

# RETHINK FOOD



## A Plan for Action

How nature friendly farming is at the heart of a better food system







**About Rethink Food**

The Nature Friendly Farming Network’s Rethink Food campaign examines the myths, challenges and opportunities presented to farmers in the current food system. It seeks to explore the role of UK farmers in shaping a better food system from the farm ground up.

The first report in this campaign, *Rethink Food: The Need For Change*, maps the legacy of our food system’s past, and explains why we need to change how we farm our land and feed our nations. This second report builds on this previous work — demonstrating how a transition to nature friendly farming can play a central role in addressing the interconnected food security, ecological and health challenges we face.

**About the Nature Friendly Farming Network**

The Nature Friendly Farming Network (NFFN) is a UK-wide, farmer-led organisation that champions working harmoniously with nature to produce food, fibre and other products from our land. For many years, nature-friendly farming has been building momentum in response to resource intensive systems that have driven our landscapes to degradation. Nature-friendly farming comes in all shapes and sizes as part of a bigger transition towards a fairer food and farming future. What unites the NFFN is how food and farming can positively influence change.

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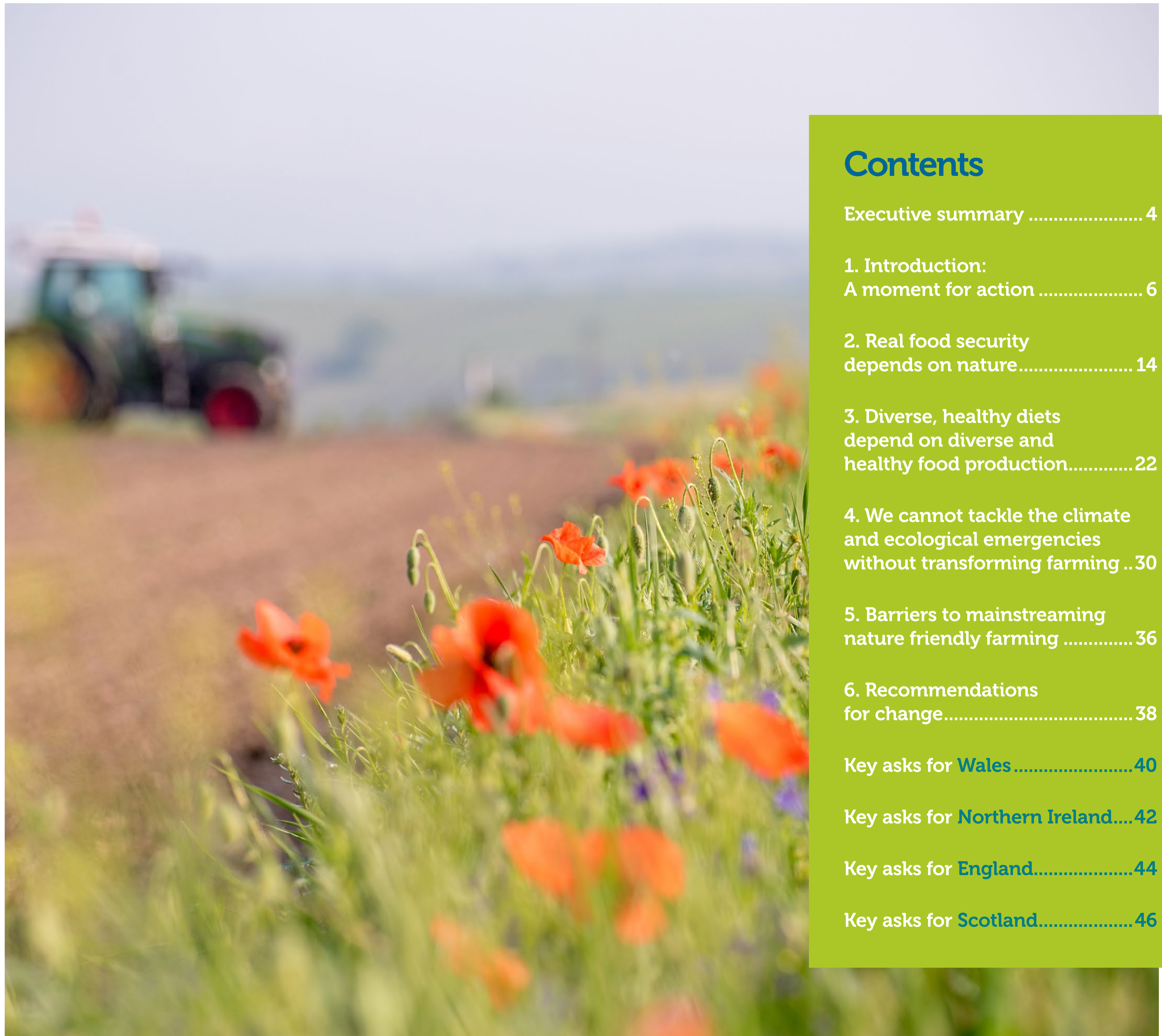
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JÜRGEN BAUER/ADOBE STOCK



