NET ZERO PUB

PROTOCOL

July 2021

FOOD MADE GOOD
FOODMADEGOOD.GLOBAL

A netzeronow INITIATIVE

SUPPORTED BY Coca-Cola

Pernod Ricard UK
Créateurs de convivialité

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Glossary of terms.

For an in-depth glossary of words and terms linked to climate change, see the Intergovernmental Panel on Climate Change Annex[1].

Absolute Zero
When no greenhouse gas emissions are attributable to an actor's activities across all scopes.

Anthropogenic Removals
The withdrawal of greenhouse gases from the atmosphere, as a result of deliberate human activities.

Assessor
An independent body/organisation that will inspect reported data to ensure it meets the standards of this and other protocols.

Carbon Footprint
Often used when reference to all Greenhouse Gas Emissions associated with a product, business or entity. See Greenhouse Gas.

Carbon Neutral
Net Zero C02 emissions are achieved when human made C02 emissions are balanced by human made C02 removals.

Climate Change
A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods. Also referred to as the Climate Emergency, Global Warming and Global Heating.

Climate Neutral
See Carbon Neutral. In addition to Carbon, climate neutral often refers to all greenhouse gas emissions.

Climate Positive
Activity that goes beyond achieving Net Zero to create an environmental benefit by removing additional carbon dioxide from the atmosphere.

Cradle-to-grave
Measuring the total greenhouse gas emissions from the extractions of raw materials to create the product, through to the product's manufacture, distribution, use and eventual disposal by consumer.

Cradle -to-retail
Measuring the total greenhouse gas emissions from the extractions of raw materials to create the product, through to the product's manufacture, packaging and distribution to the retailer. This will include all of the emissions needed to get a product to the pub site.

Emissions Factor
A term used for calculations of the greenhouse gas footprint associated with a product or activity. Emissions factors are often presented in CO2e (Carbon dioxide equivalent). For more information, see Section 2.1 Greenhouse Gases.

Global Warming Potential (GWP)
Measure of the quantity of heat a greenhouse gas traps in the atmosphere up to a specific time horizon, relative to carbon dioxide. For more information, see Section 2.1 Greenhouse Gases.

Greenhouse Gas (GHG)
A gas that contributes to the greenhouse effect by absorbing infrared radiation. Groups of gases recognised by the United Nations Framework Convention on Climate Change (UNFCCC) include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF6).

1. IPCC, 'Annex I: Glossary, in: Global Warming of 1.5°C. An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty', 2018, https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_AnnexI_Glossary.pdf.

Glossary of Terms.

Greenhouse gas (GHG) Neutral
See Climate Neutral.

Licensed Premises
A business that is licensed to sell alcoholic beverages to the public with an on-sales licence. May include pubs.

Net Zero
Net Zero emissions are achieved when anthropogenic (human made) emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specific period of time. For more details see Section 2.1.

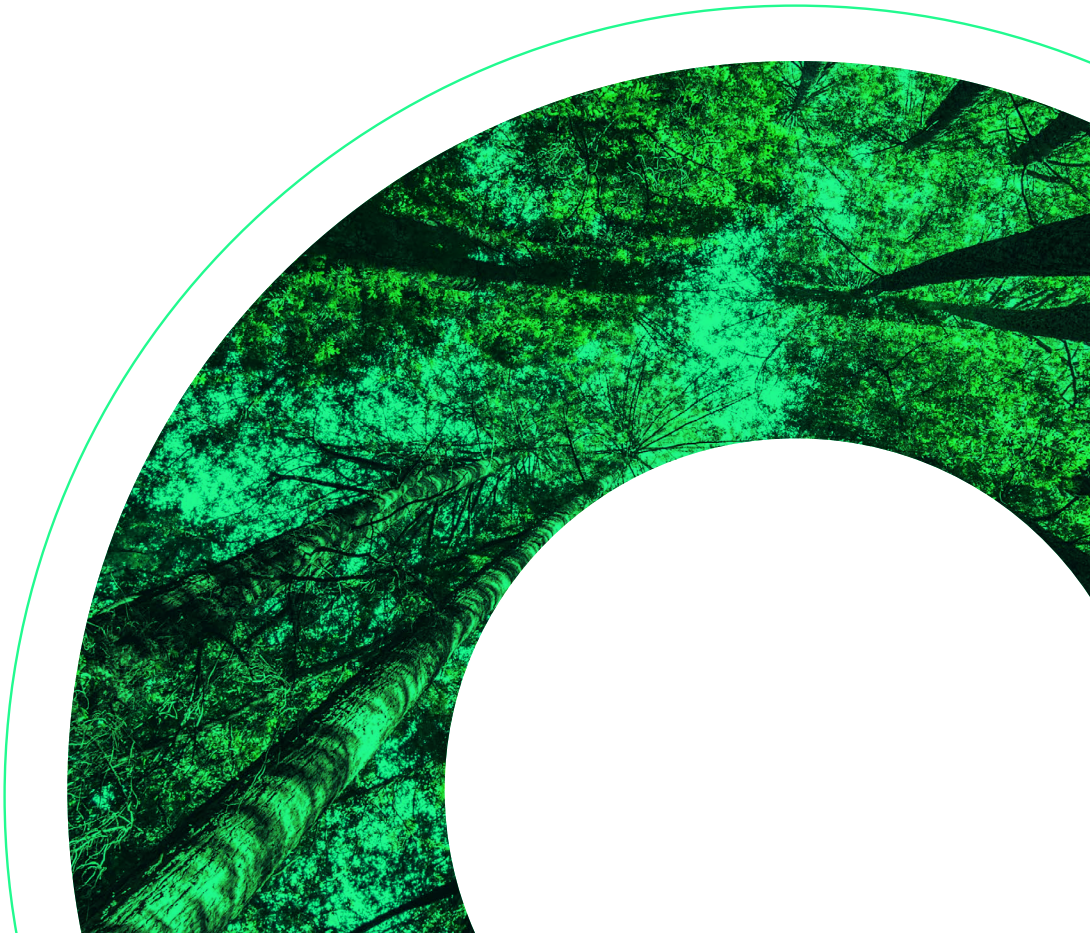
Carbon Offsetting
An action or activity (such as the planting of trees) that compensates for the emission of carbon dioxide or other greenhouse gases to the atmosphere. A carbon offset occurs when an individual company or organization directly or indirectly (by funding projects in other locations) removes greenhouse gases from the atmosphere or prevents a certain quantity of greenhouse gases from being released. Offsetting is regulated and more details are listed in Section X.

Paris Agreement / Paris Aligned
The Paris Agreement was a United Nations mandated treaty, that was adopted in 2015. The agreement, adopted by 196 signatories, sought to “limit the temperature increase to 1.5’C above pre-industrial levels’.

Science Based Targets initiative (SBTi)
Emissions reduction targets that are informed by the latest climate science and are sufficiently robust to meet the goals of the Paris Agreement. See section 2.4.1.

Scope 1, 2 & 3 Emissions
Scopes refer to different sources of greenhouse gas emissions within an organisation. A detailed breakdown of scopes is listed on the GHG Protocol website.

Zero Emissions
Applies to the state of a subject when new Greenhouse Gas emissions are reduced to zero.



Foreword.

The concept of Net Zero has been at the centre of international climate change discussions since the Paris agreement bound all signatories to:

"...achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century" [2]

And the conclusion of the IPCC (2018) report stated:

"To ensure Global Heating stays below 1.5C - the minimum requirements of the 2015 Paris Agreement - global net C02 emissions must reach 'net zero' by 2050 at the latest" [3]

This urgent need has inspired cities, industries and businesses around the world to join the UN's 'Race to Net Zero' with many aiming to reach the target well before 2050. In 2019, the UK government, backed by the guidance of the national Climate Change Committee, placed net zero targets by 2050 (and 2045 in Scotland) into statute. In April 2021, the UK Government released its sixth Carbon Budget, updating the mid-point goals that by 2035, emissions must be reduced by 78% of 1990 levels[4].

Due to the urgent need for emissions reductions, there has been great pressure on businesses to reach net zero before even these government targets. Over 1/3 of FTSE 100 companies have set targets, as opposed to around 1/5 of SMEs[5 6]. A recent poll found that of those businesses that have made a net zero commitment, the most common target was to achieve net zero by 2030[7].

While these commitments are encouraging, there are striking inconsistencies in what each commitment means, primarily relating to the calculation methodology, the necessity of ambitious emissions reduction plans and in the quality of the carbon credits used.

Many targets for example focus on 'operational' emissions only. These include electricity, heat and maybe transport emissions. Focusing only on these emissions leaves out those climate impacts linked to the full value chain of upstream and downstream emissions, such as those essential to the production of goods and services. These are precisely the areas in which more often than not the majority of the climate impact resides and therefore the areas where there is the greatest mitigation potential. They are also the sources that are instinctively assumed to be included when organisations make net zero claims; it is incoherent to claim to be a net zero pub, if the beer is excluded from your scope.

For these reasons it is essential to include the climate impact of the full value chain when making commitments linked to Net Zero.

The whole supply chain of the hospitality sector is conservatively estimated to be responsible for 15% of greenhouse gas emissions in the UK[8]. However currently, there is no standard by which the full supply chain of emissions linked to hospitality businesses can be consistently assessed. This has led to confusion within the industry, and conflicting advice on which component parts should be included within climate accounting methods.

The Net Zero Pub initiative has been designed to help address these challenges: to bring consistency to what Net Zero means for licensed premises and to raise awareness of the true climate impact of the full value chain of the hospitality sector.

Our goal is to create a pragmatic and effective guide for licensed premises to achieve Net Zero. This protocol will be practical for use in the current post-COVID conditions, and ambitious in its scientific robustness - offering businesses a realistic method of achieving credible sustainability targets, in line with the science based targets mandated by the Paris Agreement.

The need for urgent, strong action has never been greater, and this protocol aims to help turn commendable ambition in to a practical reality.

The best time to go net zero was 20 years ago, the next best time is now.

2. United Nations Framework Convention on Climate Change, 'Paris Agreement', 2015, https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf.
3. IPCC, 'Global Warming of 1.5°C', 2018, http://www.ipcc.ch/report/sr15/.
4. UK Government, 'UK Enshrines New Target in Law to Slash Emissions by 78% by 2035', GOV.UK, April 2021, https://www.gov.uk/government/news/uk-enshrines-new-target-in-law-to-slash-emissions-by-78-by-2035.
5. Broadway Initiative, 'SME Discovery Phase Publication Report', April 2021, https://irp.cdn-website.com/ba38e7c3/files/uploaded/SME%20discovery%20phase%20publication%20report.pdf.
6. BSI, 'Net Zero Barometer Report', January 2021, https://www.bsigroup.com/globalassets/global/bsol/bsi-net-zero-barometer-report.pdf.
7. Ibid.
8. Kate Scott, Anne Owen, and John Barrett, 'Estimating Emissions Associated with Future UK Consumption Patterns', A Report for the UK Committee on Climate Change, 2013.

Context of Publication.

COP 26

In November 2021, the UK will host COP 26, the largest annual UN climate conference. Ahead of this seminal event, there will be a strong focus on the sustainability efforts made by each sector or the economy. With a specific and clear focus on Pubs, this document aims to provide practical guidance on how businesses report emissions and make immediate, permanent reductions in their operations and service.

COVID

During 2020-2021, the UK hospitality industry has been particularly hard hit by public health measures and restrictions due to COV-19. Many leading figures have discussed the need to **'Build Back Better',** and this Protocol seeks to provide a practical way that you can do this with your business. The Net Zero Pub approach understands the particular stresses facing the hospitality industry at the moment and seeks to make achieving Net Zero as smooth and practical as possible. A number of sections of the protocol have been written specifically for Pubs undertaking the process in light of the disruption of the last two years.

About the Partners.

Our Partners

Net Zero Pub is a Net Zero Now initiative. The climate crisis requires a response that is both broad and deep, that engages everyone and enables everyone to participate.

This can never be achieved working alone and Net Zero Now is grateful for the support received from collaborating partners that share our ambition for a net zero global economy.

The Net Zero Pub initiative has been made possible by the support of industry development partners Coca-Cola and Pernod Ricard UK.

Our strategic partner, Good Business, has been instrumental in guiding the development and technical partners Food Made Good, and Cranfield University have provided technical support.

The initiative will be administered and delivered to the sector by the Sustainable Restaurant Association.

Our pilot partners were Peach Pubs, The Roebuck, The Wheatsheaf, The Culpeper Group, The Lisini Group and Darwin and Wallace.

A wide range of stakeholders were invited to participate in the consultation, with representatives from academia, third sector, government agencies, trade associations and business. Their feedback has helped shape the Protocol and ensure broad based endorsement.

"Industry collaboration is essential to go further and faster when it comes to tackling the issue of climate change. We have done so much over the last few years to decarbonize the way we package, manufacture and distribute our drinks but to go further to meet our shared ambitions we have to work with our suppliers and our customers to reduce our impact together. We have partnered with Net Zero Now and the Sustainable Restaurant Association, to help create the Net Zero Pub protocols to give practical advice to our customers on the role they can play and how they can embark on their own on the path to Net Zero."

