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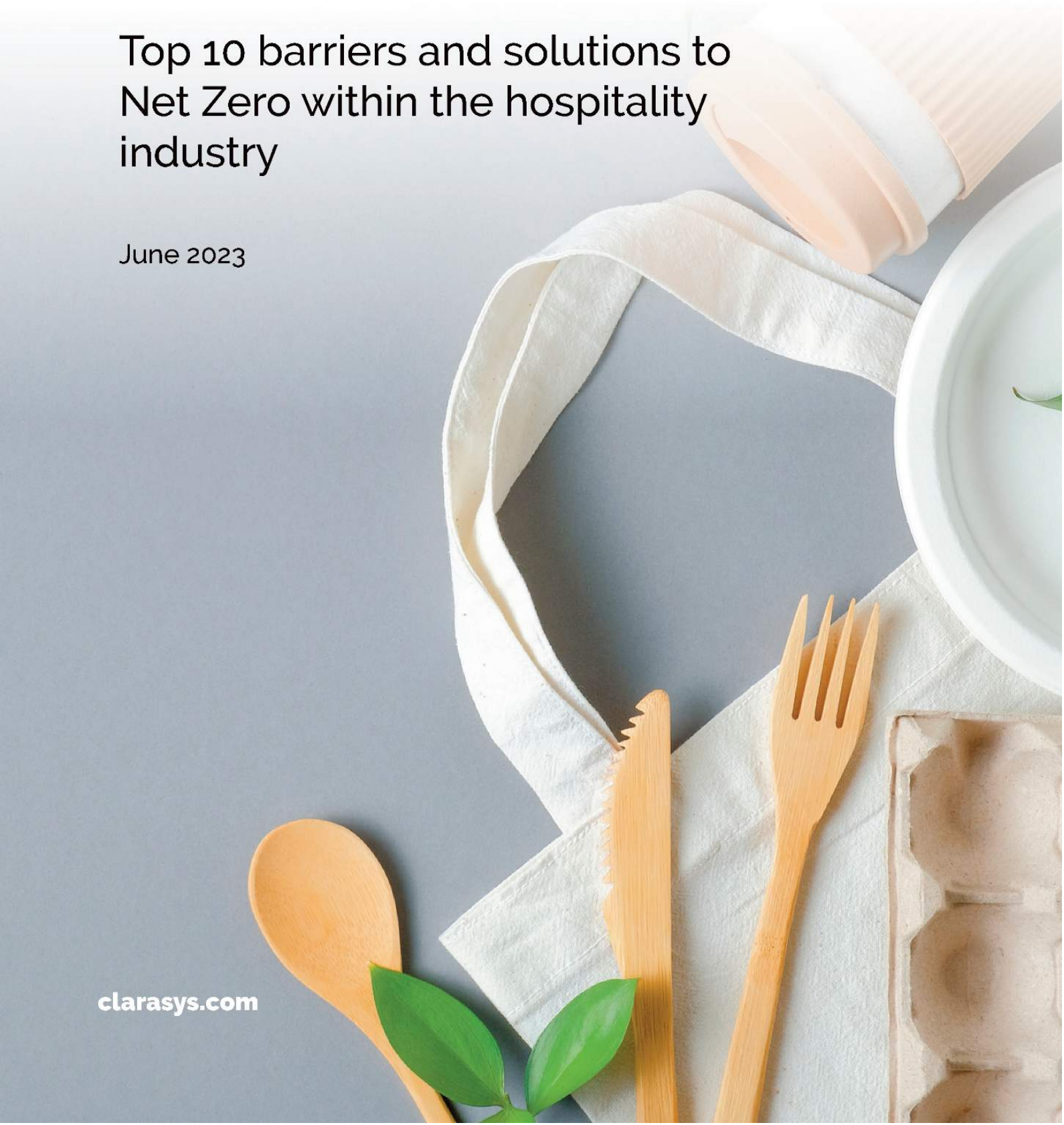
THE RACE TO NET Zero

The Race to Net Zero

Top 10 barriers and solutions to Net Zero within the hospitality industry

June 2023



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Foreword

I opened my first pub in 2002, a year after the Intergovernmental Panel on Climate Change first concluded that humans were responsible for global warming. Over the next 20 years, I grew that first site into a highly successful gastropub group, Peach Pubs. Meanwhile, the greenhouse gas emissions that cause climate change continued to rise, reaching a new record high in 2022.

As a business leader, I've always felt strongly the moral responsibility to play my part in tackling this global challenge. We, therefore, made sustainability a central part of the Peach Pub ethos. We made it an authentic part of who we were – and it was a real contributor to our profitability and ultimately, to the valuation of the group at sale. This is because customers know things need to change and are looking for businesses that will lead the way. For staff, it's a real motivator for joining, and staying. For us it became part of who we were and why our organisation was great.

Through my experience with Peach, I have been wondering why, when every hospitality business in the UK has an opportunity to benefit from being more resource- and energy-efficient and more conscious of doing simple things to be more friendly to the planet, we aren't doing more?

That's why I launched Race to Net Zero collective, a group of like-minded UK gastropubs and suppliers collaborating on a shared journey toward Net Zero. Our aim has been to understand where the industry is and what could be done to move it forward. Over the last year-and-a-half, we have met to discuss all things carbon and together we have produced this research paper which brings together all of the thinking.

Through it, we have learned that taking action on carbon emissions simply isn't a clear commercial imperative for enough hospitality businesses. However, time is running out if we want to align with the Government's target for Net Zero by 2050. While there are plenty of resources out there to support action and a clear will to do the right thing, we aren't moving fast enough.

In the report, we explore the 'say-do' gap around climate action in the hospitality industry. With input from over 29 leading British hospitality businesses and suppliers, we've identified the barriers that are standing between the desire to do more and tangible action. We hope it acts as a resource for those who want to drive action within the hospitality sector and encourages better, faster collaboration.
The time is now to act, let's make Net Zero happen.

Hamish Stoddart
Founder of Peach Pubs
Founder, Race to Net Zero
Founder, After the Clouds Foundation

Acknowledgements

This research has been made possible by the participation of pubs, restaurants, value chain partners, associations, non-profit organisations, and consultancies.

We would like to thank the following businesses for their support on the project and their insight to Net Zero:

Sponsors

Access, ACI Inns, Asahi, Aubrey Allen, Belu, Clarasys, Coca-Cola Europacific Partners (CCEP), Estrella Galicia, Greene King, HSBC, Liberty Wines, Net Zero Now, Pawprint, Peach Pubs, Pepper, Pernod Ricard, Punch Pubs, Purity Brewing Co. Reynolds Catering Supplies, Rubies in the Rubble, S4, The Culpeper Family Hospitality Group, and Union Coffee

Pubs and restaurants

Better World Brewing, Brasserie Bar Co, Greene King, Heart with Smart, McManus Pub Company, Malvern Inns, Mitchells & Butlers, Nando's, Peach Pubs, Pizza Pilgrims, Punch Pubs, The Cat & Wickets Pub Company, The Restaurant Group

Suppliers

Belu, Bunzl, Coca-Cola Europacific Partners (CCEP), Equilibrium Markets, Estrella Galicia, HSBC, MC Kelly, Pernod Ricard, Reynolds Catering Supplies, and Union Coffee

Others

Energise, Loopcycle, Net Zero Now, Sustainable Restaurant Association (SRA), UK Hospitality, WRAP and Zero Carbon Forum

Methodology

To understand the barriers that pubs and restaurants face in getting to Net Zero, this research project has deployed a mixed methods approach including a literature review, interviews, and a survey. The literature review is conducted using a variety of sources, including academic materials and industry reports. The purpose of the literature review was to gain a good understanding of the current state of research on the topic, identify any gaps in the literature, and determine the most appropriate research methods for addressing the research questions.

Following the literature review, the research project involved conducting both interviews and a survey. We conducted 29 interviews with a diverse sample of key stakeholders, including small and medium-sized (SME) pubs and restaurants, larger hospitality chains, different types of suppliers, associations, and subject matter experts. The selection of participants was made to get diverse inputs, representative of different types of stakeholders. The survey complements the interviews and was designed to gather data from a larger sample of participants.

Executive Summary

The hospitality sector within the UK represents a significant proportion of emissions with just the emissions from energy consumption totalling 8m tonnes of CO2e each year. If the UK is to meet its target of being Net Zero by 2050 then the industry needs to make significant changes.

Through a series of interviews with sustainability and commercial representatives across the hospitality supply chain, we have uncovered 10 challenge areas that are impacting the hospitality industry's ability to move to Net Zero:

Lack of clarity on the value of investing in Net Zero

Lack of available capital to invest in Net Zero

Lack of leadership buy-in to prioritise Net Zero

Lack of capacity to work on net zero

Lack of available and scalable low-carbon food and equipment

Lack of customer demand and engagement around Net Zero

Lack of reliable data to drive decision making

Lack of government regulation and policy

No intensity targets / challenging to keep

Lack of influence on supply chain

In the document, we outline the nature of the challenges and both the existing and potential solutions within each of the areas. What is really apparent is that even with the stretched resources within the hospitality industry, there is significant progress that can be made through quick wins and behavioural changes. These include changes to menus, better management of equipment and lighting and heating.

However, there are three strong themes within the solutions that need to be addressed to develop a net-zero hospitality sector. They are the three C's of change; Case, Collaboration, and Capital.

- **Case:** There needs to be a better understanding of the commercial case for Net Zero and different investment options. This needs to be at both an industry and an individual organisation level. We need greater commitment to Net Zero from organisations that are buying into the ethical need for change but also the commercial opportunity. Moreover, the case needs to be made to all stakeholders in the hospitality sector - consumers, investors, and suppliers - to ensure they have bought into the change.

- **Capital:** To enable organisations to develop their commercial case organisations across the supply chain, we need a different investment landscape to be able to make changes. This is because of a perfect storm created by a lack of available resources due to a volatile few years of operation through Brexit, the COVID-19 pandemic, and the cost of living crisis. Together, these events have minimised the resources that are available to invest. Moreover, the capital available to enable larger investment is too expensive due to high interest rates. Therefore, to enable the pace of change required, an influx or a reallocation of capital is required to enable investment.

- **Collaboration:** Firms are looking for convenors to enable them to collaboratively plan with them. These may be across different lines. It could be across supply chains, regions, or within traditional circles. However, the principle remains that players within the industry are looking for help in coming together and looking for opportunities to share resources, make the required changes as inexpensive and easy as possible, and make communications with customers as easy as possible.

Why is Net Zero important within the hospitality industry?

A decarbonised hospitality industry would be a major boost to the UK's aims to be Net Zero by 2050 at the latest and support limiting global warming by 1.5C. This is because the hospitality industry contributes to emissions across agriculture, transport, and corporate energy usage which are some of the most significant areas for decarbonisation:

Table 1: *Percentage changes in territorial carbon dioxide emissions by sector between 2020 and 2021 based on the temperature adjusted emissions and actual emissions.*

	Temperature adjusted emissions			Actual emissions		
	2020 $MtCO_2$	**2021** $MtCO_2$	**2020-21** % change	**2020** $MtCO_2$	**2021** $MtCO_2$	**2020-21** % change
Energy supply	82.9	83.0	0.1%	78.2	80.7	3.3%
Business	64.0	66.3	3.6%	61.5	65.1	5.9%
Transport	97.7	107.5	10.0%	97.7	107.5	10.0%
Public	8.1	8.2	1.3%	7.4	7.9	6.3%
Residential	73.2	72.3	-1.2%	64.4	68.1	5.8%
Other	11.9	12.1	1.5%	11.9	12.1	1.5%
Total CO_2	**338.0**	**349.5**	**3.4%**	**321.1**	**341.5**	**6.3%**

However, Net Zero is not just an environmental opportunity. The value proposition goes further than just environmental benefits. It is also a commercial opportunity with real opportunity to cut business costs, derisk against regulatory change, and improve reputations through investing in changes. Net Zero Now and Zero Carbon Forum have produced tools and guidance outlining the value proposition of investments in Net Zero. The Zero Carbon Forum, a non-profit organisation working towards a Net Zero hospitality industry, has produced Net Zero roadmaps for brewing and hospitality which outline the impact and effort associated with various Net Zero initiatives. Net Zero Now has produced the The Net Zero Bar and Pub Protocol and Climate Action Playbook, which provide practical guidance on how to get to Net Zero.

Top 10 Barriers and Solutions

The UK's hospitality sector, of which pubs and restaurants are a significant proportion, is responsible for up to 15% of the UK's greenhouse gas emissions. The supply chain of hospitality has a big impact on the climate as it relies on agriculture and transportation, and packaging, which respectively make up 11% and 24% of the UK's total emissions. Moreover, there is a significant carbon impact from the packaging used to keep produce fresh and products intact. Reaching Net Zero emissions in the hospitality industry is, therefore, critical in meeting the UK's target of Net Zero by 2050 and supporting the Paris Agreement's target of limiting global warming to 1.5C. This is widely recognised by both small and large businesses as well as industry associations, UK Hospitality, and the British Beer and Pub Association (BBPA).

However, the hospitality industry has faced major crises in quick succession that have put pressure on profit margins, limiting its ability to invest in Net Zero changes. Brexit has limited supply and increased the price of imported goods. Covid-19 lockdowns meant many businesses lost trade. Ongoing high inflation and rising energy prices have increased costs, while the cost of living crisis has made higher prices less affordable. The convergence of these crises hampers the industry's ability to invest in Net Zero.

Despite the constraints put on businesses by the crises mentioned above, many have already taken action by measuring their footprint and starting to implement reductions. These actions have driven both carbon emissions and cost down. However, a large number of businesses have yet to start their Net Zero journey. The purpose of this research is to understand the barriers that prevent pubs and restaurants from starting or advancing their efforts towards Net Zero.

We have focused on the top 10 barriers frequently highlighted by participants as having a significant impact on their Net Zero journey. The barriers are ranked based on two factors:

1. The impact the barrier has on a business' ability to get to Net Zero;

2. The number of participants that have mentioned the barrier as having an impact.

The nature and impact of the barriers differ according to the type of business and the measures needed to reduce emissions.

