UK Health
Alliance on
Climate Change

ALL-CONSUMING:

BUILDING A HEALTHIER FOOD SYSTEM FOR PEOPLE AND PLANET

HOT

CONTENTS

The UK Health Alliance on Climate Change brings together doctors, nurses and other health professionals to advocate for responses to climate change that protect and promote public health. Our vision is that the threats to planetary health from climate change are minimised in a way that maximises potential benefits to health.

Our membership includes medical, nursing and veterinary royal colleges, faculties of health, the British Medical Association, the British Medical Journal and The Lancet.

While climate change poses the greatest health threat of the 21st century, the actions needed to halt climate change can unlock large health co-benefits. The Alliance was formed in reaction to these profound threats and opportunities and seeks to drive an accelerated policy response.

ACKNOWLEDGEMENTS:

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For any questions or queries about this UK Health Alliance on Climate Change report, or to discuss it further, please get in touch:

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EXECUTIVE SUMMARY

Until recently, most activity to limit climate change has focused on decarbonising energy and transportation, but attention is increasingly turning to the role that food plays in producing greenhouse gas emissions. It is now widely recognised that it will be impossible to keep global temperatures at safe levels unless there is a transformation in the way the world produces food and manages land.

In the UK, food production and consumption represents around 20% of our emissions, half of which is related to imports (largely through feed crops and the related deforestation), rather than the food that we produce here. As well as shifting to more sustainable food production, we will need to substantially reduce – by 50% – the amount of food lost and wasted along the food supply chain, from production to consumption. Furthermore, as the biggest driver of deforestation, agriculture has a significant impact on the planet's ability to capture and sequester atmospheric carbon.

In particular, red meat consumption will need to be cut by half if the food system is to stay within sustainable environmental limits. Changing our diets in this way will not only help to mitigate climate change but will also improve our health: there is also clear evidence that replacing animal protein with plant-based protein results in lower rates of stroke, heart disease, diabetes, and overall death rates.

If we are to hope to limit dangerous climate change and improve health outcomes, governments – including our own – will have to do far more to improve the sustainability of the food that we eat. The UK Health Alliance on Climate Change (UKHACC) believes that action should urgently be taken on a number of demand-side and supply-side measures.

"Food is comparable to transport and domestic energy consumption in terms of its role in personal carbon footprints."
– WWF-UK

Farming

Transport

Processing & Packaging

Distribution & Retail

Preparation & Consumption

Waste (at every stage)

SUMMARY OF RECOMMENDATIONS:

- **Information and advice** will need to form the bedrock of any strategy, raising awareness of the issues around food and climate change and giving advice on actions that the public can take to reduce their impact and improve their health. In particular, health professionals should be properly supported with the information they need to deliver, and direct patients to, clear and accessible advice about food and health that supports the transition to a climate-friendly diet.

- Without clear point of sale information, consumers will not be able to make healthy and sustainable choices. **Mandatory environmental labelling for food,** similar to existing nutritional information, would not only inform sustainable consumer choices but would also mean that producers would have to measure their impacts in a uniform way and be accountable for the results.

- **UK homes currently waste 7 million tonnes of food each year,** and yet many foods are only available in bulk or are bundled into so-called 'buy-one-get-one-free' promotions. Government should therefore work swiftly with retailers to **end the practice of 'buy-one-get-one-free' promotions** for unhealthy and perishable foods, to help reduce food waste.

- Government should act directly by **amending public procurement rules around catering** to use state purchasing power to shift the market – changing eating behaviours and expanding the supply of sustainable food. Opportunities for such an approach exist across the public services, from schools to social care, but, it is in the NHS that progress could be made most quickly, especially given NHS England's commitment to achieving net-zero carbon emissions by 2040 through the Greener NHS programme. All catering within the NHS should therefore be procured in accordance with common sustainability guidelines.

- Fiscal incentives have proven effective in changing behaviour and the so-called 'Sugar Tax' demonstrates that it is possible to develop such mechanisms in relation to food. The Government should signal that it intends to move in this direction if voluntary action on the full climate impact of food products is not taken by the food industry by 2025, with **a food carbon tax to be levied on all food producers** according to the carbon footprint of their products.