Nick Brown, Head of Sustainability at Coca-Cola Europacific Partners GB

"As the world grasps the urgency of the climate crisis, increasing numbers of businesses are seeking guidance on what net zero means for them and how to get there. The On-Trade is ideally placed to capitalise on consumers' increased desire to be a part of the solution and we're delighted to be supporting this initiative. It's imperative that we work together as an industry and, in partnership with Coca-Cola, we have the potential to reach 90% of the UK's pubs through our combined resources. We hope the tools provided by the Net Zero Pub initiative will inspire our customers to take action and join the race to Net Zero."

Ian Peart, Commercial Director at Pernod Ricard UK

9. Race to Zero Expert Peer Review Group, 'Race to Zero Lexicon', 2021.

About the Partners.

Net Zero Now

Net Zero Now (NZN) aims to provide the infrastructure and guidance to help organisations take climate action now. It does this by offering sector-specific tools and software to organisations.

Defining Net Zero

The last few years has witnessed a proliferation of terms and phrases used in relation to sustainability, climate action and reducing the impact of greenhouse gases. One of the key purposes of this Protocol is to develop a sector-wide definition of what Net Zero means to businesses (SMEs) in the Hospitality sector.

Net Zero Now and the Net Zero Pub Protocol are aligned with the definitions of Net Zero provided by the Race to Zero Campaign.

"Net Zero occurs when an actor reduces its emissions following science-based pathways, with any remaining GHG emissions attributable to that actor being fully neutralised by like-for-like removals"[9]

There are a number of key differences between this definition and other definitions of terms such as Climate or GHG Neutrality. The following principles distinguish these key characteristics of Net Zero.

The 5 Principles of Net Zero Now

1. Emissions must be calculated in accordance with the appropriate GHG Protocol methodology and include all Green House Gasses (GHGs)
2. Emissions in scope must include all relevant value chain sources.
3. Emissions reduction targets are mandatory and must be compliant with SBTi ambition criteria and accompanied by credible delivery plans.
4. Carbon offset instruments must be certified to recognized international standards and aligned in composition with the Oxford Principles on Net Zero aligned carbon offsetting.
5. Businesses must share details of their climate plans and action transparently and advocate for widespread adoption of paths to net zero.

Further Information.

Structure & Language used in this document

The Protocol is structured to provide an accessible entry point that introduces key concepts before expanding on them in subsequent sections to offer increased detail and complexity.

Section 1: Introduction provides an overview of the purpose, scope and principles of the Protocol.

Section 2: Going Net Zero provides an overview on the implications and significance of going net zero, while presenting a step-to-step framework to achieve the Net Zero Pub certification.

Section 3: Detailed Guidance offers a detailed breakdown of the action required to achieve the Net Zero Pub certification, offering extended support to the licensed businesses and clarifying the requirements for each step.

Language: Within the document, the term 'must' is used in to indicate a requirement of the Protocol. The term 'must not' indicates prohibited actions. The term 'should' is used to indicate a Protocol recommendation, but not a requirement.

Throughout this document, the terms 'business', 'pubs' and "Licensed Premises' are used interchangeably to refer to the entity taking part in the Net Zero Certification.

Input is encouraged from all stakeholders interested in net zero in hospitality industry. Suggestions for changes or futures priorities for the development of the Protocol should be sent to review@netzeronow.org.

1 Introduction.

This first edition of the Net Zero Pub Protocol has been developed as a free and universally accessible standard guide, tailored specifically for licensed premises in the Hospitality industry, which builds on existing GHG accounting standards, scientific evidence, and industry best practice. The aim is to provide a guide for Pubs (Licensed Premises) to follow in order to achieve Net Zero certification.

The protocol provides an approved methodology for the development of a licensed hospitality specific climate strategy. This includes:

i. The calculation of a Licensed Premises' direct and indirect GHG emissions,
ii. Science Based Target setting and associated emissions reduction plans,
iii. The purchase of appropriate and valid carbon offset credits.
iv. Communication of their actions and results in a clear and transparent manner.

Licensed Premises that follow this methodology are eligible to receive a Net Zero Pub certification.

For businesses that are not able to become net zero immediately but are able to set binding targets to achieve net zero before 2025, a Net Zero Target certification is available.

As new research is produced, the protocol will be updated to ensure that scientific targets and product level emissions data are current and applicable.

The Protocol has been developed following thorough peer-review with multiple stakeholders from the food industry and the sustainability sphere. It will be updated annually to include the most recent advances in the science and best practice concerning sustainability in the food service industry.

1.1 Purpose of the Protocol

The Net Zero Pub Protocol provides a set requirements, guidance, and recommendations for Licensed Premises to build strong, credible, and transparent net zero businesses that are recognised globally by both the industry and patrons.

The main goal of this document is to provide a step-by-step approach to help Licensed Premises understand their direct, indirect and value chain emissions, focusing on the biggest GHG emissions reduction opportunities, and helping them offset residual emissions to achieve carbon net zero.

This document aims to assist the licensed hospitality industry to become **Net Zero by 2030**.

The Net Zero Pub Protocol is designed for:

- Licensed Premises to understand what is required to achieve the Net Zero Pub certification.
- Licensed Premises to understand the variety of benefits Net Zero can offer their operations: within multiple departments such as finance, sustainability, and communications.
- The wider licensed hospitality sector, to clarify what 'net zero' means for the sector, while ensuring collaboration on best practice to reduce emissions.
- Assessors to understand what is required to ensure consistency of certification requirements.

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1.2 Guiding Principles of the Protocol

The principles that instruct the construction of the Net Zero Pub Protocol are the following:

Inclusive

To move the hospitality sector towards Net Zero no part of the sector can be left behind. Licensed Premises are often deterred from participating in carbon measurement and target setting due to the complexity attached to the process. This protocol has been designed to be accessible and achievable for any type of licensed premises, regardless of size or scale.

Pragmatic

The protocol is primarily concerned with accelerating progress towards a wider net zero sector. Outputs have been designed to balance this ambition with what is practical and achievable. In order to avoid increased complexity existing standards are adopted where possible.

Action orientated

Participation must lead to action. This is not an academic exercise, and the focus is not on documenting the status quo but on validating effective change. Immediate action is necessary to guide the sector as a whole to Net Zero by 2030.

Transparent

To eliminate confusion and inconsistency, transparency is key. This protocol aims to allow businesses to make public claims and commitments with confidence. This confidence is built after following the documented methodology which underpins the protocol.

1.3 Who should use the Protocol?

The Net Zero Pub Protocol is applicable for all hospitality businesses which identify as Pubs. It forms part of a range of protocols covering the wider Hospitality industry, including Net Zero Café, Net Zero Catering and Net Zero Restaurants. For more information about these initiatives, please visit NetZeroNow.org.

The Protocol is relevant for businesses of all sizes and types. While the standards within this Protocol are relevant globally, this document has been created specifically for the UK market.

1.4 Greenhouse Gases

Greenhouse Gases

Global warming occurs due to GHG accumulating in the atmosphere, however not all GHGs are equal in terms of their warming potential. Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 tonne of the gas will absorb over a given period of time, relative to the emissions of 1 tonne of carbon dioxide (CO_2). The larger the GWP, the more that each gas warms the Earth compared to CO_2 over that time period. The time period most frequently used for GWPs is 100 years.[10] [11]

An example of the three most common GHGs and their GWP are listed in Figure 1 below:

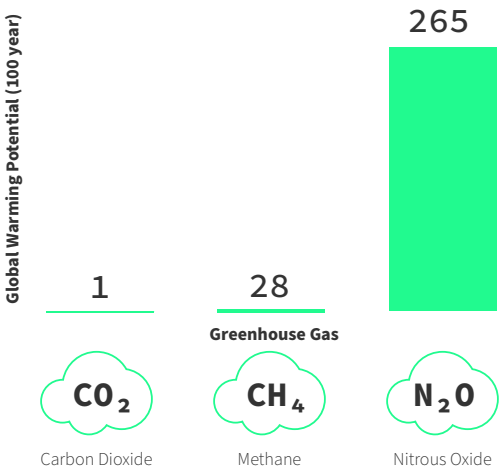

Figure 1. Three most common GHGs and their GWP

Methane is 25x more potent than CO_2 in contributing to Climate Change. For a full set of emissions factors, refer to the IPCC Fifth Assessment Report.[12]

In addition to these, there are a number of other gases such as freons, hydrochloroflourocarbons, tetrafluoroethans, trifluorides, hexafluorides are used in refrigerants, aerosols and various industrial processes. While these gases are produced in must smaller quantities than the three gases listed above, they are extremely potent. These gases have between 1000x – 24,000x greater GWP than CO_2.

10. IPCC, Climate Change 2014: Synthesis Report, ed. R. K. Pachauri and Leo Mayer (Geneva, Switzerland: Intergovernmental Panel on Climate Change, 2015).
11. OAR US EPA, 'Understanding Global Warming Potentials', Overviews and Factsheets, US EPA, 12 January 2016, https://www.epa.gov/ghgemissions/understanding-global-warming-potentials.
12. IPCC, 'Fifth Assessment Report', 2014, https://www.ipcc.ch/assessment-report/ar5/.

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1.5 What is not in the Scope of this Protocol

This Protocol recognises the importance for companies to holistically approach sustainability and corporate social responsibility. However, the Net Zero Pub certification is solely and purposefully focused exclusively on climate impacts and should be used in association with other sustainability metrics.

There are a variety of tools, models and frameworks available for businesses to develop a more systemic approach and explore the full range of social, ethical and economic factors at play and the interrelationship between them.

For example, figure 2 depicts the 'Doughnut' created by Oxford Economist, Kate Raworth. The Doughnut depicts the social and environmental factors that must be managed to ensure the safe and equal distribution of resources globally. There are 12 social foundations and 9 ecological boundaries which are recognised within this metric. Within the ecological factors, Climate change is one of several factors that require urgent action.

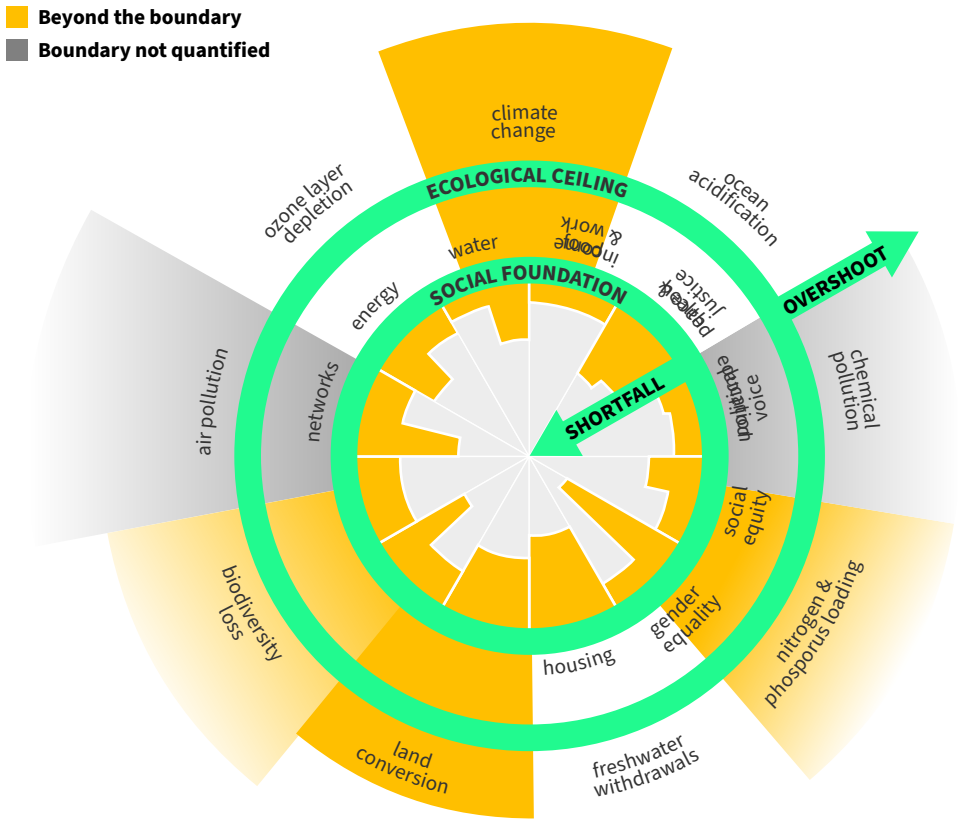

Figure 2 – Doughnut Economics Infographic, Kate Raworth 2017[13]

13. Kate Raworth, Doughnut Economics: Seven Ways to Think like a 21st Century Economist, Book, Whole (White River Junction, VT: Chelsea Green Publishing, 2017), http://uu.summon.serialssolutions.com/2.0.0/link/0/eLvHCXMwdZ07C8IwEMcPH4NuPvGtX0CJaVLTUUQRQScnF0maK7q41Iof31xtUQTHJBByEO5_l9wvAfD4jE1_fALTAtFnPlgYN9zouRFah76Ta7RKWbrg3Z_U8qB2e7X-1Mvaa6zpNxyqvkgxNXzGDyK451Tq4zxv0QUAbhPP5IqgLZ95U-vlOI7O3nPJ2SscmX7qxqUGJWII6FPDWgEoOAcdNqFPgerkl9wnmnS0Yb9bH1XaaJOfsUOX8puKydfA2lFyyjh2YsACtNEKGHJWIjA5c-iOjhRCeDUKUrAudf7P0_g_1ocpJTtLUfwDlyG1NHJJRo9T4Fyy2Xrg.

