

National Food Strategy

Independent Review

CHAPTER

16

In this report we have examined at length the things that have gone wrong with the food system. Now we must address an even more urgent question: how do we put them right?

The food system of the future must meet these goals:

- **Make us well instead of sick.**
- **Be resilient enough to withstand global shocks.**
- **Help to restore nature and halt climate change so that we hand on a healthier planet to our children.**
- **Meet the standards the public expect, on health, environment, and animal welfare.**

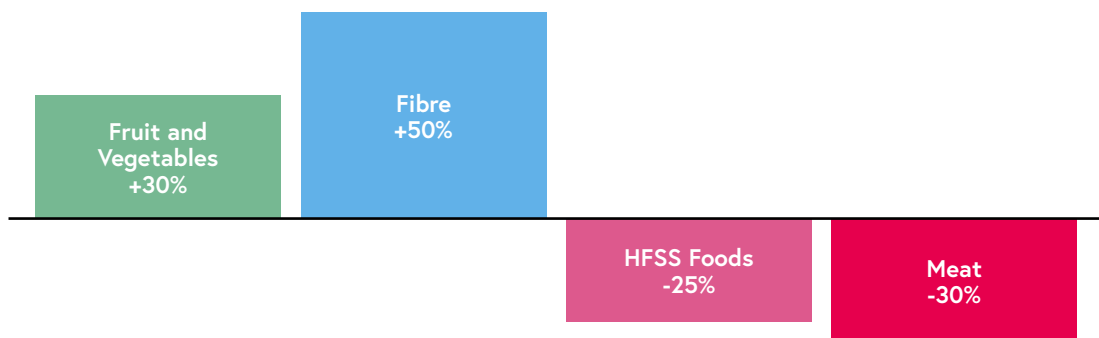
This will require significant – although not necessarily painful – changes to our national diet, and to the way we grow our food. Figure 16.1 shows how our diets

will need to change across the next ten years if we are to meet the government's existing commitments on health, climate and nature.

We will need to use more of our countryside to sequester carbon and restore nature, which means encouraging diverse methods of land management. A small amount of our farming land will be given over to native woodland, peatland, heath and species-rich grassland maintained by conservation grazing. On the remaining farmland, lower intensity, agroecological farms will sit alongside higher-yielding farms that use the latest technology to maintain yields without polluting. And there will be any number of farms in between, drawing from both traditions.

Figure 16.1

Changes needed to the national diet by 2032 (compared to 2019) to meet health, climate and nature commitments[†]



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[†] Three of the diet-related targets are based on advice from the Scientific Advisory Committee on Nutrition. A 30% increase in fruit and vegetables would bring us in line with the Eatwell recommendation to eat five pieces of fruit and vegetables per day; a 50% increase in fibre would bring us in line with the SACN recommended 30g/day; a 25% reduction in consumption of HFSS foods will take us towards the required 60% reduction in salt, 20% reduction in saturated fat; and 50% reduction in free sugars. A 30% reduction in meat is required to achieve the 5th Carbon budget and the 30x30 nature commitment – this represents the creation and maintenance of at least 410,000 hectares of woodland, maintaining and restoring 325,000 hectares of peatlands, and managing 200,000 hectares mainly for nature (for example, healthland and species-rich grassland some of which would be managed through conservation grazing).

The recommendations in this strategy are designed to intervene in the system at multiple levels. We arrived at them after reviewing and assessing policy ideas from around the world, as well as the hundreds of proposals that were submitted to our public Call for Evidence. We narrowed these down to a few dozen, which we then analysed in detail, modelling their potential impact and cost, consulting our advisory panel along with other experts and stakeholders, and testing the most challenging ideas in focus groups and with citizens at the "deliberative dialogues" we held around the country.

This is not a wish list of ideas that we hope might help. These are concrete proposals for immediate action, which we have explored in depth and are confident will work. More detail and evidence on each recommendation can be found in Appendices 1 to 14.

Designed to be implemented over the next three years, they are essential first steps in a longer-term transition.

Recommendations

1. Escape the junk food cycle and protect the NHS

Recommendation 1

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1. Escape the Junk Food Cycle and protect the NHS

The way appetite malfunctions in the modern world has created a huge market for unhealthy foods.

We have a predilection for calorie dense foods, which means food companies invest more time and money creating these foods, which makes us eat more of them and expands the market, which leads to more investment, which makes us eat more. Company bosses do not dare to stop investing in these foods, in case they lose their competitive edge. Both consumers and food companies are stuck in a reinforcing feedback loop – a Junk Food Cycle.

The results are dire. Poor diet contributes to an estimated 64,000 deaths every year in England.¹ More than half of over-45s are living with diet-related health conditions.² This is putting an enormous strain on NHS resources.

One study has estimated that every unit of body mass index put on by every individual raises the UK's annual healthcare costs by £16.³ As things stand, obesity is expected to continue increasing.⁴ By 2035/36, Type 2 diabetes is projected to cost the NHS £15 billion a year, or one and a half times as much as cancer does today.⁵ Halting this trajectory is the single biggest thing we can do to protect the future of our health service.

Education and willpower are not enough. We cannot escape this vicious circle without rebalancing the financial incentives within the food system.

Recommendation 1

Introduce a Sugar and Salt Reformulation Tax. Use some of the revenue to help get fresh fruit and vegetables to low-income families.

The Government should introduce a £3/kg tax on sugar and a £6/kg tax on salt sold for use in processed foods or in restaurants and catering businesses. This would create an incentive for manufacturers to reduce the levels of sugar and salt in their products, by reformulating their recipes or reducing their portion sizes.

The CEOs of major food companies have told us privately that they cannot make these changes without Government intervention. They need a level playing field if they are to start making their products healthier, otherwise the competition will simply move in and undercut them.

The public, too, supports this kind of intervention. One poll found that 63% of people in the UK would like the Sugary Drinks Levy to be expanded to include other sugary foods such as sweets and biscuits.⁶

Our modelling suggests this tax would lower the average sugar intake by 4–10g per person per day, and the salt intake by 0.2–0.6g per person per day. This would reduce the average calories eaten per person per day by 15–38 kcal.⁷ According to the UK's expert group on calorie reduction, this could completely halt weight gain at a population level (which would require an average reduction of 24kcal per person per day).⁸

High salt intake raises blood pressure and increases the risk of stroke, heart disease, osteoporosis, stomach cancer and kidney disease.