Trailblazers, strivers, and slow movers

Within the research results, we distinguish between three types of businesses: trailblazers, strivers, and slow movers. Trailblazers are idealists who prioritise Net Zero because it aligns with their values. They actively educate themselves and take a leading role in implementing Net Zero. The strivers closely follow what the trailblazers are doing. They want to make sure not to fall behind, while avoiding the risk of making investments before they are widely tested. Finally, the slow movers do not have Net Zero on their radar. They are focused on other business priorities and do not consider Net Zero as a major and urgent priority. Slow movers will only start working towards Net Zero if a greater level of incentive and awareness is there.

We distinguish between small and medium-sized businesses (SMEs) and large businesses. Generally, small businesses will have fewer resources (both financial and in terms of people) to take action than large businesses but they may be more flexible and versatile. In terms of Net Zero measures, we distinguish between four areas of work that require a different level of investment:

- **Measuring footprint.** Organisations develop baseline carbon footprints that enable them to plan out reduction pathways and then implement the ongoing approach to measurement.
- **Behavioural change.** This phase includes quick wins and low-hanging fruit measures that businesses can take to reduce their footprint, such as turning lights off and changing travel behaviours. These measures require limited upfront capital but do take resources in terms of effort to redesign processes and upskill staff.
- **Capital investments.** More financial resources are required to make changes to the fabric of buildings, equipment in the kitchen, and potentially to retrofit the supply of energy in order to support Net Zero. These investments need to be carefully planned.
- **Business transformations**. This area focuses on major restrictions of the organisation's processes. This includes the redesign of procurement processes, approach to menu management, and potentially even shifts to the way the organisation manages investment and finance.

1. Lack of clarity on the value of Net Zero investments

"I think the fundamental challenge is the tension between the business imperative to make money and the need to operate in a more sustainable way. There are lots of instances where purpose and profit align, particularly over the long term, but there are also a lot of instances where it's more profitable to not be sustainable, particularly in the short term. So, the question is how to change our business models and in the current paradigm that's really hard to do."

Bob Gordon, Forum Director
Zero Carbon Forum

A major barrier for pubs and restaurants to invest in Net Zero is the lack of clarity on the value proposition i.e. the return for shareholders for the level of investment required. The financial benefits of an investment in Net Zero, such as cost savings on energy and increased profits by attracting new customers, are typically presented by the return on investment (ROI). A positive ROI is important because it indicates that an investment has generated a profit that is higher than the initial investment. Non-financial benefits of an investment, such as reduced carbon emissions and improved employee morale, are also an important part of the value proposition. When the expected financial and non-financial benefits of an investment are unclear or too low, owners, board members, or investors are unlikely to provide the green light.

The value proposition for Net Zero investments will depend on the type of investment. Businesses at the start of their Net Zero journey will look at the value proposition for measuring their footprint and getting started with implementing behavioural changes. Dedicating time and effort in this phase is most important. Businesses that are further along on their Net Zero journey will look at the value proposition of larger capital investments in areas such as building insulation, kitchen refit, and onsite electricity generation. In this phase, it is critical to have a clear understanding of the ROI. Finally, businesses might consider the value proposition of transformative change in their business model.

While the value proposition will differ by the type of investment and business, there are some key overlapping factors that cause the lack of clarity:

- A lack of understanding of the value proposition for Net Zero
- A lack of focus on the long-term
- Complexity of metrics
- Uncertainty about the future

Lack of understanding of the value proposition for Net Zero

Many business owners and investors may not fully understand what Net Zero means, how it is achieved, and what the benefits are. This lack of understanding can make it difficult to see the value of specific Net Zero investments. A key challenge here is translating the language of

sustainability and Net Zero into information that sticks with board members and investors (also see barrier about lack of buy-in).

Short-term over long-term gains

Investing in Net Zero often requires a long-term focus, and the benefits may not be immediately apparent. For example, investing in renewable energy sources, insulation materials or energy-efficient kitchen equipment may require significant upfront costs but can provide long-term benefits in the form of reduced energy costs and a smaller carbon footprint. However, these benefits may not be immediately apparent, which can make it difficult to justify the initial investment.

This is particularly challenging for pubs and restaurants because they are cash flow businesses. They generate revenue from the sale of food, drinks, and other services, and this revenue is used to cover operating expenses such as rent, wages, and inventory costs. Cash flow determines the amount of available funds, financing options, and payback period. As a result, businesses will be extra careful in assessing long-term investments because it exposes them to a higher level of risk. Moreover, most multisite businesses are constantly choosing between capital invested in growth and new sites versus investment in existing sites. For most investors, there is a greater focus on growth before long-term investment in current sites.

The different investor models that pubs and restaurants have create differing dynamics around Net Zero investment. For those publicly listed companies, there is pressure to demonstrate ESG commitment and greater pressure of future regulation, whilst also needing to present a return to investors and shareholders. While for privately-owned organisations where there is still need to drive a return, there is a greater level of control to make investment decisions.

Complex metrics

Measuring the value of Net Zero investments can be complex. The benefits are often measured in terms of reduced carbon emissions and other environmental impacts. These metrics can be difficult to quantify and may not align with traditional financial metrics, which can make it difficult to communicate the value proposition of Net Zero investments to investors and other stakeholders. Due to the lack of standardisation across the industry, there is also difficulty in making comparisons with peers. Finally, quite simply assessing environmental performance is relatively new and there is a capability gap that needs to be filled around leadership's ability to really grasp the concepts.

Uncertainty about the future

The roadmap of how to get to Net Zero in hospitality is uncertain. Changes in government policies, technologies, and consumer preferences all potentially impact the value of Net Zero investments. For example, if future government policy dictated that the existing gas infrastructure will be (partially) used for hydrogen to power buildings, businesses might be better off not switching from gas completely. In terms of customer preferences, if the demand for meat-free dishes explodes in the future, then businesses would benefit from already starting to rebrand towards a more plant-based menu. This uncertainty about the future can make it difficult to assess the potential return on investment and may lead some investors to view Net Zero as a risky investment.

Value proposition recommendations

In order to improve the value proposition of Net Zero investments, there needs to be more industry collaboration between key stakeholders including suppliers, banks, investors, customers, and government. Collectively, they can provide the financial incentive to make investing in Net Zero more attractive. At the same time, businesses can start integrating Net Zero measures as part of existing policies which lowers the threshold. Moreover, collective agreements on how to report carbon emissions could drive an improved understanding of the challenge and others' performance to stimulate change.

Share learnings of Net Zero investments

An important way to enhance clarity on the value proposition of Net Zero investments is by sharing information between businesses. For example, businesses investing in a kitchen refit can share the findings with other businesses in the sector. This sharing can go through existing platforms such as Zero Carbon Forum and Net Zero Now. Amy De Marsac, Head of Sustainability & Investor Relations at Mitchells & Butlers, is sharing the learnings from investments in electric kitchens through the Zero Carbon Forum:

> *"We are looking for innovation to help us make progress against our sustainability aims and are using some of our sites as testbeds. For example, we successfully trialled fully electric kitchens in a selection of sites in one of our brands and are now rolling the format out across the brand, resulting in a significant reduction in carbon. We share the learnings of our trials through the Zero Carbon Forum with the other members so that we can all learn, as collaboration is key to addressing the climate crisis."*
>
> **Amy De Marsac**
> Mitchells & Butlers

Including the cost of carbon in the value proposition

The business case for investing in Net Zero currently revolves around the ROI. As discussed, this presents a challenge because the ROI is often unclear or too low. One solution would be to start including the cost of carbon in the business case. This solution was put forward by Amy De Marsac, Head of Investor Relations and Sustainability at Mitchells & Butlers:

> *"There is an appetite for investment because the board is committed to achieving Net Zero. I believe that the thinking around return on investment will evolve over time and carbon pricing will begin to play a part in decision making."*
>
> **Amy De Marsac**
> Mitchells & Butlers

Carbon pricing has worked effectively in other sectors with over 5,900 using an internal carbon price in 2020 according to the CDP. Utilising an internal carbon price can help with assessing and making investment decisions and as a guide to transforming the way processes are operated. While many organisations will use it as a voluntary mechanism to drive change,

there is potentially a policy role to play in developing industry-wide carbon pricing which would aid comparison but also as a model with built-in penalties or incentives.

Better terms of trade

One additional stimulus would be suppliers providing better terms of trade for businesses that make investments in Net Zero. For example, suppliers can agree to pay for a part of the offsets of a pub or restaurant or they can provide a discount to businesses that have reduced their footprint as a result of investments in Net Zero. Net Zero Now secured a discount of 5% for its customers with an insurance provider.

Pernod Ricard would consider supporting businesses further in their Net Zero journey by providing financial benefits as they reduce emissions.

> *"We like to work with businesses that are committed to going Net Zero and building long-term relationships. You can imagine a future where if you are a certified Net Zero outlet it gives you not only a customer benefit but also a commercial one. If other big suppliers, the drinks and food wholesalers, are doing the same, that could provide another strong incentive for businesses to get on the road to Net Zero."*
>
> **Ian Peart, Commercial Director**
> Pernod Ricard

It is important to note that businesses that have already taken considerable steps in reducing their footprint should not be punished for being early adopters.

Case Study: Net Zero Now partners with Coca-Cola and Pernod Ricard to enable hospitality SMEs to get to Net Zero

The collaboration between Net Zero Now, Coca-Cola Europacific Partners (CCEP) and Pernod Ricard is a good example of suppliers supporting SMEs to get on the road to Net Zero. CCEP and Pernod fund some SMEs to sign up to the Net Zero Now platform that allows them to measure and reduce their footprint.

> *"We support bars in their Net Zero journey through the Net Zero Hospitality programme. We do this by building awareness of the programme and connecting bars with the people at Net Zero Now. We also like to offer ongoing support for our brands in outlets that join the programme."*
>
> **Ian Peart**
> Pernod Ricard
>
> *"Alongside Net Zero Now and the Sustainable Restaurant Association, we are a founding partner of the Net Zero Pubs, Bars & Restaurants initiative. The Net Zero sector protocols offer a four-step process that aims to help pubs, bars, restaurants, and food-to-go establishments make carbon reductions whilst also saving money along the way. It helps define what 'net zero' means for each outlet or operator group, providing guidance on how to*

reduce carbon emissions, the actions needed to get there, and setting a standard against which they can be certified.

"Venues that are 'on the road' to net zero or successfully net zero-certified will be able to display their accreditation in their outlet, and use various point-of-sale materials to help them showcase their achievement and engage customers. We have helped to fund a number of our customers through the platform and some outlets have committed to a Net Zero date, meaning they are officially accredited as 'on the road' to Net Zero, but we are keen to encourage others to sign up and would encourage outlets to book a demo via the Net Zero Now website or speak to their CCEP contact for more information or a referral."

Jo Padwick
CCEP

Favourable financial products

Banks, credit unions, and alternative lenders can recognise and reward operators that can demonstrate carbon reductions. For example, lenders can offer preferential loan terms, such as lower interest rates or longer repayment periods. This would lower the cost of capital and thereby improve the value proposition for Net Zero investments. For lenders, this would support their own ESG aims and enable them to demonstrate to their stakeholders greater commitment to positive impact.

More engagement from customers

Customers have an important role to play in improving the value proposition for Net Zero investments. If customers are willing to spend more on environmental products, pubs and restaurants will have more money to invest. By raising awareness of the benefits related to low-carbon food and drink, including healthier food that's better for the environment and local communities, sections of the UK consumer base may be encouraged to spend more on sustainable products. We have outlined in more detail, the challenges in customer engagement within barrier 7.

Greater government intervention

The government also has a role to play in improving the value proposition for investing in Net Zero. Policymakers have numerous instruments they could utilise including additional financial incentives such as grants, tax credits, and low-interest or zero-interest loans. They can also look to regulate or enforce standardised approaches to reporting.

One area the government could look at to improve investment in Net Zero is to provide a clearer roadmap on future regulation that incentivises businesses to invest in Net Zero and level the playing field.

Tie Net Zero to marginal improvement policies

One way to make sure that businesses continue to invest in Net Zero despite a lack of clarity on the value proposition is to tie reduction measures to existing improvement policies, where the capital expenditure is already assigned. Simon Alsbury, Co-CEO at Energise, an

independent energy and carbon management solutions provider, explains that it is often easier to change policies than make the individual business case for a Net Zero investment. For example, if a kitchen fan fails a business will need to replace it. By making sure that there is a policy in place to replace the fan with an energy efficient model, businesses can start reducing their energy consumption without needing to find new capital to invest.

Establish purchasing consortiums

A challenge for pubs and restaurants is that they have limited buying power compared to more concentrated sectors. In particular, SMEs have limited influence on the price paid for Net Zero investments. Pubs and restaurants could establish purchasing consortiums for things that everyone needs, such as efficient heating systems, sustainable kitchen equipment, and electric charging points. Given the relatively small market share of hospitality as a whole in larger food and material supply chains, it is unlikely that such consortiums would infringe on existing competition law. Companies such as Pelican Procurement Services, the Premier Purchasing Group, and Regency Purchasing Group, already provide procurement services. Similar private or non-profit structures could be leveraged to set up purchasing consortiums for Net Zero investments.

Develop a business case tool for pubs and restaurants

In order to increase the clarity of the value proposition of Net Zero investments, there is a need for a business case tool specific for the hospitality industry. The tool would need to be able to model the financial and carbon value proposition of the most important Net Zero investments for pubs and restaurants. Users can then easily calculate the ROI and access recommendations on how to best implement and finance measures such as kitchen and insulation refit. The tool could be made freely accessible or at low-cost to SMEs by generating funding from other stakeholders in the sector such as large pub and restaurant chains, suppliers, or financial institutions.