- The future of the UK's trading relationships with the EU and other countries remains uncertain, but **trade policy should put public and planetary health at its core.** Any new trade agreements must include a clause requiring imports to meet UK environmental standards.

Changing diets will require concerted action, and leadership from government will play an important part in that. There are a number of models for ensuring that that is in place, but as a minimum we would like to see **a cross-departmental, ministerial working group to bring together thinking on food and farming, health, climate change and trade.**

This working group should be charged with overseeing the completion and delivery of the National Food Strategy, which should of course take into account climate change.

INTRODUCTION

Climate change undermines the foundations of health – clean air, safe drinking water, and healthy and secure shelter. It increases the number and intensity of extreme weather events, like floods and storms, damaging health facilities and infrastructure, and putting health systems under intense pressure. While many of these effects will be felt most acutely in the global south, all will be evident in countries like the UK. Failure to act quickly will heighten existing national health challenges, place undue financial strain on the NHS, and worsen health inequalities both within the UK and internationally. By responding to climate change we can simultaneously bring huge public health benefits and help reduce financial pressure on our health service.

> "Failure to act quickly will heighten existing national health challenges, place undue financial strain on the NHS, and worsen health inequalities both within the UK and internationally."

Importantly, climate change threatens the availability of safe and sufficient food, resulting from water scarcity, reduced yields and nutritional quality of crops, as well as pest and vector migration[1][2][3]. But the way we produce and consume food also contributes to climate change[4]. Over 20% of global carbon emissions arise from agriculture and food[5], and agriculture is the biggest driver of deforestation and associated biodiversity loss across the world[6]. As with many of the key drivers of climate change – like fossil fuel energy, and poorly designed cities which make us reliant on cars rather than active transport – current models of industrial farming and food production harm our health directly through air pollution[7] and encourage a high saturated fat intake.

The Alliance recognises the food system as an area that needs to be addressed if the United Kingdom is to meet its commitments under the Paris Agreement, as well as an area in which significant health co-benefits could be realised – food is central to our health and well-being. However, food is also a deeply social issue – one that is tied to identity. Attitudes vary greatly across generations, socio-economic backgrounds and according to many other factors. This is perhaps most evident in our attitudes to the environmental impact of the food we eat, not least in relation to meat consumption, a major contributor to greenhouse gas emissions. Realising the co-benefits for health and climate in this area will require difficult choices for policy makers, practitioners and the public alike.

Floods and storms

Pollution

Crop failure

Heatwaves

Rise in infectious diseases

Economic decline
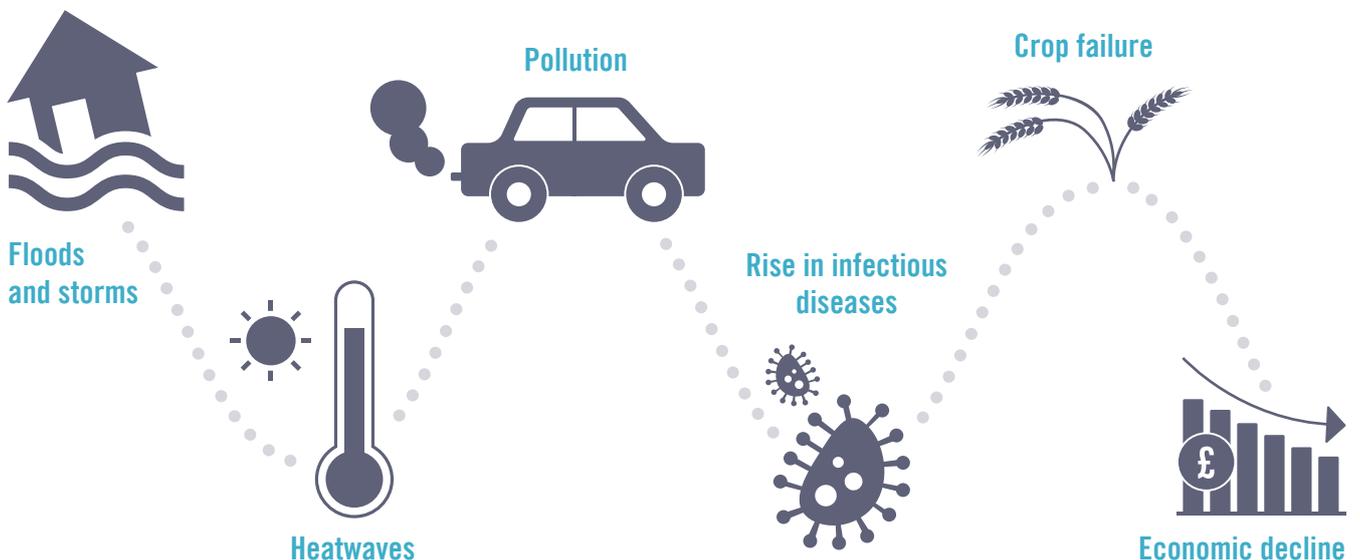
HEALTHY FOOD WITHIN PLANETARY BOUNDARIES