An estimated 300,000 years of healthy life are lost to diet-related illness or disease in the UK every year, with all the worry, work and logistical strain that such a situation entails. Once the years lost to premature death are factored in, that rises to almost 1.5 million.⁹ According to our modelling, the Sugar and Salt Tax would save 37,000–97,000 of those years.

On top of the enormous personal benefits of improving people's health, there are financial gains to be made. The Sugar and Salt Tax could raise £2.9bn–£3.4bn per year for the Treasury (£2.3bn–2.8bn from sugar and £570m–£630m from salt).

We considered a wide range of fiscal and other mechanisms to break the Junk Food Cycle. The Sugar and Salt Reformulation Tax has the merit that it is technically feasible, simple for consumers and businesses to understand, and enables industry to minimise the commercial impact and the impact on consumers wallets through reformulation.

It also has a clear and effective precedent in the form of the Soft Drinks Industry Levy (SDIL), which is estimated to have already resulted in 36,000 fewer cases of obesity in children and teenagers in England, and 6,200 fewer decayed and missing teeth.¹⁰ (But because the SDIL only covers sugary drinks, it has not been enough to really change people's diets and the health consequences that follow from them. For example, it has reduced average sugar consumption by 1.8g per person per day, but adults still consume 20g too much sugar every day.¹¹)

This tax should be introduced in a 2024 Finance Bill, to enable Government and business to get implementation right. It should replace the current SDIL.

While this tax is intended to encourage reformulation,

it is possible that the price of some products – particularly those, such as value jam, that are almost entirely made from sugar – will rise. We do not want to place added financial pressures on those households that are already struggling to put food on the table. We especially want to avoid the possible unintended consequence that hard-pressed shoppers end up cutting back on healthy foods. As we discussed in Chapter 4, unhealthy food is significantly cheaper per calorie than healthy food – especially once you factor in the opportunity cost of having to cook from scratch.

We therefore propose a series of measures to get fresh food and ingredients to low-income households with children. Details of these measures are set out under Objective 2. They include expanding free school meals and extending the Holiday Activities and Food programme for the next three years (to support children during both term time and holidays); an expansion of the Healthy Start scheme (to support the diets of young children before they start school); and the trial of a "Community Eatwell" Programme that enables GPs to prescribe fruit and vegetables to people suffering, or at risk of suffering, from diet-related illness or food insecurity.

Over three years, the average annual cost to Government of these four measures is £1.1 billion.

Recommendation 2

Introduce mandatory reporting for large food companies.

Substantial shifts in the nation's diet are required if we are to reduce the environmental and health impacts of our consumption.

Voluntary action alone will not be enough to break the Junk Food Cycle, which is why we are calling for the world's first Sugar and Salt Reformulation Tax. However, we do detect a genuine desire for change within the food industry. The CEOs of several major food companies have told us that the pandemic shocked them into wanting to do things better.

Supermarkets and the hospitality sector are extremely adept at nudging consumers towards certain products and behaviours. They can do this by changing their layouts and menus, using discounts and promotions, reformulating their own products, changing their packaging and labelling, and using their enormous purchasing power selectively.

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We do believe that food retailers and hospitality businesses want to be part of the solution. However, voluntary measures work best if they are monitored and subject to public scrutiny.

We therefore recommend that there should be a statutory duty for all food companies with more than 250 employees – including retailers, restaurant and quick service companies, contract caterers, wholesalers, manufacturers and online ordering platforms – to publish an annual report on the following set of metrics:

- Sales of food and drink high in fat, sugar or salt (HFSS) excluding alcohol.
- Sales of protein by type (of meat, dairy, fish, plant, or alternative protein) and origin.¹
- Sales of vegetables.¹¹
- Sales of fruit.
- Sales of major nutrients: fibre, saturated fat, sugar and salt.
- Food waste.
- Total food and drink sales.

Companies of this size already have a legal obligation to calculate calories on their foods, meaning the majority already produce the raw data required to calculate these figures.

Publishing these numbers will allow investors, Government, and others to track whether businesses are heading in the right direction. It will enable better scrutiny and maintain public pressure on companies to do the right thing.

Data reporting should be done via an online portal, and a summary of data by company made available to the public. The Food Standards Agency should develop the portal and ensure standardised reporting, so that there is a common set of definitions and data standards in place. The data should form part of the Food Standards Agency's annual report to Parliament on the state of the food system (see Recommendation 14).

¹ For all protein this should include country of origin. For pork, poultry, dairy, eggs and fish, it should additionally include welfare or method of production accreditations (e.g. Red Tractor, RSPCA, Freedom Food, organic, pasture-fed, Better Chicken Commitment, MSC).

¹¹ "Fruit and vegetables" includes frozen, tinned and composite meals as well as fresh.

Recommendation 3

Launch a new "Eat and Learn" initiative for schools.

Eating well is much easier if you know how to cook from scratch. But culinary skills and knowledge have declined across every social class since convenience food became widely available – and are still declining, as one generation after another grows up without seeing or trying cookery at home.

Since the publication of the School Food Plan in 2014, schools have had a legal requirement to teach cookery and nutrition to all children up to the age of 14. The curriculum states that schools should attempt to "instil a love of cooking in pupils", while teaching them the kitchen skills necessary "to feed themselves and others affordably and well, now and in later life".¹² By 14, all pupils should be able to "understand the source, seasonality and characteristics of a broad range of ingredients" and "cook a repertoire of predominantly savoury dishes".

In too many schools, this is still not happening. "Food tech" remains a second-class subject – a fun but frivolous distraction from the real business of learning.

