



SUSTAINABLE EATING: PULLING THE LEVERS IN FOOD SERVICE



CONTENTS

FOREWORD	5
EXECUTIVE SUMMARY	6
WHY DOES FOOD SERVICE NEED A SET OF COLLABORATIVE LEVERS?	10
STATE OF THE FOOD SYSTEM	11
WHY THE FOOD SERVICE SECTOR IS IMPORTANT	11
THE FOOD SERVICE SECTOR'S RESPONSE TO-DATE TO FOOD SYSTEM CHALLENGES.....	13
WHAT ARE THE COLLABORATIVE LEVERS?	13
OVERVIEW OF ENABLERS, LEVERS AND EXTERNAL STAKEHOLDER ENGAGEMENTS	14
LEVERS FOR CHANGE	15
FOUNDATIONAL ENABLERS	15
EMBEDDING SUSTAINABILITY IN ORGANISATIONAL STRATEGY.....	16
CREATING UNDERSTANDABLE CORE DATASETS	17
DEVELOPING MENUS AND RECIPE PORTFOLIOS.....	18
SETTING TARGETS FOR RECIPE UPTAKE, PROCUREMENT AND FOOD WASTE.....	19
STAFF ENGAGEMENT LEVERS	21
LEVER 1: CULINARY AND FRONT OF HOUSE TEAM TRAINING	21
LEVER 2: MANGEMENT AND OFF SITE TEAM TRAINING.....	22
VALUE CHAIN ENGAGEMENT LEVERS	23
LEVER 3: ALIGNING COMMITMENTS BETWEEN FOOD SERVICE PROVIDERS AND CLIENTS.....	23
LEVER 4: DESIGNING CONTRACTS TO SUPPORT SUSTAINABILITY GOALS.....	24
LEVER 5: PARTNERING WITH SUPPLIERS TO IMPROVE SUPPLY CHAIN SUSTAINABILITY.....	26

ACKNOWLEDGEMENTS

This report was commissioned through the WWF Sodexo partnership and produced working with 3Keel:

- Written by: 3Keel, with input from WWF and Sodexo
- Edited by: Jo Trewern (WWF), Lisa-Marie Huggins (WWF), Sarah Halevy (WWF)

The views expressed within this report are those of WWF-UK. We recognise that providing feedback on or contributing to this report does not mean that other organisations adopt these same views.

WWF and Sodexo have been in partnership since 2010, supporting Sodexo to improve its sustainable food offer and purchasing practices. The partnership pairs WWF's technical expertise and thought leadership on sustainability with Sodexo's ambition to be the world leader in sustainable food and valued experiences.

We would like to thank everyone who has given time to support the production of this report.

Any reproduction in full or in part of this publication must mention the title and credit WWF-UK as the copyright owner.

Text © WWF-UK, 2023. All rights reserved.

Disclaimer: The material and the geographical designations in this report do not imply the expression of any opinion whatever on the part of WWF concerning the legal status of any country, territory or area, or concerning the delimitation of its frontiers or boundaries. No photographs in this publication may be reproduced without prior authorisation.



Working together
to promote
sustainable eating
and reduce
carbon emissions



CUSTOMER ENGAGEMENT LEVERS.....	27
LEVER 6: RECIPE NAMING.....	27
LEVER 7: MESSAGING TO CUSTOMERS	28
LEVER 8: POSITIONING AND PRESENTATION OF DIFFERENT MENU CHOICES	29
LEVER 9: ENVIRONMENTAL IMPACT LABELLING	30
EXTERNAL STAKEHOLDER ENGAGEMENT	32
INDUSTRY COLLABORATIONS	32
PARTNERSHIPS.....	33
GOVERNMENT POLICY.....	34
INVESTORS	35
HOW TO IMPLEMENT THE LEVERS	36
WHAT SHOULD FOOD SERVICE PROVIDERS DO NEXT?	38
APPLYING THE LEVERS TO DIFFERENT REGIONS	40
LEVERS IN ACTION	44
KEY RECOMMENDATIONS AND CONCLUSIONS.....	48

FOREWORD

We cannot address the climate and nature crises if we do not transform the global food system, which is driving nature loss, polluting waterways and depleting soils all over the world.

Paradoxically, in our efforts to feed ourselves we are destroying the very systems that food production depends on – a stable climate, rich soils, clean rivers and intact terrestrial and marine ecosystems. The health of the planet is intimately connected with our own.

A shift beyond the current food paradigm, towards nutritious, plant-rich diets that don't cost the earth, is non-negotiable.

Yet, while the spotlight has shone increasingly brightly on the need for this shift, the change has not yet come at the pace or scale that's so urgently needed. This is especially true of high-income countries, which have outsized environmental footprints driven by the overconsumption of meat and dairy.

If we are to succeed in putting the food system onto a sustainable footing, the entire food sector, across all geographies, must play its full part. This report focuses on one sector that we believe has great potential to transform diets at pace and at scale: the food service sector.

Food service organisations can and must position themselves at the heart of the solution to the triple challenge of producing the nutritious food that people need to live healthy lives, while tackling the climate and nature crises.

Serving billions of meals 'out of home' day in, day out, all over the world, concerted efforts from food service organisations to drive sustainable meal choices would, in WWF's view, have a transformational impact on diets globally.

This report sets out the levers available to food service organisations, to support a shift towards healthy, sustainable diets, by enabling consumers to eat more sustainably through their food offer, and close collaboration with the supply chain and clients.

The report sets out a framework to think through actions that will support the food service sector to put serving sustainable meals at the heart of operations, whether that's through internal environmental targets, staff training and engagement, embedding nutrition and sustainability criteria into client and supplier contracts, or greater focus on enabling and encouraging as many customers as possible to make healthier and more sustainable choices.



By leveraging their influence across key areas, food service organisations can show that they are stepping up, and indeed that they are ready to lead by example when it comes to driving the shift towards healthy and sustainable diets.

We urge all those who work within the food service sector not just to read this report, but to act on it to accelerate the shift towards a sustainable food system that delivers for people and planet, and will enhance organisational resilience.

Kate Norgrove,
Executive Director of Advocacy and Campaigns,
WWF-UK

EXECUTIVE SUMMARY

We face a triple challenge: tackling the climate and nature crisis, while continuing to produce the food we need to feed a growing global population. To address this, we need an urgent transition in the way we manage terrestrial and marine environments, including how we produce our food, alongside a shift to healthier and more sustainable diets, particularly in countries where diets contribute to an outsized environmental footprint. The transformation of food systems and diets are essential to enhance progress on achieving the United Nations Sustainable Development Goals (SDG).

Healthy, sustainable diets include a wide variety of foods that are produced responsibly. They are rich in plants, including fruit, vegetables, pulses, and wholegrains; contain moderate amounts of meat, dairy and eggs, and lower footprint seafood; and minimal amounts of foods high in fat, salt and sugar. Transitioning to healthier and more sustainable diets will deliver health benefits and is imperative from an environmental perspective.

Sustainable meals are primarily made up of plants. They can contain a small amount of sustainably produced animal products (plant-forward), or no animal products (plant-based).

The food service sector has a key role to play in driving the transition to healthy, sustainable diets by enabling consumers to choose and eat sustainable meals. This will involve organisations developing, providing and promoting sustainable meals, and working to drive consumer uptake of these meals. This report identifies the most impactful actions that contracted food service providers can take to deliver the planning, production, and uptake of more sustainable meals, however the majority of the levers outlined can apply across all 'out of home' organisations involved in food service provision.

Much of the existing research in this area has focused on initiatives that modify how food is presented, adding to existing food offerings, promotions and pricing incentives. This report expands this focus to consider broader initiatives that relate to commercial factors and staff training, development and engagement.

With a view to driving the sector wide change that is urgently needed, this report focuses specifically on collaborative actions, both between food service providers and their clients, as well as external collaborations across the sector, civil society and other stakeholders.



KEY LEVERS FOR CHANGE

These actions are categorised as follows:

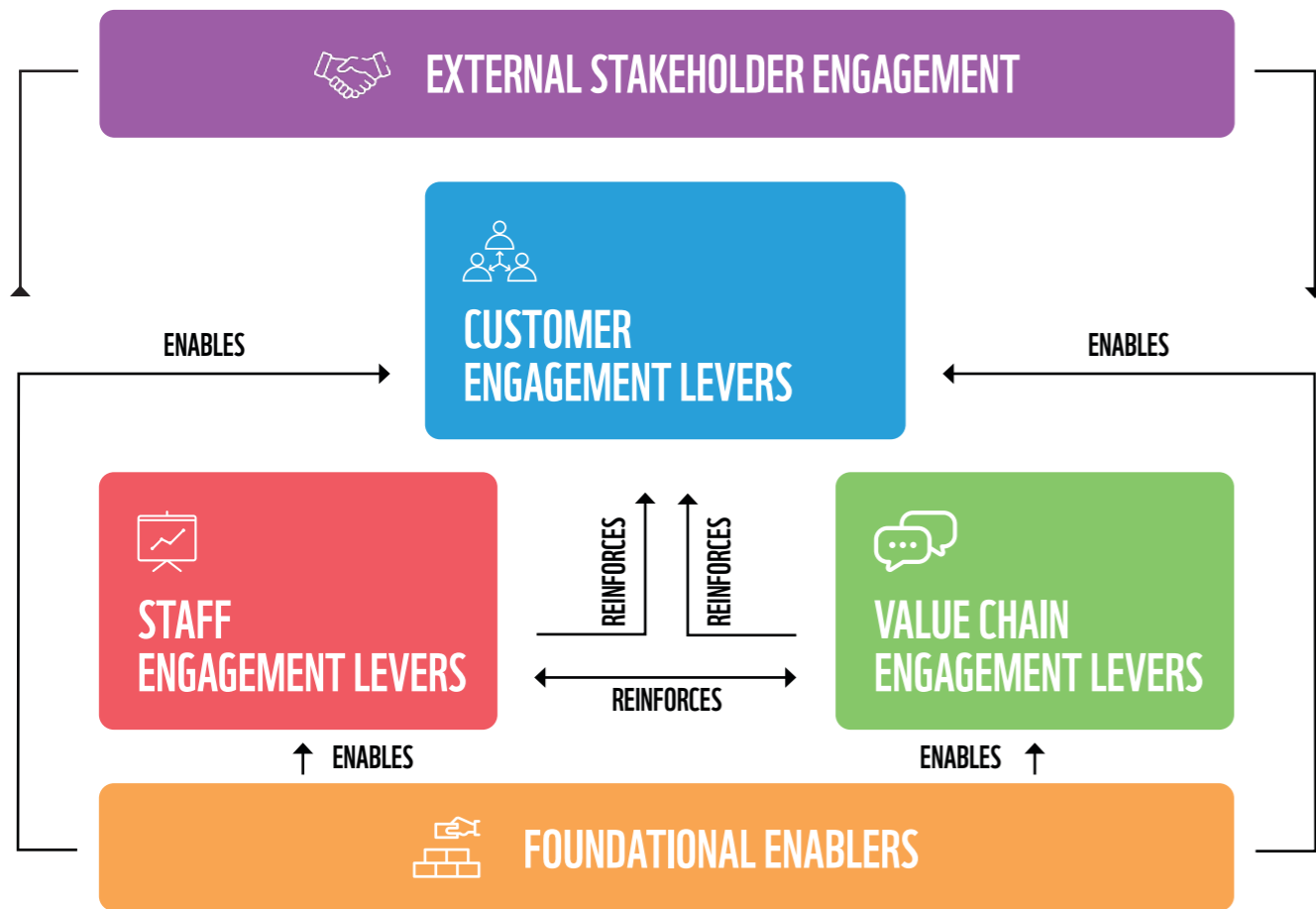
- **Foundational Enablers:** activities that create the foundations upon which change can be built
- **Levers:** nine actions for creating change
- **External Stakeholder Engagement:** collaboration that can reinforce organisational strategies

Table 1: Key Levers For Change

FOUNDATIONAL ENABLERS	
	Embedding sustainability and nutrition commitments and targets into organisational strategy
	Creating clear guidance for sustainable meals and menus
	Creating understandable core datasets
	Developing menus and recipe portfolios
	Setting targets for recipe uptake, procurement and food waste
STAFF ENGAGEMENT LEVERS	
	1. Culinary and front of house team training
	2. Management and off site team training
VALUE CHAIN ENGAGEMENT LEVERS	
	3. Aligning commitments between food service providers and clients
	4. Designing contracts that support a sustainability agenda
	5. Partnering with suppliers to improve supply chain sustainability
CUSTOMER ENGAGEMENT LEVERS	
	6. Recipe naming
	7. Messaging to customers
	8. Positioning and presentation of different menu choices
	9. Environmental impact labelling
EXTERNAL STAKEHOLDER ENGAGEMENTS	
	Industry collaborations
	Partnerships
	Government policy
	Investors

While the nine levers can be implemented independently, they will be significantly more effective if implemented in a cohesive manner, underpinned by the foundational enablers (see Figure 1).

Figure 1: Sequencing The Enablers And Levers



Foundational Enablers need to be in place as a priority. Without clear commitments, targets, leadership and, crucially for this sector, the recipe portfolios and menus that can facilitate a sustainable food offering, the implementation levers may not be prioritised and will lack direction and focus.

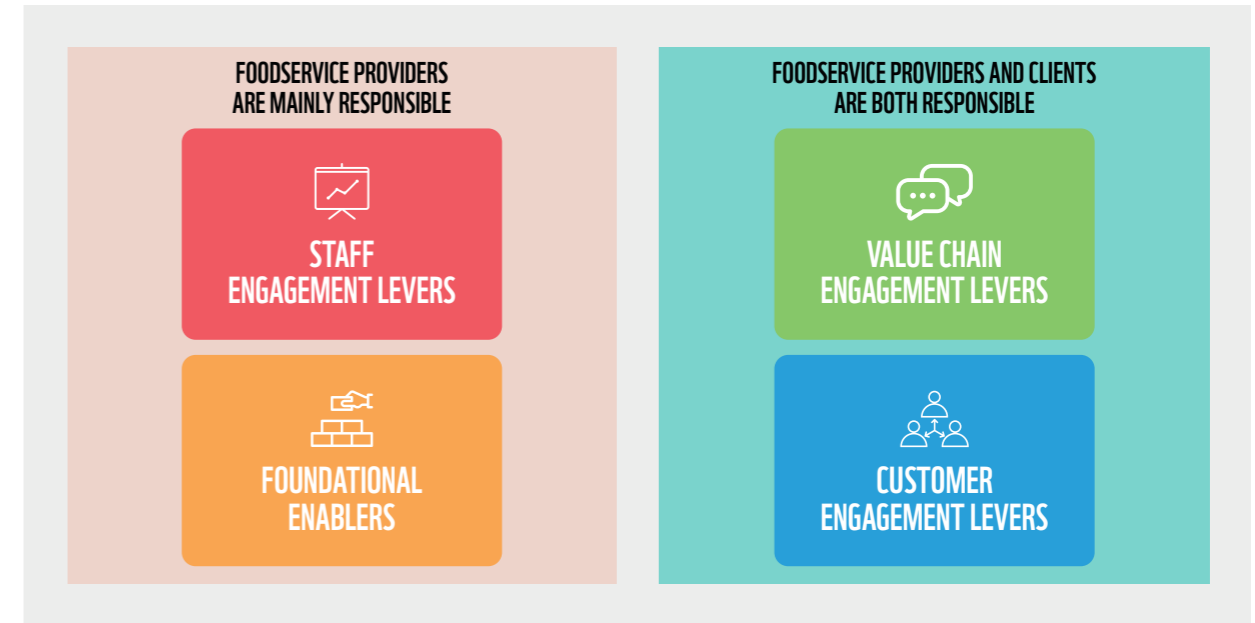
For organisations where the Foundational Enablers are already in place, Customer Engagement Levers (including approaches often referred to as nudging and behaviour interventions) are relatively low cost and simple to implement as a next step, with reasonably strong evidence of impact. These should be implemented appropriately as a priority and should be reinforced by Staff Engagement Levers (to help staff to deliver intended outcomes and act as champions for sustainability) and Value Chain Engagement Levers (to build the contractual and shared commitment around intended outcomes). Research and the stakeholder interviews conducted to inform this report, indicate that interventions that combine these levers are much more likely to succeed in increasing customer uptake of sustainable meals.