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Alternatively, the pillars of the framework developed by the Sustainable Restaurant Association, along with the Sustainable Development Goals covered by them can be seen in Figure 3. Further information about the framework's principles, application and functioning can be found at https://foodmadegood.org/framework.

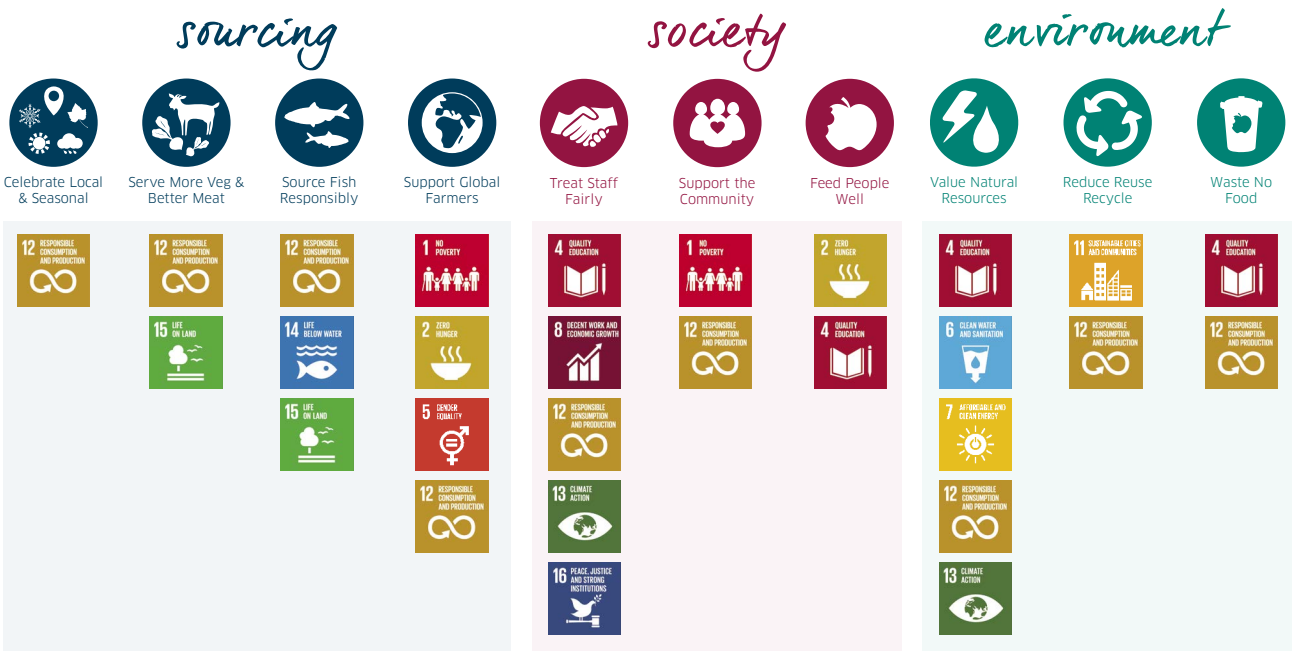

Figure 3. The SRA Licensed Premises Sustainability Framework

1.6 Quality of Data

Good quality data is the foundation of accurate climate accounting and the foundation upon which decision making for emissions reduction is based. The GHG Protocol Corporate Standard is clear that for organisations, GHG measurement is not based on direct capture of flow rates and concentration monitoring:

"the most common approach for calculating GHG emissions is through the application of documented emission factors. These factors are calculated ratios relating GHG emissions to a proxy measure of activity at an emissions source"[14]

Emissions calculations are therefore based on a combination of Activity Data that capture the quantity or volume of activity at a source and Emissions factors that allocate an amount of carbon dioxide equivalent for each unit of that activity.

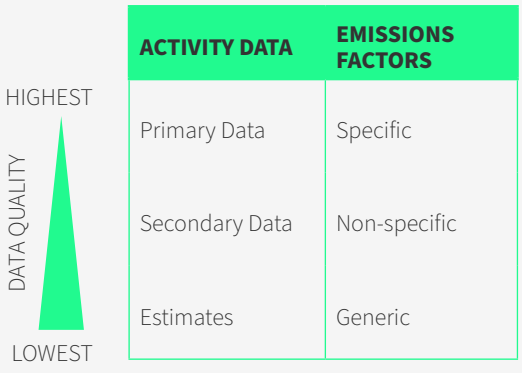

Figure 4. Data Quality Metric

14. GHG Protocol, 'Corporate Value Chain Accounting Report Standard', 2011, https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporting-Standard_041613_2.pdf.

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Lifecycle analyses, or ecological footprinting across Scope 3 emissions (products and services) at the product level is a relatively novel area. The availability of emissions factors is a rapidly increasing field of research .

Data sets used to calculate emissions must be reputable and open to transparent inquiry. The robustness of the data sets is essential for the calculations to be trusted. Data sets must come from either:

1. Government sources
2. Peer reviewed research from quality academic journals
3. Industry benchmark data.
4. A dataset listed on Open LCA (nexus.openlca.org/databases)

An up-to-date list of the data sources used in the Net Zero Bar Protocol can be found online at www.NetZero.pub.

In all cases, the source of the data must be referenced clearly within the calculation document, to ensure full transparency. When using benchmark data, the methodology should be sent to the Assessor to ensure it is valid.

1.7 Compliance with Local and National Laws

All Net Zero Pub certification holders are expected to comply with all local and national regulations. The requirements in the Net Zero Pub Protocol may be stricter, less strict, or equivalent to applicable laws. In the case that an applicable law or regulation is stricter than the Net Zero Pub Protocol, the law will prevail. In the case that the Net Zero Pub Protocol requirement is stricter than the law, the Protocol requirement will prevail. This follows a precautionary approach, with the intent that where the Net Zero Pub Protocol overlaps with laws, whichever offers greater protection for the climate prevails.

1.8 Use with other Standards and Methodologies

Where the Net Zero Pub Protocol refers to other Protocols (for example the GHG Protocol, Corporate Accounting Standard) the principles of these standards shall apply.

This Protocol incorporates and builds on existing best practice within the development of national and international climate strategy. With regards to the following topics, the protocol will complement and build upon the frameworks of the following standards:

Accounting Standards

- The GHG Protocol Corporate Standard (including the separate Guidance on Scope 2 and 3 accounting)[15],
- The latest UK Environmental Reporting Guidelines[16 17],
- PAS 2050 - Specification for the assessment of the life cycle greenhouse gas emissions of goods and services[18]
- PAS 2060 – Carbon Neutrality[19]

Target Setting

- Science Based Targets Initiative[20]
- World Resources Institute Cool Food Pledge[21]
- UN Race to Zero[22]

Use of Offsets

- The Oxford Principles for Net Zero Aligned Carbon Offsetting[23]

15. GHG Protocol; GHG Protocol and Carbon Trust, 'GHG Protocol - Technical Guidance for Calculating Scope 3 Emissions', 2013.
16. UK Government, Department for Environment, Food and Rural Affairs, and Department for Business, Energy and Industrial Strategy, 'Environmental Reporting Guidelines: Including Streamlined Energy and Carbon Reporting Requirements', GOV.UK, 2019, https://www.gov.uk/government/publications/environmental-reporting-guidelines-including-mandatory-greenhouse-gas-emissions-reporting-guidance.
17. UK Government and Department for Environment, Food and Rural Affairs, 'Guidance on How to Measure and Report Your Greenhouse Gas Emissions', GOV.UK, 2013, https://www.gov.uk/government/publications/guidance-on-how-to-measure-and-report-your-greenhouse-gas-emissions.
18. British Standards Institution, PAS 2050:2011: Specification for the Assessment of the Life Cycle Greenhouse Gas Emissions of Goods and Services., 2011, http://shop.bsigroup.com/upload/shop/download/pas/pas2050.pdf
19. British Standards Institution, 'PAS 2060 Carbon Neutrality', 2011, https://www.bsigroup.com/en-GB/PAS-2060-Carbon-Neutrality/.
20. Science Based Targets Initiative, 'SBTi Criteria', 2021, https://sciencebasedtargets.org/resources/files/SBTi-criteria.pdf.
21. World Resources Institute, 'Cool Food Pledge', 2021, https://www.wri.org/initiatives/cool-food-pledge.
22. UNFCCC, 'Race to Zero Campaign', 2021, https://unfccc.int/climate-action/race-to-zero-campaign.
23. Myles Allen et al., 'The Oxford Principles for Net Zero Aligned Carbon Offsetting', 2020.2020

2 Going Net Zero.

2.1 What is Net Zero?

Climate change remains a global crisis, the severity of which increases each year. The Intergovernmental Panel on Climate Change (IPCC is insistent that we must limit the rise in average temperatures to 1.5oC from pre-industrial levels to avoid a catastrophic impact, but on current projections this level is expected to be reached between 2030 and 2052, and then exceeded. In the same report, the IPCC state that the only way to limit the damage to the environment, is to go beyond the current focus on incremental reductions in emissions, and rapidly shift to a low-GHG economy.[24]

In 2018 manmade GHG emissions introduced were estimated to be 55 Gigatons CO2e while the GHG emissions removed through manmade activity was effectively zero. The result of this imbalance is that the atmospheric concentration of C02 increased from 406 parts per million (ppm) to 408 ppm. These particles accumulate in the atmosphere for a long period of time. Similar increases in the atmospheric concentration of CO2 have been witnessed every year since records began in 1958, when it measured 315 ppm, and this is the underlying cause of the phenomena we refer to as climate change.[25]

The UK Climate Change Committee made clear that while the long-term goal is to reduce man-made GHG emissions to absolute zero, and to have a 100% reduction in GHG from 1990 levels by the mid-century[26], in certain sectors the most pragmatic approach will involve net zero emissions in the near term.

The Net Zero economy envisaged is one in which the emissions associated with human activity are progressively reduced and the remaining unavoidable emissions are matched by activity that offsets this impact. Removals are expected to be important given the difficulty in entirely eliminating emissions from some sectors, including the Hospitality sector.

For businesses, Net Zero is a pragmatic response to the climate challenge which recognises that reducing man made emissions to absolute zero may not be possible in the immediate future. Instead, organisational effort should be directed towards reducing emissions as far as possible each year, leaving a reduced quantity of residual emissions. Capital should then be allocated to programs which remove a quantity of green-house gases from the atmosphere, equivalent to these residual emissions.

24. IPCC, 'Global Warming of 1.5°C', 2018, http://www.ipcc.ch/report/sr15/.
25. Ibid.
26. UK Climate Change Committee, 'Net Zero - The UK's Contribution to Stopping Global Warming', 2019, https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/.

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Going Net Zero.

2.2 Net Zero in the Hospitality Industry

Global Agriculture

As the global climate heats and changes, existing methods of agriculture are undergoing drastic changes. Climate research suggests that around 1/3 of global food production is at risk of falling outside of the 'safe climatic space' needed for healthy agricultural practices to thrive[28]. In addition, up to 4 million square km of new desert will be created around the world if temperatures continue to rise at their current trajectory. These impacts will harm livestock farming and crop production, lead to increased hunger and trigger mass migration events at unprecedented levels.[29]

The food and drinks industry is at the heart of the climate challenge as both a significant contributor to the causes and a potential casualty of the impacts.

The consequences of failing to take urgent rectifying actions will lead to further supply chain disruption, food insecurity and significant nutritional shortfalls for communities around the planet. As well as threatening the security of these basic necessities for millions of people around the world, these impacts will increase food and drink prices, threatening the viability of many food and drink options currently available.[30]

The United Nations' Sustainable Development Goals (SGDs) highlight the importance of sustainable supply chains through SDG #12 Sustainable Consumption[31]. Decarbonising the food and beverage sectors is a complex and vast undertaking. Agriculture contributes over 1/5 of all greenhouse gas emissions and is a primary cause of biodiversity loss. As the United Nations Development Programme states,

"[agriculture] is both one of the central causes of, and answers to the climate crisis."[32]

Urgent action is needed within the sector, with various necessary changes including dietary shifts, waste avoidance and effective supply chain management. Even under the most optimistic scenarios set out by the Paris Agreement, there must be tangible changes to how food and drink are produced and consumed in the century ahead.

UK Pubs

There are over 48,000 pubs in the United Kingdom, and over half of the adult population regularly visit licensed premises as a free time activity[33]. The pubs of the United Kingdom hold a unique position within the communities in which they operate. They are often social hubs of the local community and are therefore in a unique position to become informal forums for climate conversations that can play a key role in the transition of the national economy.

Research by the British Beer & Pub Association states that the industry has been reducing greenhouse gas emissions steadily over the last 10/15 years, with waste, energy use and water use being key areas of focus for industry-wide sustainability efforts[34]. The national trend for licensed premises (pubs) has been to offer a more substantial dining experience on site and therefore food will play an integral role in the ecological footprint of the industry.

