



CLIMATE ACTION PLAYBOOK

July 2021

WITH DEVELOPMENT PARTNERS:



Introduction.

The UK government has made a commitment to becoming Net Zero by 2050¹ and as the third largest private sector employer in the UK economy, it is essential that the hospitality businesses engage with the challenge of measuring and reducing their carbon footprints, across their entire value chain.

Much good work has been done previously on exploring action that can be taken to address key emissions sources within the value chain, but these have not been brought together before into a coherent and comprehensive guide.

This guidance document aims to do this and to document actions that you can take to help mitigate and reduce emissions in pubs and bars simply, effectively and affordably. Hospitality is a challenging industry, often with slim profit margins, so all recommendations in this guide are designed to be achievable. Pubs and bars are also well known for being innovative, creative and ready to take on a challenge - this guide aims to provide the tools to allow these attributes to flourish.

The past year has been exceedingly challenging for hospitality businesses as we have fought to keep doors open through the Covid crises and multiple lockdowns. This uncertainty has meant that addressing issues like carbon emission may have been put on the back burner. Similarly, many pubs and bars have been hesitant to engage with net zero activities as solutions can seem complex and challenging.

However, the end of lockdown provides great opportunities to rethink the way we do business, to benefit our customers, the economy and the planet alike.

A renewed focus on efficiency is not only great for cutting emissions, but also improves the bottom line - by cutting core expenses you can increase profitability without increasing sales revenue. Win-win.

Likewise, building environmental criteria into supplier selection can bring new suppliers and products to your attention, while promoting low carbon staff travel can improve employee welfare.

The first step towards net zero success is working out how carbon intensive your pub or bar currently is. By calculating what your actual emissions are and where they are coming from, you will get a baseline understanding of where you are currently at compared to average levels in the UK.

From there, it is possible to implement mitigation strategies that target specific areas that need improvement. By understanding where we can improve the most, we can take actions that generate the most significant reductions.

This guidance document will help you to take simple and affordable steps to reduce your emissions, saving you money and helping you work towards becoming a Net Zero venue.

1. <https://www.gov.uk/government/news/uk-becomes-first-major-economy-to-pass-net-zero-emissions-law>

Why should I care?

With all the time-sensitive challenges that come with operating a hospitality business, it is easy to understand how addressing Net Zero can get pushed down the list of work to be done.

Between balancing the budget, finding staff, staying on top of ordering and the multitude of other administrative tasks, it is worth asking the question - why should I care about becoming Net Zero?

The UK Government has made it a goal - with the UK government making a strong commitment to Net Zero, they will be looking to every industry to do their part. That means that hospitality will be required to reduce their emissions, either through support or through possible regulation that penalizes businesses for not doing enough. The Department for Business, Energy and Industrial Strategy (BEIS) have created a Net Zero SME working group that aims to raise awareness of Net Zero targets and encourage action ahead of COP26 in November.²

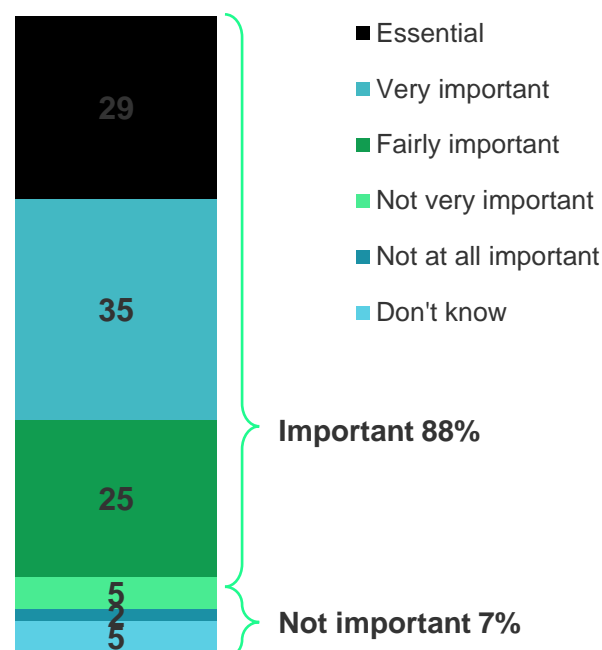
Similarly, the government has stated that they will be looking to help hospitality businesses not just survive through the COVID-19 pandemic, but also to be a central part in positive economic revival, bouncing back stronger and greener.³

Because it can improve your business - there is now a wealth of information, research and anecdotal evidence that has found that reducing your carbon footprint can save your business money. Between reducing your energy bill, getting more from

your equipment and appliances, and attracting new environmentally-conscious customers, working towards Net Zero can improve your bottom line while contributing positively.

Customers are demanding it - of people who have heard of Net Zero, 88% think that it is essential that the UK meet this target⁴. We are seeing more customer demand for Net Zero information, such as carbon labelling on food⁵. Younger generations in particular see reducing the impacts of climate change as a significant and important challenge, and see Net Zero as a key part of that strategy.⁶

How important is it for the UK to reach Net Zero by 2050?



Source: https://energysavingtrust.org.uk/wp-content/uploads/2021/05/Net-Zero-Consumer-Research_Energy-Saving-Trust.pdf

2. <https://www.ukhospitality.org.uk/page/sustainability/>

3. <https://www.foodmadegood.org/hospitality-central-to-helping-uk-reach-net-zero-targets-says-minister/>

4. <https://energysavingtrust.org.uk/what-do-your-customers-think-about-net-zero/>

5. <https://www.forbes.com/sites/briankateman/2020/07/20/carbon-labels-are-finally-coming-to-the-food-and-beverage-industry/?sh=4354f6767c03>

6. https://energysavingtrust.org.uk/wp-content/uploads/2021/05/Net-Zero-Consumer-Research_Energy-Saving-Trust.pdf

Addressing the barriers.

While we know many pubs and bars would like to become more energy efficient, there are a range of barriers to achieving your Net Zero goals. These include:

Financial - hospitality businesses can have slim profit margins, which means choosing where to invest your time and money is important. Without clear return on investment, investing in emission saving technologies and techniques can be difficult.

Time - owners and managers of pubs and bars are often time-poor. With so many moving parts to running a business, it can be challenging to find the time to research and implement emission saving strategies.

Lack of expertise - while hospitality professionals are well known for being jack-of-all-trades, most people have not had any training on how to reduce carbon emissions. While considering the environmental impact of business is becoming more mainstream, it is still not commonplace to receive formal or on-site education in this area.

Limited awareness - many pubs and bars have not fully realised the importance of becoming Net Zero, and therefore have not sought to engage with the topic. With the plethora of details that hospitality owners need to have awareness over, it is understandable that Net Zero has not been front and center for many.

Doing enough - while many hospitality businesses do make positive steps towards sustainable practices, it is easy to overestimate the impact. For example, while recycling is admirable, it will not make a huge difference if other parts of the business

are carbon intensive. It is easy to assume that doing something small is enough, but in order for us to reach Net Zero we need to dig deeper and find bigger solutions.

Existing assets - the government wants the UK to become Net Zero by 2050, but 80% of the buildings that will around in 2050 have already been built⁷. It does not make good economic or environmental sense to remove existing buildings in favour of more energy efficient ones, so we must seek to work to decarbonise what we currently have in place.

It is important to acknowledge and address these challenges head on, and that the solutions and strategies proposed take them into consideration. It is not helpful to propose an entire venue retrofit without considering the financial implications, and deciding to scrap existing assets may cause more carbon emissions than save them.

As mentioned above, the next most important step after considering challenges is to understand how well your venue is doing with energy efficiency and identifying opportunities for improvement. All of that comes through measurement and calculation.