WHO DRIVES CHANGE?

Where an organisation outsources food services to a contracted provider, the implementation of these levers requires collaboration between food service providers and their clients, especially concerning levers relating to shared goals, contracts and engaging with customers. (see Figure 2).

One of the key messages from this report is that sustainability and promoting the shift towards healthier and more sustainable diets needs to be part of the DNA of any food service organisation, across all functions and departments. Through External Stakeholder Engagement activity, food service organisations can be part of advocating for wider population diet shift. Key teams and responsibilities are identified for each enabler and lever in the report, with successful implementation being dependent on multiple teams.

Figure 2: Responsibility Across Food Service Providers And Clients



KEY RECOMMENDATIONS

Food service organisations will need to allocate sufficient investment and resource to drive a shift to sustainable eating. Individual organisations can show leadership through their policies, investments and actions, but collaboration with clients, where applicable, and across the sector will be needed to unlock transformation at pace and scale.

The following key recommendations need to be put into action with real urgency if the sector is to drive change at pace and scale:

- 1 **EMBEDDING FOUNDATIONAL ENABLERS**
Foundational Enablers, which food service organisations have agency to define, are key for driving transformative change. Customers can not be nudged towards achieving the desired impact on sustainable eating unless delicious, affordable, culturally appropriate, nutritious, and sustainable meals are available on the menu.
- 2 **LEVERAGING ALL LEVERS**
The nine levers need to be implemented in a strategic and cohesive manner (see Figure 1), as their collective impact can be greater than the sum of their parts. While organisations may be at different stages in their sustainability journey, with different resources available to them, this is truly an opportunity to collaborate across the organisation to effect change.
- 3 **OPERATIONAL CONTEXT IS KEY**
Some dining environments will present greater challenges than others, meaning that overall commitments and targets need to reflect this and provide sufficient scope for levers to be applied in different ways. For this to work, staff closest to the client and customer need to be trained and empowered to apply the levers in the most effective way for their context.
- 4 **SECTOR COLLABORATION AND TRANSPARENCY**
It's vital food service organisations prioritise genuine collaboration to create a level playing field and accelerate the pace of change for the sector as a whole. The transition to sustainable eating will involve pre-competitive collaboration across the food service sector with suppliers and clients. Key areas where this can bring benefits are on setting standards, providing data, developing staff training, and defining shared commitments for the sector.

WHY DOES FOOD SERVICE NEED A SET OF COLLABORATIVE LEVERS?

STATE OF THE FOOD SYSTEM

The impact of the global food systems and the challenges that we face are complex.



One in five deaths are associated with poor diet.¹ Over 40% of the world's population are unable to afford a healthy diet, with as many as 783 million people affected by hunger,² while over 2.6 billion people are living with obesity or considered overweight.³



The way we produce food and the food we eat is one of the main causes of climate change, contributing to around one third of greenhouse gas emissions globally,⁴ with agriculture representing 23%.⁵



Agriculture is responsible for 80% of global deforestation⁶ and 70% of freshwater withdrawals.^{7,8}



Globally up to 40% of all food produced is either lost or wasted.⁹

We are facing a triple challenge: how to ensure food and nutrition security for a growing population while averting dangerous climate change and restoring the natural world on which all of this depends. We need a transition in the way we manage land and marine environments, how we produce food and a shift in what we eat.^{10,11} A shift towards healthy and more sustainable diets can help enable a transition to regenerative agriculture and facilitate nature restoration by reducing pressure on land and improving soil health.¹² Adoption at scale would also deliver benefits for people as well as the planet, by lessening the health system burden of diet-related illness and obesity. The transformation of food systems and diets are essential to enhance progress on achieving the United Nations Sustainable Development Goals (SDG) especially: SDG1 No Poverty, SDG 2 Zero Hunger, SDG 3 Good Health and Well-Being, SDG 4 Quality Education, SDG 5 Gender Equality, SDG 12 Responsible Consumption and Production and SDG 13 Climate Action.¹³

HEALTHY, SUSTAINABLE DIETS

Healthy and sustainable diets are defined by The Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO) as 'dietary patterns that promote all

dimensions of individuals health and wellbeing, have low environmental pressure and impact, are accessible, affordable, safe and equitable and are culturally acceptable'.¹³

For the purposes of this report, we refer to healthy, sustainable diets as described in WWF's [Eating For Net Zero report](#): diets that are rich in plants, including fruit, vegetables, pulses, and wholegrains; contain moderate amounts of meat, dairy and eggs, and sustainably sourced lower footprint seafood; and minimal amounts of foods high in fat, salt and sugar.¹²

A growing body of evidence demonstrates that need to transition to healthy, sustainable diets is particularly pressing in high-income countries,^{14,15} where the consumption of meat, dairy and eggs is typically greater than the global average, and health recommendations. Shifting to diets that are lower in meat, dairy and eggs is needed to reduce the food system's climate and nature impacts.¹⁶

WHY THE FOOD SERVICE SECTOR IS IMPORTANT

Globally, the food service sector – which includes businesses, institutions, organisations and companies which prepare meals outside the home – is huge. The sector was estimated to have a market size of US\$ 232.7 billion in 2021 and, despite some shifts in working practices stemming from the Covid-19 pandemic, some expect the market to reach US\$ 330.3 billion by 2028.¹⁷ In short, the sector feeds millions of people; it therefore represents a significant proportion of the food we eat and, given the number of customers it serves, also has the potential to influence the social norms that filter down to our food choices at home.

The food service sector therefore has a critical role to play to influence the shift to healthy, sustainable diets in many parts of the world. By pulling the levers available to aid the transition, and promoting healthy and sustainable diet choices to customers, the food service sector can not only get short term reputational benefits. It can also future proof organisations, ensuring their food offer reflects the demands of their customers, their supply chains are fit for purpose, and their staff are ready for the challenge ahead.¹⁸

THE FOOD SERVICE SECTOR'S RESPONSE TO DATE TO FOOD SYSTEM CHALLENGES

Alongside many in the food industry, food service providers have made a series of commitments around sustainability in recent years, in recognition of the challenges ahead and the sector's responsibility to contribute to the change we need. Some of these are headline commitments around key issues such as net zero, others are more focused on the meals actually being served as part of a wider transition.

CARBON AND NATURE COMMITMENTS

Commitments to reducing carbon emissions, especially from internal organisational operations (scope 1 and 2), are a commonality across food service providers. Most major food service providers have committed to becoming carbon neutral or net zero across at least parts of their global organisations. Scope 3 targets (especially those related to purchased goods and services, including food procurement) are becoming more prevalent, although not universal.

Published emissions reduction plans focus on changes such as procuring energy from renewable and/or low carbon sources, switching to electric vehicles, procuring more ingredients locally, minimising waste, and shifting to more sustainable food consumption.

Food waste reduction commitments are especially prevalent, with more ambitious commitments within the sector including reducing food wasted by 50%, although these commitments focus only on operational waste and ignore food loss in the supply chain and on farms.¹⁹

Food service providers' commitments to broader nature-based solutions are in an earlier stage of development, with most commitments relating to deforestation-free supply chains focusing on commodities such as palm oil and, increasingly, soy and beef. Commitments on sustainably caught or farmed seafood are common, currently relying primarily on certification schemes. Commitments on procurement of broader ingredients and products that have been produced in a sustainable manner are rarer and, where they exist are mainly reliant on the various certification schemes in use across the global agriculture sector.¹⁹

SUSTAINABLE MEALS

For clarity in this report we refer to the desired overall food offering as sustainable meals. Sustainable meals are primarily made up of plants including fruit, vegetables, pulses, and wholegrains. They can contain a small amount of sustainably sourced animal products (plant-forward), or no animal products (plant-based).

Commitments made by food service providers in recent years have demonstrated ambitions to pivot menus and food offerings towards more sustainable meals. For many organisations, this is considered key to delivering on carbon reduction targets, but should also be seen as crucial to broader nature, nutrition and health positive commitments. A common theme is a focus on the proportion of plant-based dishes on offer to customers.

Major food service providers also report moving to menus with increased percentages of plant-based meals.^{20 21} However, the sector as a whole has not yet embraced publicly committing to increased actual sales or uptake.

HOW DOES THIS REPORT HELP THE SECTOR TO IMPLEMENT ACTIONS FOR SUSTAINABLE MEALS?

In addition to commitments around sustainable meals, the sector needs strong implementation plans for delivery. Most of the research into "what works" has focused on approaches to "nudge" customers to make sustainable choices. There has however been less research to contextualise these approaches within the broader business case for change or to set out what works in different settings and with different customers.

This report sets out to address that through identifying a series of actions that the sector should focus on to deliver the planning, production, and uptake of sustainable meals to support their carbon, nature and health goals. It will require clear commitments and leadership, application of the right data, work on both menu design and responsible sourcing, and customer-appropriate engagement strategies to shift choices towards sustainable meals across all dining environments.

The actions available to the food service sector are described in the next sections as a series of collaborative levers, made up of Foundational Enablers, Engagement Levers, and External Stakeholder Engagement interactions. This is followed by a framework for how this can be delivered as a cohesive strategy. Being able to address these challenges and deliver healthy, sustainable meals for customers will require concerted effort across these actions and collaborations between service providers and clients, as well as more broadly across the sector and beyond.

METHODOLOGY

This report is based on desktop research and analysis of initiatives that have already been tried and tested, contextualised by expert stakeholder interviews, facilitated by Sodexo, with people working day to day in the food service sector.

Expert input has been sought from both food service providers, including Sodexo, and key clients across corporate, health and education sectors, representing chefs, sustainability professionals, senior managers, sales, marketing and accounts.

WHAT ARE THE COLLABORATIVE LEVERS?

OVERVIEW OF ENABLERS, LEVERS AND EXTERNAL STAKEHOLDER ENGAGEMENTS

This section identifies and describes the key foundational enablers, levers and external stakeholder engagements that food service providers could use.

The starting point is framed as Foundational Enablers – things that act as the foundations upon which change can be built – such as having the right data, creating a portfolio of menus and recipes that can be used, setting out clear goals and commitments, and backing this with strategic leadership in the organisation.

On these foundations, three key categories of levers can be built: levers that ensure all staff are informed, empowered, and given appropriate training; levers that set out engagement and collaboration with clients and suppliers; and levers that engage with customers directly. What happens in food service outlets is the proof of success, so all the levers ultimately need to drive that change. One final layer around this comes from external factors – government policy and regulation, sector-wide changes, external partnerships, and the influence of investors.

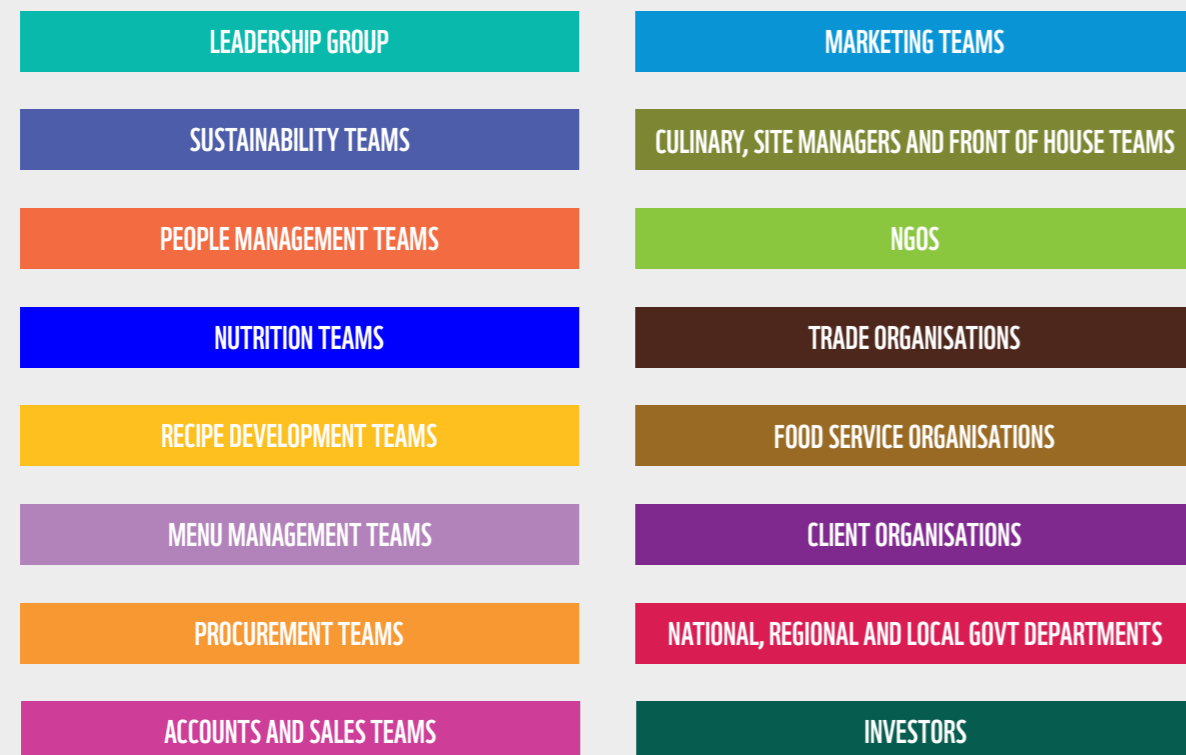
There has been much more research into the Customer Engagement Levers (often based around ideas of "nudging" customer behaviour) but there has been much less research into the other levers. What is clear, however, is that all of these need to be implemented in a cohesive manner and applied to reflect the cultural and client context.



LEVERS FOR CHANGE

This section provides detail for each enabler, lever and external engagement, identifying who should be responsible for driving change, how levers can be implemented, and examples where positive steps forward have been taken. Where relevant, additional detail is provided for any co-benefits and challenges that organisations should consider.

KEY FOR LEVER RESPONSIBILITY:



© SABRINA BQAIN / WWF

FOUNDATIONAL ENABLERS

EMBEDDING SUSTAINABILITY IN ORGANISATIONAL STRATEGY

There is a need for leadership across the industry, setting out a clear ambition, both in setting climate, nature and nutrition targets, and in implementing the actions that support the delivery of those targets. Actions to achieve these goals must be prioritised alongside other organisation expectations and KPIs; achieving sustainability targets should be embedded in organisation performance evaluation.