While the pub sector has some large nation-wide groups, it is dominated by a range of small and medium sized enterprises (SMEs). SMEs across the United Kingdom have repeatedly asked for more assistance, guidance, and advice on meeting Climate Targets, specifically those linked to Net Zero. While around half of larger businesses have set Net Zero targets, fewer than 1 in 3 of SMEs have currently set targets, and around the same proportion are not familiar with what Net Zero means to them in practice. [35] [36]

27. Matti Kummu et al., 'Climate Change Risks Pushing One-Third of Global Food Production Outside the Safe Climatic Space', One Earth 0, no. 0 (14 May 2021), https://doi.org/10.1016/j.oneear.2021.04.017.
28. IPCC, 'IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems', 2020, https://www.ipcc.ch/srccl/.
29. 'Climate Action | World Food Programme', accessed 18 May 2021, https://www.wfp.org/climate-action.
30. 'THE 17 GOALS | Sustainable Development', https://sdgs.un.org/goals.
32. 'Transforming Food and Agriculture - United Nations Development Programme | UNDP', Exposure, accessed 18 May 2021, https://stories.undp.org/transforming-food-and-agriculture.
33. Statistica, 'Pub, Bar and Club Goers by Age in England 2018', Statista, 2020, https://www.statista.com/statistics/557584/going-to-pubs-bars-clubs-by-age-uk-england/.
34. British Beer and Pub Association, 'Brewing Green', 2019, https://beerandpub.com/wp-content/uploads/2019/08/Brewing-Green-2019-2.pdf.
35. BSI, 'Net Zero Barometer Report'.
36. Broadway Initiative, 'SME Discovery Phase Publication Report'.

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Going Net Zero.

The future of Net Zero in the Hospitality Industry

Unlike many sectors of the economy, hospitality is not likely to achieve absolute zero in the near future. Given the particular chemical and biological processes that take place during food and beverage production, reducing GHG emissions to absolute zero in these processes is not currently feasible. Figure 5, below shows the UK Climate Change Committees estimation for the distribution of GHG emissions across sectors of the economy in 2050[37], with agriculture maintaining a sizeable contribution to the total.

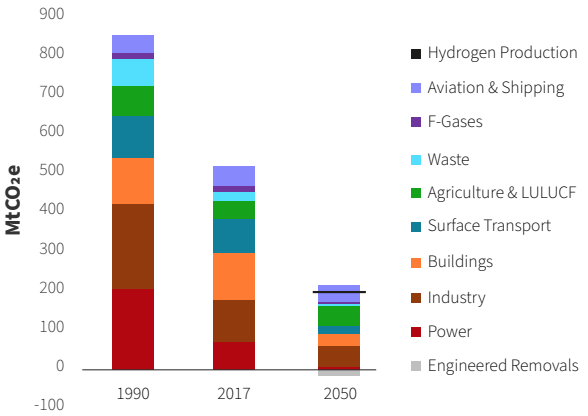

Figure 5. 2050 GHG emissions in the Core scenario, comparing 1990, 2019 and 2050 estimates (UK Climate Change Committee)

This is not to say that there are not effective actions that hospitality businesses can take to effect deep emissions reductions in their operations. There are significant opportunities around waste reduction and management, energy efficiency and sourcing, decarbonising product mix and promoting diet shift and incentivising zero carbon transport for employees and customers. These and other actions are outlined in more detail online at netzero.pub.

Reaching absolute zero within 2050, however, will not be possible within the current paradigm.

2.3 Why go Net Zero Now?

It is important to recognise that while there is broad consensus to achieve net zero across the UK economy, the ambition with which it is supported by varies. A target of Net Zero by 2050 is seen by many scientists and climate experts as being too conservative and timid in the face of the urgent need for action[38 39 40]. The historical emissions from industrial processes in the UK combined with the current economic resources available has led many experts to call for Net Zero to be achieved within the next decade.

The following analysis briefly outlines factors which motivate the reasoning to speed up the timeline for Net Zero targets.

|| Ecological

As mentioned in the previous two sections, there is an urgent environmental need to make changes to reduce UK emissions in order to contribute to global GHG emission reductions. Global Heating is causing the ice caps to melt, which is leading to rising global sea levels, with some low-lying nations already suffering consequences[41]. The Climate Emergency is leading to severe weather fluctuations around the world, including monsoons and droughts.

|| Social

This environmental emergency is creating a humanitarian emergency, with over 25 million displaced due to weather related hazards in 2019 alone. The UNHCR expects this to rise to over 200 million each year by 2050[42]. Increased global migration will place added pressure on international infrastructure and political systems. Nationally, climate change related weather events have led to flooding, droughts, heat waves, air pollution and various extreme weather events that are life threatening. These events are adversely impacting on citizens lives now, with whole regions of the country becoming less habitable, leading to the loss of homes and livelihoods.

37. Climate Change Committee, 'Net Zero - The UK's Contribution to Stopping Global Warming'. Page 14
38. 'Net-Zero Carbon Pledges Must Be Meaningful to Avert Climate Disaster', Nature 592, no. 7852 (31 March 2021): 8–8, https://doi.org/10.1038/d41586-021-00864-9.
39. James Dyke, Robert Watson, and Wolfgang Knorr, 'Climate Scientists: Concept of Net Zero Is a Dangerous Trap', The Conversation, 22 April 2021, http://theconversation.com/climate-scientists-concept-of-net-zero-is-a-dangerous-trap-157368.
40. Joeri Rogelj et al., 'Net-Zero Emissions Targets Are Vague: Three Ways to Fix', Nature 591, no. 7850 (March 2021): 365–68, https://doi.org/10.1038/d41586-021-00662-3; Dyke, Watson, and Knorr, 'Climate Scientists'.
41. 'Chapter 4: Sea Level Rise and Implications for Low-Lying Islands, Coasts and Communities — Special Report on the Ocean and Cryosphere in a Changing Climate', accessed 26 April 2021, https://www.ipcc.ch/srocc/chapter/chapter-4-sea-level-rise-and-implications-for-low-lying-islands-coasts-and-communities/.
42. United Nations High Commissioner for Refugees, '"Climate Change Is the Defining Crisis of Our Time and It Particularly Impacts the Displaced"', UNHCR, 30 November 2020, https://www.unhcr.org/news/latest/2020/11/5fbf73384/climate-change-defining-crisis-time-particularly-impacts-displaced.html.

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Going Net Zero.

Economic

As well as the well reported macro-level economic benefits of mitigating climate change[43], there are various key business reasons why an organisation should seek to implement a Net Zero strategy.

Reduced Business Costs

By monitoring energy and material use, many businesses are able to recognise areas where greater efficiency could occur. Reducing inefficiencies and waste and delivering operational cost reductions.[44]

Spur Innovation

A focus on internal sustainability can stimulate innovation within businesses, including efficiencies, innovative use of energy and novel products and services. Sourcing sustainable food and drinks can lead to novel menu options and inspire creativity behind the pub.

Must Customer Demand

As consumers become more knowledgeable on the subject of Climate Change, there is increased expectations on businesses to make a tangible positive impact on the environment through their operations. Consumers are frequently making conscious decisions about their spending and are willing to pay more for sustainable goods and services. There is evidence that consumers are willing to switch brands based on sustainable practices and are more likely to share these decisions with their friends and on social media.[45 46 47 48]

Improve Employee Retention

Considering the effects of investing on sustainable practises on employees, researchers have found that employees in companies with strong sustainability programmes had increased morale and loyalty, while the turnover was reduced. Additionally, sustainability positively impacts nearly all traditional dimensions of employee engagement including alignment, discretionary effort, advocacy for the company and pride.

Political and Legal

Legislation

Many governments have set legally binding targets concerning climate goals[49] and the landmark legal ruling concerning Shell demonstrates how courts intend to enforce these laws.[50]

In addition to this, new regulation is expected to follow the UK Government's 2021 consultation on the need for all businesses to publish Scope 1,2 and 3 GHG accounts.

Several FTSE 100 companies, cities and governmental organisations have set Net Zero by 2030 targets[51]. There is a growing need for a framework for businesses, and particularly SMEs, that seek to provide a leadership role in setting the benchmark for Net Zero GHG emissions. The Net Zero Now Pub Protocol seeks to provide this framework to businesses in the hospitality sector, in order to achieve Net Zero targets immediately.

43. Climate Change Committee, 'Net Zero - The UK's Contribution to Stopping Global Warming'.
44. Climate Change Committee.
45. Brent F. Kim et al., 'Country-Specific Dietary Shifts to Mitigate Climate and Water Crises', Global Environmental Change 62 (1 May 2020): 101926, https://doi.org/10.1016/j.gloenvcha.2019.05.010.
46. Vladas Griskevicius, Joshua M. Tybur, and Bram Van den Bergh, 'Going Green to Be Seen: Status, Reputation, and Conspicuous Conservation.', Journal of Personality and Social Psychology 98, no. 3 (2010): 392–404, https://doi.org/10.1037/a0017346.
47. Judith de Groot and Linda Steg, 'General Beliefs and the Theory of Planned Behavior: The Role of Environmental Concerns in the TPB', Journal of Applied Social Psychology 37, no. 8 (August 2007): 1817–36, https://doi.org/10.1111/j.1559-1816.2007.00239.x.
48. Andrew Gilg, Stewart Barr, and Nicholas Ford, 'Green Consumption or Sustainable Lifestyles? Identifying the Sustainable Consumer', Futures 37, no. 6 (August 2005): 481–504, https://doi.org/10.1016/j.futures.2004.10.016.
49. UK Government, 'UK Enshrines New Target in Law to Slash Emissions by 78% by 2035'.
50. https://www.bbc.co.uk/news/world-europe-57257982.
51. BSI, 'Net Zero Barometer Report'.

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Going Net Zero.

2.4 How to achieve Net Zero?

As illustrated in Figure 6. Net Zero Pub certification steps, there are five steps to achieve the Net Zero Pub certification. While these steps are set out sequentially, they may be carried out in parallel. A general approach to each of the steps along with their particular requirements is provided in the next sections.

Organisations must:

Step 1: Calculate

- Complete a full GHG calculation and disclosure in line with follow GHG Protocol Corporate Standard
- Include all Scope 1 and Scope 2 emissions plus all sector material Scope 3 emissions. (Value chain emissions from purchased food and drink, transport and delivery, food waste, business travel)

Step 2: Mitigate

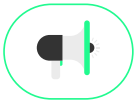
- Commit to ambitious reduction targets in line with what is required to restrict warming to less than 1.5ºC
  i. an absolute GHG emissions reduction (Scope 1 and 2) of at least 4.2% per year over three years and
  ii. a decrease in GHG intensity of at least 15% over 3 years, measured in KG CO_2e / £ revenue and covering all emission sources
- Develop a credible mitigation plan to meet the target, and publish annual updates on progress to target

Step 3: Compensate

- Purchase and retire carbon dioxide removal credits equivalent to the whole footprint calculated in step 1
- Only purchase credits that meet good quality standards and retire within 12 months of the accounting period end
- Commit to maintain status as a Net Zero business

Step 4: Validate

- Submit evidence of compliance with protocol requirements to certification body
- Provide any supporting documentation required



Step 5: Communicate

- Publish Net Zero commitment along with footprint, reduction target and details of credits purchased
- Adhere to the terms of use for the certification mark in stakeholder communications
- Advocate for widescale adoption of Net Zero commitments

Figure 6 - Net Zero Pub Certification Steps

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Going Net Zero.

2.5 Step 1. Calculate

This section covers the methodology for calculation of GHG emissions consistent with the business achieving the Net Zero Pub certification. It is intended to complement and add to the methodology detailed in the GHG Protocol Corporate Standard[52]. The Calculation step requires two parts: Define and Measure.

Define

The subject to which the Net Zero Pub certification is being applied must be clearly defined by name and by description of relevant legal and/or physical boundaries. The duration of the time period under consideration must be defined and should cover a 12-month period.

For organisations that suffered business disruption during the year they intend to use as a base year, please see box "Atypical trading from business interruption" on page 23 for details of how to set the period for which emissions should be studied. The following information is relevant for all data collection periods.

Organizational boundaries **must** be clearly defined, considering the subject's circumstances, and **must** be consistent across calculation of GHG emissions covering all three Scopes. The boundaries **must** be a fair representation of the total GHG emissions of the organisation. Equity share or control approaches to the accounting of emissions **must** be chosen and remain constant throughout the process.

The entities to be covered include all those related with licensed hospitality service, including bars, pubs, and other licensed hospitality industry providers.

Resolution of any complex issues regarding the setting operational and organisational boundaries are likely to be found in Chapters 3 and 4 of the GHG Protocol.

The definition of the subject **must** remain constant through all the required steps in the Net Zero Pub Protocol. If the definition of the subject changes during the certification process, the steps **must** be re-started taking into account the introduced changes.

Figure 7 provides an overview of all the GHG Sources that **must** be included within the calculation of subject GHG emissions. Adopting GHG Protocol terminology, this includes all Scope 1 and Scope 2 emissions, plus the upstream and downstream Scope 3 emissions that are most material for the hospitality industry. Section 3.1 lists these sources in more detail.