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# Executive summary

Over the past two years, Covid-19, Brexit, the war in Ukraine, and global market turmoil have revealed the fragility of our food system. Many farmers are struggling to survive under unprecedented cost increases. At the same time, we have experienced the threat, and reality, of empty shelves and supply chain disruptions. Nature is in freefall in the UK, and levels of greenhouse gases in the atmosphere continue to mount. Food production is increasingly exposed to changing climate and extreme weather events. The protection offered by healthy soils and intact ecosystems is lacking across much of our farmland. Currently, farming is a major contributor to the ecological crises that are undermining its long-term viability.

We find ourselves at a critical turning point; the need for change in food and agriculture is more urgent than ever before. Now is the time to adopt a stable and food secure footing for the UK, building on nature to achieve resilience.

Nature friendly farming is at the heart of solutions to these multifaceted challenges. Nature friendly farming means farming in a way that recognises that nature is a part of, and absolutely central to, food production for the long term. By working with nature, we can reduce our reliance on external inputs, improve financial resilience, generate new value for people and the environment, and breathe new life into farming communities.

Nature friendly farming is explicit in recognising that farmers play multiple roles in our national economy and landscape. Farmers produce food, but they also protect, restore and expand valuable habitats and ecosystems on and around their land. They are land stewards, responsible for over 70% of the UK's land surface. Without farmers, the UK cannot meet its climate and nature restoration goals. Meeting these goals goes alongside, rather than conflicts with, ensuring a resilient, diverse and healthy food supply for the nation.

DAVID MATTHEW LYONS/ADOBE STOCK

Nature friendly farming means changing how we farm, but also what we farm. The farm of the future will look less specialised, and more diverse, with a wider range of crops and income streams. Farming will capitalise on opportunities to grow crops that can fulfil demands for dietary change, including new sources of healthy plant protein. At the same time we will optimise the ways in which we produce livestock, reducing reliance on imported soy and grains that impose a heavy environmental burden overseas.

The economics of nature friendly farming stack up. By reducing input dependence and adopting regenerative agriculture methods, farms can reduce costs and boost profitability. While intensive agriculture has achieved high productivity, it has also come at a high cost. Soil degradation in the UK costs an estimated £1.2bn every year, and we have already lost 40-60% of the nation's soil organic carbon. Public goods

from agriculture like carbon sequestration, soils, nature and healthy food have huge value that are only belatedly being recognised.

Based on first-hand accounts from farmers, this report shows how a transition to nature friendly farming can play a central role in addressing the interconnected food security, ecological, and health challenges we currently face by: (1) ensuring a resilient food supply for the UK; (2) promoting diverse and healthy diets; and (3) taking urgent action to achieve net zero and nature restoration.

By taking nature friendly farming to scale across the UK we can provide solutions to many of the interconnected challenges we face, but the current policy landscape is not doing enough to make this happen. This is a critical moment for policy makers to support systemic change in the food system - to rethink food.

