your menus or restaurant displays. Customers appreciate it!

Energy efficiency in food production

- Record the energy consumption of the kitchen
- Set targets for reduction
- Meter the kitchen's consumption of electricity, gas and water separately
- Consider installing individual meters on energy-hungry equipment
- Record and measure against industry benchmarks
- Watch out for energy 'spikes', a sudden, unexplained rise could mean equipment needs maintenance



Water efficiency in the kitchen and workplace

- Fix dripping taps – a dripping tap can waste up to 15 litres of water a day, or 5,500 litres per year. Replace worn washers for a quick and cheap way of saving water.
- Wait till you have a full load before switching on dishwashers and washing machines.
- Use the minimum amount of water needed when boiling water in saucepans and kettles; that way you'll save energy as well as water.
- Always use a tightly-fitting lid and, after water has come to the boil, switch the heat off and let potatoes, pasta and rice cook in the residual heat.
- Consider auto-shut off taps on wash hand basins
- Wash vegetables and fruit in a bowl rather than under a running tap. The water collected can be used for watering plants.
- Lag water pipes and external taps to prevent bursts in cold weather.
- Collect rainwater in water butts to water hanging baskets, planters or herb containers in the public garden area.

Source: The Water Saving Group, 2007

Why is water management business-critical?

Five years ago you probably didn't give water a second thought. Today it is a major issue. Water security is predicted to eclipse energy as the major resource issue of the decade. The south of England is categorised on water maps, as an area of 'extreme stress' by the Intergovernmental Panel on Climate Change (IPCC).

This is the highest level of danger and the same category as the most drought-stricken parts of the world – purely because of the population ratio and demand. Water prices will rise exponentially to meet demand and this will impact the whole of the UK.

So if you are refurbishing put as much emphasis on water-efficiency as energy to future-proof your investment.

Source: Sustainable Restaurant Association

Best practice for purchasing equipment

Refrigeration: seeking an energy-efficient solution.

- Consider the advantages of coldrooms versus cabinets or chest freezers.
- Refrigeration needs to breathe – cramming cabinets into unventilated spaces is bad for the equipment and bad for your electricity bill!
- Refrigeration capacity should be matched to refrigeration requirement as closely as possible.

- Invest in refrigeration equipment that is recognised for energy efficiency with inclusion on the Energy Technology List www.etl.decc.gov.uk/etl/claim.
- Energy-use can vary as much as 10% depending on the refrigerant type and there can be issues with flammability and toxicity – so ensure you use a responsible supplier who can guide you through all the issues.

The Cookline: out of the frying pan into the energy-efficient fryer.

- Match the oven capacity to kitchen output requirements
- Maximise efficiency
- Plan the kitchen layout so the flow of traffic in the kitchen is ergonomic
- Incorporate energy-saving features including heat recovery, auto shut-down and use residual heat
- The best catering equipment manufacturers are constantly innovating – but here are some examples of the latest money-saving, state-of-the-art features that pack the efficiencies into the modern kitchen:
 - Chrome plated griddles emit less radiated heat and conserve power.
 - Electric induction hobs are up to 50% more efficient than traditional alternatives. They don't need as much ventilation and produce 'clean' heat.

- The latest range of 'green' fryers offers: faster cooking times; quicker temperature recovery times; requires less oil; incorporates heat exchanger design and uses mixed gas burners.

Foodwaste minimisation and treatment

Based on a survey of restaurants by the Sustainable Restaurant Association, gathering data on waste collection figures and wholesale food costs, if an average restaurant reduced its food waste by just 20% it could generate annual savings of:

- Over 4 tonnes of food waste per restaurant
- More than £2,000 from avoided food costs, by from using food that would normally have been thrown away
- Between £150 - £1,700 on waste collection costs, if food waste is collected for anaerobic digestion

These savings will grow in coming years as waste pick-up fees rise due to increasing landfill tax.

The current standard rate of landfill tax is £82.60 per tonne from 1 April 2015.

These increased rates will affect all waste management services, and the costs will be passed to restaurants. Implementing measures to reduce the amount of waste going to landfill now will generate bigger savings.

The increase in landfill tax will also make it more cost effective to send food waste for composting or anaerobic digestion compared with sending it to landfill.

Reduction of potential greenhouse gas emissions

The Sustainable Restaurant Association also used the Restaurant Food Waste Survey results, Defra figures and waste collection service reports to calculate the potential greenhouse gas (GHG) emissions from food waste that was: sent to landfill; collected for composting; collected for anaerobic digestion.

- GHG **emissions** per restaurant, if food waste is sent to landfill: 7.972 tonnes CO₂-equivalent
- GHG **savings** per restaurant if food waste is composted instead of landfilled: 7.3 tonnes CO₂-equivalent
- GHG **savings** per restaurant if food waste is sent for anaerobic digestion instead of landfill: 10.15 tonnes CO₂- equivalent

Each time diners eat out, they potentially generate nearly 0.5kg of food waste.