"Without change, the global food system will continue to degrade the environment and compromise the world's capacity to produce food in the future, as well as contribute to climate change and the destruction of biodiversity." – Foresight. The Future of Food and Farming[8]

Food as a percentage of Global GHG* Emissions

26% Food system
74% Non-food
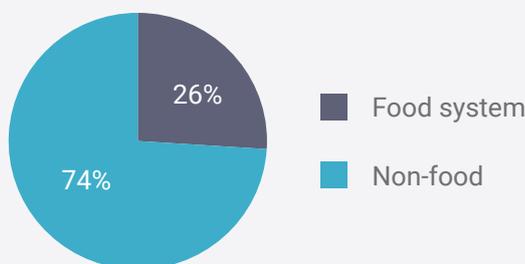
*Greenhouse gas

Breakdown of Food System GHG* Emissions

18% Supply chain
52% Livestock (inc. feed crops & land use)
29% Crops for human consumption
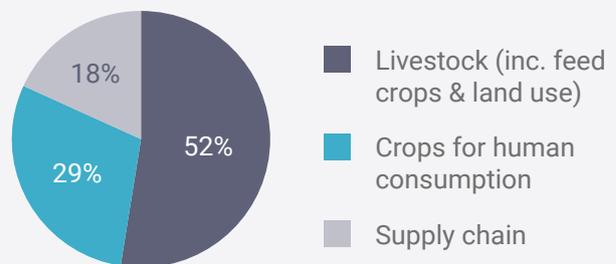
After Poore and Nemecek (2018)[5]

Much of the activity to limit climate change has, thus far, focused on decarbonising energy and transportation. Increasingly, attention is turning to the role that food production plays in producing greenhouse gas emissions. If we are to hope to limit dangerous climate change, governments – including our own – will have to do far more to improve the sustainability of the food that we eat. Such measures will not only limit the negative health impacts of climate change, but also improve the health of the general population.

The Intergovernmental Panel on Climate Change (IPCC) report makes clear once again that it will be impossible to keep global temperatures at safe levels unless there is a transformation in the way the world produces food and manages land – between 20% and 30% of global carbon emissions are from agriculture[9] and food, and about half of all methane emissions come from cattle and rice fields alone. As the biggest driver of deforestation, agriculture has a significant impact on the planet's ability to capture and sequester atmospheric carbon. In the UK, food production and consumption represents around 20% of our emissions, half of which is related to imports (largely through feed crops and related deforestation), rather than the food that we produce here[10].

There is clear evidence that replacing animal protein with plant-based protein results in lower rates of stroke, heart disease, diabetes, and overall death rates[11]. A number of dietary guidelines, such as Public Health England's Eatwell Guide and the One Blue Dot guidelines (produced by the British Dietetic Association), recommend healthier diets that contain less red and processed meat, combined with increased plant-based foods[12][13]. The EAT-Lancet Commission on food, planet and health argues that global red meat consumption will need to be cut by half if the food system is to stay within sustainable environmental limits. Similarly, we will need to substantially reduce – by 50% – the amount of food lost and wasted along the food supply chain, from production to consumption[14].