**We call on food and agricultural policy makers and food industry stakeholders to take action to make a regenerative and nature friendly food system a reality:**

## Policy and trade

1. Lead with holistic, pro-nature food strategy
2. Support a just transition to payments that support nature friendly farming
3. Develop land use strategies for food and environment
4. Champion a global nature-positive food system through trade policy

## Communication and knowledge sharing

5. Fund farmer peer-to-peer learning
6. Support research into nature friendly farming approaches

## Supply chains and market opportunity

7. Facilitate collaboration to drive sustainable dietary change
8. Design standardised environmental labelling
9. Lead by example in public procurement
10. Encourage retailers to support farmer innovation



[Click to see full recommendations](#)



# 1. Introduction: a moment for action

## The fragility of our food system has been revealed

The food system is a web of relationships, businesses, markets, regulations, people, land, organisms and ecosystems that comes together to put food on our plates. Farmers across the UK, in Scotland, England, Wales and Northern Ireland, are at the heart of our national food security, producing 60% of the food that the nation consumes.<sup>1</sup> But they are only part of the picture. We also rely on overseas agriculture to produce foods that are less well suited to the UK; inputs of feed and fertiliser; labour to plant and harvest our crops and care for our livestock; manufacturers, retailers and logistics providers to process raw ingredients and get them efficiently to people to eat.

The effectiveness of the food system in nourishing our population also depends on knowledge: of agricultural techniques, technologies, plant and animal breeding; and consumers' knowledge of how to access ingredients and prepare healthy meals. Many of the factors that influence the food system are political: not only how we choose to design and incentivise sustainable land use, and govern our trade relationships, but also how society ensures that all people have the means to access healthy and sustainable food.

It is becoming abundantly clear that many parts of this complex system are under strain, and multiple recent shocks have shown that in some places it is close to breaking point. The War in Ukraine has caused sky-rocketing energy and commodity prices, with knock-on effects on key inputs to the farming system - squeezing margins and making some activities unprofitable.<sup>2</sup> The COVID-19 pandemic disrupted global supply chains and changed demand patterns, leading to empty supermarket shelves.<sup>3</sup> Brexit has seen a decline in UK food exports and serious labour shortages in the sector.<sup>4</sup>

At the same, the impacts of climate change are growing increasingly obvious. The UK's climate is growing hotter and wetter overall<sup>5</sup>, with England, Scotland, Wales and Northern Ireland all recording highest ever daily maximum temperatures in July 2022<sup>6</sup>, posing additional challenges for farmers in terms of the quality and productivity of their crops.<sup>7</sup> If we don't urgently cut emissions, climatic extremes will only get more severe and frequent into the future.<sup>8</sup>

This combination of short-term shocks and longer-term structural threats is putting the resilience of our food system in question. Already, we are seeing dramatic impacts on household food security. The compounded impacts of the cost of living crisis, rising energy costs, inflation, climate impacts and the increased cost of farming inputs are driving up food prices, pushing greater numbers of people into food poverty. 7.3 million adults (13.6% of UK households) and 2.6 million children experienced food poverty in April 2022, according to the Food Foundation.<sup>9</sup> Poor diet already costs the UK over £54bn every year, and increasing food poverty will only lead to more diet-related ill health, with long-term impacts on society.

*Given the right approach, farming can play a leading role in achieving net zero, and help reverse the decline in nature, all whilst delivering health and food security outcomes*

STEPHEN DAVIES/ADOBE STOCK





Meanwhile, the way we produce food is the major driver of nature loss both in the UK and abroad, with concerns now emerging about the links between intensive farming and the collapse in ecological health of the UK's rivers and soils. And the food system is one of the largest single causes of climate change, contributing up to a third of global emissions.<sup>10</sup> The warning signs are all here - business as usual cannot continue. Our food system is failing to deliver good health outcomes, is highly vulnerable to shocks in an increasingly turbulent world, and is one of the major contributors to the breakdown of climate and ecosystem services worldwide. But given the

right approach, viable and profitable farming can play a leading role in achieving net zero, and help reverse the decline in nature, all whilst delivering health and food security outcomes.

### We will not solve the problem with the same logic that got us here

At a time of uncertainty and volatility in the food system, it would be easy to respond by setting aside environmental concerns, doubling down on intensification, and aiming to increase UK self-sufficiency in food. This report shows, however, that an 'island nation' mentality and input-

dependent, wasteful intensification of farming are not routes to food security. It shows that as much as farming has been a part of the problem, it is also absolutely integral to the solution. Nature friendly farming can deliver affordable, resilient and healthy food supplies, preserve and enhance biodiversity and ecosystems, and help the UK to achieve net zero emissions by 2050. None of these goals can be achieved without farmers and farming.

