

Written evidence submitted by Professor Neil Ward, University of East Anglia, Professor Tim Benton, Chatham House, Professor Sarah Bridle, University of York, Professor Stefan Kepinski, University of Leeds, Dr Angelina Sanderson Bellamy, University of the West of England.

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Introduction

- 1 The conflict in Ukraine and the cost-of-living crisis have brought heightened concern about the functioning of the UK food system. However, the underlying causes of today's challenges predate the conflict and have their roots in our national approach to food production and consumption and the lack of a strategic approach to managing the UK's land resource and environment. The current crisis has simply heightened these problems and rendered them more visible and pressing.
- 2 The UK and its constituent parts require a stronger strategic approach to managing the agri-food system and rural land resource. This should involve a clearer articulation of the synergies and balance to be struck between the supply of healthy and affordable food, addressing climate change and other environmental problems, and promoting public health. The UK's poor diet is a major public health challenge. Over the coming decades, it will have significant implications for the UK population's wellbeing and quality of life, as well as for the National Health Service and public finances. The agri-food system is also becoming increasingly problematic in reducing the UK's greenhouse gas emissions. In addition, agricultural pollution continues to be a key contributor to poor water quality, a situation that has endured for several decades. Public health, environmental sustainability and greenhouse gas emissions reduction are crucially important considerations that need to be much more fully brought to bear on discussions about UK food supply, food security and land use.
- 3 We convene UK Research and Innovation (UKRI)'s new Network+ on supporting the development of a sustainable agri-food system for the net zero transition.¹ Neil Ward is based at the School of Environmental Sciences at the University of East Anglia and author of *Net Zero, Food and Farming: Climate Change and the UK Agri-Food System*, published in August 2022. Tim Benton is Director of the Environment and Society Programme at Chatham House. Sarah Bridle is Professor of Food, Climate and Society at the University of York and author of *Food and Climate Change: Without the Hot Air* (2020). Stefan Kepinski is Head of the School of Biology and Associate Director for Agriculture and Environment in the Global Food and Environment Institute at the University of Leeds. Angelina Sanderson Bellamy is Associate Professor of Food Systems at the University of the West of England. This submission is in our personal capacities and should not be taken as an official statement of UKRI.

¹ <https://www.ukri.org/news/research-network-to-help-uk-agri-food-industry-reach-net-zero/>

Factors Affecting Food System Resilience

4. Food system resilience can be approached from different starting points. A common, if narrow, perspective is to focus on the source and supply of food products. Another is to start from the perspective of people and households' access to food. From the first perspective, the supply and price of food to UK consumers will be influenced by agricultural production conditions, the smoothness of operation of food supply chains, costs to producers, processors and retailers and the adequacy of labour and skills along supply chains. International events such as droughts, floods or disruption to shipping or aviation may cause short term difficulties, but businesses may be able to adapt to mitigate effects over time.
5. By late 2021, it was reported that there was a staff shortage of about 500,000 workers across the UK food chain, representing about 12.5 per cent of the total workforce required. Although workforce pressures are not confined to the UK and have been exacerbated by labour-market changes triggered by the Covid pandemic, Brexit has meant that the UK has suffered these problems more acutely than other EU countries. Brexit has reduced the UK food system's resilience by introducing bureaucratic and logistical barriers to trade between the UK and other members of the EU. Prior to Brexit, the UK was part of a single market which broadly enjoyed a stable level of food security. The UK agri-food system is now more vulnerable to supply shocks. For those who shop regularly in supermarkets, it is plain to see that empty sections of shelves are now far more commonplace than before 2020.
6. Of greater material concern, however, is the question of access to healthy and affordable food. As food becomes more expensive and the cost-of-living squeeze reduces the purchasing power of individuals and households, including those on benefits and in lower-paid work, so food is becoming an increasingly significant influence upon poor health and well-being and increasing inequality. The number of food banks in the UK has risen sharply over the past decade, and especially over the past five years, and is now estimated at over 2,500 in total.² The Trussell Trust, which runs approximately 60 per cent of food banks in the UK, reported a 22 per cent increase in demand for food parcels in the period January-February 2022 compared to the same period in 2020.³ A key threat to food system resilience is poverty, including in-work poverty, and the ability of a growing proportion of the population to be able to access affordable food. The increasing demand for food parcels from food banks is putting pressure on charitable organisations who in April 2022 were complaining of being "close to breaking point".⁴ The access and affordability of healthy and nutritious food should be a priority of social and welfare policy.