Making the changes to diet recommended by these studies will be difficult to achieve without concerted international action, through a wide range of supply- and demand-side interventions from governments. In the UK, significant progress has been made on decarbonising energy, but if we are to reach net-zero by 2050 we need to address greenhouse gas emissions related to our diet – around half of which are due to beef and dairy farming[15]. This is an area in which the UK can genuinely take the lead – and gain a competitive advantage in a post-Brexit market.

FOOD AND CLIMATE

There are many ways in which food production and consumption have an impact on climate change, and consequently on health. If these impacts are to be reduced, action is needed on each of them.

FOOD MILES

While over 80% of greenhouse gas emissions linked to food are in its production, up to 10% derive from transporting it[16]. Although a relatively small component, this is still significant and producing food closer to where it is consumed wherever possible will be an important part of any strategy to reduce the climate impact of food production and consumption. Increasing the amount of seasonal food we eat will also help to reduce the carbon cost of transporting food, but could also encourage the consumption of fresher, healthier food.

FOOD WASTE

All food production has climate impacts, so reducing the amount of food we waste can help lessen these. The Waste Resources Action Programme (WRAP) estimates that total UK household food waste in 2015 was 7.1 million tonnes (70% of total food waste) with a value of around £15 billion[18]. Food waste has climate impacts beyond the needless production: in the UK, food waste going to landfill creates more than 20m tonnes of methane each year (460mT CO_2e) and, if global food waste were a country, it would be the third-largest emitter of greenhouse gases after the US and China[19].

Refrigeration accounts for 15% of electricity usage worldwide[20], and consequently has a very high carbon footprint. There is significant potential to reduce the energy expended in storing food that is subsequently wasted, especially meat which requires more refrigeration than other foods.

> "Food waste going to landfill creates more than 20 million tonnes of methane each year"

PACKAGING

The packaging associated with processed foods has its own carbon costs, and the wider environmental impacts of plastics in particular have been a cause of increasing public concern over recent years. The carbon footprint of plastics most used in food packaging is about 6 kg CO_2 per kg of plastic[17]. But the way we package food – particularly fresh foods like salad leaves – also has an impact on the amount of food we buy and consequently waste.

> "The carbon footprint of plastics most used in food packaging is about 6 kg CO_2 per kg of plastic"

LESS AND BETTER MEAT

Meat production has a particularly high impact on the climate, and diets that prioritise plant-based proteins and limit animal-based proteins are associated with much lower greenhouse gas emissions, as well as better health outcomes[21 22]. The independent UK Committee on Climate Change says we need a 20% fall in beef, lamb, and dairy consumption to get to net-zero emissions by 2050[23], while the Eating Better alliance suggests that we need to be consuming 50% less meat (red and otherwise) by 2030[24].

There is evidence that less intensively farmed livestock has a less severe climate impact: modelling suggests that switching from intensive to agroecology/organic farming could reduce agriculture-related greenhouse gas emissions by 40-47% across Europe[25]; and pasture itself can act as a carbon sink[26]. However, these relative benefits do not outweigh the overwhelming impact of red meat production and any strategy that hopes to reach net-zero will need to address this difficult issue.

THE CHALLENGE OF CHANGING UK DIETS

Changing the way we produce and consume food to mitigate climate impacts and improve health is central to achieving the cuts required to reach net-zero emissions. But it will be no easy task. Not least, changing behaviour is notoriously difficult, and radically changing dietary habits will be no different. It will require the right balance of demand- and supply- side mechanisms, as well as a mix of information and incentives for each.

As a first step we need to see much more done to communicate the climate impact of food, and we need to learn the lessons of healthy eating campaigns more generally. There are a number of opportunities for communicating the messages that will support such a change. There is already a high level of trust in advice in health professionals, especially around healthy eating[27]. It will however be important to frame arguments for change in terms of moderation, emphasising freedom of choice. Appealing to consumers' antipathy to waste – the success of 'wonky veg' offerings in supermarkets illustrates the public appetite for avoiding food waste – will also be important, as will communicating the burden on the NHS unsustainable diets result in.

More challenging will be normalising the consumption of less meat, as meat is often seen as a core part of a healthy diet and the link between meat and climate change is not widely understood. While awareness of the environmental impacts of livestock is growing, from 31% in 2017 to 38% in 2019[28], this is primarily among the young, the socially liberal and the urban. When sought, public opinion tends to support measures to encourage 'low-income households' to consume more vegetables, rather than introducing disincentives to climate-negative food consumption, especially meat.