7. https://gb.gleeds.com/globalassets/news--media/publications/net-zero-hotels/gleeds_nzc-existing-hotels_final.pdf

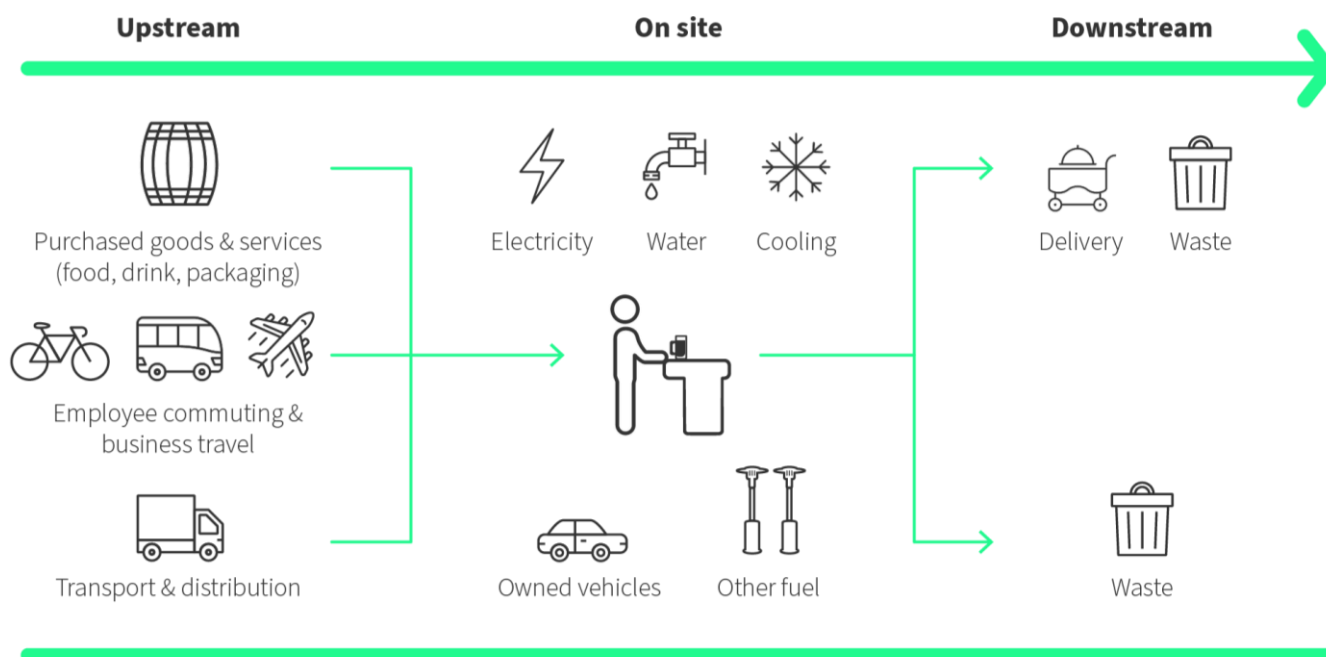
Measuring for success.

As experts in climate strategy, we recommend that reduction activities are evidence-based, using insights derived from robust and effective best practice measures.

Without a clear understanding of which parts of your businesses have the greatest climate impact, it is difficult to know where to focus attention or whether action you've already taken has been effective.

Calculating emissions can seem like a daunting task at first, but the team at Net Zero have created a practical tool to help you which can be found at www.netzero.bar. When considering the emissions of your venue, it is important to take into account not just your on-site impact, but also upstream and downstream emissions. The diagram below demonstrates the different types of emissions a typical pub or bar might create.

It is only through effective measurement that a proper plan can be established, priorities identified, targets set and progress towards meeting them tracked.



Key recommendations.

This document will present practical actions for multiple themes relevant to pub and bar operations, but there are three high level recommendations that cut across all themes. The actions below are a great place to start to lay the foundation for an effective net zero strategy.

1. Start with data

It can be tempting to leap straight into taking action to reduce your emissions but in our experience, this often leads to short lived enthusiasm and confusion about whether the action taken has been effective.

The choice of reduction activities you take should always be evidence-based; using insights derived from robust and effective assessment of climate impact. This will provide a clear understanding of which parts of your businesses have the greatest climate impact, and where the greatest opportunities for reduction therefore exist.

Regular collection of data will also allow you to set reduction goals and track progress towards achieving them. This is essential to ensure action being taken is effective and to provide a sense of progress and achievement to the team.

2. Share enthusiasm and systematize processes

Employees take their cues from management and need to know that this is an important part of the bar's values and a key focus area. By sharing your enthusiasm for addressing the climate challenge with all staff, you can empower them with the license to see their job through the climate lens.

Building climate impact considerations into everyday processes systematizes this approach. Your management team are the ones that will enforce policies and evidence shows that engaged and well trained management is essential for sustainability implementation. A study of 112 hospitality founders and managing directors found that staff were not powering down the venues properly and costing the owners more money than necessary⁸. Providing on site training will see managers and senior staff engage more with Net Zero which will naturally trickle down to all staff. Providing information as part of all employee induction packs will ensure that everyone has the right tools to contribute and demonstrate your commitment to becoming Net Zero. Encouraging and reward staff by revealing their energy-saving achievements can also be an effective tool.

8. <https://www.bighospitality.co.uk/Article/2013/11/13/Hospitality-bosses-cite-energy-waste-as-top-irritation>

Key recommendations.

3. Maximise value

While some activities will improve efficiency and cut costs, there may be some investment required for others. Look out for government and council initiatives and discounts - the UK Government has made a commitment to become Net Zero by 2050 and there are a range of funding opportunities in planning that will help industries reduce their emissions. See for example this source [here](#). Getting funding for infrastructure like on-site solar can help offset initial costs, while saving your business money in the long term.

Leverage customer engagement by communicating with them about your Net Zero initiatives - customers are being more carbon-savvy and are not only looking to visit pubs and bars, they also want to increase their knowledge. Although plastic straws, for example, don't have significant carbon emissions, by offering Net Zero alternatives to customers, they can see actions that are tangible and familiar, which can lead to more significant behaviour change in the future. When they see your venue making efforts in these areas, they know that you are taking steps to reduce your carbon footprint. Small steps such as removing straws or using recycled napkins can have significant knock-on benefits through future behaviour change, which demonstrate your commitment to Net Zero.

Engage with the community and collaborate with other Net Zero pubs and bars - by communicating with other venues on the same sustainability journey, you can share ideas, trial solutions and develop supply chains together. It is very difficult for one single person or venue to have all the answers, so collaborating with others is a fantastic way to get the best information and practices.



Guidance by theme.

This guide covers nine of the core operational themes of running a pub and bar in the UK:

-  1. Building materials and fitouts
-  2. Heating and cooling
-  3. Lighting
-  4. Purchased goods and services
-  5. Equipment and appliances
-  6. Transportation
-  7. Electricity generation
-  8. Water
-  9. Waste and recycling

Across each of these themes, this guide will provide you with an overview of the theme and why it's important, practical actions that can be taken, and case studies of best practice in the industry.

All aspects, practical actions and case studies have been researched with barriers to implementing energy efficiency in mind. Our goal is to avoid lofty aspirational thinking, but instead to consider common barriers and provide sensible and achievable actions that can be taken by standard pubs and bars in the UK.

Guidance by theme.



1. Building materials and fitouts

What your building is made from has a significant impact on how energy efficient your venue is.

It is estimated that up to 60% of heat in a typical hospitality building is lost through walls, floors, roofs and windows⁹. This is particularly the case in the UK where a lot of pubs and bars occupy older buildings that have poor building insulation, and little draught or damp proofing. Many older buildings have a high U-value, a measurement that describes how effective a material is as an insulator¹⁰. That means that buildings are not very well insulated and can become overly hot in the summer and cold in the winter, meaning more energy is required to create comfortable conditions for guests.

Investment in improving your building's use of energy and resources can not only help to reduce operating costs and improve comfort for staff and guests, but also increase the value of the building itself and make it more attractive to future investors.

Similarly, how you choose to fit out your pub or bar will have implications for carbon emissions. Selecting low carbon and reused furniture and building materials means less waste and contributes to the circular embedded carbon cycle.

Practical Actions:

- When building or remodeling, using materials that are already on site will reduce landfill and recapture embedded carbon. Similarly, adding insulation at fit-out is far more cost effective than retro-fitting
- Select furniture made from recycled or low carbon materials
- Another growing trend is to lease furniture instead of purchasing directly - this means that furniture is built to last and is less likely to end up in landfill. This 'product-as-a-service' model means that products are refurbished instead of thrown away.
- Choose building materials that are highly insulating - this will help lower energy costs and also create a more consistent and comfortable temperature range in your venue
- Kitchen design can also affect its carbon footprint - if ovens and other heat sources are placed next to fridges or freezers, they will need to work harder to do their job. Consider the placement of equipment and appliances so they are not being overworked.