It is time to take food education seriously. The Eat and Learn initiative is a package of measures designed to achieve that. It includes five elements:

1. Curriculum changes.

- a. **Sensory Education for early years.** Children should start their food education as young as possible, while their minds and palates are still open to new experiences. "Sensory food education" should be added to the curriculum for nursery and reception classes. This teaching method – in which children are introduced to new foods and encouraged to explore them with all five senses – has been shown to increase children's willingness to try fruit and vegetables.
- b. **Reinstate the Food A level.** In 2016 the food A Level was axed alongside a number of other subjects. This means that pupils who are interested in food and nutrition – whether for vocational reasons, or just love of the subject – are cut off at the educational pass. It has also led to an inevitable slump in the number of cookery and nutrition subject leads

available to teach the subject in earlier years. This decision should be reversed, and the food A Level reinstated, with every school – primary and secondary – required to have a cookery subject lead.

- c. **Review other qualifications.** The DfE should conduct a qualification review to ensure that existing and new qualifications such as T Levels in Science and Catering provide an adequate focus on food and nutrition, and a progression route for students after GCSEs. This is particularly important in light of the post-Brexit skills shortage in hospitality.

2. Accreditation.

The Government should require schools to work with accreditation schemes – such as Food for Life – to improve food and food education in schools. These schemes would also provide training and support for leaders and staff.

3. Inspection.

Cookery and Nutrition lessons should be inspected with the same rigour as Maths or English lessons. Whenever Ofsted inspectors visit a school, they conduct "deep dives" on four to six different subjects. (The only subject that is always inspected is Reading in primary schools.) Ofsted should conduct deep dives on Cookery and Nutrition lessons as often as they do other subjects. Ofsted should also set up a team to create and publish a Food and Nutrition "research review", as they have started doing with other subjects. These reviews are a powerful influence on what is taught in schools and how it is taught.

4. Funding.

- a. We recommend that the Government pays for the ingredients that children use in cooking lessons (as they do for schoolbooks). The current system leads to waste – it is hard for parents to buy ingredients in one-portion quantities – and to stigma for children whose parents struggle to afford them.
- b. We recommend that the Government doubles the current level of funding for the School Fruit and Vegetable Scheme (from £40.4 million to £80.8 million per year), but gives the money directly to schools rather than administering the scheme centrally. This will allow schools to procure higher quality produce from local suppliers.

5. Recruitment.

The Government should ensure there are sufficient training places, bursaries and recruitment strategies in place to address the current shortage of food teachers in secondary schools.¹³

The implementation of all of these things should be placed under a dedicated Eat and Learn team in DfE which works closely with the Office of Health Promotion.

One thing that schools who do food well have in common is that they adopt what is often called a "whole-school approach". This sounds like jargon, but is actually a very simple concept. It means integrating food into the life of the school: treating the dining hall as the hub of the school, where children and teachers eat together; lunch as part of the school day; the cooks as important staff members; and food as part of a rounded education.¹⁴ The Eat and Learn initiative should actively champion this approach.

Over three years, the average annual cost to Government to deliver this recommendation is £206 million†, of which £124 million is for food education ingredients.

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¹ We have not included the cost of the first year (2022/23) in calculating this average because we assume that the implementation of this scheme will not be until Autumn 2023.

2. Reduce diet-related inequality

Health inequality in England is stark, and getting worse. A man in one of the 10% most affluent postcodes will live, on average, 9.5 years longer than his peer living in one of the least affluent postcodes.¹⁵ Women in the poorest areas of the UK are actually dying younger than they did in 2010.

Children living in the poorest areas are four times more likely than children from the richest areas to be severely obese when they arrive at primary school.¹⁶ They are five times more likely to be severely obese when they leave it. Sixteen per cent of people in the lowest income group suffer from diabetes: more than twice the percentage of those in the highest income group.¹⁷

It is a peculiarity of the modern food system that obesity sometimes co-exists with hunger. Bad diets are, per calorie, much cheaper than healthy diets. The same households that cannot afford to eat healthily may sometimes find themselves struggling to put food on the table.

Data collected in 2019 by the Department of Work and Pensions found that, even before the pandemic, 4% of families experienced disrupted eating patterns or were forced to reduce their food consumption due to a lack of resources.¹⁸ (This is known as "very low food security".) Among those on Universal Credit, this proportion rose to 26%.

The economic disruption caused by the pandemic has increased the number of households struggling to put food on the table. These people cannot wait around for the food system to be fixed: they need help now. The Government must give direct support to the poorest households to help them eat well. The first priority should be children.

Recommendation 4

Extend eligibility for free school meals.

In Key Stage 1 (Reception to Year 2), all children receive free school meals (FSM). After that, the eligibility threshold is set at an annual household income of less than £7,400 before benefits. In other words, you have to be extremely poor to qualify. This means there are some children from low-income households are going hungry. Children with empty stomachs struggle at school: they find it hard to concentrate, their behaviour deteriorates, and they are more likely to be disruptive in class.¹⁹

In Part One of this strategy, published last July, we recommended that the Government should extend free school meals to everyone on Universal Credit, up to the age of 16. We estimated this would cost £670 million. However, since the pandemic began, a further 230,000 households with children in the UK have registered for Universal Credit: an increase of 7%. This means that extending eligibility to everyone on Universal Credit would now cost £790 million, at a time when the public finances are already under extreme pressure.

We have therefore revisited the figures on food insecurity, to see if there is a way to target those in most urgent need of free school meals. We found that increasing the earnings threshold to £20,000 before benefits would ensure that 82% of children in households with "very low food security" (as defined by the Government) – would be eligible for free school meals, and 70% of those with "low food security".²⁰

Even this modified ambition would be expensive. Over three years, the average annual cost to Government to deliver this recommendation is £544 million. This would extend free school meals to all the children in households currently earning less than £20,000, as well as those from households with No Recourse to Public Funds (NRPF), to whom the Government has extended free school meals during the pandemic. This would mean a total of 1.1 million additional children get a freshly cooked, free lunch every day. As the economy recovers, and as earnings increase and fewer families become eligible, we expect this additional cost to fall.

Free school meals are extremely popular with the public. One recent poll found that 75% of UK adults agree with the statement: "Parents are responsible for feeding their children, but government must step in for children whose parents are unable to do so."²¹ Over half (51%) of respondents went further still, saying that "school meals should be free for all students so that poor students are not stigmatised".

Recommendation 5

Fund the Holiday Activities and Food programme for the next three years.

In response to Part One of this strategy the Government made Holiday Activities and Food (HAF) clubs available to all children on free school meals, for the duration of 2021. (They had previously been trialled in 17 local authorities.)