All indicated sources **must** be reported and any exclusion and the rationale for the exclusion **must** be clearly indicated in the provided data.

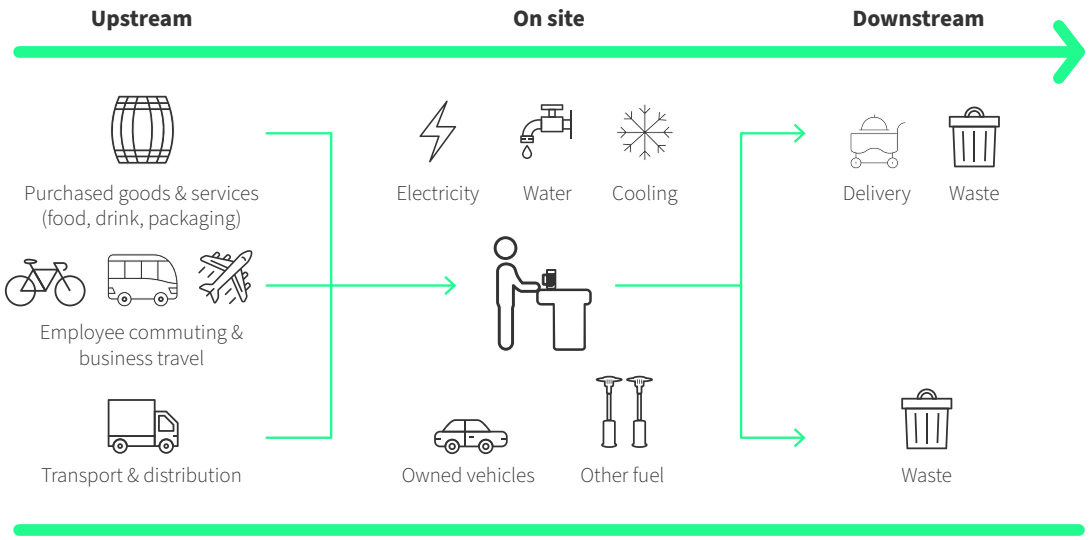

Figure 7. Licensed Premises Emission Sources

52. 'GHG Protocol, "Corporate Standard" and 'Corporate Value Chain Accounting Report Standard'.

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Going Net Zero.

Measure

After defining the subject and establishing the boundaries that will be used throughout the GHG accounting, the GHG emissions of the subject **must** be measured to provide a complete, consistent, and relevant GHG inventory over the defined timescale.

The Licensed Premises' GHG emissions **must** be assessed in accordance with the requirements established in this section. Further technical details for measurements can be found at x.

For each of the mandatory sources (Figure 4) the subject **must** identify appropriate activity data covering the defined time period and multiply this by appropriate emissions factors.

In many countries the emissions factors covering many of the operations sources are published annually by government (in the UK this service is provided by the Department of Business, Energy and Industrial Strategy)[53] and the subject **must** use national, regional, international or other emission factors of relevance, prioritising those most closely associated with the emission source.

Emissions data **must** be reported in units of GHGe or CO_2e according to the 100-year potential of each gas. Global Warming Potential (GWP) factors included in the latest report of the Intergovernmental Panel on Climate Change (IPCC) **should** be included. GWP factors used in the assessment must be clearly reported.

Required emission sources that can be demonstrated to represent a value of less than 0.5% of total emissions for the business (but collectively no more than 5% of total emissions) **may** be excluded where evidence can be presented to demonstrate that quantification would not be technically feasible, practicable or cost effective. Where a single source contributes more than 50% of the total emissions, the 95% threshold applies to the remaining sources of emissions.[54]

The method for calculating all purchased goods and service emissions must use emissions factors covering all emissions from cradle to retail (point of purchase). The subject **must** complete calculations for all purchased goods and service types that are relevant to their business.

The entity **must** clearly document and explain any estimations and assumptions used in the calculation of the inventory. Where changes have been made to the methodology, these should be described in a transparent manner.

One of the primary benefits of the Net Zero Pub Protocol is how it seeks to bring together an otherwise disparate set of emissions factors relevant to business in the hospitality industry. Approved data sets, including specific emissions factors for food and beverage emissions can be found in the online appendix Approved standards and methodologies at netzeronow.org. This information will be constantly updated, in order to keep up with the burgeoning field of research in lifecycle assessments.

53. UK Government, 'Greenhouse Gas Reporting: Conversion Factors 2020', GOV.UK, 2020, https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020.
54. Science Based Targets Initiative, 'SBTi Criteria'.

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Going Net Zero.

2.6 Step 2. Mitigate

This section covers the creation and implementation of an emissions reduction target and a framework for taking action to reduce GHG emissions in alignment with the ambition criteria of the Science-Based Targets initiative.

Set a Target

Reducing emissions is an essential step in the net zero process. The subject **must** set a target to reduce its GHG emissions in-line with the latest science regarding climate change.

To achieve the Net Zero Pub certification, the business **must** have set a reduction target in compliance with the ambition criteria of the Science Based Targets initiative (SBT).[55]

The target must consist of at least two parts[56]:

i. an absolute GHG emissions reduction (scope 1 and 2) of at least 4.2% per year over 3 years and
ii. a decrease in GHG intensity of at least 15% over 3 years, measured in KG CO_2e / £ revenue and covering all sources detailed in Figure 7.

Emissions data from the most recent year **should** be used as a base year for the reduction calculations, or according to the provisions for business interruption.

Atypical trading from business interruption.

Under normal circumstances, businesses calculating their emissions for the first time would collect activity data corresponding to the most recent 12-month accounting period and use this as their base year for target setting purposes.

As a result of significant business interruption resulting from the COVID 19 Pandemic, the most recent 12-month accounting period is, for most businesses, an atypical reflection of normal trading and consequently not an appropriate period for use as a base year for target setting.

The following businesses interruption provisions have been designed to enable businesses calculating full value chain emissions for the first time to overcome this challenge and participate in the initiative.

Any interruption to "business as normal" lasting for more than three weeks, is regarded as a business interruption resulting in atypical trading. This does not include regular business interruption such as an annual two-week holiday when the business is closed, but disturbances caused by COVID-related public health advice fall under this definition.

Any business calculating emissions for the first time and using an accounting period during which there is an identifiable business interruption resulting in atypical trading, must calculate a 'Typical Trading' year estimation for the purposes of base year and target setting.

Typical trading year estimations must be based on scaling of partial year data and must use data covering at least 15% of uninterrupted normal opening.

The emissions from this sample period must be scaled up to provide an estimated Typical Trading year the full year, in order to provide data that can be used as a base year and to set future targets.

Businesses going net zero on the basis of a disrupted trading year may choose to purchase carbon credits equivalent to either:

i. The actual full emissions data from the disrupted trading year (retrospective)
   or
ii. The estimated emissions data for a typical trading year (forecast). Where credits are purchased for an estimated typical trading year, the business must reconcile the difference between estimations and real emissions when data is available.

This may only be used in the first year following disruption, with retrospective offsetting being used subsequently.

In all of these cases, the adopted approach must be documented completely transparently in associated reporting.

55. Science Based Targets Initiative, 'Towards a Science Based Approach to Climate Neutrality in the Corporate Sector (Draft for Comments)', 2020, https://sciencebasedtargets.org/resources/legacy/2019/10/Towards-a-science-based-approach-to-climate-neutrality-in-the-corporate-sector-Draft-for-comments.pdf.
56. Science Based Targets Initiative, 'SBTi Criteria'.

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Going Net Zero.

Reduce Emissions

This step covers the actions that may be taken to reduce emissions by the licensed premises with the objective to achieve the targets set in the previous step.

The restaurant **must** provide an achievable carbon emissions reduction plan to meet the emissions targets set. The most material (largest) sources of emissions **should** be prioritised, and cost-effectiveness of the measures **should** be taken into consideration, regarding alternative emission reduction actions.

The methodology used to forecast GHG emissions reductions **should** align with that used to quantify the original GHG emissions, and therefore the same principles apply.

GHG reduction plans **must** be reviewed at least annually and progress against planned actions **must** be tracked. Feasibility assessments of possible additional action should be undertaken to ensure that the required reduction targets are met. A director or senior manager **should** be responsible for the development and implementation of the emission reduction plan.

A guide to the actions that may be considered to reduce missions is outlined online at netzero.pub.

2.7 Step 3. Compensate

This section covers the commitment by the restaurant to acquire high quality carbon offsets equivalent to their residual emissions footprint.

Businesses that calculate, set targets, and develop action plans in accordance with the criteria have the option to either:

- **Step 3a. Go Net Zero Now** with the purchase of UK hospitality offsets, equivalent to their calculated footprint

Or

- **Step 3b. Commit to going Net Zero** at a future date, by 2025 at the latest

Step 3a. Go Net Zero Now

The GHG emissions calculated in Step 1 are considered the residual emissions in the accounting year.

In order to receive Net Zero Now certification, the quantity of offsets purchased by the Licensed Premises in the first accounting year **must** equal the total residual emissions from the restaurant in that same year.

Step 3b. Commit to Net Zero

If a business does not intend to purchase offsets immediately, it can set a target year by which it commits to achieving Net Zero certification.

This target year in which residual emissions will be covered by purchased offsets **must** be within 2025 at the latest.

The applying organisation **must** immediately implement Science Based Reduction targets and continue to follow this pathway for the duration of the commitment period. If the applying organisation falls below 65% of the target reduction pathway target, the commitment certification will be removed, and the organisation **must** restart the certification process.

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Going Net Zero.

2.8 Step 4. Validate

After performing the three activities that concern the calculation, mitigation and compensation of GHG emissions produced by the restaurant, the last technical step towards the Net Zero Pub certification is for a qualified third-party to qualitatively assess and validate the conducted activities.

The subject business **must** submit all the required information, as stipulated in the Protocol, to achieve the Net Zero Pub certification to a qualified third-party assessor.

The assessor will review the documentation and award the certification to the subject business if all requirements are met. The assessor can at any time require further detail in any of the areas concerning the documentation if doubts about any of the principles stated in this Protocol arise, including completeness, accuracy and robustness of data provided, and the subject business **must** provide it to successfully achieve the certification.

2.9 Step 5. Communicate

The final step consists of making accurate, transparent and relevant information about the details and process of becoming a Net Zero Pub available to all stakeholders and using the certification to engage stakeholders.

The Net Zero Pub certification marks are the main tool provided to communicate the net zero status of the business to stakeholders. The ability and right to use the mark is dependent on the ability of the business to complete all the certification requirements successfully.

Once certified, Licensed Premises **should** use the mark to communicate their actions and raise awareness of their status, ensuring that all communications must be factually based, providing clarity and transparency about the procedures and results achieved to avoid misunderstandings. The use of the Net Zero Pub certification marks **must** comply with the requirements and guidance stipulated on its use.

The Licensed Premises participating in the Net Zero Pub certification **must** disclose all GHG inventory metrics related to the certification, including Gross Emissions, Targets, reduction activities, current progress to targets, and details of carbon credits.

Licensed Premises **should** also ensure that all claims are consistent with any national or regional guidance or legislation concerning green claims.

3

Detailed Guidance.

This chapter aims to provide more detailed and technical information of How to achieve Net Zero, using the same structure as laid out in the previous section:

i. Calculate
ii. Mitigate
iii. Compensate
iv. Validate
v. Communicate

A full list of sources, the methodology and data sets can be found in online appendices at netzeronow.org.

3.1 Calculate

Calculating emissions requires the use of two types of data: activity data and emission factors.

"Activity data" is a quantitative measure of a level of activity that results in GHG emissions (for example, litres of fuel consumed, or kilograms of material purchased).

An "emission factor" is a factor that converts activity data into GHG emissions data (for example kg CO_2 emitted per liter of fuel consumed, or kg CO_2 emitted per kilograms of material produced).

Licensed Premises **must** follow the guidelines for setting organisational and operational boundaries set out in Chapters 3 & 4 of the GHG Protocol.[57]

Organisational Boundaries

Licensed Premises **must** define the organisational entity that is the subject of the certification. Certification requirements apply to this entity as well as any subsidiaries.

Pubs operating under the same commercial name or brand but under different ownership (e.g. franchises) **must not** apply to the certification individually and must be considered as single entities.

Licensed Premises operating in multiple countries, even if they are under the same brand, are considered as different organisations for each country and **must** apply separately.

Within chain operator, all sites that operate under the same brand must contribute data to the certification process. Organisational control can be set as financial or operational, and the following activities and sites must always be included to achieve a Net Zero Pub certification[58]:

- Any Licensed premises directly managed by the certification holder, or that operates under the same brand, that contributes to the activities performed at the restaurant (e.g., offices, logistic centres, Licensed Premises).
- Any upstream and downstream activities performed by third parties that are necessary to the functioning of the premises (e.g., transportation, storage, take-away service etc.)

The Net Zero Pub certification is held by the certificate holder, and it is not transferable to other supply chain entities.