Case Studies:

- East London Pub, The Buxton, won the SRA's Open Right prize by retaining the pub's existing features, fixtures and fittings through a building retrofit. They retained decorative bricks and tiles, the original facade, and beautiful fireplaces in order to both maintain good character and make sure of the embodied carbon in these materials. They saved an estimated 21% of whole life carbon emissions compared to building a new pub to a similar specification¹¹
- Reupholstery Limited are developing a model that allows pubs and bars to lease high-end furniture for much less than it would cost to purchase. Their aim is to provide furniture that is cost effective, lasts for 50 years, and allows for hospitality operators to change the look of their venue over the years in alignment with market trends¹²

9. <https://www.yuenergy.co.uk/news/energy-saving-hospitality-business-guide#ventilation-%20air-conditioning>

10. <https://www.thenbs.com/knowledge/what-is-a-u-value-heat-loss-thermal-mass-and-online-calculators-explained>

11. <https://www.morningadvertiser.co.uk/Article/2020/02/14/How-to-reduce-your-pub-s-carbon-footprint>

12. <https://reupholstery.uk/mobius-untying-the-gordian-knot/>

Guidance by theme.



2. Heating and cooling

Heating and hot water systems are essential for every hospitality business and can account for up to 40% of total energy costs, the most significant energy expense in a typical bar or pub.¹³

Research has found that effective heating and cooling helps to keep guests comfortable, staying longer in your venue and thereby increasing the average spend per head.

Using electronic timer switches is a great way to have your heating and cooling systems switch on and off just when you need it.

Natural ventilation is free! When possible, open windows and doors at opposite ends of the venue to allow fresh air into the space.

Ventilation systems work up to 25% more efficiently when they are cleaned and maintained regularly. The energy savings far outstrip the costs, so it is worth the regular investment - plus your equipment will last longer and will not need to be replaced as quickly.

Coolant gases used in air conditioning systems have a very powerful impact on the climate. 1kg of R134A, a common refrigerant gas in AC units, is 1,300 times more damaging the climate than the same amount of carbon dioxide. Maintenance of systems can identify leaks early and avoid large scale topping up to replace lost gas.

Sometimes heating and cooling can work against each other - if the systems aren't connected you might inadvertently have

them both on at the same time. One way to avoid this is to establish a 'dead band' where neither heating or cooling is on, for example when the temperature is between 18 - 22°C.

Technology improves quickly, so consider upgrading your system. The return on investment for many of these purchases can be as little as 12-24 months.

Check out the [heating, ventilation and cooling guide](#) from the Carbon Trust.

Practical Actions:

Air conditioning

- Review leaks and gas types - having a professional come to assess your air conditioning system for leaks and gas types can identify inefficiencies and help solve problems before they become serious.
- Look for more energy efficient systems when replacing units - low-carbon technologies are becoming more efficient and cost effective all the time so it is worth looking into the latest systems when needed.

Insulation and windows

- Carry out a heating assessment to see where energy efficiency opportunities lie - while it is good to have professional support, it is also easy to conduct a self-assessment to identify any drafts as these can increase the heating energy requirement by 10—20%
- You can have great heat pumps and gas boiler efficiency, but if the building is poorly insulated then all that heat, money and emissions are literally flying out the window.

13. <https://www.yuenergy.co.uk/news/energy-saving-hospitality-business-guide#introduction>

Guidance by theme.



2. Heating and cooling

Practical Actions:

Gas boiler efficiency

- Keeping boiler pipes cleaned and insulated is a great way to ensure the system is running efficiently. Well serviced boilers can reduce your operating costs by up to 5% per year and has a less chance of breaking down and disrupting service.
- Check what temperature your boiler is currently set at - for washing dishes, 60-79°C is ideal. Anything hotter than that is using more energy than required.

Heat pumps

- Heat pumps can be a more efficient form of heating than gas boilers and they can also be safer than LPG gas boiler systems, which require more safety measures in place to protect from incidents.
- Heat pumps can be integrated into existing hot water systems seamlessly.

Patio heaters and gas bottles

- Since COVID-19, patio heaters have been in extremely high demand! Unfortunately, they are high carbon emitters and due to the fact they are outside and are generally very inefficient at providing heating. In 2006 it was estimated that patio heaters alone contribute to one million tonnes of emissions in the UK per year. Recently, France has banned all patio heaters.
- A [study from UBC](#) found that electric infrared heaters are the best option for heating outdoors.

Think outside the box

- Instead of trying to heat indoor or outdoor spaces, it might be more efficient to provide heating solutions directly for customers, such as blankets or heated cushions such as [these](#).

Case Studies:

Battlesteads Hotel and Restaurant installed a carbon-neutral heating system:

"An innovative woodchip-burning biomass boiler supplies heating and hot water to the entire hotel using sustainable fuel from a forestry only one mile away, meaning virtually zero fuel miles.

The surplus heat generated is used to heat two polytunnels, which provide herbs and salad vegetables even in winter months. We also have herb gardens and salad gardens on either side of the main garden area and we plant soft fruits and root vegetables in our kitchen garden throughout the year." ¹⁷

14. <https://www.yuenergy.co.uk/news/energy-saving-hospitality-business-guide/#introduction>

15. http://news.bbc.co.uk/1/hi/uk_politics/4719654.stm

16. <https://www.cbc.ca/news/science/what-on-earth-outdoor-patio-heating-1.5763692>

17. <https://www.battlesteads.com/going-green/environmental-policy>

Guidance by theme.



3. Lighting

Lighting is an important aspect of all hospitality venues as it establishes the look and feel of the venue and makes a comfortable and enjoyable space for customers.

LED lights are the most cost effective and energy efficient light bulbs on the market, making them a great option for pubs and bars. LED lights now come in a range of options, including filament bulbs, so you can still create great lighting in your venue.

The Carbon Trust has created an extensive guide for lighting efficiency that can be found [here](https://www.carbontrust.com/resources/lighting-overview-guide). The guide demonstrates that LED lighting has a vastly longer life than other lighting alternatives, and a higher efficacy rate which describes the ratio of light emitted to power it consumes.

	Lamp Life	Colour Temperature	Colour Rendering	Efficacy
Standard Incandescent	2,000 - 3,000 Hours	2,500 - 3,000K	100 Ra	5 - 20 lm/W
Tungsten Halogen	2,000 Hours	3,200K	100 Ra	15 - 24 lm/W
Tubular Fluorescent	10,000 - 12,000 Hours	2,700 - 6,500K	>85 Ra	60 - 105 lm/W
Compact Fluorescent	6,000 - 15,000 Hours	2,700 - 4,000K	> 85 Ra	45 - 80 lm/W
High pressure sodium	12,000 - 30,000 Hours	2,000 - 2,700K	25 - 85 Ra	25 - 85 lm/W
Metal Halide	6,000 - 20,000 Hours	3,000 - 6,000K	65 - 93 Ra	50 - 113 lm/W
LED	25,000 - 75,000+ Hours	2,700 - 8,000K	65 - 97 Ra	70 - 150+ lm/W

Source: <https://www.carbontrust.com/resources/lighting-overview-guide>

Practical Actions:

- The first and simplest way to reduce lighting costs and emissions is to establish a 'lights off' policy for your staff to follow. If lights don't need to be on at certain times of the day, for example during set up and prep, leave them off. This alone can save up to 20% on your energy bill. Of course, a venue must always consider health and safety so it is important to keep emergency exit lights and high-risk areas such as staircases well lit for both staff and guests.
- Switching light bulbs to LED lights is a great way to reduce your carbon emissions and energy bills. Research has found that LED lights are 80% more efficient and last much longer than incandescent bulbs.
- Security lights are designed to provide a lot of light and can be very high energy consumers: A single 500W halogen light used for 6 hours per night will produce around 1/3 ton of CO₂e per year and cost over £100 in electricity. An LED light of equivalent brightness would cost £10 to run and produce 30kg of CO₂e.
- Putting lighting on a motion-sensor in places like bathrooms is a great way to ensure lights are only on when being used. This won't work in all spaces, as you wouldn't want a flickering light to distract from customer experience, but makes sense for places like bathrooms, walk-in fridges, store rooms, offices or wine cellars.

Guidance by theme.