WHO IS RESPONSIBLE?

Lead: LEADERSHIP GROUP
Support: SUSTAINABILITY TEAMS, NUTRITION TEAMS, PEOPLE MANAGEMENT TEAMS

This needs to become embedded in operational strategy and cut across all departments to develop a culture of sustainability across the organisation. Commitments, targets and actions will only go so far unless an organisation's leadership and culture have sustainability at the forefront of everything they do. As shown in this report, a wide range of teams are involved in delivering the levers so a siloed approach will not be sufficient.

HOW THIS CAN BE IMPLEMENTED

Leadership means clear messages of intent from those with influence, including the board, that connects the organisation to its public commitments. Board-level accountability is a strong way to signal how committed leadership groups are to healthy, sustainable diets. Having targets and accountability is important but this needs to be embedded in performance evaluation and clearly integrated in the culture of the organisation.

As a driver for staff development and training across an organisation to support the implementation of levers on-site, this leadership and culture shift needs to come from the top. This also links to Value Chain Engagement Levers.

HOW THIS ENABLES THE LEVERS

Embedding sustainability is needed to drive through cultural change in any organisation and signals commitment to staff, clients (in a food service-client relationship) and the wider sector. As such this influences all levers. To effect true cultural change, it is necessary to not only ensure that the entire organisation is aware of what is required, but also why it is required. When individuals understand the reason behind the required actions, they can gain a new appreciation of their own role in the organisation, leading to commitment and actions toward the goals. When it comes to those who have client and customer facing roles, having an understanding of the reasons behind programmes for sustainable eating will increase confidence to communicate and influence which is necessary to drive change.

CHALLENGES TO BE AWARE OF

Specific training is needed for leaders to get the messaging right, be clear about commitments and goals, and understand the implications of net zero and nature positive commitments. A communication programme to engage with all staff around these messages, although potentially time-consuming, plays an important role in reinforcing the leadership voice.

CREATING GUIDELINES FOR DEVELOPING SUSTAINABLE MEALS AND MENUS

It can be hard to understand what is meant by and what the difference is between the variety of terms used to describe sustainable meals, such as plant-based vs plant-forward vs plant-rich vs plant-centric.

Food service providers should be clear about the terms they use and what they mean so that these definitions are clear for staff and clients when commitments are being set and plans are being implemented.

Terms should be based on the latest science on healthy, sustainable diets, which gives guidance on diet composition. The EAT-Lancet report provides a good starting point for global organisations, although regional specific guidance should be used to inform implementation within specific markets. [WWF's Eating For Net Zero report](#) outlines what healthy, sustainable diets look like in the UK.¹²

In this report, we focus here on two specific, commonly used terms for describing sustainable meals: plant-based (no animal products) and plant-forward (primarily made from plants but can contain a small amount of sustainably sourced animal products).²²

HOW THIS CAN BE IMPLEMENTED

Make sure the definitions are evidence based, clear and that staff understand these definitions. Use definitions that can be applied consistently across the organisation to recipes, menus and to broader messaging. For example, if referring to a dish as plant-based, this means that it contains no animal sourced products, and any reference to a plant-based menu follows the same definition to avoid confusion.

HOW THIS ENABLES THE LEVERS

Communication and shared goals around sustainable meals will need clear definitions so that everyone understands what is involved.

CHALLENGES TO BE AWARE OF

There are a lot of different terms used to describe sustainable meals or menus (e.g. plant-based, plant-forward, plant-rich, plant-centric, flexitarian, vegetarian, vegan and so on). To avoid overloading consumers with overlapping or contradictory terminology, it would be beneficial for food service sector collaboration on these terms to avoid confusion.

WHO IS RESPONSIBLE?

Lead: RECIPE DEVELOPMENT TEAMS

MENU MANAGEMENT TEAMS

Support: SUSTAINABILITY TEAMS NUTRITION TEAMS

CREATING UNDERSTANDABLE CORE DATASETS

Any commitments that lead to communications with staff, customers and other stakeholders will need to be based on data. Good data also enables better decision making and specific science-based targets setting.

The key datasets to consider include greenhouse gas emissions and nutrition data. In the absence of agreed metrics for biodiversity and nature, sustainability and welfare certifications around sustainable agriculture practices, land-use conversion, deforestation, sustainable seafood, and animal welfare could be used.

This data should be used for procurement standards, recipe development and, communication with clients and customers, in addition to being the base data for organisational commitments around net zero and broader environmental issues. In order to continually improve the data, food service organisations should collectively support research and the development of protocols and standards.

HOW THIS CAN BE IMPLEMENTED

There is an increasing number of datasets and solutions for estimating the greenhouse gas emissions related to the food used in food service. Food service providers need to be part of credible food sustainability initiatives to ensure they are using the best available data.

Currently, certifications also exist for more sustainable farming practices (such as organic certifications, LEAF Marque and others such as Regenerative Organic), production without conversion of natural ecosystems (such as RSPO for palm oil; RTRS and ProTerra for soy; FSC for timber; and coffee and cocoa sourced in alignment with the Accountability Framework core principles). However, this continues to evolve, and food service organisations must commit to stay up to date on robust certification options for specific commodities and products.

For wild caught and aquaculture seafood, while certifications such as Marine Stewardship Council and Aquaculture Stewardship Council have a role to play, WWF recommends a jurisdictional initiative for all seafood sourcing which goes beyond certification, and has developed [guidelines for seafood buyers](#) to adopt this initiative.

In the long-run, the sector should work collaboratively to use consistent standards and, where relevant, consistent and primary data sourced from suppliers where possible.

HOW THIS ENABLES THE LEVERS

Data underpins commitments and is needed to measure and track progress, both in terms of communicating with customers and setting shared goals. The key point is to use these datasets to help create change. This can occur at two levels: to articulate organisational commitments and targets, and for operational use with ingredients, products, recipes and menus.

CHALLENGES TO BE AWARE OF

The data can be very complex and in many cases is still based on global averages. However, generic datasets and certification schemes are currently the main options available. The food service sector must collaborate with the wider food industry and NGOs to develop protocols for collating and using data in a consistent way and to ensure improved traceability in supply chains. There are also challenges in understanding what datasets are available, how they differ, how they can be applied to food service, and in having the infrastructure and technology to store and apply the data across the organisation.

WHO IS RESPONSIBLE?

Lead: SUSTAINABILITY TEAMS

Support: MENU MANAGEMENT TEAMS RECIPE DEVELOPMENT TEAMS

PROCUREMENT TEAMS NUTRITION TEAMS



DEVELOPING MENUS AND RECIPE PORTFOLIOS

Many food service providers now use central recipe portfolios from which menus are developed. Increasing the base number and percentage of recipes that are plant-based (no animal products) and plant-forward (using minimal amounts of sustainably sourced animal products), will increase the range of options available when designing sustainable menu plans and product ranges. This is particularly foundational for the levers described later that relate to nudging customers to make sustainable food choices.

WHO IS RESPONSIBLE?

Lead: RECIPE DEVELOPMENT TEAMS MENU MANAGEMENT TEAMS
Support: SUSTAINABILITY TEAMS NUTRITION TEAMS

HOW THIS CAN BE IMPLEMENTED

Initially, food service organisations will need to establish clear definitions and goals for menus and recipe development: the majority of options need to contain no animal sourced foods, or minimal amounts of animal sourced foods.

Targets should be set for the percentage of recipes that meet pre-defined criteria and need to consider how this can be implemented in different markets, where one national target might be different to another. Recipe and menu development will also need to be relevant for different markets, cultures and demographics.

Key chefs from across the organisation will need to be involved in sourcing ingredients and should be engaged in the process to provide input on targets and recipe development to drive innovation and ensure cultural relevance. Culinary teams will need to be supported by a mechanism to identify the recipes which are more sustainable to help build balanced food offers which align with healthy, sustainable diet guidelines.

HOW THIS ENABLES THE LEVERS

This enabler is the background work for the Customer Engagement Lever on recipe naming, as well as creating the dishes that are to be used in other Customer Engagement Levers on presentation and positioning. Research shows that increasing the proportion of plant-based dishes on a menu increases the likelihood of people choosing these options.²⁰ Additionally it will help support and enable culinary and front of house team training.

CHALLENGES TO BE AWARE OF

Designing recipes can be time-consuming and needs to be culturally relevant. Chefs from different markets and backgrounds can be engaged in this process to minimise risk of creating recipes that are not acceptable to customers in different regions and from different backgrounds.

Whilst evidence suggests that “saturating” a menu with these dishes will increase the likelihood of customers choosing them,²⁰ this is not always possible, but most traditional recipes and familiar favourites can be re-imagined to include less meat and include more plants. See the Customer Engagement Levers for ways to encourage customers to make sustainable choices.

SETTING TARGETS FOR RECIPE UPTAKE, PROCUREMENT AND FOOD WASTE

Core datasets and recipes are important for putting in place the underlying layer, but operational targets are needed to bring this to life across an organisation.

Organisations are increasingly recognising the urgent need to set science-based net zero targets that are aligned with keeping global temperature rise to no more than 1.5 degrees, in addition to setting science-based targets for nature and nutrition targets for health. These overarching ambitions are vital, but they also need to be supported by targets in three key areas of the organisation: sales and uptake, procurement, and food waste.

WHO IS RESPONSIBLE?

Lead: LEADERSHIP GROUP SUSTAINABILITY TEAMS
Support: RECIPE DEVELOPMENT TEAMS NUTRITION TEAMS
 PROCUREMENT TEAMS MENU MANAGEMENT TEAMS

Recipe Uptake: As shown already, there is a clear need to have targets for recipe and menu development. It is also vital to be able to measure what is actually happening on-site. Targets for the percentage of recipes on planned menus that are, for example, plant-based and plant-forward, can be extended to include the actual uptake of these recipes on-site across the organisation. Recipe portfolio commitments are important first steps, but ensuring on-site implementation is a crucial next step. Sales data can be difficult to obtain for some food service sites, so an equivalent metric for “uptake of recipes” should be included (for example this could be calculated from site production plans, using the number of portions of sustainable meals that are prepared for service, which a food service provider can control, against how many portions that remain at the end of service). This can provide a measure of how many times customers are choosing the sustainable options, over which a food service provider has less control but significant influence (see the Customer Engagement Levers). It can also be a way of identifying and monitoring food waste hot spots.

Procurement: The successful impact of shifting to greater uptake of plant-based and plant-forward recipes should become apparent in procurement data (where certain products including, vegetables, wholegrains and pulses, will need to be purchased in greater volumes to create these recipes). Procurement data can be easier to obtain than sales data and is a key metric. Procurement data can also be used as a key indicator to show an overall increased use of more sustainable ingredients and certified products in recipes and menus. It is also needed to calculate scope 3 emissions as part of a broader net zero commitment (using greenhouse gas emissions datasets - see the enabler on core datasets).

Food Waste: Targets for food waste reduction should also be set and against a baseline as part of any credible food waste strategy. WWF suggests, at a minimum, an appropriate target would be a 50% reduction from farm to fork by 2030. To help achieve food waste targets, food service organisations should develop food waste reduction interventions and measurements with suppliers as well as for on-site operations. Within on-site operations, this should follow the ‘Target. Measure. Act.’ process which begins with a period of measuring food loss in order to establish a baseline, before setting a reduction target. In order to achieve reductions in the supply base, organisations should seek to work with suppliers and farmers to establish measurement and reporting of food loss throughout their supply chain. WWF’s [Hidden Waste Roadmap](#) provides guidance on how this can be achieved with key deadlines in order to meet progress towards the SDG 12.3 target of a 50% reduction in food loss and waste by 2030. Waste food and drink strategies should prioritise reducing food waste at cause by identifying hotspots and trialling interventions such as new policies or practices, and increasing redistribution of any surplus.

HOW THIS CAN BE IMPLEMENTED

Sales data can be hard to obtain for food service providers for many reasons, including the nature of the service. For example, a buffet-style service can mean data on recipe uptake can be difficult to calculate. Where sales data is available, it should be actively monitored to inform menu adjustments, based on the appeal of a dish. Where sales data is limited, production planning information and procurement data should be used to track progress against commitments. Procurement data can provide an impact story but may not be frequently accessible for analysis. It should however be feasible to review procurement data quarterly. In reality, food service providers need to find the right balance for data, depending on the systems they use.

Food waste commitments should be in line with SDG 12.3 – a target to reduce food waste by 50% – ideally including customer plate waste. Food waste is particularly important to measure when introducing new recipes as this can be used as an indicator to check if the new offering is meeting customer needs.

Commitments should be related to broader strategy commitments so that sales data or recipe uptake, procurement, and food waste targets are all related to the overall goals for climate, nature and health.

HOW THIS ENABLES THE LEVERS

This enabler can be used to develop both shared commitments between food service providers and clients as well as be built into delivery contracts. It provides the targets for the Customer Engagement Levers so that the effectiveness of these levers can be assessed in terms of progress towards the overall targets. It additionally helps to enable culinary and front of house team training in terms of the wider commitments and goals of the organisation.

CHALLENGES TO BE AWARE OF

If sales data is not recorded, customer uptake of recipes may need to be recorded separately and infrastructure to enable this measurement may need to be developed. Overall, food waste data is relatively easy to measure but detailed data on food waste can be time-consuming and require specific solutions with cost implications.

It may be challenging for an organisation to adopt target setting due to variation between sites and sectors, customer awareness and demographic. It is also important to consider how a global target can be adapted regionally.



STAFF ENGAGEMENT LEVERS

LEVER 1: CULINARY AND FRONT OF HOUSE STAFF TRAINING

Providing sustainable meals that are appealing, varied and nutritionally balanced requires recipe developers, menu managers, culinary and front of house teams to understand why changes are being implemented, how they can deliver that change, and how to engage with their customers. Providing this training for culinary and on-site teams is essential²³ but must go beyond training and create a culture around sustainability.

WHO IS RESPONSIBLE?

Lead: PEOPLE MANAGEMENT TEAMS

Support: RECIPE DEVELOPMENT TEAMS NUTRITION TEAMS

PROCUREMENT TEAMS MENU MANAGEMENT TEAMS

SUSTAINABILITY TEAMS

HOW THIS CAN BE IMPLEMENTED

Culinary teams should be provided with training on the benefits of healthy, sustainable diets as well as the definitions of plant-based and plant-forward dishes. The training should familiarise and emphasise the possibilities of designing recipes using new ingredients, expose and communicate the taste and textural experiences possible, and challenge preconceptions. Core aspects of chef training should include the environmental, nutritional and health impacts of plant-based ingredients, strategies to minimise food waste, and support for recipe innovation and developing balanced, low-impact menus.

Front of house staff should also be trained on the benefits of healthy and more sustainable diets, the definitions surrounding plant-based and plant-forward dishes and the meanings of environmental labelling used.²⁴ They should have talking points to promote dishes and should try the dishes on offer²⁵ so that they can honestly recommend them.