Emphasising moderation, steering consumers towards better quality meat that comes from livestock that is less intensively farmed, and providing clear information on healthy and sustainable diets, is something for which health professionals are ideally placed. People listen to health professionals and the primary reason given for cutting back on meat is for health reasons. The PHE Eatwell Guide is a good starting point for illustrating what a healthy, climate-friendly diet looks like. While there are some criticisms of the guide, especially in relation to the amount of starchy carbohydrates it recommends, its established position means it can be used as a reference point more widely.

> **"The public sector, and especially the NHS, is a major purchaser of food and commissioner of catering services. This buying power could be used more effectively to shift production patterns as well as change dietary behaviour."**

Alongside advice and information, other tools exist. The public sector, and especially the NHS, is a major purchaser of food and commissioner of catering services. This buying power could be used more effectively to shift production patterns as well as change dietary behaviour of, for example, hospital patients and school pupils. The links between health and climate will clearly be important in changing the UK's patterns of food production and consumption. Making information more readily available at the point of purchase could effectively 'nudge' consumer behaviour, encouraged by regulation on the producer side.

Price is consistently the leading factor that affects the food people buy, and the amount that we currently pay for our food does not cover the wider costs to society of its production and consumption – including their impact on emissions, biodiversity, and our health. Raising the prices of tobacco, alcohol and, more recently, soft drinks has demonstrated the effectiveness of such measures in reducing harmful consumption.

POLICY RECOMMENDATIONS

Government has a critical leadership role in achieving these changes. The UKHACC believes that action should urgently be taken on a number of demand-side and supply-side measures:

1. ADVICE AND INFORMATION

Information and advice will need to form the bedrock of any strategy, raising awareness of the issues around food and climate change and giving advice on actions that the public can take to reduce their impact and improve their health. This could be achieved by adding to the existing health-related dietary advice delivered through public information campaigns.

In particular, health professionals should be properly equipped with the information they need to share clear and accessible advice to their patients about food and health that supports the transition to a climate-friendly diet, using the Eatwell Guide or another as a key reference point.

While they are well placed to advise patients on diet and its links to climate change, health professionals cannot be expected to have all of the answers nor to be able to discuss this at length in a clinical setting. Online resources from the NHS, that can be accessed by health professionals and highlighted to patients, must play a part in supporting health professionals and the wider public to make choices that are healthier for themselves and the planet.

2. FOOD LABELLING

Without clear point of sale information, consumers will not be able to make healthy and sustainable choices. We already successfully label a variety of consumer goods (and indeed buildings) for their environmental performance. For example, the 1992 EU Directive on labelling energy efficiency of domestic appliances has had a considerable impact: initially, 75% of fridges and freezers were rated G to D (low efficiency), but today 98% are classed A++ or A+++. The widespread use of food labelling, including traffic lights around key health factors such as sugar, salt and fat, demonstrates that consumers are already used to interpreting such guidance at point of sale.

Two-thirds (67%) of consumers support the idea of a recognisable carbon label to demonstrate that products have been made with a commitment to measuring and reducing their carbon footprint[29]. Making clear environmental labelling mandatory for food in much the same way as existing requirements would not only inform sustainable consumer choices, but would also mean that producers would have to measure their impacts in a uniform way and be accountable for the results[30].