The input-driven farming that drove yield growth in the 20th century is no longer fit for purpose. It has delivered a system that is highly efficient in delivering raw materials for the food industry, but is also fragile. The continued drive to squeeze extra productivity out of livestock and land has come at a cost - undermining nature and the climate, increasing economic precarity for farmers, and failing to consistently deliver diverse and healthy nutrition. Conventional solutions pit nature and farming against each other. As each corner of the UK continues on their path to new domestic agriculture policies and payments, questions have been raised about whether environmental delivery is a priority in the face of the cost of living crisis and concerns over food security. Critics suggest that nature is an unnecessary luxury in the face of rising prices and fear of food shortages. But this report shows that there is no conflict. By farming with and alongside nature, we can deliver both outcomes.

### Systems failure needs systems change - with farming at the centre

There has never been a more urgent or critical time for action. Not only because of the multiple stressors and threats facing the food system, but also because now is a key window for setting the tone of the future of food and agriculture across the UK, towards policies that more truly recognise the varied work that farmers do as land stewards, and ensure they are properly incentivised for this work.

*Critics suggest that nature is a luxury in the face of rising prices and fear of food shortages... but this report shows that there is no conflict*

## What is nature friendly farming?

Agriculture covers 71% of the UK's landmass,<sup>12</sup> so farmers are the country's most important land stewards. Nature friendly farming explicitly recognises that the farmer's job is to deliver multiple important outcomes: critically food, nature and carbon sequestration, amongst others including public access, water quality and rural vitality. Without farmers and farmland, it will be impossible to meet the UK's nature and climate goals.

Nature friendly farming is a mindset that informs farm business decision making and on-farm practices. It is an approach to farming which sees nature as a valued partner rather than an optional add-on. It recognises that nature is a part of, and central to, long term food production. Nature friendly farming means reducing inputs like pesticides and fertilisers, reducing tillage to improve soil quality, and creating habitats which benefit nature and aid farm business outcomes, such as flower rich boundaries and margins. It means explicitly using parts of farms to fulfil vital aims other than food production, where it is most appropriate and beneficial to do so, attaining a balance of land use for food, nature and climate. Nature friendly farming is regenerative, circular, low waste, agroecological, low input, resilient, locally-contextual and diverse. Nature friendly farming is practical and economically viable, and evidence shows that it has the ability to deliver our food needs on a large scale as part of a more sustainable food system.







SORCHA LEWIS

adaptable and innovative - given a clear and fair set of expectations about what agriculture needs to deliver for the UK, the sector will respond.

Many farmers are actively engaging with policy makers to co-design new policies and payment schemes. We need to see more of this in the future. Nature friendly farming is nothing new for the farming sector - indeed, farmers have intimate knowledge of the natural world and landscapes in which they operate, and many farmers instinctively and deliberately maximise the value of nature on and around their farms. Policy now needs to catch up so that the perverse incentives of the past do not continue to force farmers into practices that degrade habitats and ecosystems.

It is therefore vital that new payment structures reflect the urgent need to address the climate and nature emergency, and are rolled out at pace - despite calls from some to water down and delay the implementation of measures designed to support nature recovery and sustainable farming.

Whilst these arguments use food security as a justification to slow down or change course entirely, as we show in this report, sustainable farming systems will boost and support a resilient food system for the UK. Indeed, future policies need to go much further and there is much more to do to move the UK towards a truly sustainable farming and food system.

Farming and land use policy is an important part of the picture, but we must recognise that a truly joined up food strategy will require working across government departments and sectors of the economy. This joined up approach is critical in determining the role of agricultural land in meeting net zero and nature targets, and how diet and farming need to change hand in hand to achieve sustainability and health goals. The remainder of this report explores how supporting a transition to nature friendly farming can play a key role in three interlinked challenges: ensuring a resilient food supply for the UK, promoting diverse and healthy diets, and taking urgent action to achieve net zero and nature restoration.

## How can we characterise nature friendly farming?

Nature friendly farming is farming that:

- ✓ Works with nature rather than against it
- ✓ Is resilient against external shocks
- ✓ Produces diverse, nutrient-rich and healthy food for people to eat
- ✓ Reduces carbon emissions and sequesters carbon in soils and biomass
- ✓ Protects and enhances biodiversity everywhere, seeing nature as an ally
- ✓ Seeks to find the optimum balance between productivity and nature to ensure that natural assets are not degraded and profitability is not reduced<sup>13</sup>

Nature friendly farming recognises that productivity is important, but not at any cost. A huge number of the costs of our current food system are hidden from view, like the cost of removing pesticides, phosphates and nitrates from drinking water,<sup>14</sup> the cost of diet-related ill health,<sup>15</sup> or the cost of mental illness amongst farmers caused by long hours, volatile markets and lack of support.<sup>16</sup> Nature friendly farming seeks to alleviate and remove some of these costs and focus on the positive contribution that nature makes to farmland environments, food systems and wider society.