Operational boundaries

Emissions inventories **must** include activities of any pub or other site managed by the organisation that form part of its operations (e.g. production kitchens, offices, logistic centres) as well as the upstream and downstream activities performed by third-parties that are necessary to the functioning of the restaurant (e.g. transportation, storage, take-away service…)

An illustration of the required upstream, on site and downstream emissions can be found at Figure 7 and is defined in more detail in Figure 8.

Licensed Premises **must** account for all the emissions from sources identified as "required" in Figure 8. This includes all scope 1 (direct) and scope 2 (indirect) emissions together with the most material scope 3 (value chain) emissions.

57. GHG Protocol and Carbon Trust, 'GHG Protocol - Technical Guidance for Calculating Scope 3 Emissions'.
58. DEFRA, BEIS, and UK Government, 'Environmental Reporting Guidelines', 2019.

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Detailed Guidance.

GHG Assessment Emission Sources						Certification
GHG Protocol: Corporate Standard Scope 1 and 2. Value Chain Standard Scope 3	Scope 1				Direct emissions arising from owned, leased or directly controlled stationary sources that use fossil fuels and/or emit fugitive emissions (e.g. natural gas, refrigerants)	
					Direct emissions from owned, leased or directly controlled mobile sources (e.g. leased cars, refrigerants)	
	Scope 2				Emissions from the generation of purchased electricity, heat, steam or cooling	
	Scope 3 upstream	1	Purchased goods & services	1a.	Food supplied to the subject	
				1b.	Mains water supplied to the subject	
				1c.	Alcohol supplied to the subject	
				1d.	Other goods and consumables (e.g. packaging materials)	
		2	Capital Goods			
		3	Fuel and energy related activities (not included in Scope 1 or Scope 2)	3a.	Upstream emissions of purchased fuels	
				3b.	Upstream emissions of purchased electricity	
				3c.	Transmission and distribution (T&D) losses	
				3d.	All other fuel and energy related activities	
		4	Upstream transportation and distribution	4a.	Outbound courier deliveries of packages	
				4b.	Third-party transportation and storage of production-related goods	
				4c.	Third-party transportation and storage of sold products	
				4d.	All other upstream transportation and distribution	
		5	Waste generated in operations	5a.	Food waste	
				5b.	Wastewater	
				5c.	Other waste	
		6	Business travel	6a.	All transportation by air, public transport, rented/leased vehicle and taxi	
				6b.	Emissions arising from hotel accommodation associated with business travel	
		7	Employee commuting			
		8	Upstream leased assets			
	Scope 3 down-stream	9	Downstream transportation and distribution	9a.	Third-party takeaway services	
				9b.	Guest journeys to and from the restaurant	
		10	Processing of sold products			
		11	Use of sold products			
		12	End-of-life treatment of sold products	12a.	Waste from take-aways and home deliveries	
		13	Downstream leased assets			
		14	Franchises	14a.	Franchise FSPs	
		15	Investments			

Legend — Required — Recommended — Not required

Figure 8. GHG Assessment Emission Sources

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Measure

Licensed Premises must follow the GHG Protocol methodology for calculating emissions[59]. For each emissions source, Licensed Premises **should** identify the relevant unit metric, the activity or consumption data for the year and the associated unit emissions factors. Unit emissions factors can be specific to the product or service used only if a life cycle analysis has been carried out and data published. Otherwise, industry benchmarks must be used and explicitly referenced in the calculations.

> “Direct measurement of GHG emissions by monitoring concentration and flow rate is not common…the most common approach for calculating GHG emissions is through the application of documented emission factors. These factors are calculated ratios relating GHG emissions to a proxy measure of activity at an emissions source.”[60]

An example of the data required for an electricity consumption figure is shown in Figure 9 below (illustrative data only):

Scope 2

Emissions from the generation of purchased electricity

Unit metric
kWh

Annual Consumption
20,000

Emissions Factor kg CO_2e/ kWh
0.450

KG CO_2e
9,000

Figure 9 - Sample Data Calculation Form (Electricity Consumption)

- the unit metric is kWh,
- the consumption is drawn from electricity invoices from the supplier or monitoring of the electricity meter
- the associated emissions factor is drawn from published sources

All GHG emission sources included in the emissions assessment **must** be categorised and published according to the categories defined in Figure 8. Each of the categories defined as required within the Protocol **must** contain information with either the calculated result, a zero result, or a clear reasoning behind its exclusion from the assessment.

For the purposes of the Pub Protocol, operational emissions are defined as the total GHG emissions, excluding the emissions for Scope 3 Category 1a – Food and Drink. For general guidance on all categories set out in Figure 8, please refer to the GHG Protocol Standard[61 62]. Additional guidance is provided below for Calculation of Scope 3 emission premises.

59. GHG Protocol, ‘Corporate Value Chain Accounting Report Standard’.
60. World Business Council for Sustainable Development and World Resources Institute, ‘A Corporate Accounting and Reporting Standard (Revised Edition)’, 2004, https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporting-Standard_041613_2.pdf.
61. GHG Protocol and Carbon Trust, ‘GHG Protocol - Technical Guidance for Calculating Scope 3 Emissions’.
62. GHG Protocol, ‘Corporate Value Chain Accounting Report Standard’.

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|| 3.1.1 How to report GHG Emissions from Carbon Neutral and Net Zero Suppliers

Businesses are increasingly considering the option of becoming carbon neutral while offering services to other companies. As an increasing practice, this will have an impact on GHG emissions calculation for businesses that trade with them.

When accounting for these services in the GHG inventory the following steps **must** be followed:

1. Suppliers **must** provide written confirmation that the goods or services provided are net zero or carbon neutral and any relevant third-party certification.
2. Where certification is not provided an inventory for the supplier's GHG emissions and evidence of the purchase and retiring of equivalent approved carbon credits is required.

Where confirmation is provided that a supplier was offering a net zero product or service during the accounting year, the subject organisation may account for goods or services purchased from this supplier as zero emissions.

|| 3.1.2 Food, Drink and Consumables

This section details how the greenhouse gas impact of purchased goods and services, from cradle-to-retail is accounted for in Scope 3 emissions under the Net Zero Pub certification.

Food & Beverages

Licensed Premises **must** account for all upstream emissions of all the food and beverage categories defined in Figures 10 and 11, including total food-related emissions from agricultural supply chains under the subcategory 1a "Food and drink supplied to the subject" of Scope 3 emissions.

Licensed Premises **should** include all purchased food and drink items within their Scope 3 accounting and **must** include 95% by sales.

In accordance with the Quality Data principles (1.6) emissions for each source **should** be calculated with best quality activity data and emissions factors available.

In the absence of item specific emissions factors, Licensed Premises **should** adopt a pragmatic approach towards achieving a complete GHG assessment of food and drink purchases with best match emissions factors.

When calculating food and beverage impact in terms of GHG emissions, more accurate emission factors **should** be prioritised where available with full source details submitted with validation documents. (e.g., brewery / manufacturer level)

Use of peer reviewed studies may be allowed in the context of the Net Zero Pub certification and **must** be first submitted to Net Zero for approval.

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Beverage Emissions Data

The 30 drinks categories identified in Figure 10 represent the most commonly beverage purchased products in pubs and specific calculations **should** be completed for each item. Where additional products are served, and specific emissions factors are not available, the nearest feasible category should be used.

GENERAL CATEGORY	SPECIFIC CATEGORY	STANDARD SIZE
Beer and Cider	Draught Beer & Cider (keg)	30L keg
	Draught Ales (cask)	
	Bottled Beers	
	Canned Beers	
	Bottled Ciders	
Wine	Wine - White (Europe)	
	Wine - Red (Europe)	
	Wine - White (ROW)	
	Wine - Red (ROW)	
	Wine - Sparkling & Champagne	
Spirits	Tequila	
	Gin	
	Vodka	
	Rum	
	Whiskey UK	
	Whiskey Import	
	Sherry	
	Port	
	Cognac	
	Brandy	
	Other	
	Bottled FAB	
Mixers	Mixer Bottle (size)	
	Cordial	
	Mixer Can	
Water	Still Water	
	Sparkling Water	
Soft Drinks	Juice	
	Soda 330ml	
	Soda Fountain	

Figure 10 - List of required beverage categories

This list is made up of specific beverages used within most licensed premises only. For other beverages, such as milk, non-dairy milks, cream, tea, and coffee, please refer to the food emissions data set in Figure 11.

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Food Emissions Data

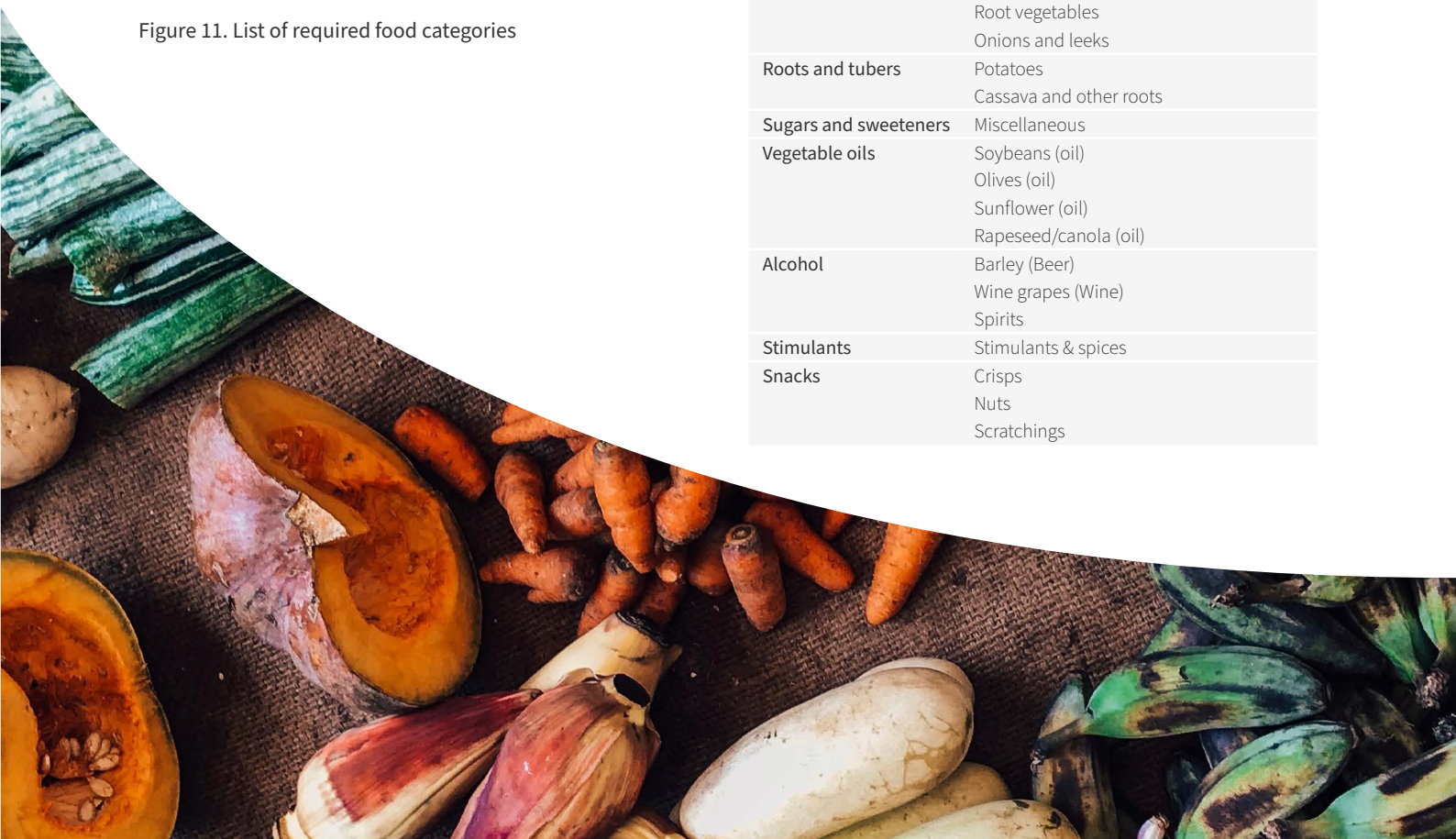
The food types identified in below are commonly used ingredients in food preparation and specific calculations should be completed for each item. Where additional products are served, and specific emissions factors are not available, the nearest feasible category should be used.

This is not an exhaustive list and may be added to with more specificity. However, food reporting must not be less specific than this list.