These programmes provide activities for children in the school holidays: four days a week for four weeks in summer, and a week over each of the Easter and Christmas holidays. Children on HAF programmes also receive at least one hot meal a day, which meets the School Food Standards. The majority of local authorities have also been offering the programmes to non-FSM children, for a small fee.

Holidays are a particularly hard time for households experiencing food insecurity. An estimated three million children are thought to be at risk of hunger in the school holidays, and data from food banks shows a surge in demand for emergency supplies over the summer.²²

As well as ensuring that children from the poorest households get at least one freshly cooked meal a day, HAF programmes provide social contact, exercise and enrichment activities. These are especially important in the wake of the pandemic, which has had such a detrimental effect on the emotional and social development of many children.

Currently, these programmes are funded to run until the end of 2021. We recommend that the Government should extend them for at least the next three years, or until the next Spending Review. The programme should include children in households on qualifying benefits earning less than £20,000.

Over three years, the average annual cost to Government to deliver this recommendation is £449 million. This figure takes account of the uplift in the number of children that would be eligible for HAF if our recommendation were adopted on FSM eligibility. As the economy recovers, and as earnings increase and fewer families become eligible, we expect this additional cost to fall.

Recommendation 6

Expand the Healthy Start scheme.

Healthy Start is a means-tested scheme for low-income pregnant women and families with children under the age of four. It is also a universal entitlement for mothers under 18 years of age. The scheme provides coupons for vitamins and vouchers which can be used to buy fruit and vegetables, as well as milk.

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¹ Currently, due to the complexity of the benefits system, there are two thresholds. For example, if you receive Child Tax Credit, your family's income must be less than £16,190 per year; if you are on Universal Credit, it has to be less than £5,000 per year.

¹¹ We have used the upper bound figure to calculate total aggregate costs elsewhere.

As a response to our recommendations in Part One the Government increased the value of the Healthy Start voucher from £3.10 per week to £4.25 per week (or double that for babies under 12 months). Several national supermarket chains also stepped forward to supplement the value of the vouchers. For example, Sainsbury's agreed to top up the vouchers by a further £2, Waitrose by £1.50, Lidl by £1.15 and Tesco, Iceland and Co-op by £1.

Studies on the effects of Healthy Start have shown that it plays an important role in helping pregnant women and their children access healthier foods. Women registered for the scheme report that it made them think more about their health and diet and led to better dietary choices.²³

We propose that the Government use some of the proceeds from the Sugar and Salt Reformulation Tax to expand the financial eligibility for Healthy Start vouchers. The earnings threshold should be raised to £20,000 per year (before benefits).¹ This would bring it in line with our recommended eligibility for free school meals. The age limit should also be extended by a year, to cover children under the age of five. This would bridge the year-long gap in nutritional support that currently exists between the end of Healthy Start eligibility and the start of free school meal eligibility.

Over three years, the average annual cost to Government to deliver this recommendation is £82m–£132m.¹¹ This would bring the total cost of the scheme to £165m–£285m per year, depending on uptake.

Recommendation 7

Trial a "Community Eatwell" Programme, supporting those on low incomes to improve their diets.

Before the pandemic, the Government spent £130bn on the NHS every year. Of this, 95% was spent on treating illness, with just 5% going towards prevention.²⁴ Many medical professionals believe this is a topsy-turvy approach.²⁵ It would be more cost effective to increase spending on preventative measures, so that fewer people get to the point where they need expensive medical treatments.

The Government has acknowledged this problem.²⁶ Its new "Green Social Prescribing" programme – currently being trialled in seven Primary Care Networks

(PCNs) around England – is intended to improve patients' mental and physical health before they become acutely unwell. It enables GPs to prescribe therapeutic activities such as walking clubs, community gardening and food-growing projects.²⁷

We recommend that the Government should trial a "Community Eatwell" Programme, which would give GPs the option to prescribe fruit and vegetables – along with food-related education and social support – to patients suffering the effects of poor diet or food insecurity.

This recommendation is modelled on successful programmes from around the world. The Produce Prescription programme in Washington DC, for example, allows doctors to prescribe vouchers for fresh fruit and vegetables, along with cooking lessons, nutritional education and guided tours of shops and supermarkets to teach people how to shop cleverly. The scheme has been shown to increase consumption of fruit and vegetables and improve nutritional understanding. Of the 120 patients who received vouchers between 2012 and 2017, 50% lost weight over the course of a prescription.²⁸

The Government should invite PCNs to bid for the chance to design their own pilot "Community Eatwell" Programme, tailored to local needs and building on existing neighbourhood initiatives. Funds could also be used to invest in local infrastructure and facilities that make it easier to eat healthily and affordably, such as community kitchens, fruit and veg street markets, community farms and box schemes, and community cafes. If the evidence shows that these trials have significantly improved the diet and health of participants, while reducing the cost of medication, the "Community Eatwell" Programme should be rolled out across all 1,250 PCNs in England.

Over three years, the average annual cost to Government to deliver this recommendation is £2 million.

3. Make the best use of our land

We already ask a lot from the land of this small and densely populated country. And in order to meet the UK's legal commitments on carbon emissions and nature restoration, we will have to ask a lot more.

Some farmland will have to be repurposed or adapted for environment projects. Some will have to be farmed at lower yields to enable nature to thrive. Some will have to become higher-yielding, low-carbon farms, using new technologies to increase productivity without polluting the earth. This division of labour – sometimes known as the "three compartment model" of land use – is described in detail in Chapter 10.²⁹

This is a major transition, and will only be made possible by the knowledge, creativity and energy of farmers. Many farmers already opt to use methods for producing food that are better for the environment, while others are pioneering new approaches. But farms are not charitable enterprises. They are businesses, and some are already struggling with wafer-thin profit margins. Livestock farmers – some of whom manage land that is uniquely well-suited to both nature restoration and carbon sequestration – will need particular support.

Over the past 50 years, some farmers (particularly in the uplands) have seen their income and way of life eroded by forces beyond their control: declining lamb consumption, poorly designed subsidies, and underinvestment in communities and infrastructure. They have put in the hard graft – up at dawn and working into the night, 364 days a year – but have been left with some of the lowest incomes in the entire food system. Their farmland, too, has been degraded in the process. And now they fear a final blow. New trade deals could, unless very carefully finessed, put many of them out of business.