# RETHINK FOOD

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Achieving net zero and nature recovery





## 2. Real food security depends on nature

### The way we farm is undermining long-term food security and resilience

As farming has intensified it has become more reliant on external inputs, chemical control of pests and diseases, monocropping, and large-scale cultivation. High rates of fertiliser application have led to ecosystem damage, soil acidification, air pollution and water pollution. Beyond direct environmental impacts, changes in farming are also over time undermining the natural foundations of food production, particularly through the degradation of soils. The Environment Agency estimates that in England and Wales alone, soil degradation costs an estimated £1.2bn every year, whilst intensive agriculture has caused the loss of 40-60% of organic carbon in our soils.<sup>17</sup>

Measures such as fertiliser use, crop breeding and herbicide use have played an important role in

helping to double yields for the UK's staple cereals in the post-war period,<sup>18</sup> but this has not been without cost. On a per hectare basis, fertiliser use in the UK increased threefold in the 20 years between 1960 and 1980,<sup>19,20</sup> yet there is evidence that excessive fertiliser application stimulates the loss of organic matter from soils.<sup>21</sup> Much of the synthetic fertiliser that is applied to soils to improve crop productivity is also wasted, causing air pollution and leaching into waterways, with over half of nitrogen-sensitive habitats in the UK exceeding nitrogen (N) limits, and nitrous oxide accounting for 5% of UK GHG emissions.<sup>22</sup>

#### Extreme weather

The degradation of our soils makes agriculture more vulnerable to the impacts of climate change.<sup>23</sup> This has been front of mind this year, due to extreme summer temperatures and the worst droughts for farmers since 1976. For the first time since records began, UK temperatures exceeded 40 degrees,<sup>24</sup> whilst July saw only 10%

of its normal expected rainfall.<sup>25</sup> This is not a one-off. The UK Met Office projects that by 2070 our winters will be up to 30% wetter, summers up to 6°C warmer, and 60% drier compared to 1990, with a greater risk of extreme weather events including heat waves, drought and flooding.<sup>26</sup>

The ten hottest years on record have occurred since 2002, and six out of the ten wettest years since 1862 have occurred since 2002.<sup>27</sup> After the extreme weather of 2018 in which a period of intense cold (the 'Beast from the East') was followed by a prolonged summer drought, three quarters of farmers surveyed said that extreme weather had cost them at least £50,000 over the last 5 years.<sup>28</sup> While crop yields suffered in 2018, livestock farmers also faced big challenges, with two-thirds needing to use extra supplementary bought-in feed due to the cold weather and one quarter experiencing additional livestock pests and diseases.

#### Input dependence

Input dependence has left farmers vulnerable to price increases. Due to the war in Ukraine, high energy costs, global demand, and constraints on material supply, prices per tonne of ammonium nitrate were four times higher in July 2022 than two years previously.<sup>29</sup> The price of gas has also caused the UK's largest fertiliser manufacturer to permanently close one of its two manufacturing plants. The cost of feed and fuel have soared. In the same period, the price of concentrate livestock feed has risen by 40%, feed wheat by 80% and soybean meal by 50%,<sup>30</sup> whilst red diesel has doubled in price in a year.

Many farmers are struggling to survive, with agricultural inflation reaching 25% in the summer of 2022. Pig farming has been particularly badly hit, with labour shortages and other supply chain issues adding to the picture. The National Pig Association has predicted that 4 out of 5 pig producers could go out of business within a year, and most producers are making a loss of some £50 per animal.<sup>31</sup> Whilst some arable farmers have been protected by bought forward fertiliser prices and higher prices for their products on agricultural commodity markets, they will be less protected in 2023 when inflation is likely to remain.