3. Lighting

Case Studies:

The Carbon Trust worked with a Leisure / Charity Centre to improve their lighting systems¹⁸. The Centre is now set up to save £2,818 every year in energy savings alone. See the project summary below:

Lighting Project Summary

Existing system consisted of 134 fluorescent light fittings (T8, halogen, 2D) with no automated control

Best Proposal Summary

- Total Project Cost: £11,487
- Capital Contribution: £1,723
- Energy Savings: £2,818 p.a.
- Project Payback: 4.1 years
- Project Payback with capital contribution: 3.5

Source: <https://www.carbontrust.com/resources/hospitality-sector-energy-saving-guide>



Guidance by theme.



4. Purchased goods and services

The way we purchase goods and services can have a significant impact on our total emissions. Between food, beverages, packaging and consumables, chemicals and laundry products, there are lots of opportunities to work towards Net Zero.

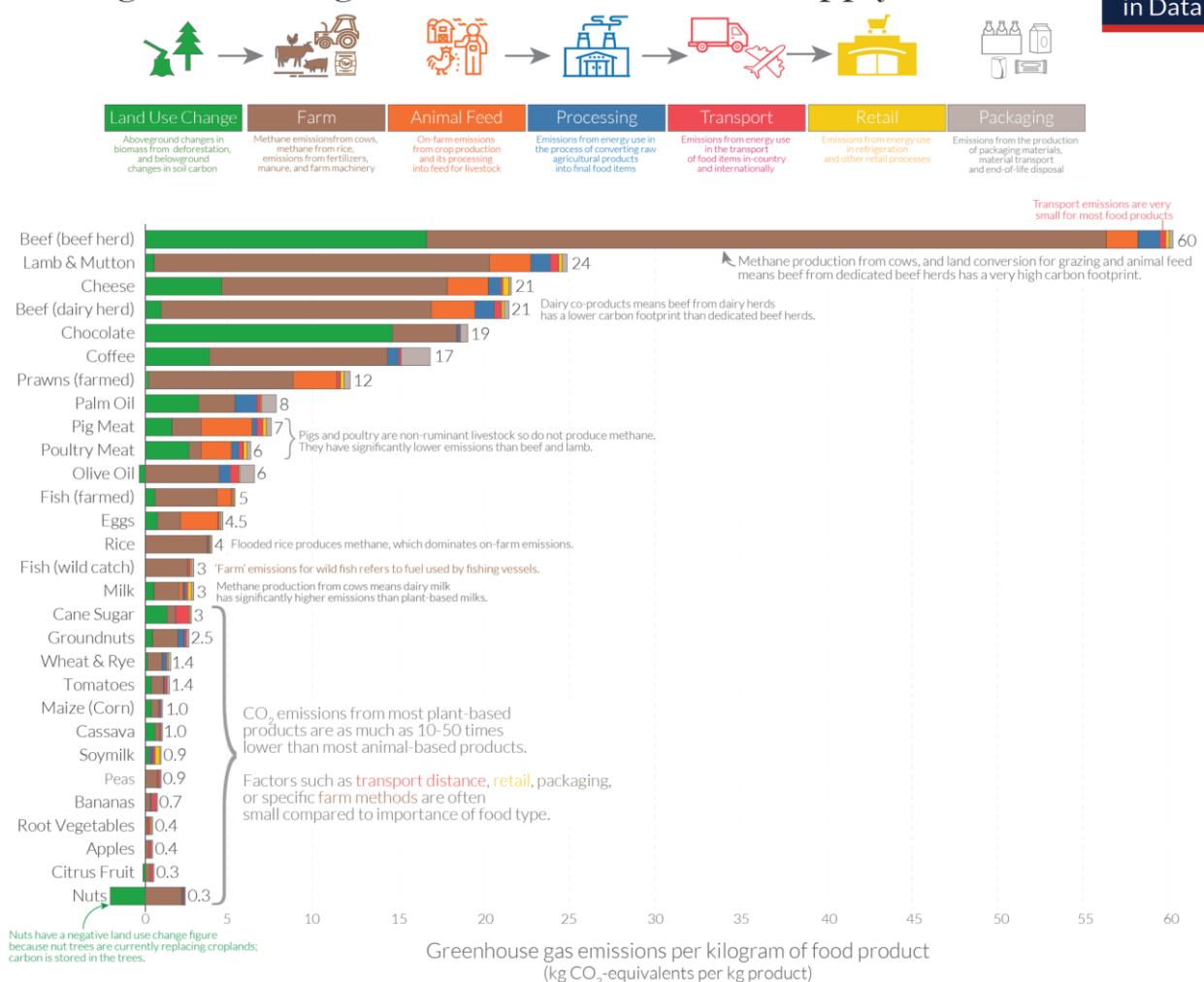
Food

The food we serve, and how it is produced, will impact the greenhouse gas emissions for which our venues are responsible. For food-led businesses, this can represent up to 70% of total annual emissions, based on results from our work with pilot pubs and bars.

Research over the last decade has demonstrated the huge variability in climate impact of different food types, with animal products contributing far more per kilo than plant-based foods. The chart below (from Our World Data) is based on 2018 research from Poore & Nemecek looking at emissions data from 38,700 farms in 219 countries and starkly highlights this difference.

Food: greenhouse gas emissions across the supply chain

Our World
in Data



Source: <https://ourworldindata.org/food-choice-vs-eating-local>

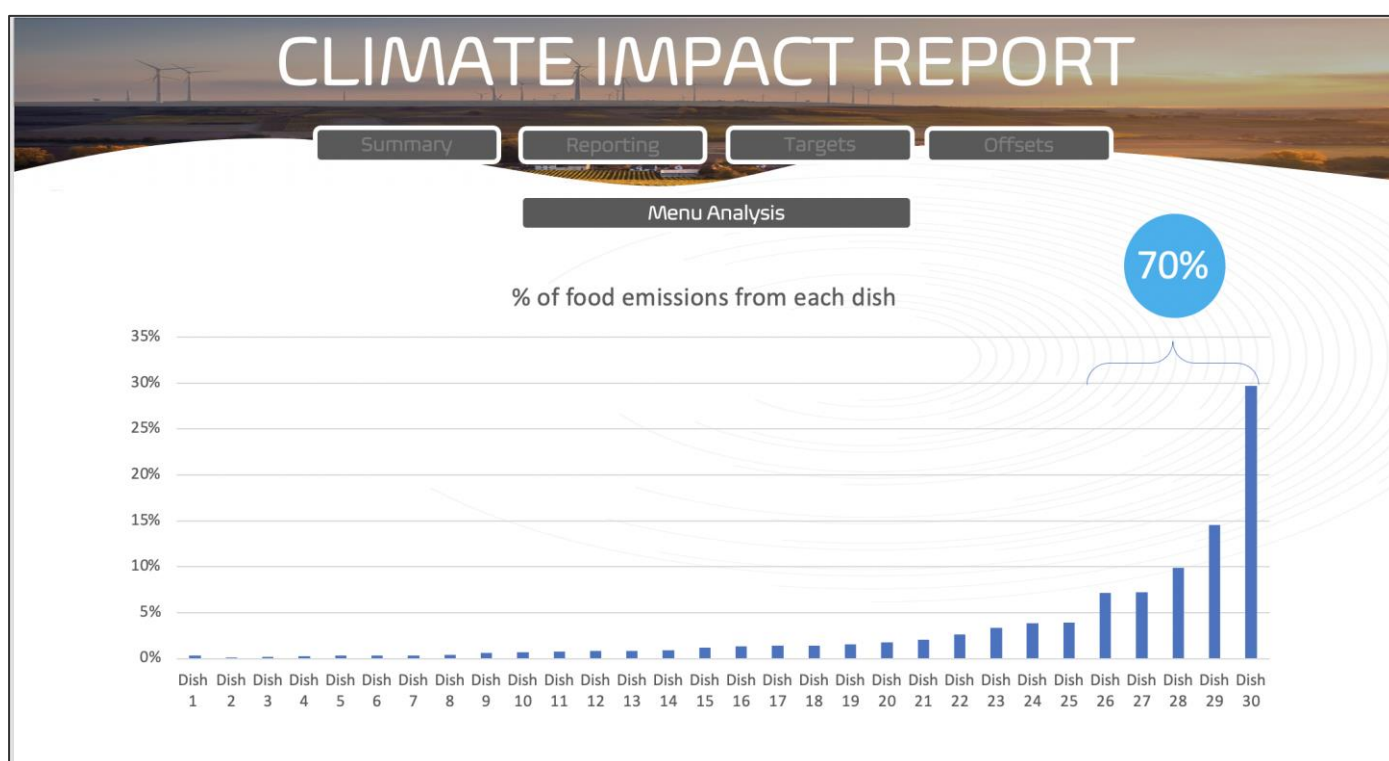
Guidance by theme.