The Government is asking farmers to change the way they work for the public good. We must ensure they are properly recompensed. And we must protect them from unfair competition. The Government needs a trade policy that supports its environmental ambitions. Otherwise we will simply end up transferring damaging farming practices from one part of the planet to another, and driving thousands of our own farmers to the wall in the process.

Recommendation 8

Guarantee the budget for agricultural payments until at least 2029 to help farmers transition to more sustainable land use.

Under the Common Agricultural Policy, most farmers in the UK received the bulk of their subsidies in the form of "Basic Payments". These were allocated according to the amount of land being farmed, rather than the way it was farmed. Although the EU was (and still is) increasing the amount of money available for environmental projects, the balance of the payment system rewarded farms mainly according to their size.

Since our exit from the EU, the UK has been in an "Agricultural Transition Period". This means that the Government has been maintaining agricultural subsidies at the same levels as under the Common Agricultural Policy. However, it has begun the process of transforming the payment system to one of "public money for public goods". Under the new Environmental Land Management scheme (ELMs), farmers will no longer receive payments for commercial activities (producing crops) or simply for owning land, but for activities that contribute to the common good. These include nature restoration, managing woodland, flood prevention, soil improvement, animal welfare and carbon sequestration.

ELMs is being gradually introduced between now and 2027. But it is not yet clear exactly how the money will be distributed, which makes it hard for farmers to plan ahead. Moreover, the total budget is only guaranteed up to the end of this Parliament, in 2024.

We recommend that Defra should guarantee at least the current level of funding for agricultural payments until at least 2029 (the end of the next Parliament). At present, 40% of all farmers depend on "Basic Payments" to remain solvent. The transition to ELMs must be managed extremely carefully if the economy and culture of the countryside is to survive. The Government must ensure that ELMs payments are sufficiently generous to make it worthwhile for farmers to switch from conventional farming to more sustainable practises. Otherwise the temptation will be to farm even more intensively to make up for lost revenue – or to throw in the towel altogether.

We recommend that roughly a third of the ELMs budget – £500m–£700m per year – should go on paying farmers to manage the land in ways that actively sequester carbon and restore nature. Our calculations (see Appendix 8) suggest this would provide a fair return for the work involved

in managing the land required for these projects: roughly 400,000 hectares of broadleaf woodland, 325,000 hectares of restored upland peat, and around 200,000 hectares of heath and species-rich grassland.

Accessing the schemes that support land use change will need to be as straightforward for farmers as it is to access the Government's Sustainable Farming Incentive. Otherwise uptake will be limited by bureaucracy, despite the interest of farmers. This is as true for owner-occupied farms as for tenants, but tenants face particular challenges: short tenancy agreements can prohibit them from making long-term changes like planting trees.³⁰

Defra should ensure that it is easy for tenant farmers to enter the schemes, as well as for farmers who own their land. Each scheme should be carefully proofed to ensure it does not inadvertently disadvantage tenants or commoners.

As well as rewarding such changes of land use, ELMs will pay farmers to improve the environmental conditions of working farms, by (among other things) enriching and protecting the soil,¹ increasing hedgerows and encouraging biodiversity.

Our models suggest the cost of adequately paying farmers for both on-farm nature improvements and changes of land use would be £2.2bn per year. If we add to that Defra's 9–10% budget for measures to improve farm productivity, we get a total budget of £2.4bn–£2.5bn. This means the Government will need, at the very least, to maintain its current budget commitment. This would not include money to improve people's enjoyment of the natural environment, which is a target in the 25 Year Environment Plan and a focus of public goods payments under the Agriculture Act 2020. That would have to be funded separately.

Recommendation 9

Create a Rural Land Use Framework based on the three compartment model.

The UK's net zero target is written into law, and its nature recovery commitments will soon follow. The only way to meet those targets is to change the way we use the land. This creates, de facto, a new land use strategy – but one that is unstructured, unstated and therefore unable to guide good local decision making. Crucially, it leaves farmers to second-guess the Government's priorities, further adding to the uncertainties they have to navigate.

We recommend that the Government should create a Rural Land Use Framework, setting out which areas of land would be best suited to the different functions of the "three compartment model" described in Chapter 10. This should inform the payments and regulations that are being designed to incentivise farmers across England to make the transition.

The Framework must be clear and explicit about what the Government is trying to achieve, which incentives, payments, and regulations it will use to achieve nature recovery, climate and food goals, and the metrics it will use to monitor progress.

At the heart of this strategy should be a National Rural Land Map (see Recommendation 12), which would supply detailed assessments of the uses to which any given area of land would be best suited.

The Rural Land Use Framework should be used to connect and inform the many existing incentive schemes and land-based strategies in Defra that inform the way land is used. There are currently at least eight different schemes – from the England Trees Action Plan to the ELM schemes – controlling funds ranging from £10 million to £2.4 billion per year.

Developing the Rural Land Use Framework should be one of the commitments in the upcoming green paper on how to protect 30% of UK land for nature by 2030.

Defra should seek input from the Ministry for Housing Communities and Local Government (MHCLG) and the Department for Business, Energy and Industrial Strategy (BEIS). Defra should publish its framework by March 2022, and then publish an annual progress report.

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¹ The Government should conduct a review of small abattoirs to ensure that the capacity exists to serve the expected increase in numbers of farms using livestock in their rotations.

Recommendation 10

Define minimum standards for trade, and a mechanism for protecting them.

In its 2019 manifesto, the Conservative Party pledged that "in all of our trade negotiations, we will not compromise on our high environmental protection, animal welfare and food standards".³¹

In Part One of this strategy, published in July 2020, we proposed a mechanism that would enable the Government to achieve this without breaking the anti-protectionism rules of the WTO. When making new trade deals, the Government "should only agree to cut tariffs on products which meet our core standards".

A subsequent report from the Trade and Agriculture Commission made the same recommendation. It proposed that the UK should only lower import tariffs if the methods used to produce the imported food matched "a core set" of standards representing "the high standards of food production expected from UK producers."³² These would include "climate change, environmental, ethical and animal welfare measures". If trading partners cannot "demonstrate equivalence with core standards, then they would not be considered for zero tariff, zero quota access".