2. Lack of available capital to invest in Net Zero/costs of investing in Net Zero are too high

Many pubs and restaurants have indicated that they lack the available capital to make investments needed to get to Net Zero. Key opportunities that require large investments include refurbishing sites, retrofitting for insulation, energy-efficient equipment, and on-site renewable electricity. These investments have large upfront costs, which are often not affordable to operators. This barrier is underpinned by three challenges:

- **Increased costs of investments.** Due to inflation and global supply chain shortages, the costs of materials and labour have gone up. In certain areas, this may impact Net-Zero investments including the cost of insulation which has risen by 12% over the last year.

- **Lack of cash in the bank.** Businesses have a lack of cash in the bank to finance more costly projects. The series of shocks that the UK economy has experienced from Brexit,

the COVID-19 pandemic, and the cost of living crisis and associated increase in inflation have reduced the cash flow and liquidity of pubs and restaurants. In particular, SMEs often do not have the cash to invest in high-capital projects that would reduce the footprint of their business.

- **The cost of capital is too high.** High interest rates prevent businesses from taking out loans to finance projects that reduce emissions.

"If you're a small hospitality operator and you haven't got backers with deep pockets or more than 3 years of results showing positive trading - which you haven't because of Covid - then it is hard to access capital. As a small operator that makes it really hard to make the investments that you need to get to Net Zero. Many are focused on survival, and for others, if there is an opportunity to grow any investment goes into growth. So I think SMEs are really hamstrung in terms of the levers they have available to pull and even if they can get the capital, Net Zero is not necessarily the primary place they will think to put it."

Bob Gordon
Zero Carbon Forum

Upfront costs are too high

The upfront costs of some Net Zero investments are prohibitively expensive for many businesses. Electric vehicle (EV) charging points are, for example, too expensive. Pub and restaurant operators have indicated that investing in heat pumps is not yet commercially viable because they are much more expensive than gas boilers and the return on investment is unclear (see barrier 1).

"Heat pumps can be a great way to further reduce the brewery's footprint. But a heat pump, even in a home setting, I believe is three to four times more expensive in terms of upfront costs than a boiler. So it's about driving down those upfront costs." Nick Marsh, Better World Brewing
Another example is the costs of investing in solar panels. The price of solar panels has increased, while the electricity costs have come down (after seeing a huge increase in 2022). As a result, participants have indicated that investing in solar panels is not viable. For example, Alastair Scott, who owns the Square and Compass and Malvern Inn pubs, has mentioned that the flat roofs of his pubs are well suited for solar panels. However, he doesn't have access to capital to make the investment.

We also spoke about the issue of costs with Nick Reynolds, the Head of Sustainability at Reynolds Catering Supplies, one of the leading fresh fruit and veg suppliers to the UK foodservice industry. A large part of Reynold's footprint is in the transportation of fruit and vegetables to customers in the hospitality sector. One way to reduce emissions would be to replace diesel vehicles with electric vehicles. However, the upfront and running costs of electric vehicles are prohibitively high for Reynolds at the moment:

"Generally speaking, electric vehicles are three times the price of a diesel vehicle in the same weight class. The cost of operating electric vehicles versus diesel vehicles is also more expensive, factoring in the price we pay for diesel in bulk and current electricity prices. So the cost of changing completely to electric vehicles would be prohibitive to us or make us uncompetitive for customers in a price-driven market."

Nick Reynolds
Reynolds

Case study: The Cat & Wickets Pub Company to build an energy-efficient site and kitchen

To avoid just speaking in general terms about Net Zero investments, we have approached Lee Cash, co-founder of Peach Pubs, and investor in The Cat & Wickets Pub Company, to provide a case study of an electric kitchen. The Cat & Wickets Pub Company was founded by cricketers Harry Gurney and Stuart Broad. The vision of the pub company is to run five high-quality gastropubs in the Midlands. Currently, the company operates The Tab & Run in the village Upper Broughton. The pub was destroyed in a fire in June and is currently being rebuilt. In rebuilding the pub, the owners wanted to make sure it stands up to Net Zero as much as possible. We spoke with Cash who highlighted that the pub company invested in a fully electric kitchen and energy-efficient appliances as well as double glazing and the latest insulation materials to reduce the energy consumption of the pub.

The Cat & Wickets Pub Company is committed to sustainability but it faced increased costs of equipment and building materials. Cash estimates that the last kitchen retrofit for Peach was approximately £120,000, while the current number for The Tab & Run would be close to £200,000. For example, the electric induction hob costs about £10,000 while a gas stove is less than half of that. Similarly, a highly efficient warewasher with heat recovery is £20,000, while a cheaper model, less energy efficient model costs less than half of that. The energy savings depend to a large extent on the usage and are difficult to quantify.

The company Loopcycle advised The Cat & Wickets and Peach Pubs on their kitchen equipment, working in collaboration with Net Zero Now. Loopcycle connects "an ecosystem of commercial equipment manufacturers, operators, and other stakeholders to help trace, manage, and recover products throughout their lifecycle." We spoke with Lauren Hunter, Commercial Director at Loopcycle. "This project was such an exciting opportunity to showcase what is possible within commercial catering equipment, taking into mind not only the industry standard of energy efficiency, but also build location, lifespan, and use case. Utilising assets from other sites also prevents waste from landfill, promoting circular thinking at the beginning of the project, rather than at the end of life."

The table below provides an overview of the savings that can be achieved by switching to more efficient equipment.

	Historical equipment	Energy-efficient switches
Warewashing	Initial proposal was an industry standard unit, requiring an additional condensing hood	Winterhalter Energy Plus, reduces power usage by 15% through water and heat recovery, and removes the need for a bulky condense hood
Combi ovens	Dominant cooking was a	Switching to UNOX provides a

	non-energy star-rated, high water usage oven	lower power requirement and uses 46% less water, certified by EnergyStar
Extraction	Extraction canopy has one inward air pulling point, meaning the unit required more power	Using Capture Jet technology extraction is more efficient and requires less power

Recommendations to improve access to capital

Raise awareness of existing finance options

Participants in the research have indicated they do not have good visibility of existing finance options for Net Zero investments. Zero Carbon Business provides a detailed list of support for UK businesses from various sources including:

- The Scottish Government offers SMEs interest-free loans of up to £100,000 for investments in energy efficiency improvements, such as insulation, heating, or double glazing
- SME Loan Scheme offers interest-free loans from £1,000 to £100,000 to pay for energy efficiency and carbon reducing upgrades – up to £20,000 can be provided as a grant if installing eligible equipment
- The Carbon Trust offers interest-free loans of up to £100,000 available for SMEs to invest in renewables and energy efficiency gains
- Various banks provide green loans, green asset finance, and loans linked to ESG performance.

HSBC, which is a member of the Race to Net Zero, has a number of finance options available to SMEs and larger businesses in hospitality looking to invest in Net Zero:

- **The Green SME Fund** is available for businesses with a revenue of below £25 million that seek funding for green assets or projects. The bank offers a 1% cash back to further incentivise businesses.
- **Green Term Loans** are available to large corporates, mid-sized companies, and SMEs looking to fund environmentally beneficial activities with a minimum loan value of £300,000.
- **Green Revolving Credit Facilities** allow companies to fund cash flow needs for environmentally-beneficial projects, with a minimum loan value of £1 million.
- **Sustainability Linked Loans** are available for companies that have set ESG targets and require additional funding to meet their goals.

- **Sustainable Supply Chain Financing** is for businesses that seek to incentivise their supply chain to get to Net Zero faster. "HSBC can make early payments to customers' suppliers in terms of the suppliers' sustainability performance."

Increased government support

While the government would like to see markets organically produce solutions wherever possible, if we were to move to Net Zero at the pace required there are a number of levers the government could pull including:

- Introduce further low-rate funding options
- Improve the number of grants, subsidies, and incentives for businesses
- Explore hospitality or food and beverage Green Bonds that fund the required changes across operators

Sectoral approach to Net Zero funding

A key challenge in terms of accessibility of loans is that grants are available on a sector basis. This makes it difficult to signpost opportunities for accessing capital because it is fragmented. There is no digital overlay that allows companies or sustainability professionals to identify funding sources nationally. For some Net Zero investments, there is a need for a sector specific programme. Most importantly, the sector would benefit from a kitchen retrofit programme with easy access to funding and data that demonstrates the value proposition and ROI. Banks, as well as the government, can play a role in setting up sectoral funding programmes.

Power Purchase Agreements to lower the cost of renewable energy

Some participants have been looking at a power purchase agreement (PPA) to lower the cost of renewable energy and reduce the risk of price fluctuations. A PPA is a long-term agreement - typically 3 to 5 years - between a renewable energy supplier and a consumer for the purchase of energy at a fixed rate. Pubs and restaurants can enter into an agreement with independent energy generators who produce an access of power. PPAs can be a good option for businesses that want to switch to 100% proven renewable energy but do not have the capital or available space to invest in on-site renewable electricity generation themselves.

Develop community-based finance options

Often the approach to financing Net Zero initiatives is through single organisations investing in the changes. There could be alternative approaches that enable funding of initiatives with others who have similar aims or will benefit from the results which will enable sharing of the cost and associated risk. This could include:

- Pubs and restaurants could raise finance by issuing community shares to members of a local community. This could be used to fund Net Zero initiatives while engaging local stakeholders. For major energy projects around wind or solar energy, community projects could power multiple businesses or households.

- Banks can play a role in enabling community-based finance by investing in community finance organisations or providing guarantees to communicate finance organisations.
- Operators could combine forces with each other or their supply chain to joint fund initiatives that enable them to reduce costs to each party of investment through scale.

3. Lack of leadership buy-in to prioritise Net Zero

There is broad awareness in the hospitality industry about the need to get to Net Zero as a society to limit global warming to 1.5 degrees and protect future generations and vulnerable populations. However, many business leaders lack awareness and knowledge of the role they play in getting to Net Zero emissions. In other words, there is a lack of connection between awareness of the climate crisis and how it impacts their business. Net Zero is often seen as a separate business priority that sits below other priorities such as generating profit and customer and employee experience. As a result, it is difficult to mobilise time and resources to invest in Net Zero. Moreover, many small organisations see their impact as relatively small in comparison to others and, therefore, their need to act as minimal.

Late movers lack knowledge and awareness to take action

While many small and large businesses in the hospitality industry have started measuring and reducing their carbon footprint, a large percentage of operators has yet to start their Net Zero journey. The level of buy-in from founders and business leaders depends to a large extent on the type of stakeholder. While trailblazers are fully bought in with Net Zero investments, late movers lack the knowledge, awareness and motivation to start taking action.

Chris Wright, Commercial Director of Greene King's leased pubs division, shares his perspective on why he thinks many small pubs have yet to start their Net Zero journey:

> *"I think many small operators don't fully understand the impact of their business on Net Zero. Peach Pubs are probably one of the exceptions. But for most of the community pubs, I don't think it's on their radar yet. So, I think awareness is still one of the biggest challenges. Awareness, knowing what to do and the cost of doing it."*
>
> **Chris Wright**
> Greene King

Ian Peart, Commercial Director of Pernod Ricard UK, has also worked extensively with pubs across the UK. He says that pubs who are committed to Net Zero often have an owner who is personally passionate. In order to get others on the road, he says we need to engender that same passion and remove the entry barriers to get started.

> *"When I'm talking to outlets about Net Zero, nobody says it's a bad idea. It is how much they are motivated to do something about it given all the other challenges they have to deal with. Of the outlets that we know have committed to the Net Zero Hospitality scheme, they all have an owner who is personally passionate about sustainability. So the question is how you engender that passion in other owners and how you make Net Zero more accessible and easy by simplifying it, because a big challenge for many people is the complexity and time it takes to measure their footprint and figure out how to reduce it."*
>
> **Ian Peart**
> Pernod Ricard

Strivers balance Net Zero against other priorities

Strivers will have measured their carbon footprint and started implementing reductions. The barrier they face in terms of getting buy-in is more around the larger capital investments or transformational change. Tom McManus, Head of Sustainability at McManus Pub Company, explains that it can be difficult to get stakeholder buy-in as they are more focused on the short term and customers are not necessarily demanding it.

> *"Probably the biggest challenge is making sustainability and reducing carbon emissions a business priority. In the last 12 months, we've seen so many challenges popping up that it's very difficult to make Net Zero a core part of the business. It's very difficult to always get buy-in and get all stakeholders from frontline to managers and board level to see it as a vital priority. Working towards Net Zero for me is an exercise in future proofing the business. But if you aren't looking at that bigger horizon and you're focusing more on getting through the next week or six months, then Net Zero won't be a big priority. Customers are not necessarily 100% demanding this in our area. Today it is more of a nice to have rather than a must have, but I think in five years it will be very much a must have so we need to get ahead on this issue."*
>
> **Tom McManus**
> McManus Pub Co.

Recommendations to increase buy-in

A lot of work has been done by individual businesses and industry collectives such as Net Zero Now, the Sustainable Restaurant Association (SRA), UK Hospitality, WRAP, World Resources Institute (WRI), and the Zero Carbon Forum to raise awareness of the importance of Net Zero in the hospitality industry. Zero Carbon Forum has been successful in bringing together 50 of the leading hospitality businesses to commit to reach Net Zero by 2040. Despite this collective effort, a lot remains to be done in terms of getting more business leaders to invest in Net Zero.

Raise more awareness on how Net Zero impacts businesses

To get more buy-in from business leaders to prioritise Net Zero investments, it is necessary to continue to raise more awareness and to share knowledge on best practices. One way to do this is through industry events such as R2100, William Reed Business Media, MA Leaders Club, and Morning Advertiser. If sustainability and Net Zero feature more prominently in the events, it might result in more businesses taking action. Participants of the research have highlighted in particular the need for sharing practical steps and demonstrated solutions. Another way to raise awareness would be through a nationwide campaign targeted at businesses that have yet to start their journey with a simple message of why they need to start now, how they can do it, and where they can get support.

Continue to highlight quick-wins

While large investments are needed to get to Net Zero, a significant amount of reductions can be achieved by implementing quick wins. Net Zero Now, SRA and Zero Carbon Forum have documented quick-wins that can be adopted by businesses with limited effort and relatively large impact (see Resources). Implementing quick wins and behavioural changes also allows businesses to get buy-in for Net Zero. Jo Padwick, Senior Sustainability Manager at Coca-Cola Europacific Partners (CCEP) highlighted how embedding sustainability in the organisation can increase buy-in.