The Outlook for UK Food Prices and Access to Healthy and Nutritious Food

7. The Agricultural Marketing Information System provides an authoritative overview of the agricultural and marketing conditions influencing the prices of the major internationally traded food commodities. Forecasting future trends

² Irvine, S., Gorb, A. and Francis-Devine, B. (2022) *Food Banks in the UK*. House of Commons Library Paper 8585. London: House of Commons.

³ Irvine *et al.* (2022), p.15.

⁴ Irvine *et al.* (2022), p.15.

in prices and inflation is notoriously difficult and dependent upon economic modelling that will always include assumptions about geopolitical and trading arrangements. We anticipate that food commodity markets are likely to become more volatile and uncertain over the next few years because of the repercussions of the conflict in Ukraine. In addition, weather conditions are becoming more susceptible to climate change across larger parts of the world and input prices, especially fertilizers, are pointing upwards.

8. Price volatility and the prospect of rapidly rising food prices risk undermining access to healthy and nutritious foods for a growing proportion of the population. It is common for agricultural and agri-food organisations to conceptualise food security and food resilience in terms of the stability of supply of basic foodstuffs. However, we would emphasise that access to affordable and healthy food is as much a question of poverty and household income levels. This should be a matter for social policy and levels of welfare payments. Food is just as essential to people and households as energy and the price of food should be a matter of concern to the Government in the same way that the impact of rising energy bills has been over recent months.

The Government's Food Strategy Policy Paper

9. The Government-commissioned, independent National Food Strategy reports, published in 2020 and 2021, represent the most thoughtful analysis of the dynamics and problems of the UK food system in a generation. The team responsible for the work are to be commended for the holistic nature of the analysis, the clarity of argumentation and the breadth of recommendations. Some critics understandably argue that the report could have gone further in its recommendations and prescriptions. However, as an analysis of the system and its current problems, the work is excellent. In contrast, the Government's food strategy paper is a deep disappointment and a missed opportunity. It represents a downgrade from the Food White Paper that was promised and does not address the most significant and pressing issues facing the system. Its focus and emphasis are curious and bear little relation to the analysis and prescriptions in the National Food Strategy work. There is some solace in the fact that the National Food Strategy work will provide a useful baseline for those organisations pressing for positive reform of the food system in the coming years.
10. The Government's food strategy paper contains little detail on how the Government will approach the trade-offs and dilemmas around the agri-food system and rural land use. It commits to halving childhood obesity by 2030, reducing the healthy life expectancy gap between local areas where it is highest and lowest by 2030, reducing the proportion of the population living with diet-related illnesses, and increasing the proportion of healthier food sold. However, it gives little cause for confidence about how these ambitious goals will be achieved, only committing to three years of further research through randomised control trials. The seriousness and urgency of the challenge is not matched by action. The recent speculation since the change of Prime Minister over slowing down or reversing reform to address poor diet only deepens concern.
11. The Government's food strategy paper establishes the goal of at least maintaining the UK's current level of food self-sufficiency. It is helpful to have this element of the equation, which also includes UK diet, greenhouse gas

emissions, and the pattern of land use, specified in some way. These four 'moving parts' are related to each other. Greenhouse gas emissions are governed by the national net zero-by-2050 target. It should also be an objective of policy that diets become healthier. If these two objectives are clear, then the pattern of land use and the level of national food self-sufficiency can play a secondary role.

Balancing Competing Demands upon Rural Land Resources

12. There have long been competing demands upon rural land resources. The House of Lords Select Committee on the European Communities conducted a major review of the strategic policy objectives for rural land, economies and society over thirty years ago with a succession of expert witnesses explaining how the countryside was "at a crossroads".⁵ It has seemingly been stuck at the crossroads ever since. Over much of the last three decades, the main strategic dilemmas have centred on tensions between food production and nature conservation, between protecting green land and accommodating housing development, and more recently between food production and greenhouse gas mitigation. The statutory commitment to transition to net zero greenhouse gas emissions by 2050 has been a significant new development, which brings into much sharper focus the need for rural land to contribute to mitigating greenhouse gas emissions. Alongside this vitally important climate change concern is the increasing realisation of the need for a healthier diet among the British population, which in turn will have a bearing on the type of demands placed upon rural land.
13. The Climate Change Committee, in its analysis of the net zero challenge and the agri-food system and rural land use, estimates that by 2050, almost a quarter of the UK's agricultural land will need to be taken for other uses.⁶ *First*, we need to plant around a million hectares of trees very quickly. Planting rates need to be at least 30,000 hectares per year, every year through to 2050. It may be that they need to get to as high as 50,000 hectares per year. *Second*, we need to manage the transition to a healthier diet, with less proteins from animal farming, reducing consumption of high-emission foodstuffs such as red meat and dairy by at least 20 per cent, but possibly 30 or even 50 per cent. (Some campaigners argue for even higher reductions). *Third*, farming practices will need to be developed to maintain food production levels but using almost a quarter less land and generating fewer emissions from production.
14. To briefly review progress on these components, there is a plan for planting trees, but it is struggling to get up to speed. Emissions reduction through carbon capture and storage is a technology that is not proven, with economic and technical question marks over the timing and scale of its contribution. On farming practices, the UK Government tends to rely on voluntary action. The dominant preoccupation is how monies directed through previous EU payments might best be repurposed to deliver environmental benefits, but the politics has centred on financial winners and losers rather than the specific environmental benefits to be secured. The schemes are entirely voluntary