So far, however, the Government has not specified which standards it wishes to protect, nor the mechanism with which it will protect them. (The trade deal with Australia has a chapter on animal welfare – a welcome first in international trade deals – but we do not yet know what it says.)

Without such a mechanism, there is serious peril in signing any trade deals with countries that have lower environmental and welfare standards than our own. A completely tariff-free trade deal on agriculture with, say, Brazil or the USA would seriously compromise our own attempts to protect animal welfare, restore nature and sequester carbon in this country. It would also allow cheap imported food to undercut – and potentially bankrupt – our own farming sector.

This is an issue on which public opinion is clear. Polls show that 93% want the UK's high food standards to be maintained in all post-EU Exit trade deals, and 81% are specifically worried about livestock farming standards being compromised in order to secure trade deals.³³

The Government should, as a matter of urgency, draw up a list of core minimum standards which it will defend in any future trade deals. These should cover animal welfare, environment and health protection, carbon emissions, antimicrobial resistance and zoonotic disease risk.

It must then set out which mechanisms it intends to use to protect these standards.

4. Create a long-term shift in our food culture

We cannot make lasting changes to the food system without innovation in the widest sense. We need to change the way we use our land, reintroducing forgotten farming wisdom while simultaneously developing robots and AI to serve the farms of the future. We need businesses to innovate, creating new food products and reformulating old ones so that they do less damage. And we need to rethink how public policy works, finding more effective ways to improve our national eating habits.

Some of this is beyond the immediate remit of government. The state can never replace, or enforce, individual passion and entrepreneurialism. But it can invest, to encourage creativity and help bring new products to the market. It can set targets and institutional goals, bring in legislation and collect and disseminate accurate data.

The importance of data cannot be overstated. Changing the outcomes of any complex system requires detailed, consistent and accurate data, arranged in such a way that it is easy to visualise and analyse. This is self-evident to those who spend their lives trying to influence complex systems, and yet it is rarely done.

In a 2018 article, the former UN Secretary General Kofi Annan described how detailed data maps developed by the University of Washington had transformed efforts to tackle malnutrition across Africa.³⁴ These interactive maps made it possible – easy – to find statistics on nutritional indicators such as childhood stunting, "almost down to the village level". Not only did "such fine-grained insight bring tremendous responsibility to act", but it also showed governments, NGOs and others precisely where to act, and which measures were likely to be most effective. "Without good data, we're flying blind," wrote Annan. "If you can't see it, you can't solve it."

During the COVID-19 pandemic our own Government discovered the true importance of accurate, well organised data. In order to get a better understanding of infection and hospitalisation rates across the country, and the various factors that may be creating regional disparities, the Government rapidly reorganised how it collects and visualises health data. One official told us this had massively improved the effectiveness of the pandemic response.

Changing the long-term culture of our food system will require a mixture of structural excellence and individual inspiration. We need the right ideas, the right evidence, the right laws and the right targets – all of which, together, will help change the food system on the ground.

Recommendation 11

Invest £1 billion in innovation to create a better food system.

It is fortuitous timing that the Government will soon launch its £22bn Innovation Strategy, which aims to make the UK the world's most innovative nation by 2035, and to harness innovation to address social and environmental goals. We recommend that one of the first official "missions" for the Innovation Strategy should be to create a better food system.

This mission should be backed by a new "challenge fund" worth £500 million over five years, with investment distributed by UK Research and Innovation (UKRI). Crucially, the money should be spent on projects that make the food system better in practice, rather than simply on new ideas. At present, most of the Government money that goes into food-related innovation is directed towards scientists and academics. In many of the other areas where innovation happens – on farms, for example, or in start-up businesses or community projects – there has long been a funding drought.

The challenge fund money should be used to help shift the national diet to meet the targets set out at the beginning of this chapter. This might include accelerating work to reformulate processed foods, trying out new ways of helping customers change their habits, and boost locally led initiatives to improve diet and health. But it should also be used to help develop new ways of growing food, such as vertical farming and precision fermentation.

Separately, Defra has already budgeted £280m to support innovation as part of its Agricultural Transition Plan. The fund's welcome focus on "farmer-led" innovation recognises that the driving force behind regenerative agriculture has usually been the people on the ground, trying out new ideas. It is important that this funding should be used to support a wide range of methods, both high-tech and traditional, that can reduce carbon emissions and improve the natural environment. We specifically recommend targeting some investment towards methane reduction technologies, such as feed additives for sheep and cattle. But it is also important to get more support to the agroecological methods that have been starved of investment up to now.

Fruit and vegetable growing should be another priority for this innovation fund, and across Defra's wider programme of investment to boost productivity. We need a less bureaucratic, more inclusive and better-funded successor to the previous EU Fruit and Vegetable Aid Scheme.

One of the most effective ways to reduce carbon emissions and free up land for nature is to cut back on animal proteins. 85% of the land used to feed us is used for livestock farming, even though meat and dairy only account for one third of our calories. Plant-based proteins produce, on average, 70 times less greenhouse gas emissions than an equivalent amount of beef, and use more than 150 times less land.³⁵

The potential global market for alternative proteins is huge. The US is currently leading the world on the production front, with companies such as Impossible Foods, Memphis Meats and Perfect Day raising \$700m, \$161m and \$300m respectively in capital last year.³⁶ The Netherlands has developed one of the largest agribusiness regions in Europe – Food Valley – with universities, start-ups and multinationals working together to create new vegan foods.³⁷ Singapore and Israel have both proactively fostered alternative protein start-ups, and Singapore was the first country to give regulatory approval to a cultured meat product.³⁸

The UK must do more to foster our own start-ups, or they simply will migrate abroad.

The Government should put £50m towards building shared facilities in a commercial "cluster" for entrepreneurs and scientists working on alternative proteins. Having a physical centre where many different players in the same field can set up base is known to encourage creativity and the cross-fertilisation of ideas. It should back this with annual grants for start-ups of £15m for five years from the new Challenge Fund.