Such labelling would need to be easy to follow, and also should not lead to additional packaging. One promising proposal is to describe the greenhouse emissions associated with particular food items in terms of what percentage of a person's typical daily carbon footprint they represent[31]. However, given the complexity of the factors underlying the climate impact of food (not just ingredients but also packaging and food miles), devising a robust yet practicable system might seem daunting. But models exist, such as the Carbon Trust's supply chain and product foot-printing[32] and GHG Protocol's Product Standards[33]. Some manufacturers, such as Oatly[34], have already begun to record the carbon footprint of their products on their packaging. Such examples could be used as a basis for Government-commissioned independent research into the most effective form of labelling to implement to support consumers in making more sustainable choices.
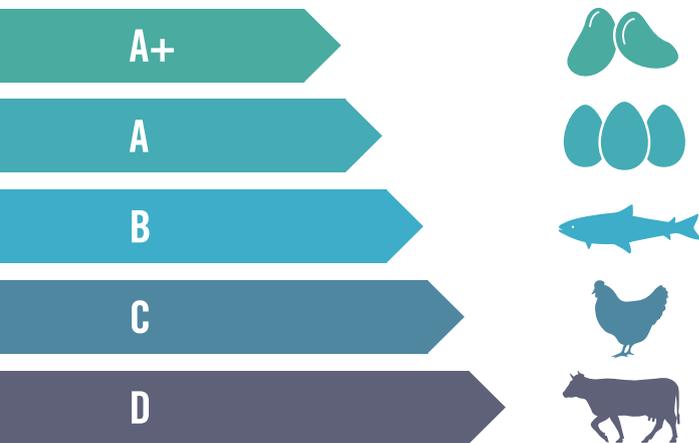
3. PUBLIC PROCUREMENT

Government could act directly by amending public procurement rules where food is provided directly to service users. Using state purchasing power in this way goes far beyond the specific goods and services purchased, important as that is. Large-scale procurement decisions help to shift the market by creating enlightened buyers to which producers can respond without losing out, changing norms and expanding supply. In addition, service users can become familiar with healthier, more sustainable eating, which can make changing their food habits easier, for them and for their families. Opportunities exist for such an approach across the public services, from schools to social care, but it is in the NHS that most progress can be made most quickly – especially given NHS England's commitment to achieving net-zero carbon emissions by 2040[35].

As the largest producer of public sector emissions the NHS can and should be a leader in the fight against climate change, which is the greatest threat to public health of the 21st century. The NHS rightly prides itself on providing the highest possible quality of care for patients; this now must extend to the food it serves. There are procurement/dietary standards in place, but it is down to individual trusts to exercise them and there is little data available on how they are adopting these standards. But there are examples of good practice in trusts and the NHS England Sustainable Development Unit is working to share best practice and encourage the adoption of higher procurement standards in this area.

Nottingham University Hospitals NHS Trust sources more than 90% of its fresh red meat and all of its milk, vegetables, salad and fruit in season from within a 30 mile radius of the hospital. By switching to local suppliers and choosing different cuts of meat the bill for fresh meat fell while the producers still enjoyed a premium. Nottingham has made a concerted effort to localise the supply chain and has achieved savings of over £800,000 per year while also significantly reducing food miles and supporting the local economy[36][37].

Isolated examples of good practice, while laudable in themselves, are only the beginning. They cannot by themselves create sufficient scale and, importantly, disparate standards will not allow for providers to supply healthier and sustainable food economically and at scale. If public procurement is to underpin more systematic change in food production and consumption, we believe that all catering within the public services, and especially in the NHS, should as a minimum adhere to common, established guidelines. In the first instance, this could be PHE's Eatwell Guide or, for example, the BDA's Blue Dot standard[38].

4. REDUCING WASTE

The UK currently wastes a third of its food and yet many foods, including highly processed and unhealthy items, are only available in bulk or are frequently bundled into so-called 'buy-one-get-one-free' deals. These practices, together with confusing 'best before' and 'use by' labelling, encourages a great deal of the 7.1 million tonnes of domestic food waste each year.

Along with adding to food and materials waste, some research suggests that this contributes to the UK's obesity[39], which puts a large strain on the NHS. In 2017/18, 10,600 hospital admissions were directly attributable to obesity, while obesity was a factor in a further 700,000 cases[40]. Furthermore, obesity is an area in which health inequalities are at their starkest – obesity is over twice as prevalent in the most deprived areas compared to the least deprived areas[41].

Government should therefore work with the industry to review food packaging and promotions that encourage waste, simultaneously tackling the obesity and waste crises. In particular, government should work swiftly with retailers to end the practice of 'buy-one-get-one-free' promotions for unhealthy and perishable foods.