4. Purchased goods and services

Note that these are global averages and UK beef production, for example, is generally significantly lower impact, at around 20kg CO₂e / kg beef, but still a multiple of similar quantities of other ingredients.

Reviewing menus and reformulating dishes to enable procurement of lower carbon ingredients, is likely to be one of the most powerful actions you can take to reduce climate impact. Analysis of the climate impact of each dish on the menu and its contribution to the overall business's footprint can be revealing. In pilot studies for the net zero protocol, this demonstrated that in many cases the majority of the impact was in a few dishes that combined high carbon intensity and popularity.



Example menu analysis

Beverages

For wet-led pubs and bars, the beverages play a similar role, accounting for a significant proportion of the business's overall carbon footprint. It should be stressed however that for beverages the emissions across the value chain are weighted very differently, with a much greater focus on processing, transport and packaging – with clear implications for where effective reduction action should be directed.

Research from the Beverage Industry Environmental Roundtable found that actual distillation accounted for approximately 40% of a spirit's carbon footprint, the glass bottle approximately 20% and the rest was a result from base ingredients, warehousing, and transportation.²⁰

20. <https://www.theiwsr.com/consumer-demand-for-carbon-neutrality-drives-innovation-across-wine-beer-and-spirits/>

Guidance by theme.



4. Purchased goods and services

Although the concept of “food miles” has its detractors, it remains a useful consideration. When considering your suppliers of goods and services, one simple and effective way to reduce your emissions is to look locally. Food travels approximately 1500 miles to get to your customers’ plate, which accounts for 11% of the total carbon emissions associated with these products²¹. When you buy from other businesses near you, you reduce the distance that they need to travel and as such reduce the emissions associated with transportation, storage and logistics. Fresh food sourced locally for example does not need to be stored for as long in cold supply chains, which have significant energy requirements. Local suppliers will also often have more flexibility to deliver exactly what you need and can innovate more quickly than larger international suppliers.

Practical Actions:

Food

- Decrease emission through incremental menu development - choosing more vegetarian and plant-based options is a quick and affordable way to cut emissions that is aligned with changing customer tastes and demands. This Playbook from the WRI provides a range of 57 very helpful behaviour change interventions that can encourage diners to select more plant-based dishes from your menu, looking across 5 dimensions of Product, Placement, Presentation, Promotion and People.
- Reorder your menu – Simply changing the position and order of items on your menu can change the way customers relate to them. The “Flip the menu” challenge puts the meat free options first.
- Decrease carbon intensity through supply chains - find local suppliers to reduce ‘food miles’ and carbon emissions associated with transport and cold storage.
- Running campaigns like Meatless Monday can help reduce emissions by replacing high-carbon products like beef and lamb with lower-carbon meat free options. Alternatively, turn things round by promoting Meaty Monday, and have the other days of the week as meat free!
- Consider making some food products in house to reduce emissions. The Wheatsheaf Chilton Foliat, Berkshire make their crisps in house, reducing food miles and foil packaging and even attracting new customers.²²

21. <https://www.lightspeedhq.co.uk/blog/restaurant-sustainability-guide-reduce-your-carbon-footprint/>

22. <https://www.morningadvertiser.co.uk/Article/2020/02/14/How-to-reduce-your-pub-s-carbon-footprint>

23. <https://www.theiwsr.com/news-and-comment-radius-trend-eco-packaging/>

Guidance by theme.



4. Purchased goods and services

Beverages

Improve margins and decrease waste through management control and spill reduction - setting up bar stations properly with the correct equipment such as measured pourers for bottles will help reduce over-pouring and avoid spillages

Think carefully about the production and waste implications of packaging formats:

- Drinks come in a range of packaging formats, each with a different application and satisfying a different customer need. If you sell a lot of a particular type of drinks, talk to your supplier about whether they have dispensed options. These often come with environmental benefits - such as less packaging and simpler distribution, especially if they are in the form of concentrates.

- Dispensed solutions may not be right for all outlets. Typically you need higher volumes to achieve financial and environmental benefits, space will also be required for the equipment, which needs to be cleaned and maintained, and the range of drinks that can be offered is limited to the top sellers. You may therefore decide to carry a range of packaged drinks alongside your dispensed offering, to ensure customers have choice.

- Glass bottles are widely used in the licensed trade due to product quality assurance and their premium perception. Although glass typically has a higher carbon footprint, it is fully recyclable, so it is important to make sure you separate your glass bottles from general waste and process them through a contractor who is able to recycle them correctly.

- Other packaged beverage formats, such as cans and bottles (made from recycled plastic), will usually have a lower carbon impact and are easier and cheaper to recycle. As with glass, these should be separated from your general waste and processed through an appropriate waste contractor.

Garnishes can make your beverages look great, but they are very rarely consumed. When designing a cocktail menu, look to minimize garnishes and use of single use plastics like stirrers or straws (which will soon be banned) to save on energy and cost.

Case Study:

Coca-Cola Europacific Partners (CCEP) develop and purchase energy efficient equipment, much of it being unique to CCEP. Combined overall energy consumption savings on typical post mix systems are up to 40% lower than 5 years ago. This has been achieved through innovative design and the use of the highly efficient components, such as: natural refrigerant, electronically commutated (EC) fan and pump motors, improved python insulation and thin wall ice bank technology, with high efficiency compressors. In addition to this CCEP has committed to EV100, which means all of the company vans used by fleet engineers, will be 100% electric by 2030, further reducing the carbon footprint of their operation.

21. <https://www.lightspeedhq.co.uk/blog/restaurant-sustainability-guide-reduce-your-carbon-footprint/>
 22. <https://www.morningadvertiser.co.uk/Article/2020/02/14/How-to-reduce-your-pub-s-carbon-footprint>
 23. <https://www.theiwsr.com/news-and-comment-radius-trend-eco-packaging/>

Guidance by theme.



4. Purchased goods and services

Practical Actions:

Packaging and consumables

- Consider how to avoid, replace and/or reuse disposables and consumables in your venue.
- There are movements across Europe to reduce the amount of packaging and consumables that are wasted in hospitality venues, such as the Packaging Act in Germany, which extends responsibility of recycling to the producer.
- Check out WRAP's guide to eliminating 8 problem plastics²⁴ and speak to your core suppliers, like Nisbets or Ecover, will provide you more information on what packaging is less emission intensive.

Chemicals

- Consider switching to lower carbon alternatives - ask your supplier what Net Zero options they have, and if they don't know, then ask them to find out. Often by customers simply asking the question, suppliers can start sourcing more information and better alternatives.
- Buy concentrate and dilute to use – it makes no sense to pay for the shipping of water!
- Consider using natural or home-made sanitisers, such as lemon juice, vinegar, electrolysed water.
- Unilever, who produce a range of cleaning chemical for the hospitality industry, have committed to become Net Zero by 2039²⁵ and is spending \$1bn on research into low carbon chemistry

Laundry

- Laundry in hospitality is essential for operation. It is also one of the most energy intensive services that is required. Washing and drying tea towels, aprons and napkins etc. uses a lot of energy and is an area worth considering.
- Think first about the materials used: there is an obvious opportunity for re-use and upcycling of fabrics here that can avoid the impact of growing, processing, distribution and manufacture of new materials.
- Cotton has a large climate impact and other materials like linen and hemp are better options.
- A large proportion of the impact is in heating the water for washing and heat for drying. If washing in house;
 - Switching to a renewable electricity supplier will remove this impact
 - Air drying where and when possible will reduce consumption and costs.
- If working with a laundry, look for suppliers that are addressing their energy requirements and reducing emissions such as London Linen²⁶

24. <https://wrap.org.uk/sites/default/files/2020-08/WRAP-eliminating-problem-plastics-v2.pdf>

25. <https://www.breakingnews.ie/business/unilever-to-replace-carbon-from-non-renewable-fossil-fuels-in-cleaning-products-1015665.html>

26. <https://www.johnsons-londonlinen.co.uk/about/environment>

Guidance by theme.