To minimise costs, training can be delivered via reusable material (e.g. e-learning resources) or via a “train-the-trainer” model where key individuals are trained, potentially via external training courses, and subsequently upskill other team members.²⁶

CO-BENEFITS

The provision of training opportunities can support staff satisfaction and retention as well as providing knowledge on food choices and their impact on the environment.

CHALLENGES TO BE AWARE OF

There may be substantial costs and complexity associated with the development and delivery of training programmes. Frequent onsite chef and front of house staff turnover and the absence of a pre-competitive environment for training may also disincentivise investment in training. Therefore, industry collaboration to support staff training, such as through teaching within culinary and hospitality schools, should be supported.

The impact of training on practices implemented must be incentivised and monitored to ensure real world implementation. Staff can be surveyed to monitor the extent to which the sustainability goals are recognised as a key part of the food service operation.

LEVER 2: MANAGEMENT AND OFF SITE TEAM TRAINING

To boost sales and uptake of sustainable meals it is crucial that a wide range of teams within food service, beyond chefs and front of house teams, are trained in the key issues relevant to their roles. Through a comprehensive approach, covering site managers, procurement, accounts, sales, marketing and crucially, leadership teams, appropriate training can empower teams and ensure commitments are joined up across departments.

WHO IS RESPONSIBLE?

Lead: PEOPLE MANAGEMENT TEAMS

Support: SUSTAINABILITY TEAMS NUTRITION TEAMS

HOW THIS CAN BE IMPLEMENTED

Training will be most impactful if it is cohesive across staff roles and is built in across all levels and departments. Team members should be made aware of the benefits of a healthy, sustainable diet and how their role is important for contributing to this shift.

Team specific training should be tailored depending on roles within the organisation. As a minimum:

- **Leadership teams** should be engaged on the sustainability commitments and relevant organisational benefits and the risks of not achieving such commitments. Clear understanding and alignment of commitments is essential to enable distinct internal and public communication of their organisation's position.
- **Procurement teams** should be engaged on the opportunities for setting sustainable sourcing standards, the risks surrounding unsustainable sourcing and carbon intensive ingredients. They should be upskilled on approaches to sustainable sourcing; for example, how to source sustainably produced ingredients, such as via accredited by certification schemes.
- **Accounts and sales teams** should be engaged on the benefits that arise from aligning internal sustainability goals with the sustainability goals of clients and how sustainability-related terms of delivery can be integrated into client contracts.
- **Marketing teams** should be aware of the sustainability credentials of the meals, products and services they are selling, to be able to articulate the benefit to customers and clients, and how they can contribute to reducing environmental impacts moving forward.
- **Site management teams** should be engaged and be able to articulate and promote commitments to support successful site delivery of sustainable menus.

All teams should be educated on sustainable eating. One example could be providing this as part of new starter inductions. The impact of training can be monitored through staff surveys and via the setting of performance-linked targets, where appropriate, such as sustainable procurement goals and KPIs.

CO-BENEFITS

Cross organisation training and engagement is essential for successful operationalisation of the Foundational Enablers and Value Chain Engagement Levers outlined within this report.

CHALLENGES TO BE AWARE OF

As with training culinary and front of house teams, training management and off site teams can be associated with considerable costs and developing training can be complex. However, the turnover of management and off site staff does not represent as substantial an issue as with on site teams, and costs of training can be minimised through the development of reusable content and use of approaches such as "train-the-trainer" where staff are trained to help train their colleagues.

VALUE CHAIN ENGAGEMENT LEVERS

LEVER 3: ALIGNING COMMITMENTS BETWEEN FOOD SERVICE PROVIDERS AND CLIENTS

Public sector institutions and business sectors are setting their own sustainability and nutrition targets, making commitments for health, climate and, increasingly, for nature and biodiversity. The food served across these organisations can be an important part of these commitments (for example as scope 3 emissions for climate change reporting) and as significant cultural engagement opportunities because people often meet and interact "over food".

WHO IS RESPONSIBLE?

Lead: ACCOUNTS AND SALES TEAMS

Support: MARKETING TEAMS SUSTAINABILITY TEAMS
NUTRITION TEAMS

For situations where there is a food service provider and client relationship, there is an opportunity to align goals between the two parties. In some cases, the client might lead with the greater ambition, in other cases the food service provider might be driving this, but there should normally be enough common ground to identify some shared goals.

HOW THIS CAN BE IMPLEMENTED

Sustainability goals that both clients and food service providers have in common should be identified and agreed. Food service providers should look to influence the client so that they understand the most important impacts and make commitments together. Food service providers and clients may also choose not to work with each other if clear climate and nature goals are not set out.

The most obvious example would be around net zero, where the food served in an organisation's premises would normally be considered scope 3 emissions and provide a common area for both parties to have a shared goal. Additionally, nature and biodiversity goals could be aligned around the impact of the food served (for example on deforestation). More specifically concerning healthy, sustainable diets, shared goals can be defined around the provision of healthy and sustainable food (for example, encouraging balanced sustainable meals to support work performance, health and wellbeing in a workplace setting).

The lever can then be used to design contracts and pricing mechanisms that support the organisational case for sustainable food, and also used in the Customer Engagement Lever around messaging and incorporated into training in the Staff Engagement Levers.

CO-BENEFITS

Shared goals between food service providers and clients can provide additional strength to the relationships between the two parties and provide an opportunity for common ground between on-site staff and their customers.

CHALLENGES TO BE AWARE OF

Not all clients share a vision or have the same priorities and needs for their food requirements, so shared goals may need to be adapted to meet client needs. However, some elements of health, nutrition and sustainability should be applicable to most client situations. Unless these shared goals are built into contracts, they may become weak or meaningless – this makes Lever 4 equally important.

LEVER 4: DESIGNING CONTRACTS TO SUPPORT SUSTAINABILITY GOALS

Terms of delivery can be included in contracts so that the parameters for the food that is served are set at a contractual level. These could include maximum serving sizes of animal sourced foods, minimum serving sizes of vegetables and pulses, minimum numbers of plant-based and plant-forward dishes per day, as well as minimum sourcing standards including sustainable seafood or verified deforestation- and conversion-free products, and sustainable or nature-friendly farming certification where they exist. This could also include non-food terms of delivery such as energy use (type of energy used as well as commitments to reduce energy use) as well as use of tools and solutions, for example to reduce food waste or report on greenhouse gas emissions from food served.

In addition to the terms of delivery, an opportunity exists to include pricing mechanisms that incentivise the shift to healthy, sustainable diets. Where there are opportunities for subsidised offerings, it could be beneficial to explore where subsidies could focus on more sustainable options or to cover the expense of potential new equipment that may be needed to transition towards a healthier and sustainable food offer.

Food costs are a key financial factor for food service providers and, a shift to more sustainable food choices can reduce food costs, where less meat and dairy and more vegetables are used.²⁷ Commercial arrangements that take into account potential impacts on cost (positive and negative) through healthy and sustainable diets should be a key priority to reinforce the organisational case for food service providers, clients and their customers. This can include re-investing any cost savings into procurement of food produced to higher environmental standards.

HOW THIS CAN BE IMPLEMENTED

Contracts can be designed to include specific sustainability criteria, for example targets relating to:

- The number of dishes or the percentage of the menu that is plant-based, plant-forward and vegetarian
- A commitment to verified deforestation and conversion-free supply chains for all forest risk commodities
- Sourcing of food and non-food items produced to higher environmental standards, covering multiple environmental areas including sustainable water management, climate, and soil health
- Reporting and reduction of food loss and waste

It is also important to require suppliers to sign codes of conduct on human rights issues. Human rights are not the key focus of this report, but it is a crucial element of a sustainable food system that people's rights and livelihoods are protected.

Financial incentives should also be applied for meeting contractual requirements and, where appropriate, subsidies should be applied to help lower the price and incentivise sustainable meal choices. This can either be for specific dishes (for example a subsidy allocated to plant-based or plant-forward dishes) or to specific products (for example a subsidy to reduce any cost burden for certified sustainable seafood).

Where there are existing standards, for example in public sector environments such as schools, food service providers and clients should explore how to go beyond these and, where relevant, how to engage with the appropriate policy makers to improve those standards.

WHO IS RESPONSIBLE?

Lead: ACCOUNTS AND SALES TEAMS

Support: PROCUREMENT TEAMS NUTRITION TEAMS

RECIPE DEVELOPMENT TEAMS

SUSTAINABILITY TEAMS MENU MANAGEMENT TEAMS



© ELIZABETH DALZIEL / WWF-UK

CO-BENEFITS

Including terms of delivery that go beyond net zero will help to integrate broader sustainability commitments around biodiversity and water sustainability, in addition to human rights issues and nutrition and health.

Cost savings could be available to all parties – a co-benefit that could play out across the Customer Engagement Levers too.

CHALLENGES TO BE AWARE OF

As mentioned in the Foundational Enablers, some of the data requirements can be complex around carbon footprinting and supply chain sustainability, and in some cases, the data might not exist or supply of sustainable products might be limited. Getting the definitions right and setting out what data is to be included will allow clear KPIs to be set. Ensuring practical delivery is key to meaningfully contribute to driving down environmental impacts and supporting sustainability goals.

Given the range of commercial arrangements between food service providers and clients, finding the right commercial mechanism to incentivise a sustainability agenda can be challenging in an industry already quite cost-focused but is vital to support the organisational case for sustainable food.

Concerning food costs, there may be cost implications around staff costs (for example, serving more vegetables might require more staff time in preparation) and the price point of some of the new alternatives to animal products which need to be taken into account.

LEVER 5: PARTNERING WITH SUPPLIERS TO IMPROVE SUPPLY CHAIN SUSTAINABILITY

A shift in customer demand towards sustainable food will not, on its own, be enough to drive food system transformation. All research points to the need for a shift in what we eat at the same time as changing how food is produced. The food service sector must therefore engage with their suppliers to improve the sustainability of production practices in their supply chains as well as improving the nutritional profile of some animal product alternatives.

Collaborative work is needed to improve traceability and on-farm data, allowing for much more accurate input into procurement decisions, menu design, and communication with staff and customers.

HOW THIS CAN BE IMPLEMENTED

Supplier engagement programmes should be implemented to understand what suppliers are currently doing, and what scope there is for improvement.

Partnerships with experts and NGOs, as well as sector collaborations and joint initiatives with other sectors such as wholesalers (who often supply the same products to multiple food service organisations, food retailers and food manufacturers) can make this more manageable, especially where there are suppliers that are common across food service providers and the wider sector.

This is a particularly timely topic for innovation to better track supply chains is improving the accuracy of carbon footprint data, especially to increase the availability of primary data rather than generic averages for different food products.

CO-BENEFITS

Building better engagements with suppliers and having solutions that can map supply chains more accurately, can also benefit wider issues around provenance and traceability, as well as for obtaining better data on environmental issues beyond carbon.

CHALLENGES TO BE AWARE OF

Supply chains are complex, engagement can be time-consuming and the level of expertise needed might be challenging for some organisations.

The short-term financial benefits for all parties remain unclear, without, for example, support from governments to help food producers transition to more sustainable practices without significant cost increases. However, the long-term costs of inaction far outweigh the short-term implications.

WHO IS RESPONSIBLE?

Lead: **PROCUREMENT TEAMS**

Support: **SUSTAINABILITY TEAMS** **NUTRITION TEAMS**

CUSTOMER ENGAGEMENT LEVERS

LEVER 6: RECIPE NAMING

A growing body of evidence indicates that the language used to describe food influences consumer purchasing choices, and even opinions on how enjoyable food is when consumed.^{28,29,30} Recipe naming has the potential to be a highly impactful, low cost, scalable strategy for supporting shifts in diner consumption habits towards sustainable meals. How a dish is named on menus and promotion material can evoke powerful images and ideas of taste and texture with customers, increasing or decreasing their preference for different options available. For example, despite growing consumer demand for healthy options, names showcasing healthiness have been found to lead to foods being perceived as less flavourful and enjoyable.³¹ Conversely, recipe names that highlight positive attributes of food, such as taste and feel, can make consumers more likely to select dishes.³²

HOW THIS CAN BE IMPLEMENTED

There are a number of evidence-supported strategies for naming recipes that should be implemented to increase the appeal of sustainable meals to customers. These strategies include:

1. Using positive language that highlights the attributes of dishes such as their flavour, look, and texture (e.g. "Rich", "Crispy", "Smoky")³³
2. Making connections with traditional dishes³⁴ using familiar cooking styles and techniques
3. Highlighting the protein content of high-protein plant-based dishes (to help convince customers that plant-based meals can provide adequate amounts)³⁵
4. Highlighting the provenance of ingredients (e.g. "Tuscan Bean Soup")³⁶

There are also approaches that can be divisive and so should be used with care; including terms such as 'meat-free', 'vegan', 'vegetarian', 'V/Ve' symbols can be off-putting for some customers.³⁷ If quantities of meat in dishes are reduced (e.g. substituted with lentils) it may be preferable to not highlight this in the main recipe title. It is crucial to ensure that customers do not feel as though they are missing out if they select plant-based or plant-forward dishes.

Chefs who are knowledgeable about dishes and their ingredients should be actively involved in recipe naming. For monitoring the success of this lever and other Customer Engagement Levers, data on procurement, recipe uptake and customer surveys can be used if sales data is not readily available.

CO-BENEFITS

There are nutritional benefits provided by sustainable meals which contain more plants such as vegetables, pulses and wholegrains. Customers trying new dishes when they are eating out of home may make changes in their consumption patterns beyond food service environments, helping to shift their diets to become more healthy and sustainable.

WHO IS RESPONSIBLE?

Lead: **RECIPE DEVELOPMENT TEAMS**

Support: **MARKETING TEAMS** **MENU MANAGEMENT TEAMS**

CULINARY, SITE MANAGERS AND FRONT OF HOUSE TEAMS



CHALLENGES TO BE AWARE OF

Depending on the number of recipes within a food service provider's portfolio, recipe renaming may represent a time-consuming task. This challenge can be reduced through the prioritisation of recipes, especially low impact recipes, where increased sales and uptake would be most impactful. It is also important to ensure recipe names are culturally relevant as they may not always carry the same meaning in different countries and regions.

LEVER 7: MESSAGING TO CUSTOMERS

Confusion over what signifies a sustainable meal is often referenced as a barrier to consumer uptake of healthy, sustainable diets. Providing this clarification and associating sustainable meals as positive, enjoyable and tasty can encourage positive behaviour change towards healthy and sustainable diets.³⁸ Consumers' perceptions about the environmental impacts of foods are not always accurate or well-informed. In recent years, research has begun to demonstrate that exposing individuals to descriptive messaging which provides information on the environmental impacts of food choices can effectively encourage reduced meat consumption³⁹ and/or increase selection of plant-based and plant-forward dishes.⁴⁰

WHO IS RESPONSIBLE?

Lead: **MARKETING TEAMS**

Support: **CULINARY, SITE MANAGERS AND FRONT OF HOUSE TEAMS**
SUSTAINABILITY TEAMS **NUTRITION TEAMS**

HOW THIS CAN BE IMPLEMENTED

Within food service environments, descriptive messages can be displayed to customers using a variety of different formats, including on menus, posters, or TV screen displays. To avoid diners becoming unresponsive to the message being displayed, messages should be tailored to the specific environments they are displayed within.

