

# Roadmap to Net Zero

Overview for the  
UK food and drink sector

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# 1. Foreword

To avoid the worst effects of climate change, the world needs to limit global temperature rise to 1.5°C and achieve Net Zero emissions by mid-century. The food and drink industry has a huge role to play, since food systems contribute around one quarter of global greenhouse gas emissions.

In the UK, the food and drink industry is a vital part of the nation's £120 billion 'farm to fork' food chain. It is also the UK's largest manufacturing sector, contributing £29 billion to the economy annually and employing over 440,000 people.

The Food and Drink Federation (FDF) represents and supports 900 food and drink companies, from sole traders and SMEs to the largest global brands, providing advice and training to its members on topics including food safety and science, environmental sustainability, diet and health.

This document for sector stakeholders and policymakers, outlines how the FDF, and the wider food and drink sector, are contributing to deliver Net Zero. It is accompanied by the FDF's Achieving Net Zero handbook, which provides practical guidance for all food and drink manufacturers in implementing their own decarbonisation roadmaps.

Food and drink companies are already making progress, as evidenced through the FDF's Ambition 2025 programme, but this needs to be accelerated across the food system to Net Zero by 2040.



## **Ian Wright**

Chief Executive, Food and Drink Federation

"The publication of this excellent handbook for food and drink manufacturers is a

significant moment in our journey to Net Zero. The handbook will be an important tool for food and drink manufacturers - and others across the supply chain - striving to achieve Net Zero by 2040. This work demonstrates the huge value of ever stronger collaboration with all stakeholders across the farm to fork supply chain. That is the only possible choice if we are to achieve our net zero ambitions. Created and published in the slipstream of COP26, the ideas and actions outlined here provide an indispensable blueprint for food and drink businesses to deliver their Net Zero ambitions."



## **Jon Woods**

Vice President & General Manager at Coca-Cola Great Britain & Ireland, President of the Food and Drink Federation

"In April 2021, the FDF announced our Net Zero by 2040 Ambition for the UK's food and drink manufacturing sector. Thanks to the collaboration with stakeholders across the supply chain, this handbook will equip our members with the blueprint to build on sector progress to date and deliver their Net Zero ambition. I continue to be proud of the steps the industry is taking to enhance its efficiencies, and at Coca-Cola we're doing all we can to contribute to the huge milestones our sector is set to achieve by 2040."