5. Equipment and appliances

Pubs and bars are full of commercial equipment and appliances, all of which contribute to your venue's total energy and carbon footprint.

Kitchen equipment is one of the largest contributors to emissions in hospitality businesses, particularly pubs and bars. Although older equipment needs a fair amount of time to heat up, newer equipment like ovens, fryers and grills can heat up quickly and therefore do not need to be left on high all the time.

Kitchen gas burners are a classic example of wasted energy, as many chefs leave burners on throughout an entire shift. Likewise, when quiet, using single frying pans instead of whole grills is a much more energy efficient way of cooking.

Consider installing induction cookers instead of gas burners. They are more energy efficient and create a cleaner, cooler working environment and reduce the need for air conditioning. A study from [Ethical Consumer](https://www.ethicalconsumer.org/home-garden/shopping-guide/gas-electric-cookers) found that induction cooktops were far more energy efficient than gas and electric and had lower CO2 emissions overall.

Energy consumption and carbon footprint of gas versus electric cooking

	kWh/use	kWh/week	kWh/year	Annual CO2e (Kg) 2012	Annual CO2e (Kg) 2016	Annual CO2e (Kg) 2020
Hobs (average)						
Gas	0.90	54.51	381.60	70.68	70.21	70.42
Electric	0.71	43.01	301.04	138.48	124.04	70.18
Induction	0.50	30.53	213.70	98.30	88.05	49.82
Ovens (average)						
Gas	1.52	48.42	338.96	62.78	62.37	62.56
Electric	1.09	34.72	243.07	111.82	100.16	56.67

Source: <https://www.ethicalconsumer.org/home-garden/shopping-guide/gas-electric-cookers>

Guidance by theme.



5. Equipment and appliances

Practical Actions:

- **Ventilation** - natural ventilation is a fantastic way to reduce your energy consumption. When possible, create through draft by opening windows and doors at opposite ends of the venue to create natural ventilation.
- **Hand dryers** - research has found that hand dryers are more energy efficient than using paper towels in bathrooms²⁷. This is particularly the case when venues are sourcing renewable energy from their suppliers.
- **Ice machines** - choose ice machines with high energy and water efficiency ratings, check out guidance from energy star.
- **Coffee machines** - up to 50% of a coffee's carbon emissions come from the coffee making process, not just the coffee production process²⁸. Coffee machines use a significant amount of power to heat a small amount of water. Energy can be saved by turning off machines when not in use, or consider using filter or batch brew coffee.
- **Fridges freezers** - newer fridges and freezers have become more energy efficient and therefore save you money and emissions. As well as investing in the equipment itself, regular maintenance will help reduce energy requirements through efficient working. Once common issue is that the seals on fridges and freezers can wear down, allowing cold air to escape - you can fix this problem by simply making sure the seals are replaced. Check out the [refrigeration guide from the Carbon Trust](#).

Top Tips:

- Leave it off until it is actually needed - a reduction in energy use by 20% is the same as a 5% increase in sales²⁹, and the simplest way to reduce energy use is to only turn on equipment and appliances when they are actually needed. Consider leaving equipment like ovens, extractor fans, fryers and grills off or on low until it is time to use them.
- When it is time to replace equipment, look for products with high energy efficiency ratings.
- Regular maintenance will keep equipment running properly and not drawing too much power.
- Place labels on equipment for when they need to be turned on.
- Consider developing menus that can be batch cooked and frozen, rather than smaller-scale, refrigerated items. Freezers are more energy efficient than fridges, especially when opening and closing multiple times during a shift.

Case Studies:

Welsh company Clyne energy secured funding from the UK government to launch LoCooker, an oven that is said to be 70% more energy efficient than other small ovens in the UK^{30,31}. This product is quite new to the market, but has already won a Greenius Award, a competition launched by the Deputy Prime Minister to help progress the UK's green agenda. The appliance works in a similar way to a combi oven and combines convection heat and water vapor to cook food.

27. <https://www.sciencedirect.com/science/article/abs/pii/S0048969715001424>

28. <https://unitedbaristas.com/articles/insights/2020/06/hot-stuff-how-espresso-machines-cause-global-warming/>

29. <https://www.morningadvertiser.co.uk/Article/2020/02/14/How-to-reduce-your-pub-s-carbon-footprint>

30. <https://www.gov.uk/government/case-studies/energy-efficient-cooking-locooker-steam-ahead>

31. <https://www.bighospitality.co.uk/Article/2013/05/09/LoCooker-energy-saving-cooker-launches>

Guidance by theme.



6. Transportation

It is important to also consider the climate impact of what happens before and after hospitality services are delivered, rather than just focussing on what happens on site. In the UK, transportation is the biggest contributor of carbon emissions, accounting for up to 34%³². Thinking through what transportation is associated with your business can help reduce upstream and downstream emissions.

One thing to consider is how employees are getting to and from work. Driving cars to work is the largest contributor. In places like London it is much easier to get around via public transport, but in more regional areas it may be more difficult to find practical solutions.

Deliveries associated with business operations must also be considered in carbon accounting. This includes how products and services are being delivered, and also how we might deliver products and services as a hospitality business, for example catering, or direct to customer food and beverage delivery services.

Practical Actions:

Employees

- Encourage active transport from your staff with ride to work schemes, bike storage, lockers on site. This can be as simple as providing safe places out of the weather for employees to store their bikes, all the way up to providing shower facilities.
- Installing electric charge points for bikes, scooters, and cars can attract eco-friendly customers and encourage staff to utilise more low-carbon technologies. This is particularly beneficial in regional areas that don't have good access to public transport. Grants of £350 per charge point are currently available through providers like PodPoint³³
- Consider setting up the Ride to Work scheme for your employees. This scheme can save your employees between 29-35% savings on new bikes, including electric bikes - see the scheme here: www.cyclescheme.co.uk. Cycling to work has the added benefit of helping your staff become healthier and can even improve their mood.³⁴

Deliveries

- Reduce delivery frequency with consolidation - many food and beverage companies occupy spaces in the same area, such as Covent Garden Market in London. By talking to your suppliers, you may be able to consolidate deliveries between different supplier and low the total number of delivered required each week.
- Delivery with bikes/electric vehicles - seek out companies that use bikes or electric vehicles to deliver their products and services. Likewise, if your business offers a delivery service, using an electric bicycle can be faster and cheaper than using a car - see case study below.

Case Studies:

Pete Dommett, the owner of The Fallen Tree, Clevedon has made the most of the council's free bicycle loan scheme and started delivering beer directly to people's homes on an electric cargo bike³⁵. Home deliveries like this helped keep the pub ticking over during lockdown and made it easier for him to reopen the pub. The e-bike was able to carry over 100 pints of beer, was found to be faster than using a car due to not needing to find a park, and also reduced delivery costs.

32. <https://travel.zeelo.co/9-ways-to-reduce-your-workplace-carbon-footprint/>

33. <https://pod-point.com/solutions/business/workplace-charging>

34. <https://www.businessfirstonline.co.uk/advice/should-businesses-encourage-workers-to-cycle/>

35. <https://www.northsomersettimes.co.uk/news/clevedon-pub-owner-delivers-beer-bike-7811446>

Guidance by theme.



7. Electricity generation

Once again considering upstream impacts, the way in which electricity is generated will make a large difference to your businesses carbon footprint.

Using renewable energy is becoming more widespread in the hospitality industry with an estimated 20% of all Sustainable Restaurant Association members using 100% renewable energy.³⁶

Practical Actions:

- Switch to a supplier that offers electricity generated from renewable sources like solar, wind or hydro. Opus Energy currently provides 355,000 businesses in the UK with renewable energy and has partnered with Budweiser to offer a renewable energy tariff to pubs and bars in the UK. See case study below for details.
- Consider options for on-site energy generation through solar PV, solar hot water, wind, or geothermal - by investing in renewable energy infrastructure, it can mean more stable cost of supply, lower operating costs and even create the opportunity to sell energy back to the grid³⁷

Case Studies:

Budweiser Brewing Group has partnered with Opus Energy to launch a green tariff for pubs and bars in the UK³⁸. The initiative stemmed from research that found energy bills were high on the list of priorities for hospitality businesses looking to reduce costs and carbon emissions. The tariff guarantees to be cheaper than any other deal found through price comparison and can save pubs and bars up to 30%. Budweiser has also recently announced that every can, bottle and keg of their beer is brewed with 100% renewable energy, sourced from primary solar farms and wind turbines³⁹.