To monitor the success of this lever and other Customer Engagement Levers aimed at influencing customer choices, data on food procurement and/or recipe uptake can be used if sales data is not available.

CO-BENEFITS

Improved consumer understanding of the impacts of food choices on the environment supports the effectiveness of other engagement levers such as carbon labelling and may drive consumers to make more healthy, sustainable dietary choices outside of food service environments.⁴¹

CHALLENGES TO BE AWARE OF

The impact of descriptive messaging may be variable across an organisation's customer base. It is important to consider tailoring the message and its format to suit the dining environment and range of customer preferences, cultural and demographic differences.

LEVER 8: POSITIONING AND PRESENTATION OF DIFFERENT MENU CHOICES

POSITIONING

In recent years there has been growing evidence that food placement within microenvironments such as food service restaurants can influence purchasing and consumption patterns. Evidence from studies conducted across canteens, cafeterias and restaurants suggests that certain intentional changes to the positioning of plant-based and plant-forward dishes can shift consumer choices, leading to outcomes such as reduced meat consumption.⁴² Through changing the way that food options are framed within food service environments, there is scope to shift consumers towards healthier, more sustainable choices without limiting the choices available to them.

WHO IS RESPONSIBLE?

Lead: **CULINARY, SITE MANAGERS AND FRONT OF HOUSE TEAMS**

Support: **RECIPE DEVELOPMENT TEAMS** **MENU MANAGEMENT TEAMS**

PRESENTATION

The visual attractiveness of foods, whether on offer at service stations or when plated, has the power to influence a diners expectations of dishes and even the enjoyment of food when it is eaten.⁴³ Colourful, well laid out plant-based dishes, rather than monotone, messy ones, are also more likely to intrigue diners.⁴⁴ Additionally, dish components can be plated to align with sustainable proportions such as those illustrated by WWF's Livewell Plate.⁴⁵

Dishware can also influence the amount of food that individuals take from self-service stations, with knock-on effects on how much is both consumed and wasted.^{46 47 48}

HOW THIS CAN BE IMPLEMENTED

Normalise plant-based and plant-forward dishes by including them as a core offering, rather than segregating them from traditional meat dishes⁴⁹ and adapt the food offer to make plant-based or plant-forward dishes the default, for example making soups and dishes of the day plant-based as standard.

Engage with clients to get plant-based and plant-forward menus rather than 'meat-centric' menus at events that guests pre-order for (e.g. conferences). Consider offering plant-based menus with the option to 'opt-in' for dishes containing animal products.

In terms of the dining environment, increase the overall proportion of service space (e.g. self-service stations) that are dedicated to plant-based and plant-forward dishes, and position these options so they are more visible and accessible. Make these dishes more prominent by listing them at the top of menus and placing them first on the counter can also promote purchases.⁵⁰

This will involve arranging meal choices so that plant-based and plant-forward options are the first that customers approach and see. Alongside increasing attention on plant-based and plant-forward dishes, position high-impact meat dishes furthest away so that they are seen last, and experiment with covering these options so that they are less obvious or must be specifically requested.

Where possible, offer customers the opportunity to taste the sustainable meals available on the menu as this may help challenge any negative assumptions, especially if they are unfamiliar with eating plant-forward or plant-based meals. Enabling customers to try these dishes can provide reassurance and encourage them to choose or purchase them at mealtimes.

For monitoring implementation impacts, analysis of sales data is recommended, however procurement or recipe uptake data can be used if sales data is not readily available. Depending on the food service situation, the number of times plant-based and plant-forward default menus are selected for events may be tracked.

CO-BENEFITS

When sustainable meals are healthy and nutritionally balanced, increased uptake of plant-based and plant-forward dishes can contribute to nutrition goals.

If plant-based and plant-forward dishes do not cost more than meat dishes, they become price comparable or a more affordable option for customers which may encourage uptake.

CHALLENGES TO BE AWARE OF

There is a need for staff training that ensures food service staff are on board with the establishment of sustainable menus to avoid negative staff attitudes diminishing positive effects of changes.

Sustainable menus must be carefully considered in the context of social norms, especially to ensure that they are culturally relevant and to avoid customer dissatisfaction and/or negative impacts on food sales and enjoyment.

LEVER 9: ENVIRONMENTAL IMPACT LABELLING

Most consumers are not readily aware of the environmental impacts of the foods they eat. Food labelling can be used to provide customers with straight-forward, easy to understand information on the environmental impacts of their food choices, supporting them in making more sustainable decisions.⁵¹ Use of environmental labels also offers a strategy for exerting pressure on upstream wholesalers and suppliers to improve the sustainability of their offerings.⁵²

WHO IS RESPONSIBLE?

Lead: RECIPE DEVELOPMENT TEAMS SUSTAINABILITY TEAMS

MENU MANAGEMENT TEAMS

Support: CULINARY, SITE MANAGERS AND FRONT OF HOUSE TEAMS

MARKETING TEAMS

HOW THIS CAN BE IMPLEMENTED

When presenting environmental information to customers as a tool to inform choices, the simplest option to adopt is “environmentally friendly dishes of the day” labels, however this approach lacks rigour and does not allow customers to differentiate between dishes beyond a simple binary choice.

An alternative approach would be to calculate the environmental impact of a dish using Life Cycle Assessment (LCA) data that measures the impact of ingredients across various environmental indicators. As outlined earlier in the report, there is an absence of agreed metrics for biodiversity and nature, therefore many tools available on the market to generate an environmental label focus only on greenhouse gas emissions. Furthermore, the datasets used for calculating the climate impacts of dishes, are likely to be based on global or regional averages rather than primary data directly from farmers and suppliers which may be challenging to obtain.

It is therefore critical when using environmental labels, that these are calculated using robust, verified datasets, and contextual information surrounding how the figures have been calculated and their limitations are also provided. Where possible, proxy information that gives an indication of other environmental indicators, such as certifications like ‘organic’ should be communicated to customers as well. Food service staff should be trained on the content of labels so that they are able to provide

comprehensive explanations to customers. The use of labels should also be communicated to suppliers and used as a mechanism to transition to more sustainable sourcing and production practices.

To maximise the potential of labels to enable more sustainable consumer behaviour, labels should be simple and easy-to-understand and positioned on or directly beside food items.⁵³ Use of a colour coding such as a traffic light system is one favourable approach.⁵⁴ Signage should also be installed to explain why environmental labels have been adopted and what they show, to aid customer understanding. When options are available with a range of impact rankings, labelling should be available consistently to facilitate diners to make lower impact choices.⁵⁵

For monitoring implementation impacts, analysis of sales data is recommended, however procurement or recipe uptake data can be used if sales data is not readily available.

CO-BENEFITS

Labelling can increase internal staff and customer knowledge of food sustainability. Labels also signal a commitment to promoting healthy, sustainable dietary change, supporting better integration of carbon reduction ambitions into organisation values.

Labels can also aid the creation of lower impact menu portfolios as higher impact recipes can be readily recognised and subsequently improved.⁵⁶

CHALLENGES TO BE AWARE OF

The resource requirements and costs of adopting impact labels may be substantial. Therefore, food service providers should select labelling formats that are feasible for them. Other challenges include deciding what environmental impacts to include on an eco-label and avoiding oversimplification of the message by aggregating some impacts. There is also a need for transparency on how calculations are made.

Evidence of the effectiveness of environmental labelling in driving more environmentally conscious food choices is mixed, however, the co-benefits of labelling should be recognised. Overall, to be effective labelling should be implemented alongside other strategies which improve customer awareness of issues influenced by their food choices.⁵⁷

Staff require a level of understanding of labels to provide explanations to diners, therefore staff training should be designed to support this.



EXTERNAL STAKEHOLDER ENGAGEMENT

INDUSTRY COLLABORATIONS

There is a need for food service providers to collaborate pre-competitively. By pooling their expertise and resources, organisations could align on sustainability commitments and best practices, share the costs of reaching their sustainability ambitions, and ultimately achieve systematic changes that would be impossible to achieve alone.

STAKEHOLDERS INVOLVED:

NGOS TRADE ORGANISATIONS
FOOD SERVICE ORGANISATIONS

Pre-competitive collaboration focused on informing customers of the importance of their dietary choices could facilitate increased sales and uptake of sustainable meals. Furthermore, pre-competitive approaches to training, such as through culinary and hospitality schools, could offer a way of giving chefs and front of house staff a solid baseline understanding of the issues.

INFLUENCE ON IMPLEMENTATION OF OTHER LEVERS

Creating sector-wide alignment on definitions such as plant-based and plant-forward, and targets for sustainable eating, would bring clarity to what food service providers are collectively looking to achieve.

If all major food service providers were pushing for the same practices and commitments in contracts, it would give greater influence over client and supplier commitments to lower the impact of ingredients and food products, and set new, clear minimum expectations for wholesalers. The costs of data gathering could be shared across the supply chain, aiding the establishment of high quality, consistent core datasets and reducing the cost for individual organisations.

Establishing a pre-competitive training environment would ensure delivery of consistent staff training for food service teams.

CHALLENGES TO BE AWARE OF

There may be reluctance from some industry players to engage in knowledge sharing and industry collaboration. This may be due to a desire to maintain a competitive edge, or because of fear that collaboration may be perceived as collusive.

There may also be issues with achieving agreement and alignment between different players in the industry.

PARTNERSHIPS

Collaborative partnerships with NGOs and not-for-profit organisations offer a way for food service providers to receive expert guidance on how to drive enhanced action on the healthy, sustainable dietary transition. Amongst a variety of impacts, these partnerships can directly accelerate progress towards increased sales and uptake of sustainable menu items, such as through supporting the implementation of trials of Customer Engagement Levers. Partnerships can additionally highlight the importance of the transition to healthy and sustainable diets to new audiences, increasing consumer knowledge and awareness, and can foster 'competition for good' within the industry to accelerate innovation and progress.

STAKEHOLDERS INVOLVED:

NGOS SUSTAINABILITY TEAMS
FOOD SERVICE ORGANISATIONS
CLIENT ORGANISATIONS
NUTRITION TEAMS

INFLUENCE ON IMPLEMENTATION OF OTHER LEVERS

Implementation of the Foundational Enablers as well as the Engagement Levers outlined within this report can be supported by transformative partnerships between food service providers and NGOs/not-for-profit organisations that bring a range of expertise to each organisation.

Partnerships can target the establishment of key Foundational Enablers, for example through work to determine clear definitions and by helping food service providers set commitments and targets related to procurement, recipe uptake and food waste. Within the food service sector, partnerships are evidently important for supporting trials of Customer Engagement Levers and can support the delivery of training to food service teams.⁵⁸ More generally, partnerships can effectively integrate the sustainability values of NGOs/not-for-profit organisations into the ethos of food service organisations, creating informed leadership teams and an internal organisation environment which supports effective, positive change.

CHALLENGES TO BE AWARE OF

Achieving alignment on acceptable levels of ambition between NGOs and food service providers can be a challenge when initially engaging in partnerships. To drive progress, degrees of flexibility and well-informed sustainability leaders at the top of food service organisations will be required.

GOVERNMENT POLICY

Government policy is extremely influential in directing how the food industry operates. There is a need for rapid action by governments to deliver their climate and nature promises and support business and farmers in delivering this change. Food service providers have the power to make a strong business case for national and local governments to update policies and regulations, especially if they choose to work collaboratively. To drive systematic change, food service providers can engage with government food system reviews and consultations, adopt progressive measures proposed by independent review panels, and call for improved regulation. They can advocate for the shift to nature friendly farming and support dietary guidelines that drive healthy and sustainable eating. Within the UK specifically, there has previously been opportunities for engagement with publications such as with the National Food Strategy Report,⁵⁹ Government Buying Standards For Food and Catering⁶⁰ and the UK Hospital Food Review.⁶¹

STAKEHOLDERS INVOLVED:

NGOS SUSTAINABILITY TEAMS NUTRITION TEAMS
FOOD SERVICE ORGANISATIONS TRADE ORGANISATIONS
NATIONAL, REGIONAL AND LOCAL GOVT DEPARTMENTS



Importantly, food service organisations can act as a testbed, trialling different innovative approaches to understand what works to shift diets and meal choices for improved health and environmental outcomes. They can then share this information with policymakers to proactively inform the development of supportive public policy that will ultimately help them achieve their targets and enable a transition to healthy, sustainable diets at scale.

INFLUENCE ON IMPLEMENTATION OF OTHER LEVERS

More informative education and public information campaigns regarding what healthy and sustainable diets look like and the environmental impacts of dietary choices could result in greater consumer awareness and willingness to make sustainable food choices supporting the achievement of food service providers' carbon reduction and nature commitments.

Updated government procurement standards could provide guidance and/or set minimum requirements for the sustainability credentials of ingredients used by food service providers. These could in turn influence other markets.

New government regulations (e.g. mandatory reporting on environmental metrics) and frameworks could provide guidance on what the core datasets of food service providers should comprise of, and could drive improvements towards better practices and greater transparency. This can include reporting on sales and procurement, food waste and farming practices in supply chains.

Government mandates for culinary and food service staff to receive minimum levels of training could facilitate staff being engaged.

CHALLENGES TO BE AWARE OF

Public procurement standards need to ensure that the required standard is practical – that the supply exists and that the costs are manageable. Without this, the business case for food service providers to deliver is significantly weakened.

Although government policy can be influenced, it is ultimately out of the scope of control of food service organisations. Rates of change may be slow and the uptake of advocated changes will be variable across different cultural contexts and countries.

INVESTORS

Recent years have seen an increased focus on the role of finance and investors in driving the transition to a sustainable future, across all sectors including in the food industry. Responding to, and engaging with, investor expectations on sustainability is becoming key to reputation and improving potential access to finance.

Capital needed to grow an organisation can potentially be more easily raised when both the business case and sustainability case are aligned. As such, the Foundational Enablers, especially the targets and leadership topics, have a wider importance beyond enabling the levers described here. The levers are important to investors because they evidence that the organisation is implementing a clear delivery strategy to meet the goals set out in those commitments.

In the same way that government policy can impact the business case for change in food service, so can the expectations of investors.

INFLUENCE ON IMPLEMENTATION OF OTHER LEVERS

Investor expectations on net zero, progress against reduction targets and deforestation and conversion-free commitments will all increase the need to deliver action across a food service organisation. This means all three lever categories, Value Chain Engagement, Staff Engagement and Customer Engagement, have a role to play in meeting those expectations.

CHALLENGES TO BE AWARE OF

Investor focus on the food sector is still emerging and there is a lack of clear standards and definitions about "what good looks like", meaning it can be hard to align sustainability commitments with investor expectations. However, topics like net zero, reducing food waste, and removing deforestation risk from supply chains are rapidly becoming standard expectations, for which the levers in this report are well placed to meet.

STAKEHOLDERS INVOLVED:

LEADERSHIP GROUP SUSTAINABILITY TEAMS
INVESTORS NGOS



HOW TO IMPLEMENT THE LEVERS

HOW TO MAXIMISE IMPACT

To date, some progress has been made across all enablers, levers and external stakeholder engagements. Although not without challenges, all are implementable. The challenge is, in a sector that has faced significant turbulence over the last few years, how are these implemented efficiently and effectively to maximise impact?