British households produced 7.1 million tonnes of food waste in 2015[18]

5. TOWARDS A CARBON TAX

Fiscal incentives have long been proven effective in changing behaviour. Carbon pricing, in the form of the EU Emissions Trading Scheme, has been successful in reducing carbon emissions since its introduction[42]. The Soft Drinks Industry Levy (SDIL), the so-called 'Sugar Tax', demonstrates that it is possible to develop similar mechanisms in relation to food, with the Treasury estimating that more than 50% of manufacturers preemptively changed their formulas to cut sugar in response to the tax[43]; the positive impact of minimum unit pricing for alcohol in Scotland further demonstrates the effectiveness of such incentives[44]. The success of the levy on plastic bags also provides precedent for addressing excess packaging, and suggests that government has other tools at its disposal, should collaboration with the food industry not move quickly enough.

However, the route to implementing both the SDIL and minimum unit pricing shows that doing so requires sustained focus and takes time. That is why we believe that the Government should signal that it intends to move in this direction if voluntary action on the full climate impact of food products is not taken by the food industry by 2025. This food carbon tax should be levied on all food producers and be based on the carbon footprint of their products: the work done on modelling foot-printing to support mandatory food labelling will be important in establishing the basis for the levy.

The impact of such a tax on UK farmers of changing diets could be reduced by enhancing and accelerating the implementation of the Environmental Land Management scheme, offering subsidies for encouraging biodiversity and afforestation. This is now increasingly possible given the UK's departure from the EU and the Common Agricultural Policy. While the tax should be levied on producers, some may choose to pass on the costs in price rises, rather than reduce their climate impact, and the potential impact on consumers – particularly those on low incomes – should not be underestimated. Government will need to commission independent research, including a public consultation, to inform the details of a carbon tax and to assess and mitigate potential distributional impacts.

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6. FOOD POLICY AFTER BREXIT

The future of the UK's trading relationship with the EU and other countries is still somewhat uncertain. Such ambiguity is concerning, as half the UK's food is imported, with 26% coming from the EU[45]. The specific terms of any trade deal agreed will have profound impacts on the future of our food system and, by consequence, on public health. A poorly designed trade deal could exacerbate these negative trends.

Future trade policy should set the ambition of making fresh and minimally processed foods more available and more affordable – public and planetary health should be a core consideration of all trade negotiations. The Alliance agrees with the conclusions of the DEFRA Select Committee report, *Brexit: Trade in Food*[46] that as "the Government looks beyond the EU for new free trade agreements, it must not sacrifice our reputation for animal welfare and environmental standards" in return for cheap imports or securing a trade deal. Therefore, any new trade agreement must include a clause requiring imports to meet UK environmental standards.

7. GOVERNANCE AND STRATEGY

Changing diets will require concerted action and leadership from government will play an important part in that. There are a number of models for ensuring that that is in place, but as a minimum we would like to see a cross-departmental, ministerial working group to bring together thinking on food and farming, health, climate change and trade. The working group should be charged with overseeing the completion and delivery of the National Food Strategy, which should of course take into account climate change.

CONCLUSION

Changing the way that we both produce and consume food is essential if we are to mitigate climate change. Failure to act quickly will heighten existing national health challenges, place undue financial strain on the NHS, and worsen health inequalities both within the UK and internationally. By responding to climate change we can simultaneously bring huge public health benefits and help reduce financial pressure on our health service.

Producers have a critical role to play in stripping out harmful emissions from their processes and, where voluntary action is not forthcoming, the government must be ready to regulate. But, given that around half of the UK's food-related greenhouse gas emissions are linked to imported food, consumers also have to change some of their dietary habits.

Of course, the food industry, from manufacturers to retailers, has an important part in that and government again, not least in relation to future trade deals, has a duty to ensure that food coming into the country is high quality, healthy and sustainable. But all of us will need to change our attitudes and behaviours, from reducing food waste to increasing the proportion of plant-based protein that we eat.

Food is a deeply social issue, one that is tied to identity, and the scale of that challenge should not be underestimated. Providing reliable information and advice, alongside regulation and incentives, will be essential to changing hearts and minds. Health professionals have a critical role to play here, as trusted professionals, and the UK Health Alliance on Climate Change will continue to support them in that endeavour.

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ALL-CONSUMING:

BUILDING A HEALTHIER FOOD SYSTEM FOR PEOPLE AND PLANET

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