ANIMAL-BASED FOODS	
Ruminant Meats	Beef
	Lamb & goat meat
Other meats	Pork
	Poultry (chicken, turkey)
Dairy	Butter
	Cheese
	Ice cream
	Cream
	Milk (cow's milk)
	Yogurt
	Eggs
Fish and seafood	Fish (finfish)
	Crustaceans (shrimp/prawns)
	Molluscs
	Animal fats

Figure 11. List of required food categories

PLANT-BASED FOODS	
Legumes	Miscellaneous
	Beans and pulses (dried)
	Peas
	Peanuts/groundnuts
	Soybeans/tofu
Grains/Cereals	Miscellaneous
	Corn (Maize)
	Oats (Oatmeal)
	Wheat/Rye (Bread, pasta, baked goods)
	Rice
	Tree nuts and seeds
Plant-based milk substitutes	Almond milk
	Oat milk
	Rice milk
	Soy milk
Stimulants	Coffee
	Cocoa
Vegetable oils	Palm oil
Fruits	Miscellaneous
	Apples
	Bananas
	Berries
	Citrus fruit
Vegetables	Miscellaneous
	Cabbages and other brassicas (broccoli)
	Tomatoes
	Root vegetables
	Onions and leeks
Roots and tubers	Potatoes
	Cassava and other roots
Sugars and sweeteners	Miscellaneous
Vegetable oils	Soybeans (oil)
	Olives (oil)
	Sunflower (oil)
	Rapeseed/canola (oil)
Alcohol	Barley (Beer)
	Wine grapes (Wine)
	Spirits
Stimulants	Stimulants & spices
Snacks	Crisps
	Nuts
	Scratchings



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Licensed Premises **should** build a complete food and beverage GHG inventory, considering the unit metric, annual consumption and emissions factor for each item. Figures 12 and 13 below show examples for a beverage and food recording below:

Beverage supplied to the subject || **Bottled Beers**

Unit metric
0.33 bottles
Annual Consumption
10,000
Emissions Factor kg CO_2e/ kWh
0.4875
KG CO_2e
2,887

Figure 12. Example Emissions Calculation for Beverages

Food supplied to the business || **Potatoes**

Unit metric
kg
Annual Consumption
10,000
Emissions Factor kg CO_2e/ kWh
0.36
KG CO_2e
3,600

Figure 13. Example Emissions Calculation for Food

Other Purchased goods

Other purchased goods and services, used in the operation of the business, **should** be recorded separately. This includes, but is not limited to:

- Electrical Goods
- Plastics (including single use / disposables)
- Paper / Cardboard (including single use / disposables)
- Glasses
- Chemicals

|| 3.1.3 Waste

All waste produced by the licensed premises must be recorded. Organic waste disposed of in landfill produces high levels of GHG emissions and separate figures for organic and non-organic waste must be produced.

Food

Licensed Premises which offer food service should provide GHG emissions arising from annualised food waste data based on a completed audit following the Food Loss and Waste Accounting and Reporting Standard

Where a food waste audit has not been completed, Licensed Premises must calculate emissions for food waste using industry benchmark data in the formula below:

Total annual number of diners **X** **0.238kg**[63] (average waste/ cover) **X**

	%
Landfill	100
Compost	1.6
Anaerobic Digestion	1.6
Incineration	3.4

Figure 14. Food Waste Calculations (SRA)

To avoid double counting, Licensed Premises should be aware that it may be necessary to deduct this food waste figure from the general waste reported elsewhere, if food waste typically forms part of the general waste.

Non-Organic

Non-organic waste must be calculated based on the total weight of waste produced and government emissions factors for the disposal method.

63. This figure is taken from a Food Waste project from the SRA. It is the average calculated percentage of food waste expected from an average food.

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3.1.4 Water

Businesses should calculate the GHG emissions from water supplied through the mains supply network (and returned to the mains drains) using total volume of water supplied and Government emissions factors per m^3.

3.1.5 Refrigeration

Businesses should report leakage from air-conditioning and refrigeration units (including beer fridges). The refrigerant blends should be recorded in line with The Kyoto Protocol and Montreal Protocol. These Protocols list gases based on the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) over a 100-year period.[64]

3.1.6 Cleaning Products and Chemicals

Businesses should list all cleaning products and chemicals used in their operations. This can mirror the layout and structure of UK Government COSHH Assessment forms[65] and government emissions factors for chemicals.

3.1.7 Deliveries

Businesses must calculate emissions from delivery vehicles using distance travelled by couriers delivering food and drink products on behalf of the business. This includes third party couriers such as Deliveroo, Ubereats and Just Eat.

Delivery Method (CO_2e/km) **X** Deliveries Made (#) **X** Average Distance (km)

3.1.8 Employee Commuting

Businesses should carry out an employee transport survey to quantify the climate impact of employee travel. If a survey is not completed impact must be calculated based on an estimation of the total annual number of journeys made for each transport type, together with the average distance travelled per journey.

Similar estimations should be made for guest journeys where these are considered to be exclusively for the purpose of travelling to the venue.

Commuting Method (kg CO_2e/km) **X** Journeys Made (#) **X** Average Distance (km)

64. UK Government, 'Greenhouse Gas Reporting'.

65. 'COSHH Assessment: Identifying Hazard and Assessing Risk', accessed 26 May 2021, https://www.hse.gov.uk/coshh/basics/assessment.htm.

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3.2 Mitigate

3.2.1 Set Targets

Licensed Premises **must** set and publish ambitious targets for emissions reduction that are supported with a base year, timescales and a clear achievability plan.

Science-based targets (SBTs) are carbon emission targets that are specifically developed in line with climate science and the level of decarbonisation that is required to limit global temperature increase in line with science. SBTI is a collaborative initiative by CDP, World Resources Institute (WRI), the World Wide Fund for Nature (WWF) and the United Nations Global Compact (UNGC), that helps companies to set targets aligned with science by providing guidance, effectively helping them transition into a low carbon economy CDP et al., 'Science Based Targets', n.d..

Licensed Premises **must** have or set a reduction target in compliance with the ambition criteria of the Science Based Targets initiative (SBT).

The target **must** consist of at least two parts -

i. an absolute GHG emissions reduction (scope 1 and 2) of at least 4.2% per year over three years and
ii. a decrease in GHG intensity of at least 15% over 3 years, measured in KG CO2e / £ revenue and covering all emissions sources detailed as "Required" in Figure 8.

How to choose a base year

Licensed Premises **should** use the most recent year of data what setting base years for targets.[66]

If the base year was impacted by significant business disruption, the steps in Provisions for business interruption apply.

Recalculations in base year values **must** be undertaken in the event of acquisitions or disposals but not for organic growth.

Details of any base year recalculations **should** be submitted to third party assessors for their consideration, along with a clear reasoning of why a recalculation is necessary, and an explanation of all the considerations taken in the process. Recalculations of base years **should** be done along with the guidance provided in the GHG Corporate Standard Protocol.

Tracking progress to target

Progress towards achieving these targets **must** be reported annually to Net Zero Pub during the process of re-certification. Licensed Premises that are considerably off track to meet their goals **must** demonstrate that measures are in place to correct it. A business is considered to be 'considerably off-track' is one that is below 60% of the way towards meeting the target.

66. GHG Protocol and Carbon Trust, 'GHG Protocol - Technical Guidance for Calculating Scope 3 Emissions'; UK Government, Department for Environment, Food and Rural Affairs, and Department for Business, Energy and Industrial Strategy, 'Environmental Reporting Guidelines'.

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3.2.2 Reduce

Licensed Premises must develop emissions reduction plans to achieve targets that prioritise pragmatic and cost-effective action around the main sources of emissions.

GHG reduction plans must be reviewed at least annually to assess the progress against planned actions, assess the feasibility of further reductions and ensure that the required reduction targets are met. A director or senior manager should be responsible for the development and implementation of the emission reduction plan.

Net Zero Now has prepared an advisory document listing the steps that businesses in the hospitality industry can take to reduce their GHG emissions. This document can be found in the online appendices at Netzeronow.org. The structure of that document is outlined in Figure 15 below. Organisations are advised to check with local authorities and business advisers on grants, incentives and offers to support the adoption of action in each of these areas.

Purchased Goods and Services	**Food**	☑ Optimise quantity through menu development and portion control ☑ Review and modify the sales mix to decrease carbon intensity, adopting strategies from the WRI Playbook
	Drinks	☑ Optimise quantity through pour management and measures and reducing spills ☑ Consider impact of product format and packing ☑ Review the sales mix to decrease carbon intensity
	Packaging and Consumables	☑ Conduct an assessment to how to Avoid, Replace and Reuse disposables and consumables
	Chemicals	☑ Review the possibilities to switch to lower carbon alternatives
Employee Transport		☑ Encourage active transport with a cycle to work scheme, safe bike storage and lockers ☑ Explore the possibility for electric charge points for staff for bikes, scooters and cars
Deliveries		☑ Explore how to reduce delivery frequency with consolidation ☑ Explore local delivery through electric vehicle
Electricity (efficiency)	**Audit, Analyse, Target, Act**	☑ Explore possibilities to understand where and when electricity is used: submeters and half hourly data and set reduction targets
	Equipment - energy efficient specification and benefits of regular maintenance for...	☑ Kitchen ☑ Chillers ☑ Freezers ☑ Ice machines ☑ Pumps
	Extract/ Ventilation	☑ Ensure regular maintenance
	Lighting	☑ Review the potential for LED lighting system, prioritising security lights
	Hand driers	☑ Switch to efficient blowers
	Washing/Drying	☑ Reduce water temperature and line dry where possible
	Heat recovery	☑ Explore benefits of heat recovery systems for cellar management

Figure 15. Framework of mitigation guidance for pubs

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Electricity (source)	**Supplier**	☑ Explore switching to a supplier that generates from renewable sources
	On-site	☑ Consider options for onsite solar PV, Solar hot water, wind, geothermal etc.
Water	**Audit, Analyse, Target, Act**	☑ Understand where water is used and set reduction targets
	Leaks and dripping taps	☑ Address any leaks and dripping taps (5,000 litres / year / dripping tap)
	Flushing pipes	☑ Review best practice
	Defrosting food	☑ Defrost food overnight and not under running water
	Urinals/toilets	☑ Consider waterless urinals and low flush toilets
Cooling/ propellants	**Fridges/Freezers**	☑ Review gas type and options ☑ Maintenance
	A/C	☑ Review leaks and refrigerant gas type
	Fire Equipment	☑ Maintenance
Heating	**Insulation & windows**	☑ Carry out a heating assessment to see where efficiency opportunities lie
	Gas boiler efficiency	☑ Review options for increasing efficiency
	Patio heaters/ gas bottles	☑ Ensure timer switch and radiative heating
	Heat pumps	☑ Explore payback for ground source where gardens allow
Delivery	**If applicable**	☑ Review delivery options with provider or consider own delivery by bike / electric scooter
Delivery waste	**Disposables**	☑ Explore ordering options to avoid unnecessary cutlery napkins, sachets etc.
	Messaging	☑ Include messaging in delivery to encourage recycling of packaging and responsible disposal of food waste.
	Reusable packaging systems	☑ Explore opportunities to participate in reusable packing initiatives for food delivery
Waste	**Audit, Analyse, Target, Act**	☑ Assess waste across types and streams: Food waste (prep, spoilage, plate), Beverage waste and packaging waste (glass, metal, card, plastic)
	Identify contractor capabilities	☑ Review with local waste contractors what facilities exist, and support can be provided to segregate and recycle

Figure 15. Framework of mitigation guidance for pubs (cont.)

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3.3 Compensate

Once an organisation has calculated and begun reducing emissions in line with science based targets, carbon credits may be used to offset residual emissions.

The purchase of offsets **must** be in line with the core Oxford Principles for Net Zero Aligned Carbon Offsetting. These state that: emissions reductions **must** take priority, high quality offset schemes **must** be used, and the composition of offsets **must** regularly revise and updated to meet the latest scientific guidance.[67]

Carbon offsets are an external environment instrument that can be used to offset the remaining residual emissions from Licensed Premises in order to achieve Net Zero status. These credits are generated by implementation of projects that either stop GHGs being emitted (avoidance) or extract and store GHGs from the atmosphere (sequestration).[68]

Businesses that calculate, set targets, and develop action plans in accordance with the criteria have the option to either:

- **Go Net Zero Now** with the purchase of certified offsets, equivalent to their calculated footprint

Or

- **Commit to going net zero** at a future date, by 2025 at the latest

3.3.1 Go Net Zero Now

Licensed Premises that wish to certify and 'go' net zero immediately must buy carbon credits equivalent to 100% of the calculated footprint. Those credits must be from quality sources, in line with those listed in Appendix A – Approved standards and methodologies.

The composition of purchased credits must be in accordance with the ratios and taxonomy set out by the Oxford Principles, listed in figure 16 below.