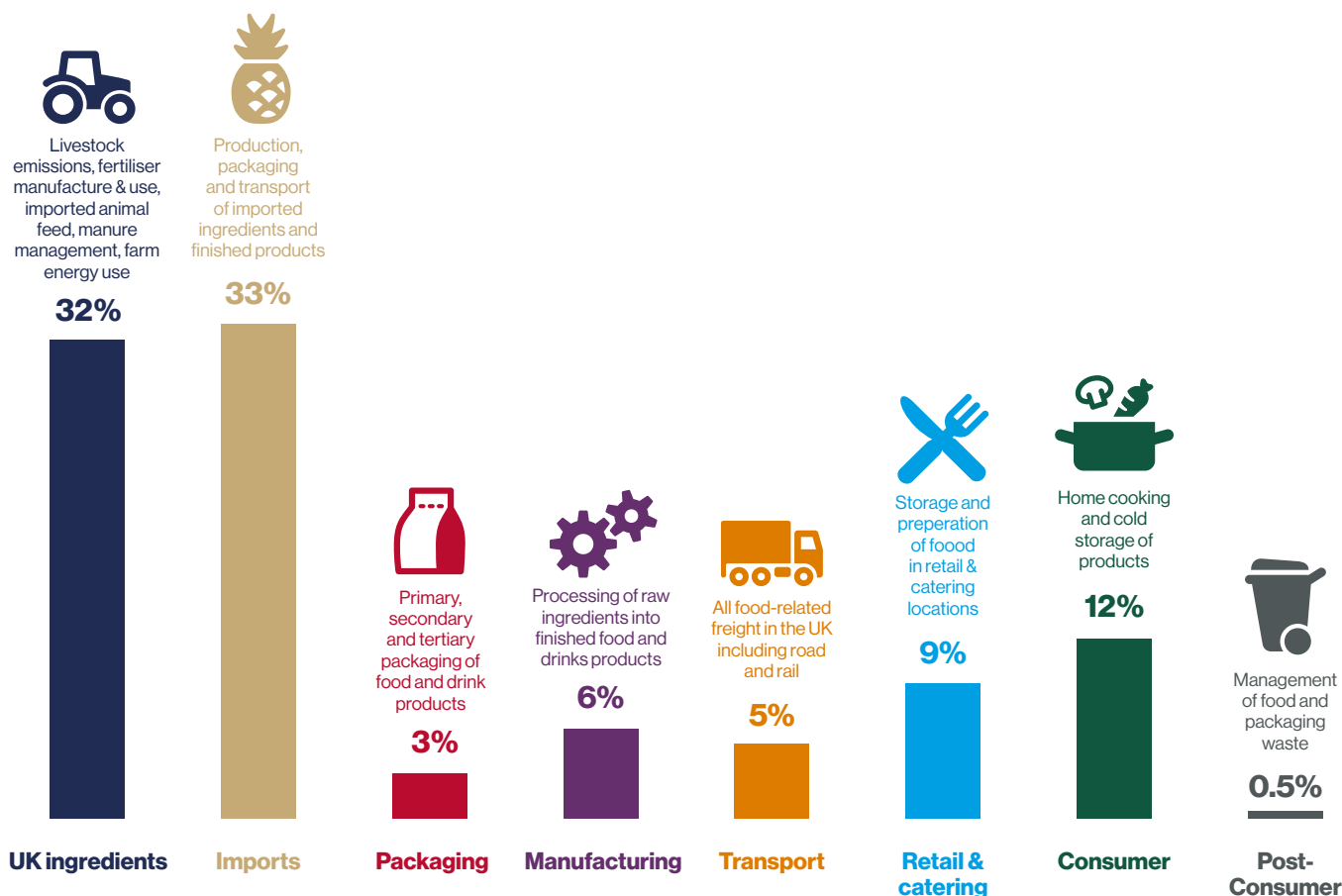
## 2. Our food system contributes to climate change

The global food system has been highly successful at increasing output. Food production per person has increased steadily over many decades despite a growing population.<sup>1</sup> One of the greatest risks of climate change is that it threatens to reverse this trend.<sup>2</sup>

The global food system is also a major cause of climate change, contributing 25% to 30% of global greenhouse gas emissions. These emissions come from farming (10–12%); land use change including deforestation 8–10% and from food supply chain activities such as transport and manufacturing (5–10%).<sup>3</sup>

The UK's food and drink sector was responsible for 165 million tonnes of carbon emissions in 2019 (see figure below). This equates to about 17% of the UK's carbon footprint.<sup>4</sup>

### Breakdown of emissions in the UK food & drink sector



### 3. The need for rapid decarbonisation in the food and drink sector

A business-as-usual approach to global food production will cause the sector's emissions to increase by 30%–40% by 2050, due to a growing population and consumption trends.<sup>5</sup> Even if all use of fossil fuels stopped today, emissions from the global food system alone would make it impossible to limit warming to 1.5°C and difficult even to achieve the 2°C target.<sup>6</sup>

To have any hope of meeting the goals of the Paris Agreement, we need major changes in the food system. All participants in this sector, including manufacturers, have a role in realising this change. This will require action and collaboration across the full supply chain.

The food system must adopt low-carbon farming practices and maximise opportunities to remove carbon from the atmosphere through planting trees and hedgerows, peatland restoration and sequestration in soils. When well-designed, such measures can have [nature-positive](#) results such as increasing biodiversity, improving water quality and reducing flood risk.

Governments and businesses must work together to promote sustainable diets, helping people to choose more healthy, low-carbon foods such as fruit, vegetables and whole grains.

Rapid decarbonisation must become a central part of business strategy. This can bring benefits such as reduced costs, improved staff retention and innovative products and brands that attract new customers.