The approach we have taken here is that everything should be geared towards impact “on-site” – this is where customer choice can be influenced, where operational food waste does or does not happen and where recipes are actually turned into meals that are eaten. This makes the four Customer Engagement Levers the ones with the ultimate influence on outcomes. These need to be supported by the Value Chain and Staff Engagement Levers and underpinned by the Foundational Enablers with data that allows this to be operationalised in a quantifiable way. What happens on-site in dining environments then becomes the evidence upon which progress against commitments can be judged.

In terms of which of the Customer Engagement Levers should be prioritised, recent research,⁶² assessing 31 interventions across 24 universities in North America and Europe, indicates that interventions combining these levers are much more likely to result in uptake of sustainable meals than those that focus only on, for example, naming or positioning levers, or only on the customer messaging lever. The combination of approaches that apply multiple levers and consciously engage customers (messaging) with those that use nudging techniques (naming, positioning) leads to a greater reduction in high-impact meals than individual Customer Engagement Levers and therefore should be the minimum approach.

The sequencing for all levers is shown in **Figure 1**, where food service providers need strong commitments, backed by leadership, with good quality data and a recipe portfolio that is extensive and

culturally appropriate for on-site staff to deliver (the Foundational Enablers). For staff to deliver this they need to understand why the organisation is doing this, why it matters, and how to convey this to their customers (Staff Engagement). For that level of delivery to work at an organisational level, there needs to be commercial agreements that make the shift to sustainable meals favourable to all parties including shared goals and contracts that reflect this. With these things in place, shifting to healthy, sustainable diet choices in food service dining environments will have the best chance of success.

The Customer Engagement Levers around recipe naming, messaging to customers, meal or product positioning and labelling can be derailed when staff are not on board and, where food service provider and client goals and commitments differ. The focus on nudging in recent years has shown that the Customer Engagement Levers will indeed have an impact, but our research has also indicated that they will have a greater impact when everything else is already in place.

WHO ARE THE KEY PEOPLE TO DRIVE CHANGE?

A key factor in delivering successful change is having identifiable groups responsible for driving that change. This concerns both the organisational responsibility, where the food service provider can normally take more responsibility for the Foundational Enablers and for Staff Engagement, and for providers and clients who have clear responsibilities to work together on the Value Chain Engagement and Customer Engagement Levers (**see Figure 2**). External Stakeholder Engagements with NGOs, government departments and investors are also ideally suited to be done collaboratively within the food service sector.

We have identified key teams within food service organisations who are responsible for delivering change in each lever (**see Figure 3**). The structure of these teams might differ between organisations but the general idea should be consistent – delivering healthy, sustainable diets is a responsibility that is shared across an organisation.



WHAT SHOULD FOOD SERVICE PROVIDERS DO NEXT?

In order to prioritise in terms of investments of time, money, and effort, there are things to consider across the enablers and levers.

GETTING THE ENABLERS RIGHT

It is essential to prioritise the implementation of the Foundational Enablers as they create the conditions necessary for the other levers to be successfully and impactfully delivered.

Many food service providers are already developing recipe portfolios that include plant-based and plant-forward dishes; these need to be tied to public commitments. Because recipes and their availability on menus are so critical to creating change, these need to be tied to responsible sourcing, food waste and targets for the actual recipe up take by customers. Working with clients on the Value Chain Engagement Levers is key to making these an operational reality.

Food service providers should also work closely with others in the sector, the wider food industry, and in partnerships with NGOs and research institutions to improve the quantity and quality of data, especially supply chain data and primary carbon footprint data. In the meantime, carbon footprint datasets that rely on generic food industry data can be used to estimate the impact of menus and procurement and can be combined with recognised certification data to provide “good enough” datasets to help drive initial change, but this must be with a view to improving data quality and expanding datasets to include additional environmental indicators as rapidly as possible.

PRIORITISING THE LEVERS

Customer Engagement Levers represent relatively low capital investment and complexity but have a direct influence on customers’ food choices. They were recognised in the interviews conducted as part of this research, as being crucial to creating change and should be considered “must have” levers. These levers will be more impactful however with effective implementation of the Value Chain and Staff Engagement Levers.

Stakeholder interviews in this research have highlighted the importance of staff training. This relates to training for chefs and front of house staff to increase knowledge and to foster direct engagement with customers, as well as training with management and off site roles to embed sustainability across the organisation including within sales, marketing and procurement teams. Training programmes such as these have a cost and time implication, so we recommend that these are ring-fenced in terms of budgets and strategy. Collaborative efforts across the sector could be an effective way to ensure food service staff across the industry have a common understanding, and this could be supplemented by training that is specific to an organisation. Culinary and hospitality schools represent a key opportunity for giving food service staff a good basic understanding of food sustainability issues; healthy, sustainable diets and how to create sustainable meals.

Value Chain Engagement Levers such as contractual arrangements and shared commitments between food service providers and their clients, are key for setting the organisation context for change. They are however complex, not all institutions will share the same agenda, and customer preferences will vary. We recommend that food service providers and their clients investigate these levers and pursue possible win-win scenarios where pricing, subsidies and shared goals can be used to encourage change.

PRE-COMPETITION AND COLLECTIVE ENGAGEMENT

Reducing the environmental impacts made by consumers within food service environments by focusing on food choices require action not only from individual organisations, but from across the food industry and from governments. No matter how effectively individual food service providers pull upon the levers outlined in this report, ultimately, the external context they sit within influences how far they can go. Consequently, there is a need for food service sector leaders to drive collaborative action within the sector and across wider stakeholder groups. Central to this could be the establishment of a pre-competitive environment to support within-sector collaboration, training and knowledge sharing, and collective engagement with governments, focused upon demanding policies that shift people to healthy, sustainable diets.



APPLYING THE LEVERS TO DIFFERENT REGIONS

The levers described are focused on what food service providers need to do to maximise the opportunity for their customers to make more sustainable food choices, primarily through menus that include more plants and less animal sourced food. The majority of the research and expert input through interviews used to inform this report has been based in high-income countries where specific initiatives have been tested in staff restaurants, universities, schools and other food service environments. A key question remains about how to implement these levers at scale across different countries and regions. In all countries and regions, the role of tradition, cultural norms, the economy and government regulation can influence the opportunity for moving customers to more healthy and sustainable diets.

SOCIAL NORMS AND SHIFTING CONSUMER TRENDS

Much has been made of the shift in consumer behaviour towards more healthy, sustainable diets. In the UK, average meat consumption per capita per day is reported (through self-reported data) to have decreased by 17% between 2008 to 2019⁶³ with shifts also from red meat such as beef to poultry, while seafood consumption remained relatively stable. Whilst self-reported data might not be totally reliable, one conclusion from this could be that this is a trend to be capitalised by food service providers in the UK.

However, whilst the shift from red meat to poultry might indicate an opportunity for lower diet-related greenhouse gas emissions due to the very high carbon-impact of red meat, an increase in consumption of poultry is challenging in terms of other environmental impacts.⁶⁴ Other countries have also seen trends away from meat, for example in Germany there have been reductions in consumption of pork, beef and poultry.⁶⁵ There has also been some indication of a decline in beef consumption in the US, albeit with high consumption of meat overall.⁶⁶

While some of these shifts can make it easier to engage with customers, differences within customer groups and between food service sectors, such as business, education and healthcare, will need to be considered. Alongside any shifts in consumer food choices, food service providers need to ensure that their food offering remains relevant to the food culture in which it is operating through reformulating classic dishes and using the levers in this report to shift customer food choices without having to remove culturally important dishes from the menus.

ECONOMIC FACTORS

It is well recognised that as incomes have increased people have tended to eat more meat, and while some recent national trends show a flattening in consumption of red meat this is coupled with increases in poultry consumption.⁶⁷ In some regions meat consumption is increasing significantly in line with increased incomes and expanding middle class populations. According to the World Economic Forum many countries in Asia and Latin America have seen dramatic growth in meat consumption.⁶⁸ Whilst still around half the US consumption per capita, China is now estimated to eat 27% of the world's meat, with pork being the most popular.⁶⁹ Brazil, having also seen an increase in overall meat consumption, has more recently seen a shift towards pork and chicken, with a flattening in demand for beef, primarily due to economic reasons.⁷⁰ So while the economic growth in different regions has led to an increase in consumption of meat overall, the picture is different from country to country and food service needs to be aware of, and sensitive to, those broad economic influences.

GOVERNMENT POLICY

Governments can influence through a number of ways ranging from stronger policies such as regulation and fiscal policy, to industry specific standards such as public sector food service standards, to weaker guidelines such as diet and nutrition guidelines and recommendations.

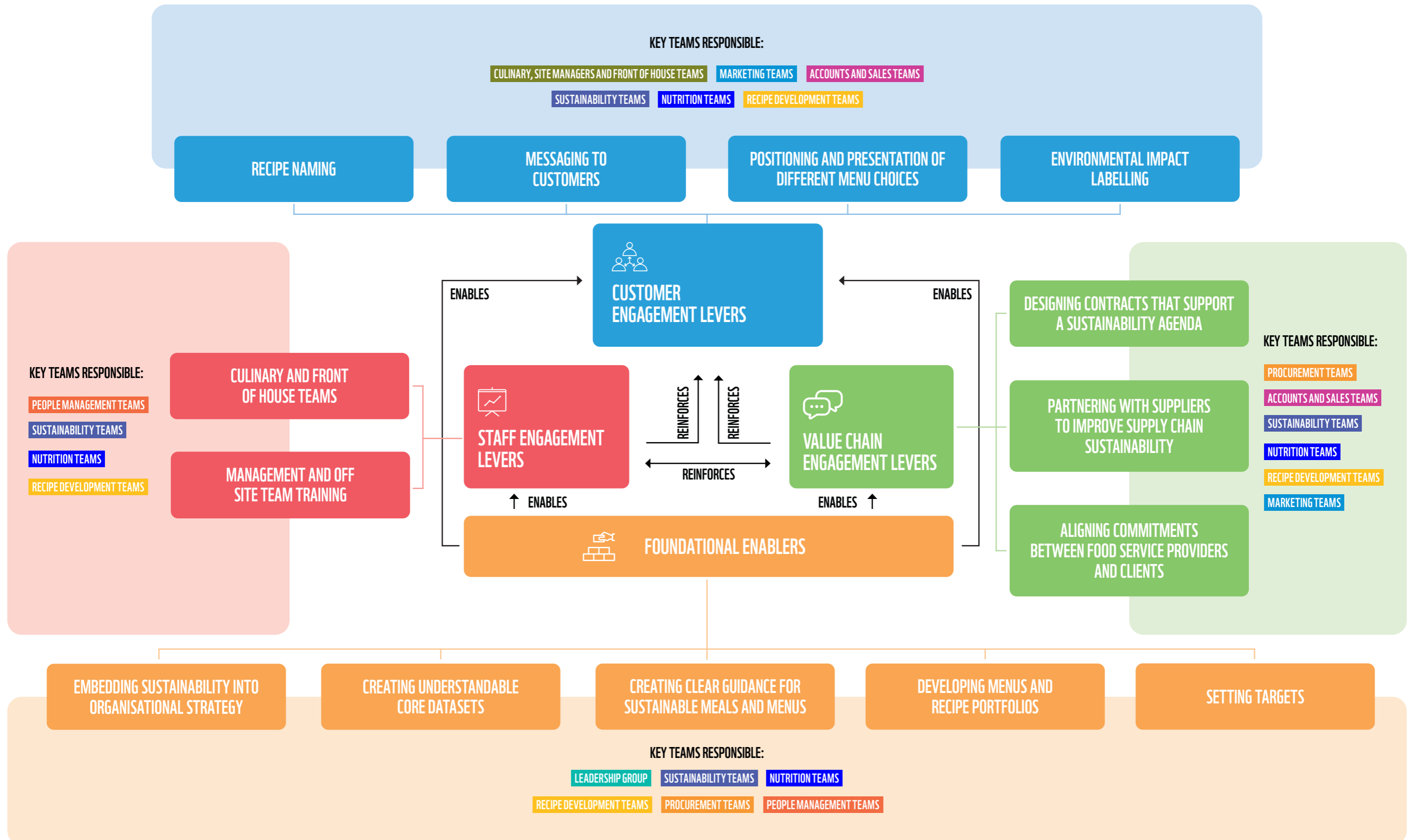
Research in 2022 found that out of 83 countries identified to have dietary guidelines, 37 mention environmental sustainability and of those 23 do include some reference to sustainable meals.⁷¹ For example, the UK government's Eatwell Guide emphasises beans and pulses as proteins and has been shown to have a lower environmental impact than the current UK diet.⁷² However as less than 1% of the UK population adhere to these guidelines⁷³ more needs to be done to improve engagement and communication with the public, including incorporating more messages into the guidelines on healthy and sustainable diets and the benefits for people and the planet.⁷⁴

In France recommendations encourage the consumption for locally produced foods, seasonal foods and, if possible, organic foods and the decrease of meat consumption with school food menus now requiring at least one meat-free day, vegetarian options to be standard in public sector food provision, and chefs to be trained in sustainability.⁷⁵ The US recently released guidelines recommend that protein should make up 1/4 of the plate and should include lean meats, poultry, eggs, and plant-based proteins.⁷⁶

Food service providers can address this by collectively engaging with governments to ensure that both guidelines and public procurement standards are more aligned with a sustainable future.



Figure 3: Key Food Service Teams Responsible For Driving The Shift Towards Healthier And More Sustainable Diets



LEVERS IN ACTION

FOUNDATIONAL ENABLERS

DEVELOPING MENUS AND RECIPE PORTFOLIOS

Sodexo aims to support consumers to make nutritious and sustainable choices and ultimately adopt healthier, more sustainable diets. Sodexo's Modern Recipe food offer was established in 2018 with the ambition to provide food that is good for people and planet, serving contemporary menu choices at client locations across the globe. From a sustainability perspective, a focus on more plants, less waste means that half of each menu needs to be plant-forward, comprised of 35% plant-based and 15% vegetarian options. Nutrition, animal welfare and economic empowerment are also key priorities, leading to initiatives to reduce salt, sugar and processed ingredients, to prioritise local and seasonal ingredients in menus, ensure all coffee and tea sourced is Fair Trade, and all eggs sourced are from cage-free systems. A focus on waste reduction has enabled reusable packaging to be used as first priority, followed by compostable or recyclable options, and all sites are implementing a food waste reduction programme.



STAFF ENGAGEMENT LEVERS

CULINARY AND FRONT-OF-HOUSE STAFF TRAINING

The [LIFE Climate Smart Chefs project](#) is funded by the European LIFE Programme that supports environmental and climate action projects throughout the EU. Project partners are Barilla Foundation, ALMA (the School of Italian Culinary Arts), ENAIP NET (providers of vocational education and training), JAMK (the University of Applied Science in Finland) and Nutritics (provider of recipe and menu software to the food industry). The project develops solutions to provide chefs across the EU with training, knowledge and skills, as well as incentives and network for driving a shift to healthy and sustainable diets. An EU-wide award for climate smart chefs and chef association network was launched in July 2023, to enhance opportunities for chefs to engage with food sustainability. Further project activities will include developing a high-level training course for chefs across the EU – which will be tested with 160 chefs in person and accessible to many more online – and creating a digital tool for chefs to design climate smart menus through the Nutritics tool, FoodPrint.