⁵ House of Lords Select Committee on the European Communities (1990) *The Future of Rural Society*. HL Paper 80-I, II & III. London: Stationery Office

⁶ Climate Change Committee (2020) *Land Use: Policies for a Net Zero UK*. London: Climate Change Committee. <https://www.theccc.org.uk/publication/land-use-policies-for-a-net-zero-uk/>

and are not sufficiently oriented to delivering net zero transition objectives. On specific measures to support changing diet, the Government is almost totally silent, and quickly withdrew a very interesting review of what works in promoting behaviour change which was accidentally published among Net Zero Strategy documents last October. The Government's recent food strategy paper ducked the issue of taking an active role in managing and promoting dietary change to support the net zero transition.

15. The problem is that the net zero transition requires system transformation in agri-food and land use. System transformation will not occur on its own but has to be actively planned and managed. The UK agri-food system went through a system transformation in the decades following the Second World War. This transformed productivity, but also produced a welter of environmental pressures and problems, which have been addressed over the last 40 years in a piecemeal way, most commonly through voluntary changes or paid incentives to alter farming practices. A much more ambitious set of measures will be required if the net zero transition is to be successfully achieved along with food security and healthy diets in the coming decades.
16. The Government's proposed land use strategy for England should take the statutory net zero by 2050 commitment as its starting point. The second consideration should be the more effective promotion of healthier diets and what this might mean for the balance of different types of agricultural land uses over the next two decades. The third objective should be to maximise economic opportunities, and support innovation and structural adjustment, so that British food producers and processors are best placed to capitalise on opportunities in the context of this transition.
17. There is much interest in the relative merits of so-called sustainable intensification on the one hand and more ecological approaches such as regenerative agriculture or agro-ecology on the other as possible panaceas for producing sufficient food in less environmentally damaging ways. In all likelihood, British agriculture in 2050 will contain a mix of the two. However, crucially, from the perspective of managing water pollution risks and enhancing biodiversity, it matters what type of farming approach happens where. A highly liberal 'free-for-all' risks the wrong sorts of farming taking place in the wrong sorts of places and leads to environmental pressures such as those experienced recently in the Wye catchment. In the net zero transition to a climate-friendly, biodiverse but productively food-producing countryside of the coming decades, geography matters.
18. It is unfortunate that debates about land use are becoming polarised, when the current juncture calls for objective analysis. The situation is not being helped by febrile national politics and popular discourse. During the contest for the role of Prime Minister and leader of the Conservative Party, the question of food production and land use was raised. Concern was expressed by one candidate about the area of land planned for solar panels, and the diversion of this land from agricultural production. The area in question is approximately 7,000 hectares. It compares with approximately 125,000 hectares of UK land area under golf courses, and approximately 500,000 hectares used for horses. The distorted perspectives being advanced for land use and domestic food supply are not in the interests of sensible and informed debate about the UK land resource, food and climate

change. A land use strategy is therefore a welcome exercise to bring some objectivity and clarity to this question.

Conclusion

19. The UK's level of food self-sufficiency is a function of the British diet. If the balance between meat, on the one hand, and cereals, fruit and vegetables, on the other, were to alter in favour of the latter, then less land would be required to grow crops to feed farm animals and more land could more efficiently and effectively be utilised to meet the calorific needs for human consumption. Such a shift would also improve human health outcomes and reduce the significant and growing spend on the treatment of non-communicable diseases within the health service. During the Second World War, a national approach to food and land meant that dietary needs could be met from national agricultural resources despite a high degree of dependence upon food imports at the outbreak of war. In the current crisis, food security and its implications for land use need to be considered in the context of dietary patterns of demand and our vitally important commitments to address climate change.

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