> *"In some instances, adopting more sustainable practices can actually improve cost efficiencies. For example, one of our customers has nominated 'Green Teams' where each venue competes against one another to see who can reduce their energy use by the highest percentage. Actions including switching to low-energy lightbulbs, installing sensor lights to reduce energy consumption, and recycling cooking oil have helped the team to reduce emissions and make cost savings. A shared goal amongst teams can help embed sustainability into a business and make it relevant to all colleagues."*
>
> **Jo Padwick**
> CCEP

Future proofing your business

> *"Over the long term, businesses that embrace ESG outperform businesses that do not. They benefit from better brand reputation with customers and employees in particular. They have better access to capital because funding is increasingly tied to sustainability. They will also be more resilient to the impacts of climate change."*
>
> **Bob Gordon**
> Zero Carbon Forum

In order to increase buy-in from business leaders, it is important to make the case that Net Zero investments are about future proofing their businesses. The points below are the key elements to consider:

- **Risk of upcoming regulation.** While large publicly-traded companies already face overarching regulation around Net Zero targets and reporting, it may introduce the future for SMEs. Moreover, regulation on specific net zero-related areas is already affecting all parties, including the upcoming bans on gas boiler sales and ICE vehicle sales. By starting their journey to reach Net Zero, businesses will prevent the risk of not being compliant and needing to adopt regulation quickly at a higher cost.

- **Increase in the cost of carbon.** The prices of high-carbon food, drink, equipment, and energy sources are likely to further increase due to regulatory changes (e.g. carbon tax), shifting customer demands and global supply chain pressures, increased prices of high-carbon food, drink, equipment, and energy sources.

- **Changing customer preferences.** Customers will increasingly favour low-carbon food options as the prices of high-carbon foods increase and awareness of climate change in relation to global food systems also increases.

- **Retaining and attracting employees**. Employees will increasingly demand climate action. This particularly applies to the hospitality industry where the workforce is young and more aware and committed to fighting climate change.

- **Limiting climate risks to business.** Climate change will impact all businesses globally, including hospitality in the UK. For example, extreme weather can lead to rising food prices and shortages. Investing in Net Zero is needed to mitigate these risks.

Nando's is one of the leaders in the hospitality industry when it comes to Net Zero. The chain became Carbon Neutral in 2021 and has set a target to reach Net Zero by 2030. We spoke with Sam McCarthy, Nando's Head of Sustainability, who explained the importance of investing in Net Zero to future proof the business. A key challenge to navigate is how to quantify the case for future-proofing a business. There is a lack of available, granular, and accurate data about the impacts of climate change on specific businesses. To overcome this barrier, Nando's is currently looking to map the risks of climate change across its supply chain, which will then drive strategic decision making in the future.

> *"Looking forward, what really excites me is our plan to map our entire supply chain and its impact on climate. I think it will change the relationships we have with our suppliers and with our buyers because there will be more opportunities to discuss the impact of decisions made around climate change."*
>
> **Sam McCarthy**
> Nando's

Case Study: Zero Heroes

We spoke with Simon Alsbury, Co-CEO at Energise, about the importance of buy-in for Net Zero and how to achieve it. Energise is a Sustainability Consultancy with a focus on Net Zero solutions. The company worked with Revolution Bars on its Zero Heroes programme to reduce its carbon footprint. To get buy-in across the business, Energise worked to:

1. **Enable regular reporting and feedback on progress.** This is needed to ensure that people see the results of their actions and keep engaged.

2. **Identify a key contact per site to own reduction measures.** This often turned out to be the Assistant Manager or Supervisor as they tend to stay within the same company longer.

3. **Operationalise reduction measures.** It is critical to operationalise reduction measures and establish operational metrics and accountability. Keeping a scorecard also helps with this.

4. **Ensure the numbers add up.** The data must be correct so that the system supports the message.

By implementing the measures above, Energise enabled Revolution to save about a third of its energy consumption through behavioural change.

4. Lack of capacity to work on Net Zero

Pub and restaurant operators are stretched in their capacity to work on Net Zero because of pressure on profit margins due to high inflation and the cost of living crisis as well as a shortage of staff. Even without these factors, business owners, general managers, chefs, and floor personnel have a significant workload. Therefore, it is challenging to add the additional task of collecting data and implementing reduction measures. The lack of time and capacity to work on Net Zero is mentioned by all participants in the research as a significant barrier.

SMEs usually do not have someone with the dedicated capacity to manage the work required to get to Net Zero. While general managers, chefs, and floor staff among others have some capacity to make small changes (e.g. adapting menus or reducing waste), there is a lack of coordination to make larger progress at pace. Larger organisations, which tend to have someone within the sustainability team to plan and coordinate efforts, also need buy-in and effort from everyone to make transitions happen. For example, they need the operations team to support infrastructure improvements and the procurement team to change supply chain policies. However, these organisations have reflected that the lack of capacity within these teams is really restricting the ability to make the required changes at scale.

Across every organisation, the capacity required fits into four categories:

Measure footprint and plan pathway

Collecting accurate data for all business activities across Scope 1, 2, and 3 of the Greenhouse Gas Protocol requires significant manual effort. Businesses need to work with internal teams, suppliers, energy providers, and landlords. Net Zero Now, the Zero Carbon Forum, and other organisations provide platforms to simplify the process of carbon footprinting and planning reductions. However, the time it takes for organisations to actually collect the data remains a challenge. In addition, there is an issue of complexity where collecting and collating data is not typically part of the role of people working in hospitality. The effort required to measure the footprint can paralyse people and lead to an inertia when weighed up against other priorities.

Behavioural change and policies

One of the significant steps on any operator's Net Zero roadmap is the change in staff behaviours that is required to enable emission reductions. This includes the way that chefs plan menus, procurement plan stock, waiting staff interact with customers to enable menu choice, and the way staff travel to work. The stakeholder management required to get buy-in is significant and the pressure on staff to change can be overwhelming when they have so much else to consider.

The capacity required to make those changes can be considerable too. For example, Alastair Scott, who runs Malvern Inns, comprising The Castle Inn and The Square & Compass Pub, detailed that if a chef is to move the menu away from poultry or beef to focus on lower

carbon game-based menus then these dishes take more preparation time. Similarly, if staff are to use public transport or bicycles, it can take them significantly more time to get to work.

Big capital investments

Many of the big capital investments required to get to Net Zero would disrupt the running of the business. For example, a pub or restaurant might need to close for a few weeks during a kitchen retrofit. This is likely to result in a funding issue while the company loses revenue but still needs to pay wages.

Business transformations

Alongside the behavioural change and big capital investments, there is also the broader business change to be considered. This could take the form of rewriting policies, establishing new reporting processes, or hiring new staff for initiatives. All of this again takes significant capacity. Furthermore, looking at the broader business change requires a long-term lens while operators often take a short-term approach to dealing with more pressing issues (also see barrier 2).

Solutions / recommendations to lack of capacity

Utilise existing resources

There are already helpful resources that can be utilised to upskill staff or reduce the time required to carry out work. Net Zero Now and Zero Carbon Forum have produced various protocols and roadmaps to simplify the Net Zero journey for businesses. A full overview of resources can be found at the end of the report under resources.

Make Net Zero business as usual

As long as Net Zero is separate from other priorities, it is perceived as a big task and time commitment. In order to reduce the time spent on measuring and reducing their footprint, businesses can start embedding Net Zero into their business-as-usual processes. In particular, behavioural tasks are often about small changes that require some repetition to be fully integrated into the workload. Data collection can also be integrated into existing systems.

Build momentum through tactical progress

The Restaurant Group advocates the use of a tangible tactical area such as employee commuting to get engagement and build momentum among staff. This can lead to greater investment in other areas such as waste and energy reduction as people start to be inspired by the initiatives.

Suppliers reducing burden on operators

Large suppliers can reduce the capacity required for operators by providing clear data that can integrate into easy systems and shaping solutions that reduce workload. New initiatives aimed at reducing carbon emissions, such as Pernod Ricard's ecoSPIRITS solution (see barrier 6), will need to carefully take into account the needs of operators by reducing the workload and not adding to it.

Embed sustainability into company values

Participants that have successfully started their Net Zero journey have embedded sustainability into their company values. If sustainability is a core part of your value as a business, it will drive engagement. Hamish Stoddart, co-founder of Peach Pubs, spoke about this topic.

> *"We engaged the team in a very strong way with changing our values and [making sure that] everyone understands that we're on the journey so that when you ask for something to be done, people are nodding. And at the moment, we're strong enough to say, if you don't care about this stuff, then leave Peach, please. As a result, things are generally adopted quickly. The little things actually make quite a lot of difference to plastic reductions and waste reductions. So there's a lot of stuff we're already good at, just because we have a good culture and engagement."*
>
> **Hamish Stoddart**
> Peach Pubs

Value in supporting the development of people

While it undoubtedly takes capacity to deliver the initiatives to get to Net Zero, it can be really valuable to develop staff members with the skills. More and more of the millennial and Gen Z staff base are passionate about contributing to environmental change so providing the opportunity for them to engage could aid retention. Moreover, there are opportunities to access apprentices who present relatively competitive labour costs but who can be upskilled. This represents not only achieving environmental progress but also achieving significant social value through the improvement of future prospects for early career workers.

Tom McManus explained the potential benefit of looking at the apprenticeship levy:

> *"To incentivise businesses to reduce their emissions, you could look at things like the levy paid for apprenticeship schemes. If companies reduce their emissions by X amount, they can start getting paid back on this investment. The levy can also be used by the government to invest in Net Zero initiatives which will help hospitality businesses begin their journey. Apprenticeship schemes could also be a great way to get more people with sustainability expertise into the sector."*
>
> **Tom McManus**
> McManus Pub Co.

Provide positive incentives for employees

Pub and restaurant owners can incentivise employees or leased pubs to get on the road to Net Zero.

Thom Elliot, co-founder of Pizza Pilgrims, spoke with us about the challenge of time constraints for employees and the possibility of providing positive incentives to prioritise Net Zero.

> *"There is a real desire amongst our teams to become more sustainable but, as you know, being a restaurant manager is already a busy job. It is important that we do just expect them to add this to their already large piles of targets and day-to-day management. Part of the solution is to involve more team members, or to have a rep at site level who is not in management to help deliver improvements. But also, I think it is important that if we really want to make a difference, ensure there are Net Zero targets and set them as key elements of a manager's pizzeria targets, potentially also linked to bonus. Ultimately, many of the most effective ground level changes can also lead to immediate cost savings (energy use, waste management) and so you are killing two birds with one stone."*
>
> **Thom Elliot**
> Pizza Pilgrims

Punch Pubs is providing their Management Partners with better visibility of their energy usage on a day-to-day basis.

> *"We are rolling out half-hourly smart meters across our Management Partnerships estate to obtain a better insight into their energy usage. Punch's sustainability team is conscious that most of our Management Partners have no visible insight into their current energy usage and are unaware of the impact this is having on the environment. By offering a service, to show consumption on a day-to-day basis, we hope to encourage our Management Partners to be more mindful of their consumption, and to see and act accordingly to reduce wasted energy."*
>
> **Jon Dale,** Strategic Corporate Affairs & ESG Lead
> Punch Pubs & Co

5. Lack of available and scalable low-carbon food and equipment

Approximately 60% of the carbon footprint of pubs and restaurants is in the category Purchased Goods and Services, which falls under Scope 3 of the GHG Protocol. Food, drink, and the equipment used to produce it are the main carbon emitting activities in this category, with food standing out as the biggest contributor. In order to get to Net Zero, pubs and restaurants rely on change within the food, drink, and equipment supply chains. The barrier they face is a lack of availability and scalability of low-carbon food and equipment. As a result, businesses continue to struggle to reduce their footprint in these areas. On the drink side, which includes beer, wines, spirits, and non-alcoholic beverages, more progress has been made. Major suppliers now have carbon neutral or low-carbon breweries and distilleries, such as Estrella Galicia and Pernod Ricard.

Challenges with the low-carbon food supply

Agriculture amounts to 21 - 37% of total global emissions. While it is impossible to reduce food emissions to zero, it is necessary to drastically reduce emissions and the other social and environmental impacts of food, such as loss of biodiversity and livelihood. A wealth of research has been done on how to transition to low-carbon food. The main approaches to reducing carbon and other emissions in the food supply chain are:

- **Choosing low-carbon proteins:** Meat and dairy are the main contributors to climate change in the food sector. Reducing the amount of meat and dairy in menus and incorporating plant-based options can significantly reduce the carbon footprint of food in hospitality.

- **Sourcing seasonal and locally-produced food:** Sourcing food from local producers and farmers in the UK can reduce the carbon footprint of food by minimising transportation emissions. Choosing seasonal ingredients can also reduce the need for energy-intensive storage and preservation methods. The SRA and WRI have produced useful guidance on this (see Resources).

- **Reducing the use of fertilisers:** Fertilisers used in intensive agriculture are fossil fuel based. Apart from directly contributing to global warming, they damage biodiversity and soil health needed for carbon sequestration.

- **Using sustainable packaging:** Sustainable packaging options, such as compostable or reusable containers, can reduce the carbon footprint of food by reducing waste and minimising the use of fossil fuel-based plastics. It should be noted, however, that moving away from plastics can also increase the carbon footprint as other forms of packaging are often heavier, resulting in higher transportation emissions. Hence, a case-by-case approach is needed.

- **Increasing the utility of food:** reducing the amount of food waste through utilisation of unfashionable cuts of meat or minimising edible elements going to waste is critical to emissions reduction. This is because through greater efficiency less will need to be produced and therefore associated emissions will be reduced. Moreover, the harmful greenhouse gases that are produced by rotting produce will be minimised.

While more hospitality businesses are now looking at implementing the approaches mentioned above, they still see barriers of switching to lower carbon foods. The three main factors are higher cost, limited choice in suppliers, and a lack of awareness of what's already out there.