The intention is that the training programme, award scheme and EU-wide network can grow and continue after the official project has ended in 2024 so that food sustainability becomes a central part of chefs' education and working lives.

VALUE CHAIN ENGAGEMENT LEVERS

DESIGNING CONTRACTS TO SUPPORT SUSTAINABILITY GOALS

Sodexo provides food and facility management services to a major pharmaceutical business across 23 sites in five countries. Working to embed sustainability within their contract, Sodexo and the pharmaceutical business have defined SMART KPIs measuring impact on people, society and the planet, which account for 20% of the overall performance review. These include food carbon reduction and sustainable sourcing, staff training and offering employment and upskilling to local communities. These impact KPIs are then translated into financial values by an independent third party to demonstrate the commercial value of the initiative, providing a strong business case for others looking to adopt this approach. Embedding sustainability into performance measurement also ensures that sustainability is part of everyone's job, not an additional initiative they have to make time for.

The integration of these impact metrics has already delivered change within the contract. The number of plant-based meals on menus has increased, and the number of meat meals has decreased. As a result, some sites have almost halved the carbon impact of their meals. In Sweden the impact of an average lunch meal is now 0.9kg CO₂e, compared to 1.7kg CO₂e before the contract changes in 2022. The inclusion of training requirements in the contract has also meant that employees who are involved in menu and recipe development are trained in carbon measurement, enabling them to understand and reduce the impact of the meals they are developing.



CUSTOMER ENGAGEMENT LEVERS

RECIPE NAMING

Research conducted at a Stanford University cafeteria where the names of identical vegetable dishes were altered found that 'indulgently' (e.g. "rich, buttery, roasted") named dishes were chosen 25% more than 'basic' named dishes (e.g. "corn").⁷⁷ 'Indulgently' named dishes were also selected 41% more than the identical dish when health attributes were highlighted in a restrictive way (e.g. "reduced-sodium"), and 35% more when health attributes were highlighted in a positive way (e.g. "vitamin-rich").

A separate piece of work, conducted by the World Resources Institute's Better Buying Lab at Sainsbury's UK cafes, found that changing the name of the menu item "Meat-Free Sausage and Mash" to "Cumberland Spiced Veggie Sausages and Mash" increased sales by 76.2% – this highlights the impact that positive, provenance focused language can have on the appeal of dishes.⁷⁸

POSITIONING AND PRESENTATION OF DIFFERENT MENU CHOICES

In Autumn 2022, in over 35 lunch periods at three university restaurants managed by Sodexo, researchers randomly allocated and set up 50% as 'meat default' days (meat dish first, followed by plant-based dish, then side dishes) and 50% as 'plant-default' days (plant-based dish, followed by side dishes, with meat dish out of sight). On average across the sites, the number of plant-based dishes served on plant-default days increased by 58.3%.⁷⁹ Related greenhouse gas emissions declined by ~23.6% on plant-default days, even when accounting for some students going to other on campus food outlets to acquire meat options. Encouragingly, on average across the universities, student satisfaction ratings did not differ significantly between meat-default and plant-default days.

A separate pilot project at a business site in San Francisco gradually introduced more sustainable meals into the office cafeteria, leading to a 50:50 menu split between meat and vegetarian entrees and oat milk offered as default. The menu split was ultimately extended to have a majority of plant-based and plant-forward dishes. Satisfaction ratings received from diners were not negatively affected, moreover, positive feedback was received by diners regarding the changes.⁸⁰

In an observational study carried out in the 'all-you-can-eat' self-service dining halls of two American universities, dishware available to diners was switched from 9"x9" round plates to smaller 9.75"x7.75" oval platters. Researchers recorded the weight of food taken by individuals from serving stations before eating as well as food waste remaining on plates after dining. This was done to determine whether changing dishware used affected the amount of food taken and food wasted. Overall, the researchers found that the use of smaller oval platters significantly reduced the average weight of food selected (by 12%), consumed (by 7%) and wasted (by 34%) compared to when the larger round plates were used.⁸¹

Similarly, following experimentation with food presentation, French teams of the food service provider Sodexo have noticed that switching from plain flat plates to plates and bowls with large borders has increased uptake of dishes like risotto, dhal and cereal and pulses-based meals by ~20%.

KEY RECOMMENDATIONS AND CONCLUSIONS

There is a lot of detail in this report and a significant workload required from each individual food service provider if they are to implement all of the suggestions.

We encourage all food service organisations to evaluate what work has already been done across each of the enablers and levers, and assess where they must go further and faster to increase the pace of change and scale up impact.

There are numerous examples of enablers and levers already in action. For example, several food service organisations have already set specific climate and nature goals, are reshaping menu design to set a threshold increasing the percentage of plant-based meals on offer and are setting minimum procurement standards when it comes to environmental impacts.

The reality is that shifting to healthy, sustainable diets cannot be delivered by isolated efforts but that by individual organisations or by applying individual levers. The following key recommendations need to be put into action with real urgency if the sector is to drive change at pace and scale:

1

EMBEDDING FOUNDATIONAL ENABLERS

Foundational Enablers, which food service organisations have agency to define, are key for driving transformative change. Customers can not be nudged towards achieving the desired impact on sustainable eating unless delicious, affordable, culturally appropriate, nutritious, and sustainable meals are available on the menu.

2

LEVERAGING ALL LEVERS

The nine levers need to be implemented in a strategic and cohesive manner (see **Figure 1**), as their collective impact can be greater than the sum of their parts. While organisations may be at different stages in their sustainability journey, with different resources available to them, this is truly an opportunity to collaborate across the organisation and to effect change.

3

OPERATIONAL CONTEXT IS KEY

Some dining environments will present greater challenges than others, meaning that overall commitments and targets need to reflect this and provide sufficient scope for levers to be applied in different ways. For this to work, staff closest to the client and customer need to be trained and empowered to apply the levers in the most effective way for their context.

4

SECTOR COLLABORATION AND TRANSPARENCY

It's vital food service organisations prioritise genuine collaboration to create a level playing field and accelerate the pace of change for the sector as a whole. The transition to sustainable eating will involve pre-competitive collaboration across the food service sector with suppliers and clients. Key areas where this can bring benefits are on setting standards, providing data, developing staff training, and defining shared commitments for the sector.

REFERENCES

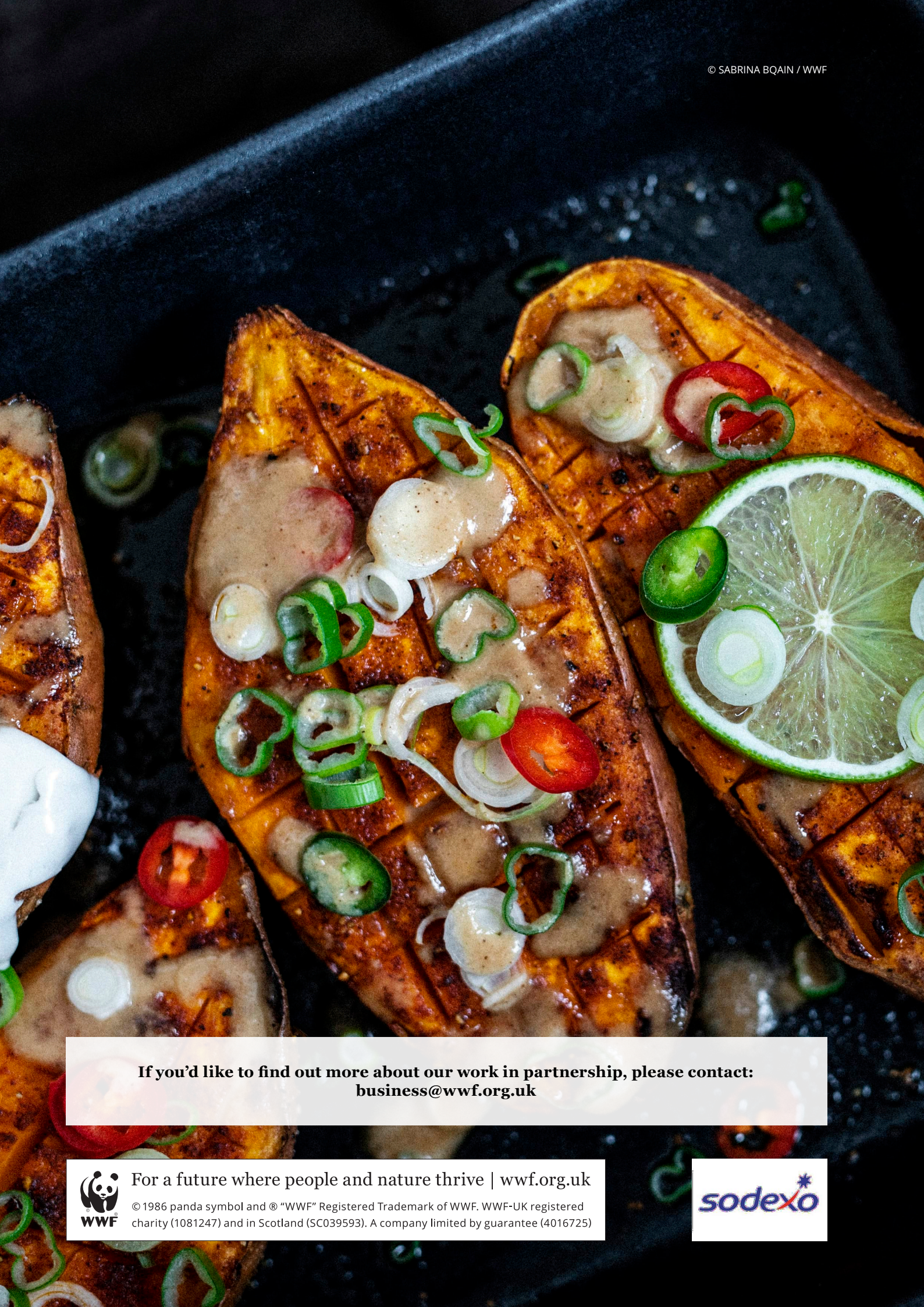
- ¹ Afshin A. et al. (2019). Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, 393. Available at: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(19\)30041-8/fulltext#%20](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)30041-8/fulltext#%20)
- ² FAO (2021). *The State of Food Security and Nutrition in the World 2023*. Available at: <https://www.fao.org/3/cc3017en/cc3017en.pdf>
- ³ World Obesity Federation (2023), *World Obesity Atlas 2023*. Available at: <https://data.worldobesity.org/publications/WOF-Obesity-Atlas-V5.pdf>
- ⁴ Francesco, N. Tubiello et al, (2021), Greenhouse gas emissions from food systems: building the evidence base. In *Environmental Research Letters* 16 065007. Available at: <https://iopscience.iop.org/article/10.1088/1748-9326/ac018e>
- ⁵ Arneeth, A., et al. (2019). Framing and Context. In: *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems*. Available at: https://www.ipcc.ch/site/assets/uploads/sites/4/2022/11/SRCCL_Technical-Summary.pdf
- ⁶ *Global Sustainable Development Report 2019: The Future is Now – Science for Achieving Sustainable Development*, (United Nations, New York, 2019).
- ⁷ Gleick, P.H et al. (2014). *The World's Water: The Biennial Report on Freshwater Resources*. Washington, DC: Island Press. Available at: <https://link.springer.com/book/10.1007/978-1-59726-228-6>
- ⁸ WWF, (2020), *Living Planet Report 2020 - Bending the curve of biodiversity loss*. Almond, R. E. A., Grooten, M. and Petersen, T. (Eds), WWF, Gland, Switzerland. Available at: https://wwf.awsassets.panda.org/downloads/lpr_2020_full_report.pdf
- ⁹ WWF, (2021), *Driven to waste: the global impact of food loss and waste on farms*. Available at: https://wwfint.awsassets.panda.org/downloads/wwf_uk_driven_to_waste_the_global_impact_of_food_loss_and_waste_on_farms.pdf
- ¹⁰ Garnett, T. (2014) What is a sustainable healthy diet? FCRN, University of Oxford. Available at: <https://cgspace.cgiar.org/bitstream/handle/10568/35584/FCRN-sustainable-healthy-diet.pdf>
- ¹¹ Willett, W. et al. (2019) Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, 393(10170), 447–492. Available at: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(18\)31788-4/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)31788-4/fulltext)
- ¹² Halevy, S., Trewern, J. (2023) Eating for net zero. How diet shift can enable a nature positive, net zero transition in the UK. Available at: https://www.wwf.org.uk/sites/default/files/2023-05/Eating_For_Net_Zero_Full_Report.pdf
- ¹³ FAO and WHO. (2019) *Sustainable healthy diets – Guiding principles*. Rome. Available at: <https://www.who.int/publications/i/item/9789241516648>
- ¹⁴ Halevy, S., Trewern, J. (2023) Eating for net zero. How diet shift can enable a nature positive, net zero transition in the UK. Available at: https://www.wwf.org.uk/sites/default/files/2023-05/Eating_For_Net_Zero_Full_Report.pdf
- ¹⁵ WWF, (2020), *Bending the Curve: The Restorative Power of Planet-Based Diets*. Loken, B. et al. WWF, Gland, Switzerland. Available at: <https://www.worldwildlife.org/publications/bending-the-curve-the-restorative-power-of-planet-based-diets>
- ¹⁶ Garnett T (2016) Plating up solutions: Can eating patterns be both healthier and more sustainable? *Science*, 353 (6305), 1202–1204. Available at: <https://www.science.org/doi/abs/10.1126/science.aah4765?ijkey=fR5rQzRVECYlo&keytype=ref&siteid=sci>
- ¹⁷ Research and Markets (2023) *Contract Catering Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2023-2028*. Available at: https://www.researchandmarkets.com/report/contract-catering?utm_source=GNOM&utm_medium=PressRelease