Overall, the average food waste balance from the surveyed restaurants was:

- 65% of food waste comes from preparation – peelings, off cuts and anything ruined while cooking
- 30% of food waste comes back from customers' plates
- 5% of food waste is classified as 'spoilage' – out-of-date or unusable items

You pay twice for throwing food away

Potential savings to restaurants

It is important for restaurants to make the connection between reducing food waste and cost savings. Restaurants are effectively paying twice for all food items that are thrown out – once for the food that has been bought but not used and then to have it taken away as waste.

3.4 million tonnes of waste is produced by hotels, pubs, restaurants and quick-service restaurants in the UK each year.

- Of this, 1.5 million tonnes goes to landfill of which 600,000 tonnes is food waste.
- Eliminating the avoidable waste could save over £722m per year.
- Of the 18–20 million tonnes of total food waste in the UK each year – around 1/3rd of food is binned before it's even cooked.

Other waste minimisation

Work with suppliers to minimise packaging or get them to collect reusable trays and containers rather than using cardboard or plastic.

Shop around or work with other local restaurateurs to create recycling syndicates to reduce collection costs. Some recycling businesses will even pay you a nominal amount and supply bins so the service may even be free of charge

For management of food waste, consider:

- De-watering systems
- Compost production
- Waste to grey water systems
- Food waste decomposition systems

Sustainable waste recycling

Recycling – minimise waste to landfill by creating clearly defined sortation areas inside or outside the kitchen to segregate waste and train your staff to use the system effectively.

Communicating best practice: staff, customers and suppliers

A well-managed and well-equipped kitchen will help staff to perform to the best of their ability when the heat is on – which is good news for the bottom line.

Nearly 2/3rds of accidents in the catering industry are due to poorly-maintained equipment. Keep staff safe with a rigorous maintenance schedule.

Training: poor habits are bad news for health, safety and efficiency in the kitchen – which has a direct impact on the quality of output. (See the Sustainable Restaurant Association's Training service: <http://www.thesra.org/other-services/training/>)

Overheating: working for long periods in temperatures above

24°C has significant health implications and will lead to more sickness absence and potentially higher staff churn rates. More efficient equipment with automated controls helps to reduce the kitchen temperature keeping staff within safer thermal comfort levels. Staff will be even more loyal and motivated in a temperature-controlled kitchen

Ventilation: poor indoor air quality also dramatically affects staff performance. Each person needs 12-14 litres of fresh air per day so if those air changes aren't controlled, staff health will suffer – which is bad news for them and your business. This is especially important if any staff have asthma or respiratory conditions. Workplace asthma is on the increase and in many cases workplaces are responsible for creating the condition in otherwise healthy adults.

Lighting: natural light improves performance, mood and wellbeing – make every effort to flood the kitchen with natural light.

So you have invested in your building fabric and a state-of-the-art kitchen but you may still not achieve your energy and carbon goals. You can change a few habits

- Do you really need to power up all the equipment long before service begins?
- Does the dishwasher really need to go now, or could it wait till it's full? And how about that energy-guzzling dryer setting?
- Do you need six burners running full blast for one portion?

Ask your staff to identify the wasteful things they see and let them create solutions – you'll get more buy-in and goodwill if they generate the solutions.

Reducing waste by design

Finally some general questions for you to work through.

Part 1: Identify which areas of your business could benefit from becoming greener

Q1: What does 'being greener' mean to you?

Does it mean reducing energy bills, reducing waste, or using locally sourced produce?

You'll come up with lots of answers, and some will be easier than others to achieve, so you may want to begin with those. A first success on a smaller scale could be useful when it comes to getting the support of customers and suppliers. On the other hand, you may want to first tackle the area where the greatest impact can be made.

Q2: Which areas of your business might benefit from making such changes? Identify the areas in order of size, ease and potential outcome.

Part 2: assess the whole lifecycle of your product or service

Assessing the lifecycle of your products or services will help you find two or three areas where improvement will offer the most potential. Think about the full lifecycle; if it's a product, this begins with the raw materials that go into it and where and how they're produced, through to its disposal at the end of its life. It's useful to invite your suppliers and customers to contribute to this.

Tip: This is not supposed to be a very detailed analysis. The idea is that you will get clear sense of the opportunities – don't feel you have to carry out lots of research.

Source: Can your ingredients be sourced from greener suppliers? Do more local suppliers exist?

Transport: How do things get delivered to you? Can they be sourced closer? Can packaging be improved to reduced spoilage or damage? Can the transport type be changed? Can deliveries be done at better frequencies to reduce fuel usage?

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This guide has been produced by WSX Enterprise Ltd as part of Communities Living Sustainably (CLS) in Dorset. CLS in Dorset aims to help people in the Bridport and Dorchester areas adapt to climate change and to live more sustainably. The project strives to act as a catalyst for action, building on the great work already taking place in the local area and exploring some innovative approaches. CLS in Dorset, supported by the Big Lottery Fund through the Communities Living Sustainably Programme, is a partnership led by Dorset Community Action. www.clsdorset.org.uk @CLSDorset