First, many organic and locally-produced foods are more expensive than wholesale products. British grass-fed beef has a lower carbon footprint than imported and often grain or soy-fed beef, but the price of the former is higher. Similarly, many plant-based meat replacement products are more expensive than their meat-based counterparts. However, in some cases the costs of more sustainable food are lower. Locally-produced seasonal vegetables are cheaper than the same vegetables on the wholesale market. The key thing for operators is still price so making the link between sustainability and cost benefits is important to increase uptake.

> *"The reason we are reducing our carbon footprint is because we know it is the right thing to do. There is a marketing benefit, there is a PR benefit, and there is a customer benefit, but in the large majority of cases customers aren't coming to us to speak about these things. The key thing for customers is price."*
>
> **Nick Reynolds**
> Reynolds Catering Supplies

Second, sustainably-grown food continues to be more limited in availability. Sustainably produced food does not yet have the scale to deliver for hospitality businesses that require a constant supply. For example, The Restaurant Group's former Environmental Head James Taylor, said that vertical farming - although lower in carbon than import - does not yet provide the scale needed for larger pub and restaurant chains.

> *"On the menu side, it's the availability and scalability of more sustainable food options. We're talking about quite big brands and quite big volumes going through. So you almost need someone to lead like McDonalds did with cage free eggs, for example. Somebody has got to give the supply or the market that volume to make more sustainable alternatives commercially viable because at the moment it's not. I'll use a really simple example. Some of the vertical farming stuff that we've looked at is certainly a real dial turn in terms of CO2 reduction. However, it's currently more expensive."*
>
> **James Taylor**
> Former Environmental Head, The Restaurant Group

Juliane Caillouette Noble, Managing Director of the SRA, also spoke with us about the challenge of scale for larger hospitality businesses.

> *"From the last 15 years of doing ratings on restaurants, the thing that is pretty much always the case is that bigger businesses will perform better on the environment section of our rating because they can generally procure more sustainable energy in bulk, invest in efficient technologies, and have less wastage. However, they massively underperform on the sourcing section of our rating because it's much harder for them to procure at scale ingredients that have been farmed in an environmentally positive way. This is because farming in an environmentally positive way is not as predictable as modern industrial farming. As a large chain restaurant, you don't have the flexibility."*
>
> **Juliane Caillouette Noble**
> SRA

Third, there is a lack of awareness in the hospitality industry about the availability and price of sustainable low-carbon food options. Most businesses purchase food from wholesalers who rely on the global food supply chain and intensive agriculture. Outside of this infrastructure, there are a lot of farms and food producers that can deliver lower carbon food. In the solutions section below, we have highlighted a case study about enabling short and transparent supply chains.

Lack of low-carbon kitchen equipment

An often-overlooked part of the carbon footprint of pubs and restaurants is their kitchen equipment, including (combi) ovens, warewashers, extraction fans, fryers, and refrigerators. This includes the footprint of the full life cycle of equipment from virgin materials and manufacturing to usage and end-of-life disposal. The challenge for operators that seek to reduce their footprint is twofold:

- There is a lack of transparency on the carbon footprint of kitchen equipment to inform decision making (see barrier 8 for more detail).
- There is a lack of sustainable kitchen equipment on the market.

While suppliers of kitchen equipment have worked to improve the energy efficiency of their products, a lot of work still remains to be done to reduce carbon emissions embedded in equipment. For example, much of the equipment includes the use of stainless steel. The iron and steel industry make up 2% of the UK's total emissions and 7% globally. To reduce emissions of equipment that uses steel, manufacturers can make use of green steel (steel produced with renewable energy) and recycled steel to reduce the amount of virgin materials. Suppliers can also better enable customers in hospitality to extend the life cycle of equipment, for example by using the appropriate cleaning methods and maintenance. Finally, suppliers can implement closed-loop systems where old equipment is reused rather than ending up in landfill.

For more information on what really is sustainable kitchen equipment, check out this article by Nicole Radish & Lauren Hunter from Loopcycle, which breaks down the difference between energy efficient and sustainable kitchen equipment.

Recommendations to improve availability and scalability of food and kitchen equipment

In order to enable pubs and restaurants to purchase more environmentally sustainable food and kitchen equipment, it is necessary to scale the supplies and lower the prices while increasing awareness of existing sustainable alternatives. The sections below outline how to increase awareness and scale production utilising existing resources and initiatives.

Raise awareness of low-carbon food and equipment

There is a need to raise awareness on the existence and availability of low-carbon food and equipment in the hospitality industry. Raising awareness through knowledge sharing and the development of easy-to-use marketplace platforms can help operators and consumers make better choices. The SRA, WRAP, and WRI have developed useful resources about transitioning to sustainable food. However, in terms of sustainable kitchen equipment, there is still an awareness gap. It is challenging for hospitality businesses to identify which kitchen equipment is low carbon.

Government can play a role in making sustainable food more available

For low-carbon, non-intensively grown food to be produced to scale, there needs to be more demand. An example is McDonalds, which started using free range eggs. Given the scale of McDonalds, this provided an impetus to the market, which in turn increased the scale of free range eggs. Government can play a role in enabling the transition to low-carbon food. If national and local government bodies as well as government-funded organisations such as hospitals and schools adopt a policy to procedure regenerative beef and vegetables, it increases the demand for low-carbon food, which allows more growers to enter the market.

In 2010, the UK government spent £2.4 billion on procuring food for schools, hospitals, prisons, government agencies, and care homes. The government has Official Government Buying Standards (GBS) for food and catering services. However, according to Sustain: The Alliance for Better Food and Farming, compliance with the standards is only around 50%. Furthermore, the buying standards are not 'Net Zero proofed', as they fail to meet best practices around procurement of sustainably sourced fish, meat, and vegetables.

Circularity in commercial kitchen equipment

One way to reduce the carbon footprint is to utilise circular models for kitchen equipment. This includes models that enable the leasing, sharing, refurbishment, or repair of various kitchen equipment to minimise the amount of new equipment produced. However, what is required here is the balance of keeping old equipment in use for as long as possible with the ability to replace it with more carbon-efficient equipment in the future. The right time for this is when the carbon saving during the running of the machine outweighs the upfront carbon cost.

Innovation in the low-carbon food market

The low-carbon food market is already growing at pace with switches to alternative diets creating demand for vegetarian and vegan options. This has stimulated development of supplies of new alternatives. Organisations are also beginning to profile their carbon impact as a differentiator. What is required is better standardisation of reporting to enable pubs and restaurants to compare wholesaler and direct supply options from a carbon perspective. Below are two case studies of organisations that have moved to develop better carbon information and decisions on food choices.

Case study: How Equilibrium Markets enables short supply chains that are better for the environment

Equilibrium Markets has developed a cloud-based supply chain management platform called AgileChain that enables short and transparent food supply chains for hospitality businesses, consumers, and government. It offers an alternative to long and intransparent supply chains, which produce large amounts of emissions and are difficult to influence. Equilibrium Markets's purpose is to develop food security for generations. Its goal is to enable supply chain resilience, climate, and biodiversity crises mitigation and regional economic recovery. While other supply chain technologies show a product's name, price, and weight data, AgileChain can offer transparency on the product's origin and sustainability (how is farm managing soil, water, people, biodiversity, animals, carbon). Chefs working in hospitality can use the platform to order food from regional logistics providers.

> *"We've done a lot of work in breaking down the barriers to entry for SME primary producers to access new markets. The crux of our software's magic juice are the algorithms connecting buyers with SME food producers along short chains in an efficient way. We've made sure to make it easy to supply for all types of producer by enabling them to configure their fulfilment capabilities to meet with their individual circumstances. For example, the platform takes into account how much time each individual producer needs to prepare the order, the days each individual producer can receive an order and days or times they can't, what best fits with their harvesting plans, product volume availability, and more around what they can and can't do with regard to fulfilment."*
>
> **Rich Osborn, CEO**
> Equilibrium Markets
>
> *"If you take jacket potatoes as an example. When there is plentiful supply in the national and international wholesale markets, caterers can buy jacket potatoes, boxes of 60, at really low cost - almost certainly, significantly lower than a local organic grower. Once supply starts to become more scarce on the wholesale markets, prices increase, and eventually, the price of potatoes can rocket up to 2, 3, 4, 5, or even 6 fold the lowest price. Now if you instigate relationships with a local organic farm down the road that grows jacket potatoes and you agree on a price that they set for the whole year, what you'll start to see is opportunities where you're having new suppliers (direct producers) more concerned about the cost of a product than the sustainability side of it. If it came to a decision to save 10 pence a pint versus having a far more sustainable product, it would probably go in terms with lower*

prices. You start to have a point where even organic, lower-carbon potatoes cost less than the non-organic wholesale potatoes that have no claim on their carbon footprint."

Rich Osborn
Equilibrium Markets

Case study: Pizza Pilgrims and Harvest London

Pizza Pilgrims was the first customer of a new vertical farming company called Harvest Farms - and have watched them grow hugely over the last few years. Using their basil has been a win-win - we saved 19 tonnes of CO_2e annually by buying basil locally, we have reduced waste hugely as the fresh basil lasts longer and we have been able to pick the perfect basil variety for our pizza!

For more info: https://www.pizzapilgrims.co.uk/harvestlondon/

What's next for Pizza Pilgrims?

From a sustainability pov we are just getting started. Our pizzeria project in Selfridges has been built from a purely eco stand point and we have learned so many lessons - from regenerative wheat to sustainable fit out. We now have a dedicated team working on the "Planet Pilgrims" internal initiative - and have done our scope 1, 2, and 3 analysis - with a clear plan to net zero. Watch this space!

6. Lack of customer demand and engagement around Net Zero

Customers play a critical role in driving pubs and restaurants to get to Net Zero. When customers demand more action around Net Zero through sustainable menu options or other commitments, it provides a strong incentive for operators to act. Conversely, operators that prioritise Net Zero want to engage customers and communicate their carbon activities in ways that are easy to understand and credible to customers. However, the challenge for operators is that there is a lack of engagement from customers around Net Zero and a lack of demand for low-carbon menu items. This prevents operators from taking more action and moving Net Zero up the priority list.

Challenge of credible communicating about Net Zero

Net Zero can be quite abstract and therefore difficult to communicate. This is compounded by the differences in interpretations of Net Zero and other carbon-related terms by different organisations. This includes differences in the use of terms such as carbon neutral, negative, positive and Net Zero. Moreover, the term Net Zero itself is one that people are sceptical about because of the lack of consistency around the role of offsets versus removals within different definitions. Customers are becoming more sceptical about offsets, which can add to the feeling of greenwash unless communicated carefully.

Another credibility issue is the timeframes that are being set around Net Zero targets, with long-term targets being seen as not credible and box ticky rather than ambitious. Operators believe their customers want to see a greater quantification of the initiatives they are taking to reduce carbon rather than a long-term target.

However, even if operators are able to communicate their Net Zero journeys, they don't yet believe that it is really leading to differentiation independently. However, it can act as a complimentary piece of their branding alongside elements of cost-competitiveness, quality, and overall ethical behaviour and sustainability standards. They also see it as a way of mitigating the risk that environmentally-conscious customers will choose not to go to their venues.

Lack of customer demand for low-carbon menu options

The second aspect of Net Zero that requires customer participation, is the switch to low-carbon food and drink options. It is complex for customers to factor another aspect into their decision making alongside existing factors such as cost, convenience, quality, taste preferences, health, and provenance. Moreover, even for those who do consider social and environmental factors, the most important is still price and quality. Price, in particular, remains the most important factor for both operators and consumers. Many people simply cannot afford a higher price for beef or beer.

> *"The biggest challenge by far is the cost. In this cost of living crisis at the moment people are far of price."*
>
> **Thom Wheatley**
> Estrella Galicia

> *"The carbon footprint of beef is largely determined by how and where cows are reared. A steak can cost £15 or £25 depending on its provenance. Some consumers can't really afford more than £20 for the main course when eating out."*
>
> **Hamish Stoddart**
> Peach Pubs

For the small proportion who do want to make low-carbon choices, it is difficult for pubs to communicate this on a per-dish basis rather than as an aggregate both from an operational perspective and in ways that enables comparisons.

Pubs and restaurants also reported that some customers want to keep eating meat either because it is a treat for them or because it represents a relatively cheap and tasty option. This may contribute to the insight that vegan and vegetarian options are only a small part of most operator sales, despite good availability and lower price. In particular, pubs and restaurants in the country or ones that serve middle-aged to older customers, say they see no change in customer preference. Others said their customers prefer non-locally sourced products when they are associated with better quality or part of the brand of the venue. For example, Estrella Galicia's beer must be produced in Galicia and Pizza Pilgrims' tomatoes must come from Italy. This customer preference means that pubs, restaurants, and suppliers find it challenging to switch to more locally-sourced alternatives.

> *"The easiest way for us to lower our carbon footprint is to cut out shipping. This means brewing in the individual markets. But it's a catch 22, because when you do that you lose authenticity as a brand and you lose the support of the local environment. Our customers want to buy a premium beer, which is brewed in Galicia."*
>
> **Tom Wheatley**
> Estrella Galicia

Consumer preferences also play a role in the lack of available low-carbon food grown in the UK (also see barrier 7). Nick Reynolds, of Reynolds Catering Supplies, highlighted this challenge: "One of the things we're looking at to reduce our Scope 3 emissions is seasonality such as working with more local produce. However, the UK doesn't grow very much, especially in winter. We don't commercially grow tomatoes, strawberries, and cucumbers in the UK in the winter months, for examples. Consumer preferences drive this. As long as our customers are asking for things like strawberries out of 'season' it will generally result in higher carbon emissions."

Finally, many customers just want to have fun in a pub and a restaurant; it is their time to relax and enjoy themselves and not be posed with challenging, ethical questions. Therefore, the question is where and how do we encourage consumers to make choices about where they go and what they do based on carbon considerations?