Nando's in Cambridge opened a sustainable restaurant in Cambridge, UK, that sourced 90% of its electricity needs from renewable sources, and produced the last 10% on site through 97 solar panels installed on their roof⁴⁰. They also built the venue using a responsibly sourced timber frame which has 80% lower carbon footprint than standard building materials.

JD Wetherspoon is trialing schemes to generate their own electricity on site using a combination of solar panels and wind turbines. They have also started exploring how heat waste from their wood-fired ovens might be used to generate electricity.⁴¹

36. <https://www.morningadvertiser.co.uk/Article/2018/12/05/Creating-an-eco-friendly-pub>

37. <https://app.croneri.co.uk/feature-articles/hospitality-tourism-and-green-recovery>

38. <https://www.pveurope.eu/markets-money/budweiser-offers-green-electricity-pubs-uk-and-ireland>

39. <https://renews.biz/67646/budweiser-uk-goes-100-wind-and-solar/>

40. <https://monarchpartnership.co.uk/sustainable-restaurants/>

41. <https://www.morningadvertiser.co.uk/Article/2018/12/05/Creating-an-eco-friendly-pub>

Guidance by theme.



8. Water

Although water is not often associated with carbon, the way water is used and served can have vast implications for emissions.

The first thing to understand is that even tap water has embedded carbon. Waste-water treatment facilities use large amounts of energy to provide clean drinking water to the UK. Luckily, the water industry in the UK is one of the most progressive for carbon reduction targets and has made a commitment to become Net Zero by 2030⁴². The water industry has already taken significant steps and reduced their emissions by 43% since 2011.

Water is also embedded heavily into other products. For example, a meat dish can have twice as much embedded water as a vegetarian dish⁴³. Similar to embodied carbon, having more plant based options on your menu is a great way to start.

Hot water is also an important aspect of hospitality as it is essential to maintaining health and safety. However, excessive heating of hot water can be wasteful and can cause burning injuries. The ideal temperature to set hot water is 60°C, hot enough to kill Legionella bacteria, but not so hot that it is wasting energy⁴⁴. Setting the correct temperature for hot water is a great and simple way to reduce electricity costs. Similarly, using spray taps and water efficient fixtures can help reduce the total amount of water being used, without reducing the effectiveness.

For pubs and bars, deciding whether to serve bottled water and if so, what sort of bottled water to serve is also an important consideration.

Practical Actions:

- Understand where water is used and set reduction targets - leaks and dripping taps are common in hospitality businesses and can cause unnecessary water use and costs. A single one-drip / second leak will cost £20 per year in water costs.
- Similarly, there may be areas in your venue, such as in the kitchen or bathroom, that water is being used liberally. Doing an audit of all taps and water usage will help you understand where water is currently being used and allow you to set effective reduction targets.
- Consider reusing water for multiple jobs - reductions can be found by structuring kitchen operations effectively around similar tasks which use hot water for cooking. Similarly, consider reusing unused customer bottled water for cleaning floors and surfaces, or watering plants.
- Defrosting food - it is common in many pubs and bars to defrost food and beverage items by running it under cold water for up to 30 minutes. Avoid this wasteful practice by defrosting food and beverage items in the fridge overnight.
- Urinals/toilets - consider installing waterless urinals and low flush toilets to save on water and carbon emissions.
- Use filtered water systems instead of purchasing bottled water - filtered water and sparkling water systems are not commonplace in hospitality businesses. These can completely replace the need for bottled water in your business, saving the carbon embedded in the bottle, delivery and refrigeration needs.

42. <https://www.water.org.uk/news-item/water-industry-plans-to-reach-net-zero-carbon-by-2030/>

43. <https://www.greeneatz.com/1/post/2014/03/foods-water-footprint.html>

44. <https://www.carbontrust.com/resources/hospitality-sector-energy-saving-guide>

Guidance by theme.



8. Water

Case Study :

In 2019, the world's largest independent Coca-Cola bottler, Coca-Cola Europacific Partners (CCEP)'s GLACEAU Smartwater became the first bottled water range in Great Britain with bottles made from 100% recycled plastic (rPET). The brand is also made using 100% renewable energy at CCEP's site in Morpeth, Northumberland, helping the business to significantly reduce its carbon footprint.

In addition to this, water stewardship is key to CCEP's efforts to mitigate the environmental impact of its production processes. The business is working in partnership with The Rivers Trust to increase understanding of the local freshwater environments tied to its manufacturing sites, as it works to protect local water sources and replenish 100% of the water it uses in areas of water stress. Last year, in partnership with The Coca-Cola Company, CCEP replenished 275% of the water used in areas of water scarcity near its sites, and continued to manage 15 community-based water replenishment projects in Western Europe.⁴⁵



45. <https://www.cocacolaep.com/media/news/2021/2020-stakeholder-report/>

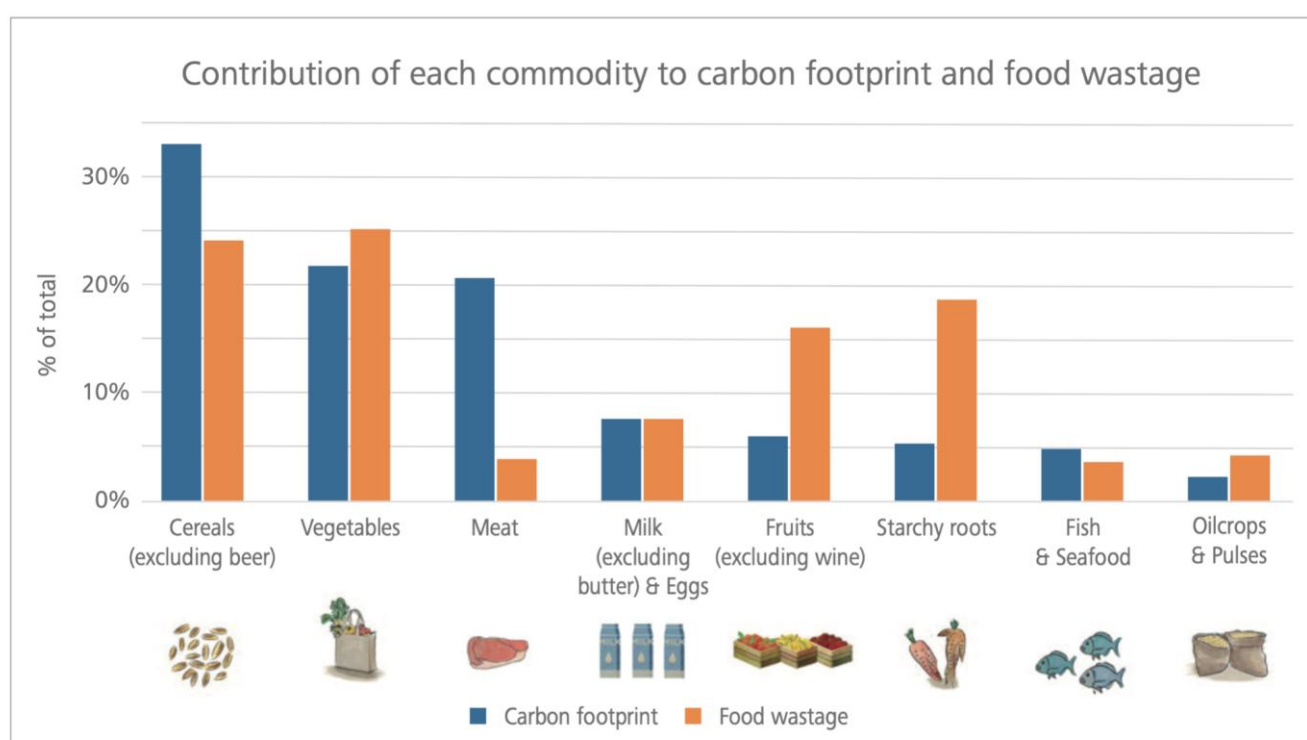
Guidance by theme.



9. Waste Prevention and Recycling

Food waste is one of the most significant contributors to emission as it can end up in landfill and produce methane, a powerful greenhouse gas. Food waste is estimated to be responsible for 8-10% of total global emissions⁴⁶. On average, 18% of the food purchased by the hospitality and food service industry is wasted.⁴⁷

A study from the FAO shows that while certain foods, such as red meat, are known to be carbon intensive, other types of foods have even more serious implications when wasted.⁴⁸



Source: <http://www.fao.org/3/bb144e/bb144e.pdf>

The packaging used for beverages has a carbon impact, often larger than the product itself.