We estimate that developing and manufacturing alternative proteins in the UK, rather than importing them, would create around 10,000 new factory jobs and secure 6,500 jobs in farming (to produce protein crops and other inputs).³⁹

Alongside innovation, we need evidence. Without good data, it is much harder to formulate good ideas, track their effectiveness or adjust them if they start to go off track. In writing this strategy, we found ourselves having to fight through thickets of jargon and dogma in order to get to the facts. We had to do a huge amount of data collection and analysis ourselves, because so much of the evidence in circulation was not fit for purpose.

We recommend that, as well as the National Food System Data Programme (see Recommendation 12), the Government should establish two What Works Centres – modelled on the Education Endowment Foundation – to collect and analyse evidence on the effectiveness of food-related policies and business practices.

One of these centres should focus on diet, and the other on farming methods. The Evidence for Farming Initiative, already being piloted, could be expanded and formalised to take on the latter role. These centres should be endowed with £150m and £50m respectively, to guarantee funding over ten years.

Recommendation 12

Create a National Food System Data programme.

We recommend the Government creates a National Food System Data Programme, to collect and share data so that businesses and other organisations involved in the food system can track progress and plan ahead.

This programme should span and connect two main areas of evidence. The first is data about the land, as collected for the Rural Land Use Framework (Recommendation 9). The second is data from beyond the farm gate: on food production, distribution and retail, and the environmental and health impacts of that food. These two tasks should be connected through a single programme.

The Chief Scientific Advisers at Defra, DHSC, BEIS and the FSA should work together to establish a specialist team of civil servants – including IT experts and strategists – to develop and manage the National Food System Data Programme. Working with the Geospatial Commission and the Office for National Statistics, this team should start by setting baseline data definitions, standards and hierarchies – making it easier to collect consistent data across different areas and at different times, and to use it in multiple ways.

The team should then identify gaps in the existing data, and broker agreements with third parties – such as retailers or unions – to fill in these gaps without breaching confidentiality.

The key data should be published using visualisation dashboards to make it easier for users to find and compare information, model future scenarios and assess the effectiveness of different policies or logistical models. These dashboards should include a National Rural Land Map (Recommendation 9).

The benefit to large businesses, which already collect extensive data, comes from making that data more reliable and comparable. The food sector's many small enterprises will benefit from having access to high-quality, free data, which they can use to shape their business models and project into the future.

Some data will be commercially sensitive, and businesses might be willing to share it with the Government but not with industry competitors. There would therefore need to be a "layered" permissions model, to control access to different layers of information.

The food system is closely connected to many other systems, both national and international. Over time, data on transport, energy, environment, healthcare and so forth should be added to the programme. This would give the Government and the food industry an extremely powerful tool for devising, shaping and monitoring a better food system, to improve the nation's health, wellbeing and environment.

This will complement the government's National Data Strategy and contributes to the call from the Council for Science and Technology to improve analytical capability and flow of information across government.⁴⁰

Over three years, the average annual cost to Government to deliver this recommendation is £3.5m.

Recommendation 13

Strengthen Government procurement rules to ensure that taxpayer money is spent on healthy and sustainable food.

The Government spends £2.4 billion every year buying food – for schools, hospitals, the Armed Forces, prisons and government offices.⁴¹ This represents 5.5% of the total UK food service turnover.⁴² Every year, a quarter of us will eat at least one meal provided by the state.⁴³ During term time children consume as much as 50% of their food at school, and for some, a free school lunch is their only substantial meal of the day.⁴⁴

We recommend that the Government should redesign the Government Buying Standards for Food (GBSF), to ensure that taxpayer money is spent on food that is both healthy and sustainable. It should use the updated reference diet, discussed below in Recommendation 14, to set these standards. They should be made mandatory for all public sector organisations.

The Government should also introduce a mandatory accreditation scheme for all public institutions,

working with existing certification bodies such as Food for Life, to help them reach baseline standards and encourage them to aim higher still.

At present, public food procurement is dominated by a small number of larger suppliers.⁴⁵ This quasi-monopoly means there is little incentive for innovation and improvement. To address this problem, the Government is already developing a trial scheme in South West England, in which local food suppliers can sell their produce via an online procurement page. Trials of this purchasing system suggest that it works extremely well, with users reporting more choice, better quality and no increase in costs.⁴⁶ The Government should accelerate the roll-out of this dynamic procurement scheme and use its new procurement standards to encourage caterers to try a broader range of suppliers.

In its annual report to Parliament (see Recommendation 14), the Food Standards Agency should include an assessment of how procurement budgets are being spent and the extent to which they are meeting the new standards.

Over three years, the average annual cost to Government to deliver this recommendation is £1m.

Recommendation 14

Set clear targets and bring in legislation for long-term change.

The problems we have described in the food system have come about over decades and solving them will be a long-term effort. To stay the course we need clear, long-term targets, ongoing political attention, and a joined-up approach not only within Government, but across the food industry and communities.

A strong framework of legal targets is essential to improve the food system. The Government has already set itself a statutory target for carbon emissions. The forthcoming Environment Act will do the same for the 30x30 pledge. We also recommend that it should include a legally binding target to halt biodiversity loss in England by 2030. And we recommend creating a statutory target to improve diet-related health through a Good Food Bill (see below).

To maintain political focus, we recommend that the role of the Food Standards Agency (FSA) should be expanded to cover healthy and sustainable food as well as food safety. Asking the FSA to take on

these additional duties would be less confusing and expensive than establishing a whole new body to monitor progress. The FSA is governed independently, and well-placed to take a whole-system perspective. It is already established and has experience relevant to all the tasks that are required, although it would need additional resources to take on this responsibility.

Specific new duties would include:

- Reporting annually to Parliament on our national progress towards a healthier and more sustainable food system – using the goals defined in this plan and the metrics collected through the National Food System Data Programme (Recommendation 12) as a starting point. The report should also propose potential strategies the Government could adopt to accelerate progress, in the same way that the Climate Change Committee (CCC) gives advice on combating climate change. The FSA should explicitly seek input from the Climate Change Committee, and the newly established Offices for Environmental Protection and Health Promotion, in drawing up this report.
- Collecting and analysing the nutritional and environmental impacts of foods sold by food companies, as set out in Recommendation 2.
- Developing an updated "reference diet" for the nation, in line with our health and sustainability goals. This would create a single reference point to underpin policies and advice.
- Working with Defra and the IGD to develop a harmonised and consistent food labelling system to describe the environmental impacts of food products.