### 4. The growing momentum on climate action

Through the Paris Agreement national governments have committed to limiting global warming to well below 2°C, and to aim to limit it to 1.5°C. To achieve the Paris goals, net global carbon emissions must halve by 2030, and fall below zero soon after 2050. This will require a step change in climate action.

More than [120 countries](#), accounting for over two-thirds of global GDP, have pledged to achieve Net Zero emissions by mid-century. The UK Government has a long-standing ambition to lead the world on climate action and has legislated for Net Zero emissions by 2050. In April 2021 the government adopted the Climate Change Committee's world-leading emissions reduction target of 78% by 2035 (compared to 1990 levels).

Similar commitments have been made by the [Welsh Government](#), which also has a 2050 target for Net Zero, and the [Scottish Government](#), which has set a 2045 Net Zero target. [Northern Ireland](#) has consulted on plans for Net Zero by 2050.

## Net Zero initiatives by UK business customers

UK businesses are responding to the Net Zero challenge with public commitments and strategies. Over 3,000 companies, including half of the UK's largest businesses, have pledged to eliminate carbon emissions by 2050 through the [Race to Zero](#) campaign. These climate targets cover the whole value chain, meaning companies will increasingly favour suppliers with lower emissions.

Many food and drinks companies, such as Danone, Innocent, McCain, Nestlé and Tate & Lyle now have Net Zero targets. All major UK supermarkets aim to achieve Net Zero by 2040 at the latest (for Scope 1 & 2 emissions), and most have ambitions to reduce emissions from purchased goods. For example, [Morrisons](#) has said all of its fresh British meat, fruit and vegetables will be supplied by carbon-neutral farms by 2030. Other key customers of food and drink manufacturers with Net Zero initiatives include the [NHS](#) and leading retailers through the [British Retail Consortium](#).

These initiatives are complemented by a growing number of sector-wide sustainability targets and programmes, such as:

- [NFU's](#) goal of Net Zero emissions across the whole of agriculture in England and Wales by 2040.
- [Courtauld 2030](#) - a voluntary agreement for UK food sector participants to achieve environmental targets including reducing emissions associated with food & drink consumed in the UK by 50% by 2030 (against a 2015 baseline)
- [Zero Carbon Forum](#) - supporting the hospitality sector to achieve Net Zero
- [UK Plastics Pact](#) - a WRAP-led initiative to create a circular economy for plastics.
- [Food Waste Action Week](#) - an annual week of action to end food waste.

## 5. The FDF's climate action programme

We recognise the important role of food and drink manufacturers in reducing the impact of our sector on climate change. In April 2021, on behalf of the food and drink sector we announced the ambition to reach Net Zero by 2040. Reaching Net Zero will require a rapid reduction in greenhouse gas emissions, with any unavoidable emissions negated through carbon offsets.

Food and drink manufacturers have already made great progress on carbon reduction as shown in the FDF's [Ambition 2025 progress report](#). This included achieving the goal of reducing onsite carbon emissions by 55%, five years before the 2025 target date. The new 2040 Ambition covers all the embodied carbon from food and drink products, covering emissions from across the food and drink supply chain, from farm to fork.

To achieve this ambition, the FDF plans to continue working closely with stakeholders across the supply chain. This work includes the new *Roadmap to Net Zero* project of which this document and the accompanying 'Achieving Net Zero' Handbook are an important part (see below). Both documents have been released to coincide with the COP26 meeting in November 2021. They are supported by an extensive programme of FDF activities to engage with FDF members and the wider sector on the journey to Net Zero.

The Food and Drink Sector Council is also convening the key industry bodies across the farm-to-fork supply chain to deliver on their shared ambition of Net Zero by 2040. The newly formed Net Zero Working Group will coordinate activity on how best to deliver these ambitions, providing a holistic response to the strategic issues that affect the whole food and drink supply chain alongside practical advice and solutions for businesses.