Case study Peach Pubs: Are customers willing to pay for offsetting?

by Hamish Stoddart, Founder of Peach Pubs

In 2022, at the One Elm, a Peach Pub, we studied for one day the effect of asking guests to pay for the cost of offsetting their food and drink. We considered asking guests to pay for offsetting drinks as an extra charge on top of their bill. Drinks generally have an offset cost of 1p or 2p per drink. It was challenging to engage people in a busy pub but when we explained the offset cost and why we were doing it, a majority of guests were happy to add 2p to 20p onto the cost of a round. Approximately 25% of the guests were positive, 55% relaxed but not engaged, while 20% refused.

Food was more challenging as the menu had to be presented with an offset cost per dish, which varied from 1p to 25p (for large steak). To influence behaviour, the offset costs were included on the menu. At the end of the meal, guests were asked if they were willing to pay the offset. This time the results were somewhat different, driven by the higher costs of offsetting up to £2. Again 20% of guests were enthusiastic, 60% ambivalent (half of whom paid the offset and half didn't), and 20% actively ignored, or opposed the idea. Of the 20% of enthusiastic guests, 3% donated more to cover other tables which was enough to cover the whole £58 offset cost of the day.

We carried an extra front-of-house person and occasionally an additional person to deal with communication. We managed to offset the food and drink purchases of the day using only voluntary donations. From this study, I concluded that if this initiative was introduced permanently, 30-40% of offset cost would be contributed voluntarily by guests as long as the menu info and voluntary donation systems could be developed and the communication process integrated into service without becoming a distraction from great service. Given the level of engagement required and pace at the bar, I was tempted to just add offset cost into all drinks immediately. Both systems would engage and educate the team and guests in our sustainability mission. We had a lot to do to make this work for the guest, team, and profit.

I had a goal of going NetZero fast. Net Zero has to be a combination of reduction and offset. So, we planned more reductions in 2023, which are the first and foremost priority in reaching Net Zero, and using the findings above, developing a way to share the cost of Net Zero with guests and shareholders.

Recommendations for increasing customer engagement on Net Zero

Increasing customer engagement around Net Zero is complex since every customer has unique preferences and motivations. However, we identified some common themes in the section above that need to be addressed in order to get more engagement from customers around Net Zero and boost demand for low-carbon food and drink. The sections below provide a short and high-level overview of some of the key solutions.

Embed Net Zero in the customer journey

In the hospitality industry, customer experience is everything. The customer journey starts when someone becomes aware of a brand and subsequently develops through every touchpoint, including the reservation process, arrival and greeting, seating and ambiance, menu presentation, ordering process, food and beverage quality, staff interactions, payment process, post-visit communication, and online reviews and social media interactions. To improve engagement around Net Zero and customer demand for low-carbon food and beverage, operators need to embed sustainability in this customer journey. Some of the key ways in which this can be done are summarised below:

- **Highlight sustainable menu items.** Operators can promote low-carbon menu items by highlighting the sustainable attributes such as organic farming practices, locally sourced ingredients, positive biodiversity impacts, and efforts made to reduce emissions during production.

- **Educate and inform customers.** Communicating honestly and openly about the benefits of low-carbon food and drinks may help to increase customer engagement. For example, operators can use key facts, visuals, and statistics to capture customers' attention and highlight the positive impact of choices.

- **Offer high quality.** Ensuring that low-carbon food and drinks are high-quality and have delicious taste will improve the customer experience and therefore boost demand. Operators can use taste tests and seek customer feedback to continuously improve on quality.

- **Create sustainable immersive experiences.** Many operators struggle to bring the benefits of low-carbon food and drink to life. Creating dining experiences that demonstrate the farm-to-table story behind low-carbon food and drink will make Net Zero more tangible for customers.

- **Offer incentives and rewards.** Consider discounts, loyalty programmes, or other benefits for customers who opt for sustainable menu options. This will reinforce the idea that making sustainable choices is valued while enhancing customer experience.

More veggies on the menu

Menu drives choice. Therefore, the best way to stimulate customer engagement is to change the menu or change the presentation of items on the menu. In 2021, Wagamama became the first high-street restaurant chain to make over 50% of its menu vegan, which sends a strong signal about the chain's commitment to sustainability. Interestingly, a study from the University of Westminster found that a significant amount of people who usually eat meat shift their choice to vegetarian when 75% of the menu items are vegetarian, but not when 50% are vegetarian. This study suggests that pubs and restaurants need to further increase the percentage of vegetarian or vegan items on the menu to effectively nudge meat eaters to switch to vegetarian items.

The Sustainable Restaurant Associations (SRA_ is the leading organisation in the UK focused on enabling operators to get more veggie and sustainably-sourced meat on the menu. The key focus of the SRA is on increasing the sales of plant-based options.

"We spent a lot of time shifting business to increase plant-based options on their menus. We're now moving beyond that as we're shifting businesses to increasing the sales of their plant-based options on their menus."

Juliane Caillouette Noble
SRA

Quality and health benefits

Since Net Zero or even sustainability is often not an important factor in customer choice, operators can identify other benefits that come with low-carbon menu items. Key benefits to consider are health and quality. Locally grown, organic vegetables or organically-sourced meat is healthier and better in quality than many imported intensively grown food.

The quality of alternative proteins has increased over the past few years. Plant-based chicken in particular is on the rise. For example, the Mexican chain Barburrito, which operates 14 locations across the UK, reported that its plant-based chicken option is becoming more popular than its real chicken. Barburrito customers are also happy to consider menu items with reduced meat. James Taylor, former Sustainability Lead at The Restaurant Group, which includes the Wagamama chain, said that people are happy to consider meat with alternative protein. "Certainly people are happy to consider reducing the meat content of a meatball and choose alternative protein. So to build that back does not necessarily reduce the quality. Before, less meat meant worse quality. Now less meat can be equal quality and better for the environment."

Whole industry engagement and campaigns

While individual organisations may find it a real challenge to engage with customers around the carbon topic, more can be done as a collective to communicate the shared challenges and opportunities to stimulate customer change. This includes collective campaigns that customers will recognise across venues and channels including social media.

"In terms of support for our business around Net Zero, we need simple, easy-to-use tools that can be used across social media. We also need a lot more industry-wide support, pushing out the importance of Net Zero." Nick Marsh, Better World Brewing

Equipping team members

One of the critical ways to improve the engagement with customers around the topic is to equip team menbers within the venue with information that enables them to have conversations about what the organisation is doing, why it is important, and how people can support it. While this can be challenging in an industry with relatively high staff churn, having easy reference points on the topic is necessary.

Net Zero certification

Net Zero certification can be a positive way to reward businesses that have implemented changes while incentivising others who have not yet implemented those changes. However, participants in the research mention that in order for this to be successful, the following

criteria must be met to ensure people recognise and trust it:

- It must be accredited through an external, independent body that is respected
- There must be a single certification in place with no contradictory certifications to ensure consistency and credibility
- People must be able to understand what is measured through the certification and how the measurement takes place

7. Lack of reliable data to drive decision making

A critical element of getting to Net Zero is a business's ability to measure and track its emissions. A carbon footprint enables businesses to identify emission hotspots and subsequently prioritise reduction measures as well as see the impact of these measures. Businesses can start reducing their footprint based on common sense and best practices. However, without a good understanding of their footprint, they lack the visibility to make efficient decisions and track progress effectively. The challenge that hospitality and businesses across the world face is that the data required to measure their footprint is often not available, inconsistent, inaccurate, and/or incomplete. As a result, hospitality businesses are at risk of making the wrong decision or no decision at all.

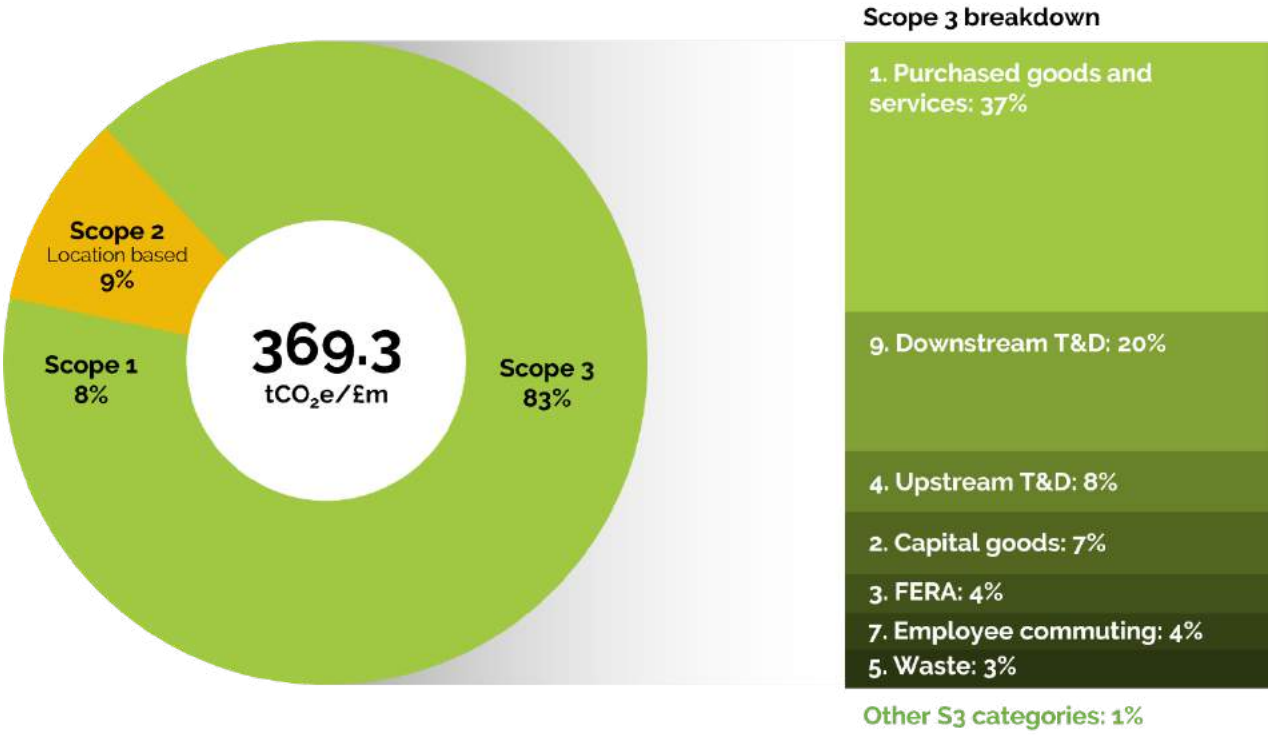
The barrier of a lack of good data to drive the decision needed to get to Net Zero can be separated into four key challenges:

- **Unavailability of data**: Collecting reliable data can be a challenge because it is often not available, difficult to access, and time consuming to collect.
- **Lack of standardisation**: The hospitality industry is diverse with many different businesses and supply chains. As a result, there is a lack of standardisation in the methods used to collect and measure data.
- **Complex supply chains**: The hospitality industry relies on a lot of suppliers. It can be difficult and time consuming to collect accurate data for each product.
- **Non-specific emission factors**: Emission factors used to calculate a carbon footprint can be inaccurate because they lack specificity or the underlying data lacks accuracy.

Unavailability of data

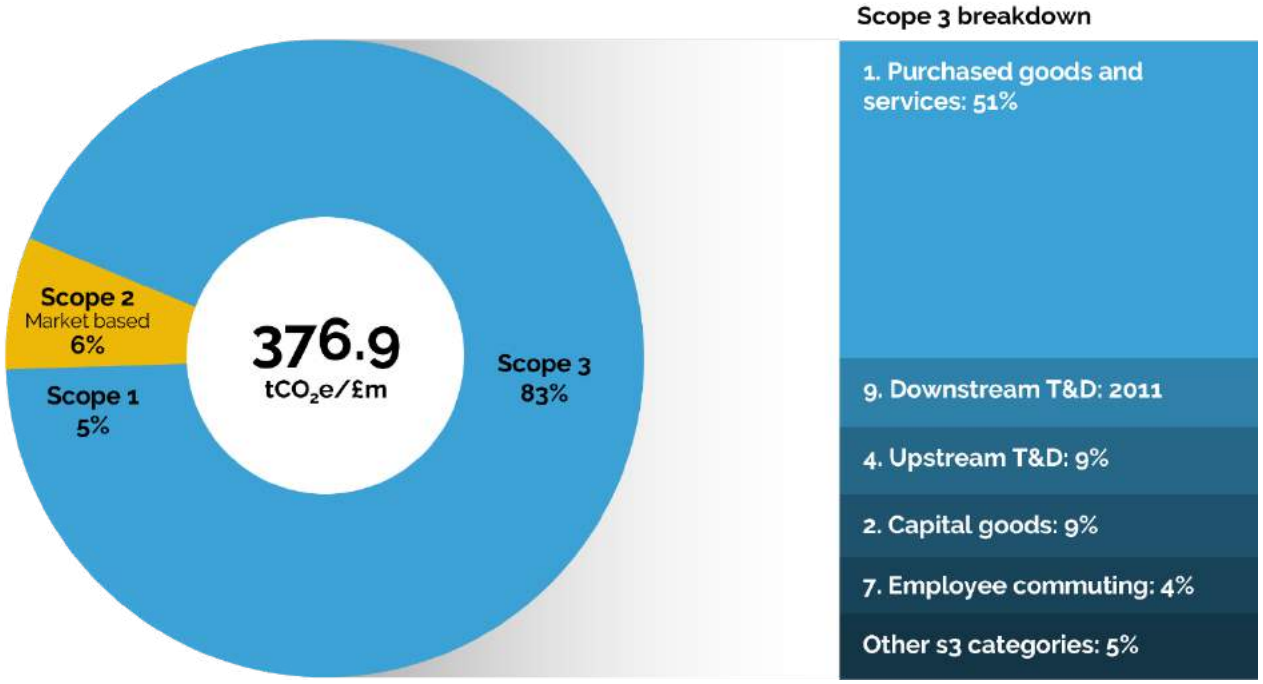
The carbon footprint of pubs and restaurants comprises many different activities. The majority of the carbon footprint is within Scope 3 (see images below from Zero Carbon Forum). While Scope 1 and Scope 2 data (fuel and electricity consumption) is relatively easy to collect, collecting reliable data for Scope 3 emissions is challenging. In particular, data around purchased goods and services - the GHG Protocol's category for the procurement of food, drink, packaging, and other goods and services that pubs and restaurants need - is difficult to collect. SMEs might not have the time to collect this data (see barrier 4). However, in some cases, reliable data doesn't exist. The most relevant example for hospitality businesses is the lack of data on farm-level emissions. A large part of food emissions are in agriculture, but measuring these emissions is challenging for farms because of the scientific complexity and time it takes.