Local Authorities should be required to put in place a food strategy, developed with reference to the goals and metrics set out above, and in partnership with the communities they serve. (Over 50 places are already doing this, with impressive results).⁴⁷

The 2020 Agriculture Act requires Government to review the nation's food security at least once every three years. The Government should do this annually, with broad consultation, bringing in organisations responsible for nutrition, cybersecurity, infrastructure, climate change and the environment. Several of these measures – and others in this action plan – require primary legislation. We therefore recommend that Defra should put a Good Food Bill before Parliament in the fourth session of the 2019–2024 Parliament. A full list of the measures requiring primary legislation is shown in Table 16.2 below.

Over three years, the average annual cost to Government to deliver this recommendation is £5m.

Figure 16.2

Legislative framework for creating a healthier, more sustainable food system

Bill	Provision	For	Duties (except where stated)
Good Food Bill	Health targets	Government	Define long-term health targets and put into secondary legislation
	Action plans and independent reports	Government	Prepare and publish a Good Food Action Plan every five years, which sets out interim food system targets and measures to meet them
		Government	Consult the FSA while developing its Good Food Action Plans
		FSA	Provide a regular independent progress report to Parliament on the Government's progress against the Good Food Action Plan
		FSA	Consult with the OEP, the CCC and the OHP in drawing up its advice and reports
		OEP, CCC and OHP	Advise the FSA on emerging issues within the remit of each body that are relevant to the scope of the FSA
	Other duties	FSA	Establish and periodically update a healthy and sustainable Reference Diet, to be used by all public bodies in food-related policy making and procurement
		Government	Establish and periodically update a healthy and sustainable Reference Diet, to be used by all public bodies in food-related policy making and procurement
		All public sector organisations	Spend any public money on food in line with specific procurement standards, consistent with the Reference Diet
		Local authorities in England	Develop food strategies, developed with reference to national targets and in partnership with the communities they serve
		Large food businesses	Expand obligation to promote consumer interest to include our collective interest in tackling climate change, nature recovery and health
Finance Bill	Levy	Government	Powers to apply a tax to sugar and salt

Over three years, the **average annual cost** to Government to deliver these recommendations is **£1.4 billion**.

In addition, there is a one-off cost, of **£250 million**, described under the innovation recommendation (Recommendation 11).

This is **new expenditure**. It does not include the costs of recommendations where funding has already been secured (ELMs funding, Recommendation 8, and Defra's £280 million fund to support innovation, part of Recommendation 11).

We estimate that the Sugar and Salt Reformulation Tax would raise **£2.9bn–£3.4bn per year** for the Treasury. We propose using some of this money to fund a series of measures to support the diets of those in deprived communities.

Over the long term, they will have a long-term economic benefit worth up to **£126bn**.

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16. The Plan

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³ Tigbe, W. W. et al. (2013). *A patient-centred approach to estimate total annual healthcare cost by body mass index in the UK Counterweight programme*. *Int Journal of Obesity* 37 (8), 135–139. Available at: <https://pubmed.ncbi.nlm.nih.gov/23164699/>

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⁷ We considered a tax on saturated fat, which also contributes to poor diets and diet-related diseases. However, saturated fat is not an added ingredient in the same way that salt and sugar are. It is part of lots of different foods, some of which we eat too much of e.g. processed meat, and others which we need to eat more of, e.g. nuts. You therefore end up in a quagmire of which products you want to tax and which you do not. Furthermore, it would target meat consumption and this, as we have established, is not politically feasible. The complexity of implementation coupled with the difficult political nature means that we do not believe a tax on saturated fat is feasible.

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²⁰ Food insecurity measurement has been standardised internationally and DWP uses this internationally standardised approach. The FRS asks a series of questions to the person in charge of food purchasing and preparation about their experiences in the previous 30 days. Questions include whether they have always had enough money to buy food before it runs out, whether they have been able to afford balanced meals and whether they have had to change eating habits because of a lack of money. A ten-point household score is generated and households are classified as either having high, marginal, low or very low food security based on their score. Low food security (score 3 to 5) indicates the household reduced the quality, variety and desirability of their diets but the quantity or normal eating patterns were not substantially disrupted. Very low food security (score 6 to 10) indicates the household experienced disrupted eating patterns or reduced their food consumption due to a lack of money or resources.

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Analysis does not include non-operational MOD staff nor NHS staff as data not available so is likely to be an under estimation. £2.4bn, 5.5% – estimate based on 2014 data: Department for Environment, Food & Rural Affairs. (2014). *A plan for public procurement: food and catering*. Defra. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/332756/food-plan-july-2014.pdf

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⁴⁴ Breakfast, lunch and snacks at school = 2/3 of weekday food, therefore 0.47 over 7 days; Royston, S., Rodrigues, L. and Hounsell, D. (2012). *Fair and Square: A Policy Report on the Future of Free School Meals*. The Children's Society, p12. Available at: <https://d3hgrlq6yacptf.cloudfront.net/5f3ecf1e68cdc/content/pages/documents/1429471607.pdf>

⁴⁵ The latest available data tells us that in 2013 the top four contract caterers (Compass Group, Sodexo, Westbury Street Holding and Elior) had 61% of the contract catering market share. Source: UK Parliament. (2021). *Written evidence submitted by Dynamic Food Procurement National Advisory Board*. UK Parliament. Available at: <https://committees.parliament.uk/writtenevidence/9762/pdf/>; European Commission. (2015). *Task 2: Market Analysis (draft) Working Document*. European Commission. Available at: [https://susproc.jrc.ec.europa.eu/product-bureau/sites/default/files/contentype/product_group_documents/1581683081/Task%202%20Food%20and%20catering_JRC151015%20clean%20\(ammended\).docx.pdf](https://susproc.jrc.ec.europa.eu/product-bureau/sites/default/files/contentype/product_group_documents/1581683081/Task%202%20Food%20and%20catering_JRC151015%20clean%20(ammended).docx.pdf)

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