## **6. FDF's 'Achieving Net Zero' Handbook**

FDF has developed the 'Achieving Net Zero' Handbook to help food and drink manufacturers, particularly those at the early stages of developing their climate strategy. The development of the handbook was overseen by a Steering Group of FDF members with input from stakeholders across all major stages of the value chain.

The Handbook presents clear practical actions that food and drink manufacturers can start implementing today as part of their Net Zero strategy. These actions cover each stage of the food and drink value chain - from farm to fork. For those interested in understanding the actions in more detail, the document provides further information and signposts.

The Handbook advises that achieving Net Zero starts with gaining a detailed understanding of the emissions across the value chain. It also requires firm commitment from the top, embedding climate action into business decision-making and assigning specific responsibilities to departments and individuals.

To reduce emissions food and drink manufacturers must improve energy efficiency, decarbonise heat processes, source 100% renewable electricity, and switch to sustainable refrigerants.

However, manufacturers are directly responsible for only a small proportion of food and drink sector emissions. The largest source of emissions for most companies is the production of raw ingredients. To tackle these, the Handbook recommends understanding ingredient emissions, procuring lower carbon ingredients and incorporating carbon targets into product reformulations.

To address emissions elsewhere in the value chain, such as packaging and logistics, food and drink manufacturers need to work with others. The Handbook recommends engaging suppliers to

understand current emissions and cooperating to reduce them. FDF also recommends capitalising on customers and consumers demands for lower carbon products alongside the development of clear labelling systems.

Carbon offsets can play a supporting role in a Net Zero strategy, but they must be certified high-quality offsets, used only to compensate for emissions that are genuinely unavoidable.

The figure below summarises the actions recommended in the Achieving Net Zero Handbook.

## Summary of actions

### 1. Ingredients

- Understand your ingredient emissions
- Procure lowercarbon ingredients
- Reformulate products to reduce emissions

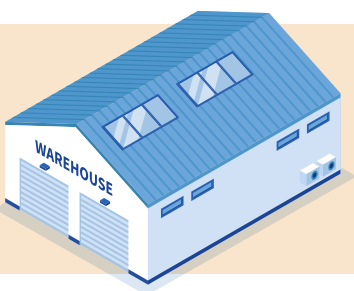
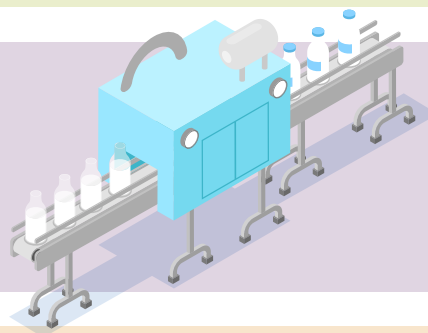


### 2. Packaging

- Assign internal responsibility for packaging emissions
- Set company policy on packaging sustainability
- Engage packaging suppliers to find low carbon options

### 3. Manufacturing

- Improve energy efficiency
- Decarbonise electricity
- Decarbonise process heat
- Shift to sustainable refrigerants



### 4. Distribution & storage

- Embed climate performance into logistics services
- Shift to electric vehicles for light goods vehicles
- Optimise your HGVs

### 5. Customers & consumers

- Understand customer expectations on climate
- Capitalise on growing demand for lower carbon products
- Engage consumers on climate issues and waste reduction



## 7. The Net Zero transformation

Achieving Net Zero by 2040 will require the transformation of the UK food and drink sector. Urgent change is vital to halting warming and protecting the natural environment the sector relies on. With concerted action, the rapid decarbonisation we need for Net Zero is not only possible, but will build more successful and sustainable food and drink businesses and a resilient sector that continues to meet the needs of UK food and drink consumers.

**At FDF we are committed to supporting this transformation.**

### For further information, please contact

NetZero2040@fdf.org.uk or visit <https://www.fdf.org.uk/>

### References

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- 3 Mbow, C., Rosenzweig, C., Barioni, L.G., Benton, T.G., Herrero, M., Krishnapillai, M. and Waha, K., 2019. Chapter 5: food security. IPCC Special Report on Climate Change and Land, online at <https://www.ipcc.ch/site/assets/uploads>.
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