- ¹⁸ WWF, (2016), Catering for Sustainability. Making the Case for Sustainable Diets in Foodservice. Available at: https://assets.wwf.org.uk/downloads/wwf_catering_full_report.pdf?ga=2.260765005.179122158.1561971478-1152898316.1561547209
- ¹⁹ The Food Foundation (2023) Contract Caterers and Food Service. Available at: <https://foodfoundation.org.uk/contract-caterers-food-services>
- ²⁰ <https://www.sodexo.com/en/corporate-responsibility/impact-on-environment/healthy-sustainable-eating>
- ²¹ <https://northerneurope.aramark.com/sustainability#planet>
- ²² Eating Better (2023) Why Less and better? Available at: <https://www.eating-better.org/who-we-are/why-eat-less-better/#:-:text=This%20is%20the%20%27less%20and,such%20as%20beans%20and%20pulses.>
- ²³ Eating Better (2023) Provide Exciting Plant Based Training and Development For Chefs. Available at: <https://www.eating-better.org/better-by-half/food-service/provide-exciting-plant-based-training-and-development-for-chefs/>
- ²⁴ Proveg International (2023) Choice Architecture in Food Services: Drive Revenue and Increase Sustainability with More Plant Based Meals for Flexitarians. Available at: <https://corporate.proveg.com/article/choice-architecture-in-food-services/#train-your-chefs-and-serving-staff>
- ²⁵ World Resources Institute (2020) Playbook for Guiding Diners Toward Plant-Rich Dishes in Food Service. Available at: https://files.wri.org/d8/s3fs-public/19_Report_Playbook_Plant-Rich_Diets_final.pdf
- ²⁶ World Resources Institute (2020) Playbook for Guiding Diners Toward Plant-Rich Dishes in Food Service. Available at: https://files.wri.org/d8/s3fs-public/19_Report_Playbook_Plant-Rich_Diets_final.pdf
- ²⁷ Springman, M et al (2021) The Global and Regional Costs of Healthy and Sustainable Dietary Patterns: a Modelling Study, *The Lancet*, 5. Available at: [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(21\)00251-5/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(21)00251-5/fulltext)
- ²⁸ Raghunathan, R., Naylor, R. W., & Hoyer, W. D. (2006). The Unhealthy = Tasty Intuition and Its Effects on Taste Inferences, Enjoyment, and Choice of Food Products. *Journal of Marketing*, 70(4), 170–184. Available at: <https://journals.sagepub.com/doi/10.1509/jmkg.70.4.170>
- ²⁹ Ann Kronrod, Mary E. Hammar, JongSoo Lee, Herpreet K. Thind & Kelsey M. Mangano (2021) Linguistic Delight Promotes Eating Right: Figurative Language Increases Perceived Enjoyment and Encourages Healthier Food Choices, *Health Communication*, 36:14, 1898-1908, Available at: <https://www.tandfonline.com/doi/abs/10.1080/10410236.2020.1805231>
- ³⁰ Turnwald, B.P, Boles, D.Z, Crum, A.J. (2017) Association Between Indulgent Descriptions and Vegetable Consumption: Twisted Carrots and Dynamite Beets. *JAMA Intern Med*. 177(8):1216–1218. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5818791/>
- ³¹ Raghunathan, R., Naylor, R. W., & Hoyer, W. D. (2006). The Unhealthy = Tasty Intuition and Its Effects on Taste Inferences, Enjoyment, and Choice of Food Products. *Journal of Marketing*, 70(4), 170–184. Available at: <https://journals.sagepub.com/doi/10.1509/jmkg.70.4.170>
- ³² Turnwald, B.P, Boles, D.Z, Crum, A.J. (2017) Association Between Indulgent Descriptions and Vegetable Consumption: Twisted Carrots and Dynamite Beets. *JAMA Intern Med*. 177(8):1216–1218. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5818791/>
- ³³ Turnwald, B.P, Boles, D.Z, Crum, A.J. (2017) Association Between Indulgent Descriptions and Vegetable Consumption: Twisted Carrots and Dynamite Beets. *JAMA Intern Med*. 177(8):1216–1218. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5818791/>
- ³⁴ The Behaviour Insights Team (2020) A Menu For Change: Using Behavioural Science To Promote Sustainable Diets Around The World. Available at: https://www.bi.team/wp-content/uploads/2020/03/BIT_Report_A-Menu-for-Change_Webversion_2020.pdf.pdf
- ³⁵ The Good Food Institute (2020) Strategies to Accelerate Consumer Adoption of Plant-Based Meat Recommendations from a Comprehensive Literature Review. Available at: <https://gfi.org/images/uploads/2020/03/FINAL-Consumer-Adoption-Strategic-Recommendations-Report.pdf>

- ³⁶ The Good Food Institute (2023) Promoting Plant Based Items on Menus. Available at: <https://gfi.org/resource/promoting-plant-based-items-on-menus/>
- ³⁷ World Resources Institute (2019) It's All in a Name: How to Boost the Sales of Plant-Based Menu Items. Available at: <https://www.wri.org/insights/its-all-name-how-boost-sales-plant-based-menu-items>
- ³⁸ IGD (2020) Appetite For Change: Understanding how to shift consumer behaviour towards healthy and sustainable diets Full Research. Available at: <https://www.igd.com/charitable-impact/healthy-eating/content-library/article/t/appetite-for-change---deep-dive-2019-research/i/28060>
- ³⁹ Grundy , A.C. et al (2022) Interventions that influence animal-product consumption: A meta-review, *future Foods*, 5. Available at: <https://www.sciencedirect.com/science/article/pii/S2666833521000976>
- ⁴⁰ World Resources Institute (2022) Environmental Messages Promote Plant-Based Food Choices: An Online Restaurant Menu Study. Available at: <https://files.wri.org/d8/s3fs-public/2022-02/environmental-messages-promote-plant-based-food%20choices-an-online-restaurant-menu-study.pdf?VersionId=LXYASe35.dMpmYekrLFJohs389Y8wG>
- ⁴¹ World Resources Institute (2022) Environmental Messages Promote Plant-Based Food Choices: An Online Restaurant Menu Study. Available at: <https://files.wri.org/d8/s3fs-public/2022-02/environmental-messages-promote-plant-based-food%20choices-an-online-restaurant-menu-study.pdf?VersionId=LXYASe35.dMpmYekrLFJohs389Y8wG>
- ⁴² Meier, J et al (2022) Review: Do Green Defaults Reduce Meat Consumption? *Food Policy*, 110. Available at: <https://www.sciencedirect.com/science/article/pii/S0306919222000768>
- ⁴³ Zellner DA, Loss CR, Zearfoss J, Remolina S.(2014) It tastes as good as it looks! The effect of food presentation on liking for the flavor of food. *Appetite* 77:31-5 Available at: <https://pubmed.ncbi.nlm.nih.gov/24589740/>
- ⁴⁴ Paakki M et al (2019) The importance of the visual aesthetics of colours in food at a workday lunch. *International Journal of Gastronomy and Food Science*. 16. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S1878450X18300908>
- ⁴⁵ WWF (2023) Healthy Sustainable Diets. Available at <https://www.wwf.org.uk/what-we-do/livewell#the-livewell-plate>
- ⁴⁶ Richardson, R et al (2021) Impact of plate shape and size on individual food waste in a university dining hall. *Resources, Conservation and Recycling*. 168. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S092134492030608X>
- ⁴⁷ Holden, S et al (2016) Whether Smaller Plates Reduce Consumption Depends on Who's Serving and Who's Looking: A Meta-Analysis. *Journal of the Association for Consumer Research*. 1 (1) Available at: <https://www.journals.uchicago.edu/doi/abs/10.1086/684441>
- ⁴⁸ Kallbekken, S et al (2013) 'Nudging' hotel guests to reduce food waste as a win-win environmental measure. *Economic Letters*. 119 (3) 325-327 Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0165176513001286>
- ⁴⁹ Bacon, L et al (2018) (Not) Eating for the environment: The impact of restaurant menu design on vegetarian food choice. *Appetite* 125, 190-200. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0195666317309480>
- ⁵⁰ Andersson, Ola, and Lif Nelander (2021) Nudge the Lunch: A Field Experiment Testing Menu-Primacy Effects on Lunch Choices Games 12. Available at: <https://www.mdpi.com/2073-4336/12/1/2>
- ⁵¹ Potter, C. et al (2021). The Effects of Environmental Sustainability Labels on Selection, Purchase, and Consumption of Food and Drink Products: A Systematic Review. *Environment and Behavior*, 53(8), 891-925. Available at: <https://journals.sagepub.com/doi/full/10.1177/0013916521995473>
- ⁵² University of Oxford (2022) Ecolabels: Hype or hope for sustainable food choices? Available at: <https://www.leap.ox.ac.uk/article/ecolabels-hype-or-hope-for-sustainable-food-choices>
- ⁵³ Lerner, E., Fish, A., Way, C., Muir, K., Graham, F., Armstrong, B., Patel, V., Knights, D., Jourdain, R., Allen, T., et al (2021). Reaction to a low-carbon footprint food logo and other sustainable diet promotions in a UK University's Student Union 'Living Lab'. *Future of Food: Journal on Food, Agriculture and Society*, 9(1) Available at: <https://openaccess.city.ac.uk/id/eprint/25752/1/321-Article%20Text-1342-1-10-20210224.pdf>

- ⁵⁴ Brunner, F et al (2018) Carbon Label at a University Restaurant – Label Implementation and Evaluation, *Ecological Economics* 146, 658-66 Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0921800917301404>
- ⁵⁵ University of Oxford (2022) Ecolabels: Hype or hope for sustainable food choices? Available at: <https://www.leap.ox.ac.uk/article/ecolabels-hype-or-hope-for-sustainable-food-choices>
- ⁵⁶ Health and Catering News (2023) Can carbon labelling nudge customers into making better choices? Available at: <https://www.hospitalityandcateringnews.com/2023/03/can-carbon-labelling-nudge-customers-into-making-better-choices/>
- ⁵⁷ World Business Council for Sustainable Development (2021) Food Labelling: Principles to support the uptake of healthy and sustainable diets. Available at: <https://www.wbcsd.org/contentwbc/download/13275/194329/1>
- ⁵⁸ Sodexo (2022) Sodexo and the Humane Society of the United States Team up to Tackle Climate Change with Plant-based Meals. Available at: <https://us.sodexo.com/media/news-releases/sodexo-humane-society-meals.html>
- ⁵⁹ Dumbleby, H.(2021) National Food Strategy Independent Review: The Plan. Available at: <https://www.nationalfoodstrategy.org/the-report/>
- ⁶⁰ Department of Environment, Food and Rural Affairs (2021) Government Buying Standards for Food and Catering Services. Available at: <https://www.gov.uk/government/publications/sustainable-procurement-the-gbs-for-food-and-catering-services/government-buying-standard-for-food-and-catering-services>
- ⁶¹ Department of Health and Social Care (2020) Report of the Independent Review of NHS Hospital Food. Available at: <https://assets.publishing.service.gov.uk/media/5f930458d3bf7f35e85fe7ff/independent-review-of-nhs-hospital-food-report.pdf>
- ⁶² Chang, K et al (2023) Strategies for reducing meat consumption within college and university settings: A systematic review and meta-analysis. *Frontiers in Sustainable Food Systems* 7. Available at: <https://www.frontiersin.org/articles/10.3389/fsufs.2023.1103060/full>
- ⁶³ Public Health England (2020) National Diet and Nutrition Survey: Years 9 to 11 of the Rolling Programme (2016/2017 to 2018/2019) Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/943114/NDNS_UK_Y9-11_report.pdf
- ⁶⁴ Eating Better (2020) We Need To Talk About Chicken. Available at: https://www.eating-better.org/uploads/Documents/2020/EB_WeNeedToTalkAboutChicken_Feb20_A4_Final.pdf
- ⁶⁵ United States Department of Agriculture Foreign Agricultural Service (2023) Plant-Based Food Goes Mainstream in Germany. Available at: https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Plant-Based%20Food%20Goes%20Mainstream%20in%20Germany_Berlin_Germany_GM2023-0002.pdf
- ⁶⁶ c (2018) Livestock, Dairy and Poultry Outlook. Available at: <https://www.ers.usda.gov/webdocs/outlooks/86849/ldp-m-283.pdf?v=9661>
- ⁶⁷ Stewart, C et al (2021) Trends in UK meat consumption: analysis of data from years 1–11 (2008–09 to 2018–19) of the National Diet and Nutrition Survey rolling programme. *Lancet Planet Health* 5: 699–708. Available at: [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(21\)00228-X/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(21)00228-X/fulltext)
- ⁶⁸ World Economic Forum (2018) How Our Growing Appetite For Meat Is Harming the Planet. Available at: <https://www.weforum.org/agenda/2018/08/global-appetite-for-meat-is-growing/>
- ⁶⁹ McKinsey and Company (2023) For Love of Meat: Five Trends In China That Meat Executives Must Grasp. Available at: <https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/for-love-of-meat-five-trends-in-china-that-meat-executives-must-grasp>
- ⁷⁰ Bloomberg Linea (2021) Why Beef Consumption in Brazil is the Lowest in 28 Years. Available at: <https://www.bloomberglinea.com/english/why-beef-consumption-in-brazil-is-the-lowest-in-28-years/>
- ⁷¹ James-Martin, G et al (2022) Environmental sustainability in national food-based dietary guidelines: a global review. *Lancet Planet Health* 6 977–86 Available at: <https://www.thelancet.com/action/showPdf?pii=S2542-5196%2822%2900246-7>

- ⁷² The Carbon Trust (2016) The Eatwell Guide: a more sustainable diet: methodology and results summary Available at: <https://www.carbontrust.com/our-work-and-impact/guides-reports-and-tools/the-eatwell-guide-a-more-sustainable-diet>
- ⁷³ Scheelbeek P, Green R, Papier K, et al (2020) Health impacts and environmental footprints of diets that meet the Eatwell Guide recommendations: analyses of multiple UK studies, *BMJ Open*, 10. Available at: <https://bmjopen.bmj.com/content/10/8/e037554>
- ⁷⁴ Culliford, Amy E., Jane Bradbury, and Elphee B. Medici. (2023) Improving Communication of the UK Sustainable Healthy Dietary Guidelines the Eatwell Guide: A Rapid Review. *Sustainability* 15, no. 7: 6149. Available at: <https://www.mdpi.com/2071-1050/15/7/6149>
- ⁷⁵ Food Matters Live (2023) Feeding future generations: school meals from around the world. Available at: <https://foodmatterslive.com/article/school-meals-around-the-world-initiatives-fuelling-young-minds/#:-:text=In%202021%2C%20under%20its%20Climate,being%20sourced%20from%20organic%20farms.>
- ⁷⁶ U.S. Department of Agriculture and U.S. Department of Health and Human Services (2020). Dietary Guidelines for Americans, 2020-2025. 9th Edition. Available at: https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf
- ⁷⁷ Turnwald BP, Boles DZ, Crum AJ.(2017) Association Between Indulgent Descriptions and Vegetable Consumption: Twisted Carrots and Dynamite Beets. *JAMA Intern Med.* 177(8):1216-1218. Available at: <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2630753>
- ⁷⁸ Bacon, L., J. Wise, S. Attwood & D. Vennard (2018) “Language of Sustainable Diets.” Technical Note. Washington, D.C.: World Resources Institute. Available at: www.wri.org/publication/renaming-vegetarian-dishes.
- ⁷⁹ Food for Climate League (2023) Serving Up Plants By Default: Optimising Variety, Health, And Sustainability Of All-You-Care-To-Eat University Dining With Plant-Based Defaults, Available at: https://betterfoodfoundation.org/wp-content/uploads/2023/05/Exec-Summary_Serving-Up-Plants-by-Default.pdf
- ⁸⁰ Plant based News (2023) LinkedIn Headquarters Goes Mostly Plant Based To Reduce Carbon Footprint. Available at: <https://plantbasednews.org/news/economics/linkedin-vegan-menu-carbon-footprint/>
- ⁸¹ Richardson, R et al (2021) Impact of plate shape and size on individual food waste in a university dining hall. *Resources, Conservation and Recycling.* 168. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S092134492030608X>



If you'd like to find out more about our work in partnership, please contact:
business@wwf.org.uk



For a future where people and nature thrive | wwf.org.uk

© 1986 panda symbol and ® "WWF" Registered Trademark of WWF. WWF-UK registered charity (1081247) and in Scotland (SC039593). A company limited by guarantee (4016725)