There are more and more innovations in creating circular systems, where products are not simply put into landfill once used, but are instead inserted back into the system and have great ongoing value. The Close the Glass Loop initiative is working to ensure 90% of glass collected is recycled and that recycled glass is used in new products.

Recycled glass also has the added benefit of requiring less heat to melt back down - a study found that when 10% recycled glass is used in the furnace, the energy use decreases by 3% and total emissions are reduced by 5%.⁴⁹

46. <https://wrap.org.uk/media-centre/press-releases/wasting-food-feeds-climate-change-food-waste-action-week-launches-help>

47. <https://guardiansofgrub.com>

48. <http://www.fao.org/3/bb144e/bb144e.pdf>

49. <https://feve.org/wp-content/uploads/2016/04/FEVE-brochure-Recycling-Why-glass-always-has-a-happy-CO2-ending-.pdf>

Guidance by theme.



9. Waste Prevention and Recycling

The governments across The UK have announced plans to introduce Deposit Return Schemes, with the scheme in Scotland planned for launch in 2022 and England & Wales from 2024/5. This will make a significant difference to the way beverage packaging is labelled, distributed, charged and collected for recycling. Businesses will need to pay an additional refundable deposit when buying packaged beverages. In on-premise outlets, businesses will be refunded when they make the empty packaging available for collection by The Scheme Administrator.

Businesses in Scotland should talk to their Suppliers, Circularity Scotland Limited, Zero Waste Scotland and SEPA to understand the specific obligations on businesses selling packaged beverages.

WRAP's UK wide Guardians of Grub campaign provides support and resources to hospitality businesses to understand how food becomes waste and to prevent that from happening. 75% of the food that is thrown away by the sector could have been eaten, and there are quick tools⁵¹, guides⁵² and courses⁵³ to help businesses to Target, Measure, and Act.

Similarly, see the WRAP guide⁵⁴ for global examples of food waste reduction methods.

Practical Actions:

Food waste

- Action should be based on evidence, so carry out a simple food waste audit by setting up four bins in the kitchen and separating and measuring prep waste, spoilage, and plate waste for a week. At the end of this share the results with the team to explore when and where food waste is occurring and set some goals to manage it. For more details see the guides at Guardians of Grub.⁵⁵
- Develop portion control measures - developing recipes to a specification will ensure that food portions are consistent, allowing for easy measurement, and reducing plate waste. Using recipe management systems like JELLY are a great way to keep track of recipe specs and track spending at the same time.
- Avoiding food waste occurring is always the best option, but for waste that is generated there are two options
 - Redistribute Surplus Food – work with a local organisation that specialises in redistributing surplus food.⁵⁶
 - Responsible disposal – work with a waste management contractor that can confirm food waste is sent to composting or anaerobic digestion.⁵⁷
- On site bio-composters are an alternative for turning any food waste generated into a substance that can be used in farming and gardening. Companies like Oklin can provide food waste solutions to a range of different business sizes.

⁵⁰ <https://depositreturnscheme.zerowastescotland.org.uk>

⁵¹ <https://guardiansofgrub.com/cost-saving-calculator>

⁵² <https://guardiansofgrub.com/resources/downloads/>

⁵³ <https://guardiansofgrub.com/course/>

⁵⁴ www.wrap.org.uk/resources/business-case-reducing-food-loss-and-waste

⁵⁵ <https://guardiansofgrub.com>

⁵⁶ <https://wrap.org.uk/resources/guide/surplus-food-redistribution-wraps-work>

⁵⁷ <https://wrap.org.uk/resources/measuring-and-reporting-food-waste-hospitality-and-food-service>

Guidance by theme.



9. Waste Prevention and Recycling

Practical Actions:

Beverage waste

Glass bottles are easily, and widely recycled, although not all waste management contractors collect glass in a way that it can be recycled into new packaging. Call your waste supplier to ensure that they are being recycled properly.

Consider removing garnishes from drinks, as they are very rarely consumed and often end up in the bin. Alternatively, look for edible and shelf stable garnishes like [Fruits for Drinks](#), a company that provides a range of freeze dried fruits that can be used in beverages. Because the fruits are dried, they can be stored out of the fridge and last up to 2 years, reducing wastage.

Other waste

Disposables - explore ordering options to avoid unnecessary cutlery, napkins, sachets. A great way to start is to include an option for customers to opt in or out of having disposable cutlery and napkins added to their order.

Messaging - including messaging in delivery to encourage recycling of packing and responsible disposal of food waste. Make sure that all of your packaging has information of whether or not it can be recycled.

Reusable packing systems - explore opportunities to participate in reusable packing initiatives for food delivery. There has been success through products like reusable cups in an attempt to reduce single use cups, and there are opportunities to expand this concept to other delivery items. See the WRAP guides for decision making processes linked to responsible packaging.⁵⁸

Be aware of local limitations and options

- Review local waste management contractors and what facilities exist. Often there is support offered by local contractors and councils that can help split and recycle waste.⁵⁹
- Use specialist recycling management contractors, who may be able to bridge the gaps in municipal or commercial recycling firms' services. For example, [First Mile](#) offer specialist recycling solutions for flexible plastic and compostable materials that other firms may not be able to offer.

⁵⁸ <https://wrap.org.uk/resources/guide/compostable-plastic-packaging-guidance>

⁵⁹ <https://wrap.org.uk/resources/measuring-and-reporting-food-waste-hospitality-and-food-service>

Guidance by theme.



9. Waste Prevention and Recycling

Case Studies:

Research from WRAP has found that hospitality businesses are currently throwing away 1.1 million tonnes of food each year, which means approximately one in every six meals is going in the bin⁶⁰. Mobile applications like Too Good To Go are a fantastic way to reduce food waste and also recoup the sunk cost of goods. Too Good To Go is currently working with over 10,000 food businesses in the UK and already this platform has saved 4 million bags of surplus, the equivalent of the yearly emissions of 1176 UK residents, or running a hot shower non-stop for 60 years⁶¹. The platform works by linking customers to discount meals that hospitality venues offer up at the end of the day, utilising food that would have otherwise been wasted. Venues get marketing through the app, so it is a great way to attract new customers.

By participating in the Guardians of Grub campaign, The Ship Inn, Cumbria, was able to reduce their total food waste by 72% and saving £6,040 per year in real costs⁶². The campaign helps hospitality businesses conduct a waste audit through a range of easy-to-follow free online resources. The Ship Inn conducted an audit and was amazed to find how much food was actually being wasted, up to 13.5kg of food per day. They found that 13% of waste came from spoilage, 21% came from prep waste such as vegetable peelings, and 66% of waste came from plate waste such as garnishes, sauces and unwanted food. The Ship Inn then took steps to help reduce their waste; in the kitchen they tightened up their ordering and started purchasing pre-prepared vegetables, reducing both spoilage and prep waste. The largest reducing factor was reducing the portion size of the food, especially serving slightly less chips as sides, and putting out smaller portions of sauce. The Ship Inn was able to take simple but effective steps to reduce their food waste and associated carbon emissions with little to no money spent.

60. https://wrap.org.uk/sites/files/wrap/Food-Waste-Reduction_Roadmap_Progress-Report-2019.pdf

61. <https://www.mylondon.news/special-features/app-thats-helping-save-planet-20281027>

52. https://guardiansofgrub.com/case_studies/the-ship-inn/

Conclusion.

While becoming Net Zero may seem like a daunting task at first, it is in fact a four-step process of Calculate, Mitigate, Compensate, Communicate.

This document has provided a range of practical actions that can help with the **Mitigate** part of your journey, simple and affordable steps that you can take to help reduce your emissions.

By digging down into each of the themes described above, you will be able to identify exactly what parts of your business are carbon intensive and take action.

The case studies in this document demonstrate that many other pubs and bars of various sizes have already started taking action to become Net Zero. It is our hope that these examples will inspire other hospitality venues to start or continue on their journey to reduce their emissions.

This document has covered many topics and provided signposts and links to a range of excellent resources available online to help support you further in your Net Zero journey and we will update this resource as more information and case studies become available.