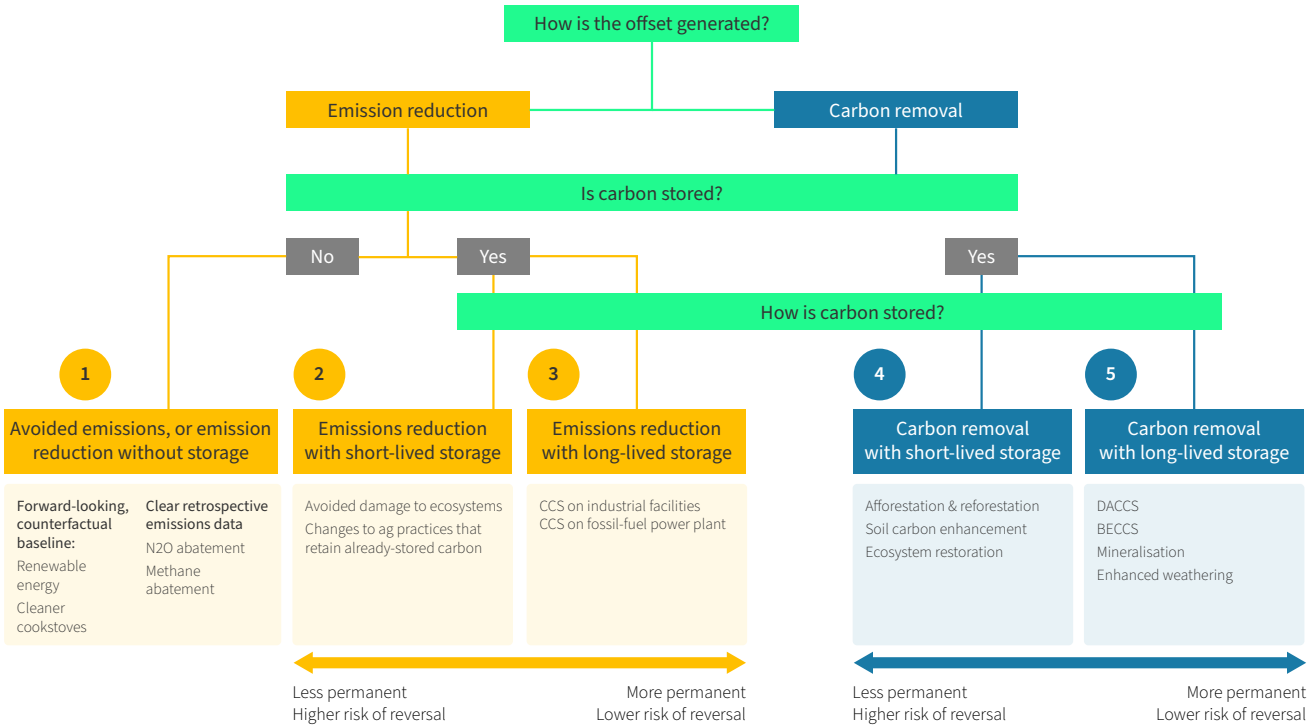

Figure 16. Taxonomy of Carbon Offsets (Oxford University)[69]

67. Allen et al., 'The Oxford Principles for Net Zero Aligned Carbon Offsetting'.
68. UNFCCC, 'Race to Zero Campaign'.
69. Allen et al., 'The Oxford Principles for Net Zero Aligned Carbon Offsetting'.

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The five types of offsets, as described by the Oxford Principles, have different long-term impacts with regards to Climate Change Mitigation. Due to the current state of the offset / removal market, and in line with future expected developments, long term carbon removal is currently not available at a large enough scale to make it practical for businesses going Net Zero Now.

Based on these mitigating circumstances linked to the current carbon offset market, alternative methods may be used in combination. The composition of offsets must follow the suggested ratios as shown in Figure 17 below.

	2021	2022	2023	2024	2025
1 & 2	55%	53%	50%	47%	45%
3	0%	1%	3%	5%	7%
4	45%	45%	45%	45%	45%
5	0%	1%	2%	3%	3%

Figure 17 - From Oxford principles on example net zero aligned offsetting trajectory (Oxford University)[70]

Based on this timeline, avoided emissions and short-term emission removal must be gradually phased out over the coming years, ensuring that long-term storage of GHG emissions becomes more prevalent and eventually all offsets will be Carbon Removal with Long-Lived Storage.

Purchase of credits

The purchase of approved carbon credits equivalent to the total GHG emissions produced by the business in the assessment year must be made in full once the carbon footprint is complete.

3.3.2 Target Net Zero

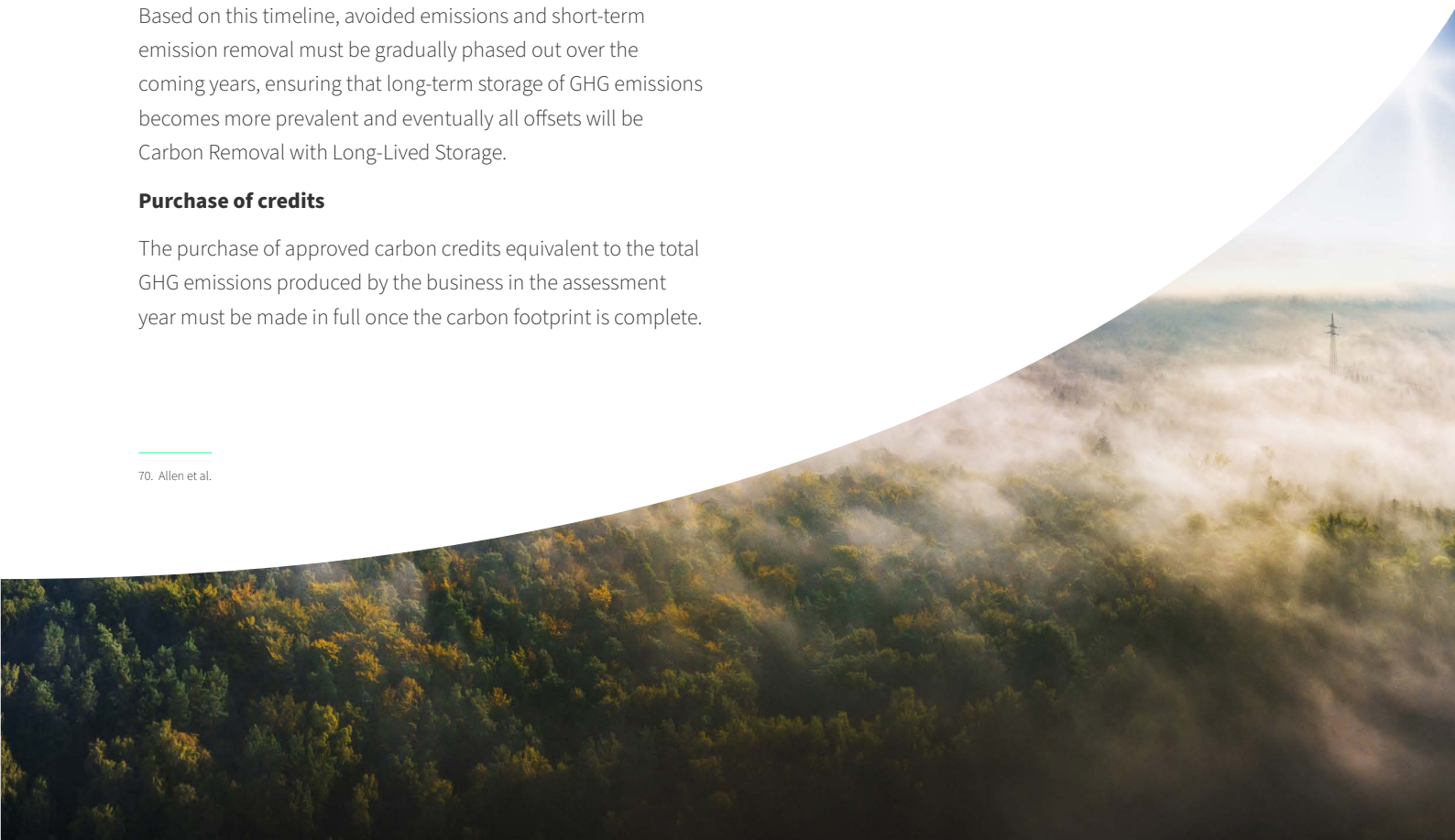
Requirements

If a business does not intend to purchase offsets immediately, it can set a target year by which it must commit to achieving Net Zero certification.

This target year in which residual emissions will be covered by purchased offsets must be within 2025 at the latest.

The applying organisation must immediately implement Science Based Reduction targets and continue to follow this pathway for the duration of the commitment period. The Assessor will determine if the applying organisation is meeting the targets set out. If the applying organisation falls below 65% of the reduction pathway target, the commitment certification will be removed, and the organisation must restart the certification process.

When offsets are purchased by the applying organisation, they must follow the guidelines set out in section 3.3.1.



70. Allen et al.

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3.4 Validate

To support the integrity of the Net Zero Pub certification, this step defines all required actions to meet the quality assurance and documentation requirements within the Protocol.

Quality assurance **must** be conducted by the Licensed premises. The process consists of an evaluation of the processes, data and calculations undertaken, ensuring that all the requirements established in the Protocol have been met.

Documentation **must** be submitted to the Assessor for verification including input data, calculations, assumptions and estimations, procurement evidence and quality assurance attestations.

Figure 18 provides details of the verification requirements and procedures relating to each step in the process. The ability and right to use the Net Zero Pub certification mark is dependent on successful validation of the submitted documentation.

Step	Verification Requirements
1. Calculate	The definition of the subject and assessment year **must** be recorded, and full, itemised GHG inventory provided. All calculation tools and emissions factors **must** be documented and from approved sources. All requirements established in the Protocol **must** be met. *The Assessor may require additional information in the event that concerns arise over the quality, completeness, accuracy or robustness of the presented data.*
2. Mitigate	The licensed premises **must** submit evidence of a commitment to a valid reduction targets together with an emissions reduction plan to meet the defined targets. The licensed premises **must** submit a commitment statement signed by a director. *The Assessor may require additional information in the event that concerns arise over the quality, completeness, accuracy or robustness of the presented data.*
3. Compensate	Licensed Premises going Net Zero **must** submit evidence that approved credits equivalent to the total GHG emissions in the assessment year have been purchased and retired. Licensed Premises committing to Net Zero **must** complete and sign the commitment statement.
4. Validate	The licensed premises **must** complete and sign a quality assurance attestation and submit together with all the necessary documentation.
5. Communicate	Use of the Net Zero Pub certification mark **must** adhere to the utilisation of the mark guidelines within the Protocol. All the communications transmitted to customers **must** be factually based and consistent with the steps followed to achieve the certification.

Figure 18. Verification requirements

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3.4.1 Using the Certification Mark

Companies that have successfully completed the Net Zero Pub certification, are permitted and encouraged to use the relevant Net Zero Pub logo to communicate their actions to customers and other relevant stakeholders.

The logos have been designed to allow companies to give a clear and transparent statement about their achievements and intentions, while helping educate customers in Net Zero businesses. By using the Net Zero Pub certification logo, Licensed Premises can unequivocally demonstrate that they have met the requirements of the Net Zero Protocol, signalling leadership in environmental issues, differentiating from the competition and meeting the demands from customers for more sustainable options.

Requirements

The logo can only be used by the certification holder in its own communications and **must** not be used by any subsidiary or restaurant that has not undertaken and successfully passed the certification process.

As part of the quality assurance of the Net Zero Pub Protocol, all usage of the Net Zero Pub logo **must** be in accordance with the terms of use.

The certification logo **must not** be copied or edited. If this occurs, the certification logo will automatically be invalid.

If the requirements and guidelines provided in the Net Zero Pub Protocol regarding the usage of the certification logo are not met, NZR has the right to withdraw its license and request its removal to the affected entity.

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3.5 Communicate

Providing accurate and transparent information about your Net Zero certification is a key element of taking part in the initiative.

The communications made regarding the conformance with the Net Zero Pub certification **must** be made in the appropriate form of disclosure, and **must** include an unambiguous identification of the subject, the qualifying date and application period, and access to all evidence supporting the qualifying explanatory statement.

Communicating the certification **should** be done via the use of the Net Zero certification mark. Use of this logo **must** conform to guidelines and all communications **must** be factually based and consistent with the certification achieved.

Rights to using the mark are subject to Licensed Premises receiving Net Zero certification

Licensed Premises **should** have a high-level understanding of all their major environmental, social, and economic impacts, and ensure that their Net Zero claims are appropriate and presented in relation to these major impacts.

All Licensed Premises **should** make their GHG inventory emissions relating to their Net Zero certification public. This could include, total gross emissions, a brief description of the emissions sources, justification of any excluded or included sources, reporting period covered any trends evident from the data, targets and reduction activities.

All claims **should** be consistent with any national or regional guidance or legislations on such claims.

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Appendices.

Several appendices documents will be updated online at NetZeroNow.org

Appendix A: Approved Standards and Methodologies

Application		Standards
Organisations	1	BS EN ISO 14064-1, Greenhouse gases – Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals
	2	WBCSD/WRI GHG Protocol, Corporate Accounting and Reporting Standard
	3	UK Govt Environmental Reporting Guidelines
Services	4	Publicly Available Specification – PAS 2050 Specification for the assessment of the life cycle greenhouse gas emissions of goods and services
	5	ISO/TS 14067, Greenhouse gases – Carbon footprint of products – Requirements and guidelines for quantification and communication
	6	WBCSD/WRI GHG Protocol, Product lifecycle accounting and reporting standard
	7	Cool Food Pledge

Figure19. Documents providing Net Zero Pub approved methodologies for GHG accounting

Offset schemes		
Kyoto-compliant	1	Clean Development Mechanism (Certified Emission Reduction)
	2	Joint Implementation (Emission Reduction Units)
	3	EU Allowances
Non-kyoto compliant (Voluntary emission reductions)	4	Gold Standard
	5	Voluntary Carbon Standard
	6	Climate, Community, and Biodiversity Standard
Domestic schemes	7	In UK – the Woodland Carbon Code

Figure 20. Schemes providing carbon credits and offsets approved by the Net Zero Pub

PROTOCOL

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