Fig. 1 *- Pubs emissions profile*



Source: Net Zero: The Guide for the Brewing and Hospitality Sector (July 2021), Zero Carbon Forum

Fig. 2 *- Restaurants emissions profile*



Source: Net Zero: The Guide for the Brewing and Hospitality Sector (July 2021), Zero Carbon Forum

Lack of standardisation in data collection

The Greenhouse Gas (GHG) Protocol is the global standard for calculating a carbon footprint. In order to validate targets, organisations can submit to the Science-Based Target Initiative (SBTi), which validates a company's target to ensure it is in line with 1.5 degrees. While the SBTi has guidelines for several sectors, including Forest, Land and Agriculture (FLAG), there remains a lack of consistency and standardisation in measuring the carbon footprint of hospitality supply chains.

Complex supply chains

The complexity and opacity of the global supply chains present a challenge (also see barrier 10). The complexity of supply chains make it difficult for businesses to access reliable data. The challenge is both in getting accurate data from suppliers and the number of suppliers and products that exist, making it a time-consuming effort. One way around this issue is to rely on average data points rather than activity-specific or product-specific data. While this allows businesses to build a more-or-less complete carbon footprint, it lacks the accuracy to drive effective decision making in the long term.

Non-specific emission factors

When calculating carbon footprints, emission factors are used to convert raw data on emissions and energy consumption into carbon dioxide equivalents (CO_2e). This number is then used to calculate the carbon footprint of an activity or the business as a whole. While emission factors have been validated for scientific accuracy through rigorous study, they still often lack the accuracy and consistency needed to demonstrate the effectiveness of reduction measures. First, emission factors are often based on average values, which may not accurately reflect the variability in emissions over time and across specific products.

Second, participants in the research have indicated that changing emission factors mean their carbon footprint can swing significantly from year to year. These changes are the result of necessary updates to make emission factors more accurate. However, it does result in inconsistency for businesses.

> *"I would say 99 out of 100 pubs and restaurants have no idea about the carbon footprint of the beef they're serving. There are companies who are pushing carbon footprint measurement by attaching one globally calculated carbon score to a product regardless of the production approach taken on the farm. It's completely inaccurate. It just won't be correct. It's just a finger in the air. Unless procurers have data on what the cow is eating, how it's being grazed, the impacts it's having on soil health and water use, how can you begin to make informed decisions about one meat product over another?"*
>
> **Rich Osborn**
> Equilibrium Markets

Recommendations for improving carbon data quality

Standardisation of data collection and reporting

Standardisation of data collection and reporting is an important solution to improve the reliability, consistency, and credibility of carbon reporting. If companies apply the same data collection methods, emission factors, and target-setting methodologies across different business units, it will be easier to compare and track progress towards Net Zero.

In May 2022, WRAP launched the world's first methodology to measure and report food and drink GHG emissions consistently. The protocols include three resources:

- **Scope 3 Measurement & Reporting Protocols for UK Food & Drink businesses – guide**. This makes using existing globally accepted guidance such as Greenhouse Gas Protocol and Science Based Targets Initiative, as well as sector-specific guidance easier to implement. The focus is on 'purchased goods'. The Protocols also provide guidance on determining the key organisational hotspots for emissions, judging data needs, and tracking & reporting on progress.

- **Scope 3 Measurement & Reporting Protocols for UK Food & Drink businesses – summary**. Designed for senior decision-makers and international audiences, this is an at-a-glance summary, signposting the key information that businesses need to take action.

- **Supplier/product questionnaire**. Recommended questions for businesses to ask supply chains when requesting data."

WRAP kindly provided written input as well:

> *"WRAP strives to support food and drink businesses to measure and report on the GHGs emissions of food in a consistent way, to allow the sector to start looking at targeted action. From our discussions with businesses, we know that measuring those emissions has been challenging for them without a consistent methodology for measuring the carbon footprint for food and drink. This is where WRAP and the Courtauld Commitment 2030 come in. In May 2022, WRAP published the world's first methodology to accurately measure and report food and drink GHG emissions consistently.*
>
> *"Our Scope 3 Measurement and Reporting Protocols, which are free to access via our website, provide a level playing field to make action and innovation in tackling carbon emissions from food and drink easier for businesses. Businesses can use these tools to understand their scope 3 emissions and then set to work against a collective target to achieve a 50% absolute reduction in GHG emissions associated with food and drink consumed in the UK by 2030. With companies using and giving feedback on the protocols and emissions factor database by businesses, WRAP can build on these to turn them into world-leading toolkits to support the fight against climate change."*

To support the application of standard methodology utilisation of aligned carbon calculation technology that integrates into pubs' digital architecture should be used to ensure that carbon calculation is as easy as possible as well as accurate.

"Punch has 1,300 pubs across the UK, including almost 350 Management Partnerships pubs. We are in the process of calculating our company carbon emissions, which will be presented in a Net Zero Roadmap. We expect, with time, and the development of technology i.e. AI, that our data collection will become more rigorous, which will enable each of our pubs to have even more control over their overall emissions footprint."

Jon Dale
Punch Pubs & Co

Better sharing of product-level data

The most reliable carbon footprint data is at the specific product level. Companies that have the resources procure consultant services to conduct a life cycle analysis (LCA) to identify the specific emissions associated with a product. For example, a beer manufacturer can use a LCA to calculate the exact emissions associated with their beer. They can then share the exact emissions associated with operator orders. However, many pubs and restaurants do not have the time or resources to get access to LCAs or request this level of data from suppliers. By improving data sharing between companies in hospitality, it is possible to allow companies access to reliable product-level data. LCAs can be made publicly available by companies conducting them and emissions data can be integrated into platforms that are already used by pubs and restaurants across the UK.

Union Coffee is looking to measure the emissions of a specific value chain for coffee to get a more accurate footprint than using industry averages. The company is open to sharing this data with the sector to drive better decision making across the board.

"We have the ambition to measure our Scope 3 footprint but we want to make sure that it's accurate and not based on global average datasets and distorted by scaling factors. That is why we are looking at a research project to measure the footprint of one or two specific supply chains where we know the ground behaviours."

Jeremy Torz, CEO
Union Coffee

Participants also emphasised the importance of making DEFRA (The Department for Environment Food and Rural Affairs) data on emissions publicly accessible through a user-friendly platform, especially as it relates to farm-level emissions.

Translate new carbon methodologies into practical guidance

New emission calculating methodologies and technical guidance is of critical importance to improve the reliability of footprinting. However, guidance is often too complex and time consuming for operators. For example, the new SBTi FLAG guidance is too technical for many farmers and producers. In order to make this guidance more accessible, it is necessary to produce practical guidance for the hospitality industry based on specific supply chains.

Easy-to-access, short and actional documents or videos will allow SMEs and large corporates to take direct action.

Brand and farm-level emissions

To further improve the accuracy of carbon data, there is a need for brand and farm-level emission factors. Rather than using averages of product categories, brand-level emission factors would allow businesses to see which specific products have the lowest emissions. Similarly, farm-level emissions allow pubs, restaurants, and suppliers to identify which farms and farming methods perform the best. This will also reward farms that have already made efforts to reduce their emissions as well as non-intensive farming methods.

On 30th March 2023, the UK responded to calls from the farming sector for more support in measuring farm emissions. The government recognises that inconsistencies in existing calculator tools have led to low confidence and low uptake from farmers. The government will develop a harmonised methodology and set out by 2024 how farmers will be supported in measuring their emissions. This effort will enable farmers to access private sector funding for nature-based solutions, while also enabling the food sector as a whole to better measure, track, and validate progress.

8. Lack of government regulation and policy

To enable effective investment strategies by operators and supply chain into the required changes for Net Zero, greater understanding of the UK policy roadmap is required. This is so that businesses better understand the timeframes and expectations of them. Regulatory pressure and guidance are also required to help stimulate market development in key areas such as packaging and electric vehicles to ensure that low carbon, practical solutions are developed.

In order to meet its 2050 Net Zero target, the UK government is progressively mandating landlords to improve the energy performance certificate (EPC) rating of buildings. From 1st April 2023, all rented commercial property needs to have an EPC of band 'E' or better. Failure to achieve this will see landlords face potential fines of up to £150,000. This minimum standard will be increased to band C by 2027 and band B by 2030. While some argue that the SAP methodology that produces EPC ratings is deeply flawed and can overstate both energy and carbon savings at different bands, this will likely have some positive effect in terms of mandating improvements that will reduce carbon emissions.

There are a number of other areas outside of building infrastructure where participants highlighted that government policy would be useful:

Electric Vehicles

Lack of policy on electric vehicles was repeatedly mentioned by venues as a barrier to their Net Zero target. Despite there being over 1.25m plug-in vehicles in operation on the road in the UK, the vast majority are still petrol. This means that most customers travel to venues in fossil fuel-based vehicles and most suppliers deliver their produce in vans with higher emissions. Policy that stimulates a faster transition is required to enable operators to meet their Net Zero targets.

Moreover, greater investment is required to enable the grid to effectively handle the increased demand from electric vehicles and allow for the required number of guests at venues accessing charging during their periods of stay.

This needs to be combined with greater support for local public transport and cycling infrastructure that enable people to use more low-carbon options to visit pubs and restaurants.

Electrification retrofit

With many commercial properties reliant on gas for heating and in the kitchen, there is significant opportunity for emissions reduction through the retrofit of electric-fueled alternatives. However, there are questions that are being asked about whether the production of the relied electricity to handle mass retrofit will come from renewable sources and be manageable for grid capacity. Moreover, will the government only support electric or will it move to a hydrogen-based model instead. Organisations need certainty on this prior to

executing retrofits as they need to know they will not face issues with energy supply and will not be asked to repeatedly change.

Pizza Pilgrims mentioned that building regulations hinder refurbishing works in old and often listed pubs as specific permissions are required.

Agriculture

A great concern for many we spoke to was the need for reform to the food system that pubs and restaurants rely on. The level of reform required to move to a more regenerative agriculture model that reduces emissions from animal, dairy, and intensive practices among other challenges is huge. However, those we spoke to said the level of Government policy required to support farmers to make the necessary changes is sorely missing.

Andy Gray from MC Kelly has said that agriculture research is underfunded and that researchers are wasting a lot of time on grant applications. More funding will allow for better insights.

Packaging

People we spoke to also called for the introduction of policy to effectively manage the return of bottles and other containers. Despite efforts to set-up Deposit Return Schemes in each of the regions to varying success, respondents criticised the lack of a simple, unified return scheme. Enabling a return scheme that is operationally feasible and agreed upon with key supply chain players could be a major boost to operators' and providers' environmental ambitions.

Extended Producer Responsibility

A major area of support that operators would like is a greater mandate and support around Extended Producer Responsibility. The concept of EPR outlines that producers of goods bear a responsibility for the end of life of a product beyond the point at which someone buys it. This recognises that products create significant externalities through their consumption that producers should have to account for. Voluntary circular initiatives like take back schemes act as forms of EPR. However, many operators would like larger government-enabled schemes that enforce organisations to pay for the externalities they produce.

> *"Lack of regulation is a major barrier. There needs to be more regulation to provide positive or negative incentives through taxation and other related schemes. We need to set up a carbon price for certain goods. Hospitality is a price-driven market so unless you influence the price mechanism, people's behaviour will not change."*
>
> **Nick Reynolds**
> Reynolds

Recommendations on government regulation

System-wide collaboration

Our participants expressed a desire to have the government facilitate cross-industry collaboration that brings the whole value chain together to plot a route to net zero within the hospitality industry. The public sector convening would enable the collaboration required to unlock barriers and set the right balance between market and policy intervention.

Removing cost barriers

Pubs and restaurants require support so they can ensure the sustainable option is the one they are able to offer and they are not prohibited by price. Potential interventions include integrated carbon pricing of products or incentives for low-carbon projects. Other interventions could include taxation on carbon-intense fertilisers which will impact the price of related products, with any income reinvested into regenerative projects. Any form of intervention that will help to reduce carbon impact, but not prohibitively raise prices for customers, should be considered.

> *"We must level the playing field so that the green option is not commercially disadvantageous. For example, British farmers must adhere to UK government standards, but cheaper food is being imported that does not adhere to those standards. What kind of level playing field does that give us? It's cheaper to buy beef from deforested Amazon than it is to buy from British farmers. What do you think a commercial organisation is going to do when economic conditions are tough?"*
>
> **Bob Gordon**
> Zero Carbon Forum

Pizza Pilgrims suggested that suppliers could receive an R&D tax-free budget to develop more sustainable technologies. For example, the oven supplier receives an R&D tax-free budget to develop electric pizza ovens, which will help to reduce emissions further in the hospitality industry.

As one of the largest pub and bar operators in the UK, Punch Pubs is in a good position to have conversations with the government. They speak about the following three topics:

- Reducing complexity and the costs of environmental regulatory frameworks i.e. the Deposit Return Scheme.
- Resourcing the development of zero and low-carbon technologies through greater investment, which will provide clear commercial benefits to businesses.
- Releasing potential for carbon reduction by providing funding opportunities for businesses.

9. No intensity targets

Another challenging area for organisations is marrying up their carbon and growth ambitions. Most organisations need to demonstrate continuously increasing returns at the same time as reducing carbon. Some organisations achieve this growth through expansions, others through acquisitions. However, what is difficult to relay is their efforts to reduce emissions while expanding the organisation as emissions will naturally rise as they grow. This makes communication to investors, partners, customers, and other stakeholders more challenging.

"I think the elephant in the room is the growth needed in current business models. The way pubs and restaurants are responsible to shareholders and investors requires them to continue to grow. So even when they are creating Net Zero strategies, if they continue to double their portfolio then the Net Zeroness of that falls apart." Juliane Caillouette Noble, Managing Director at The Sustainable Restaurant Association

Setting a science-aligned intensity target

Most organisations overcome this challenge by setting intensity or efficiency targets which reflect emissions per head or as a ratio of revenue. However, this can be controversial as it does not account for the absolute emissions reduction that is required to lead the industry to net-zero emissions. What is required is to align any intensity target with a 1.5C aligned methodology that can credibly demonstrate that the target set by the organisation will meet net zero in the timeframe required.

Look to alternative business models

A more effective solution is a transformation of business models so that maximum growth without concern for climate and environmental health is unacceptable. There are many methods that have been touted including applications of carbon tax and utilisation of alternative investment models such as social co-operatives.

10. Lack of influence on supply chain

Pubs and restaurants feel they lack the power to influence their supply chain to reduce emissions. This presents a big challenge for pubs and restaurants to get to Net Zero because the vast majority of their emissions are within their supply chain (Scope 3). According to the Zero Carbon Forum, Scope 3 contributes to 83% of emissions for pubs and 89% of emissions for restaurants. While suppliers to pubs and restaurants are taking action to measure and reduce their carbon footprint, they will need to put in a greater effort to enable Net Zero targets of the hospitality industry. Below, we have outlined some of the most significant supply chain challenges that need to be addressed.

Lack of supply chain influence for SMEs

70% of the hospitality industry is made up of SMEs, however those that we spoke to feel they're not positioned to demand changes from suppliers because, in isolation, they represent a small fraction of sales for suppliers. This is because most of them negotiate 1-1 with suppliers. Moreover, SMEs also indicated they want to get their own house in order before demanding action from suppliers. They would only feel confident to ask when they had made their own progress.

Challenge of not being able to shift electricity providers

The volatility of the energy market and the lack of control that some organisations have on their energy supply creates a barrier to supply chain action. The impact of the Russian invasion of Ukraine and other economic factors have driven significant price increases in the supply of energy. This, combined with some tenant organisations lacking control of their energy supply, presents a challenge.

> *"One of the biggest barriers to further reduce our carbon footprint is an inability to move electricity suppliers. We are tied to our current supplier because of the problems in the UK market at the moment with electricity and gas supply. We cannot move to a more environmentally friendly supplier."*
>
> **Nick Marsh**
> Better World Brewing

Finding proof for renewable electricity

Pizza Pilgrims mentioned that it's hard to find evidence for how purchased electricity is sourced. Switching to 100% renewables has the single biggest impact on reducing a company's footprint in the pub and restaurant sector but getting evidence about renewable sources from energy providers is challenging. This lack of confidence, partly due to suppliers being able to promote themselves as providing renewable energy when actually they are utilising Renewable Energy Guarantees of Origin (REGOs) certificates, is a barrier to change.

Landlord challenge

As already mentioned, the lack of control for tenant operators can be challenging when switching to alternative energy supply. This is also a challenge for pubs and restaurants that wish to upgrade the energy efficiency of sites. This is because the costs of refurbishing sites are too high. Specifically, the upfront costs are too high and the return on capital is too low or too uncertain to make the investment (also see landlords barrier under external). Furthermore, the landlord often asks a tenant to strip everything back when they move out so the value is too low.

Cannot move to electric vehicles in price-driven market

For many suppliers, the switch to low-emission vehicles is a future plan rather than an immediate reality due to the differential in price between fossil fuel-based options and electric vehicles. While the price of small vehicles is becoming more competitive in larger vehicles, more work is needed to stimulate price change.

> *"Generally speaking, electric vehicles are three times the price of a diesel vehicle in the same weight class. The cost of operating electric vehicles versus diesel vehicles is also more expensive, factoring in the price we pay for diesel in bulk and current electricity prices. So, the cost of changing completely to electric vehicles would be prohibitive to us or make us uncompetitive for customers in a price-driven market."*
>
> **Nick Reynolds**
> Reynolds

Lack of supply chain influence for big companies

Big pub and restaurant chains have significantly more influence over the supply chain than SMEs. However, on the global wholesale market, they still lack influence compared to larger retail businesses.

Another challenge is that within current market conditions, for many pubs, their ability to switch suppliers is cost dependent. While there might be a will to switch suppliers to those that are lower emission, it can only be achieved if they are also cost competitive both for the pub and their customers. This means the signal for the need for suppliers to minimise emissions is not as strong as it should be because many organisations are unable to switch.

Lack of transparency in supply chains

For pubs and restaurants to be able to influence suppliers, there needs to be a higher degree of supply chain transparency. It is critical that operators are able to compare the impact of different suppliers to enable them to make procurement decisions based on not just price, quality, and other factors but also their associated emissions. To achieve this, greater knowledge is required of suppliers of their own emissions and a greater will to demonstrate this transparently. It also requires an upskilling on the pub side to be able to require and interpret the data.

We spoke with suppliers across the pub and restaurant supply chain about their role in change and they reported that, in fact, their customers are not yet demanding greater pace in terms of low-carbon products. Most are actually ahead of where their customers expect them to be. While this will change as expectations grow, they would like customers to be even more vocal about the need for change.

Case study: Inside the global coffee supply chain with Union Coffee

Each cup of coffee equates to 0.4kg of CO2e and the UK drinks over 95 million cups each day. This represents an overall footprint of 38,000 tonnes of C02e each day. While coffee only presents a small portion of the footprint of UK pubs and restaurants, it provides a good case study for the complexity of reducing emissions in global supply chains. We spoke with Jeremy Torz, co-founder of Union Coffee, an East London-based independent coffee roaster which obtained B-Corp status in 2022. Torz explained how the fragmented nature of the supply chain makes it difficult to collaborate on measuring carbon emissions, which is a key step in getting to Net Zero.

> *"The fragmented nature of the producer supply chain is a barrier to more collaboration in the coffee industry around Net Zero. There are hundreds of thousands of families around the world who are subsistence producers working either as organised or unorganised communities or co-operatives. The next tier would be the coffee collectors and exporters, which is still a very fragmented landscape. Then you have the global traders and the big multinationals, some of whom are doing work around footprinting, but it's often done in-house to serve a commercial advantage so that data isn't necessarily shared publicly.*
>
> *"65% of our sourcing probably comes from smaller producers where the access to technology for data collation, data measurement, and analysis is very rudimentary. Those are the challenges, and that means you need to put in more on-the-ground time and support with local NGOs and agencies, and there is a cost of doing that. So, it's almost where the data is the hardest to gather, it is the highest cost and that, unfortunately, probably reflects the majority of global coffee sourcing."*
>
> **Jeremy Torz**
> Union Coffee

As a result of the fragmented supply chain and lack of free data sharing, the carbon footprint of coffee remains largely unmeasured, or when it is measured, the data is unreliable. However, according to Torz there is another challenge that is preventing the industry from going to Net Zero. Coffee growers are already having to respond to the impacts of climate change, which means they prioritise adaptation and mitigation over reduction.

> *"The biggest conversations happening at the moment in the coffee industry are about addressing the symptoms rather than the causes of climate change. So, it's about how coffee farming may need to adapt in terms of responding to climate change. We're faced with a situation where, over the next 20 years, a significant producer population is going to be massively impacted by reduced output and, therefore, income as a result of climate change. The areas under cultivation for coffee are already being hit. So, the most urgent conversation*

in the coffee community is how do we cope with this as opposed to how do we stop it in its tracks?"

Jeremy Torz
Union Coffee

So is it all doom and gloom in the coffee industry? Not quite. Hospitality businesses can still have a real choice in how coffee is grown, transported, and consumed. There are major differences between brands based on their use of energy, water, fertiliser, shipping locations, and methods. Carbon conscious growers are able to reduce emissions by 77% compared to less carbon-conscious competitors.

Recommendations to improve supply chain action

Longer-term relationships with suppliers

Lengthening of agreements and contracts with suppliers based on shared commitments to working together to resolve environmental issues would support the ability to invest in carbon reduction. Many suppliers rely on the ability to compete on price and that minimises their ability to invest further in changes. However, if their partners commit to go on the journey together then it makes it easier for them to progress.

Shorten the supply chain

Another way of enabling supply chain improvement is to reduce the length of the supply chain to improve the efficiency of data sharing and ability to make changes. This could mean reducing suppliers from different countries, reducing the overall supplier base, or integrating with the supply chain to improve efficiency.

Increase collaboration within industry

One of the major challenges is that pubs, restaurants, and suppliers are approaching supply chain transition as one-to-one relationships rather than collaborating to create system change. If we want to address significant scope 3 challenges, greater collaboration across operators and suppliers is required to demonstrate the need for change and plan solutions collectively.

"If all small businesses do something to get to Net Zero then those in positions of power will need to change their behaviour too. Whether those are the big businesses, the big electricity and gas suppliers, or the government, they have to start changing their behaviour as well. So it's kind of consumers and businesses making those in power change their ways."

Nick Marsh
Better World Brewing

Pizza Pilgrims working with packaging supplier
"We're working with our Italian mozzarella supplier to look at the packaging, now that we work with them more directly in the supply chain. It is expanded polystyrene which has a real impact on the end-of-life disposal for Pizza Pilgrims. Whilst the carbon impact is limited, it is poor from a waste perspective so we need to find a solution for it. We are working with them to explore the options - from reuse, to different materials entirely." Thom Elliot, Pizza Pilgrims

Estrella Galicia assisting with nature-based solutions
"At Estrella, we're actively thinking about how we can help our customers in the hospitality industry to get to Net Zero. For example, we discussed with Peach Pubs whether and how we could assist in offsetting their carbon emissions through high quality nature based solutions." Tom Wheatley, Estrella Galicia

Estrella Galicia working to reduce shipping emissions
"Shipping beer makes up a large part of our emissions at Estrella and that of our customers. So we have looked at reducing our shipping emissions. For example, in Spain we do quite a lot with what we call cerveza de bodega, which is cellar beers. Instead of having 50 litre kegs we fill a 500 litre tank up within the business. So, rather than a delivery going in twice a week, we fill a tank up within the business. This massively reduces our transportation emissions. There is very little packaging associated with it. The other thing we're doing is looking at kegging our beer in the UK instead of in Spain. So instead of shipping kegs from Spain we ship tankers of beer, which reduces the weight and thus the carbon emissions related to shipping." Tom Wheatley, Estrella Galicia

Conclusion

This report has highlighted where players across the hospitality industry are currently around Net Zero and enables us to be clear on the challenges that we have to overcome.

The message is this, there is lots we can do with existing resources to change behaviours and reduce emissions from quick wins. However, if we want to go deeper and get to Net Zero on a science-based pathway then we must dedicate greater resources. Therefore, we have three overarching recommendations:

1. **Develop the case:** We must support players within the hospitality industry from farmers to operators to make the case for changes that will enable Net Zero. They must get both the sustainability and commercial imperative for this change.

2. **Allocate the capital:** We must improve the cost of capital to enable organisations to make the required investments. This is necessary to stimulate the larger changes to buildings, equipment, and energy supply. With money particularly tight due to an inhospitable trading environment, the pubs and restaurants need changes to be affordable.

3. **Shape collaborative solutions:** To enable access to capital and the sharing of resources, there needs to be the space to bring operators and their supply chains together to plan collaborations and make changes. This is a fundamentally different way of operating for most organisations with a need to collaborate rather than compete on this area of change. There are examples of this collaboration starting and working well in the Race to Net Zero Now initiative which financed this report. Moreover, the NetZeroNow initiative , the ZeroCarbonForum and the Sustainable Restaurant Association are all trying to enable collaboration across industry players. However, the gap that needs to be filled is the ability to bring a supply chain together and work across it to plan change for Net Zero.

To support these three recommendations there are a series of existing resources that organisations should access:

Resources and initiatives

Below is a list of the key organisations that are pushing for a Net Zero hospitality sector. We have outlined their main initiatives and resources with the purpose of providing quick access to the best available tools and resources that exist today.

Organisation	Mission	Initiatives	Resources
Net Zero Now	Providing a simple, credible, and affordable route to Net Zero for SMEs and to celebrate and promote those that achieve this vitally important goal.	End-to-end platform that enables pubs and restaurants to calculate and reduce their footprint.	The Net Zero Bar and Pub Protocol and Climate Action Playbook
Zero Carbon Forum	Empowering members to reach sustainability targets with more speed, efficiency, and profit as a united effort.	A carbon calculator and advice service. Various action groups to support members to get to Net Zero	Net Zero Roadmaps for Brewing and Hospitality
Science-Based Target initiative (SBTi)	Mobilising the private sector to take the lead on urgent climate action by defining best practice in emission reduction as well as technical guidance.	Setting science-based targets for businesses	Science Based Targets Initiative (SBTi) Resources SBTi FAQs for SMEs
Sustainable Restaurant Association	Accelerating the change towards a hospitality sector that is socially progressive and environmentally restorative.	Food Made Good Standard provides a holistic sustainability accreditation for food and beverage businesses	
World Resources Institute (WRI)	To move human society to live in ways that protect Earth's environment and its capacity to provide for the needs and aspirations of current and future generations.	Coolfood Pledge, helping organisations commit to and achieve a science-based target to reduce the climate impact of the food they serve.	The Global Benefits of Reducing Food Loss and Waste
Waste & Resources Action Programme (WRAP)	Transforming our food and textile systems, eliminating plastic pollution and increasing recycling.	Guardians of Grub, a collective across hospitality and food sector to reduce food waste	14 resources to reduce food waste

Call to action

The protocols and roadmaps developed by Net Zero Now and the Zero Carbon Forum allow pubs and restaurants to develop and implement their Net Zero strategy. The challenge that remains is how to actually reduce emissions drastically by 2040. In particular, the emissions related to Scope 3 - that is predominantly food and packaging - which require significant changes in the agriculture, dairy, meat, and packaging industries. Zero Carbon Forum has put together industry groups for each of these sectors to work out where and how emissions can be reduced.

[CLARASYS]

THE RACE TO NET Zero

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