#### Feeding people for the long term

All of this impacts on our ability to feed people for the long term - affordably, reliably and sustainably. Our reliance on external inputs at the expense of soils and the wider environment means that we are already seeing food become less affordable, as cost increases are reflected in the prices people pay at the till. Food price inflation reached 12% in summer 2022,<sup>32</sup> and at the same time almost 5 million people in the UK were living in food poverty.<sup>33</sup> With increasing climatic and geopolitical instability, we can expect these trends to continue unless action is taken. Despite our historically high yields and relatively high self-sufficiency, real food security at household level remains elusive in the UK.



## A narrow focus on production is not the solution to improving the UK's food security

Faced with the reality of a changing climate, evolving trade relationships and increased geopolitical instability, it is right that the UK is thinking about food security. There have been calls to ramp up food production in response. And, although increasing domestic production of certain horticultural crops certainly has a role to play, achieving greater food security is far more complex than domestic production alone. Indeed, increasing production by resorting to farming methods that undermine the ecosystem services supporting agriculture - and make farmers vulnerable to unstable global markets - will achieve the opposite.

Other factors such as global trends, international trade, food waste, supply chain resilience, and education, skills and economic circumstances at household level all also play critical roles in whether people have sufficient and nourishing food to eat on a consistent basis. A narrow focus on increasing domestic food production at all costs will not make us food secure. In fact, the UK already has relatively high levels of self-sufficiency for many of our staple agricultural products. On a net basis (excluding exports) the UK produces over 100% of the wheat and barley we consume, 90% of wheat, 80% of oilseeds, 70% of potatoes and 60% of sugar beet.<sup>34</sup> By volume

*Despite our historically high yields and relatively high self-sufficiency, real food security at household level remains elusive in the UK*

we also produce roughly the same amount of meat, milk and eggs as we consume. UK production of fruit and vegetables is less strong - around 50% of consumption for vegetables and only 16% for fruit. Overall, the UK produces around three quarters of consumption of foods that can easily be grown here, and 60% of all foods.<sup>35</sup>

### Beyond self-sufficiency

Whilst there are strong arguments for increasing UK fruit and vegetable production, in general, food security should be achieved by balancing domestic and imported production - concentrating too much production here could make us vulnerable if the UK is hit by extreme weather and we do not have a diversity of global food sources to fall back on. So instead of viewing the relationship between farming and food security through the lens of self-sufficiency alone, we need to take a broader view that looks to increase the resilience of the UK's agriculture and food system and support its vital contribution to a healthy, sustainable diet, overall human well-being, and a thriving natural environment.

### Nature friendly farming provides multiple sources of resilience

Rather than resorting to greater levels of input-dependent intensification, it is now becoming clear that farming with and for nature is key to increasing the long-term resilience of agricultural production, and therefore our food security. Protecting the soil through reduced tillage and cover cropping; agroforestry; increasing natural soil fertility; nitrogen fixing legumes; rotations; better crop residue management, and livestock integration with cropping systems, as well as increasing and managing habitat for wildlife throughout the farm, can all play a role. Together these kinds of measures have multiple resilience benefits:

**Reduced fertiliser use:** By adopting agricultural practices like those listed above, soil health can be revived. Instead of being an inert medium to

receive artificial nutrients, soil provides natural fertility for crop growth. Recent studies carried out on a Farming Connect demonstration farm in Wales show that N efficiency often diminishes when applied in higher quantities, and that halving the rate of N applied to grassland through the summer resulted in a grass yield penalty of just 5%<sup>36</sup>. Furthermore, the study found that over the summer, soil organic matter and clover fixation were supplying the grass sward with most of its N requirement. This is supported by a recent meta-analysis in Nature Sustainability looking at data from over 30 long-term experiments comprising 25,000 yield records, which found that overall, using a variety of regenerative practices - including the incorporation of organic

matter - could substitute for synthetic N fertiliser without compromising yields.<sup>37</sup>

**Natural pest control:** The presence of areas of nature alongside cropped land can provide habitats for predators that naturally keep levels of crop pests low, reducing pesticide expenditure and crop losses. In one study, installing wild buffer strips alongside bean crops led to a yield increase of 25-35%, partly provided by increased predation of pea and bean weevil by spiders, beetles, predatory flies and parasitoids.<sup>38</sup>

**Resilience to extreme weather events:** Farming for soil health can increase the capacity of soil to absorb and store water, improving the ability of agriculture to resist drought, and reducing both

## The urgent need for core environmental standards for UK trade

Trade with Europe and the rest of the world will continue to be vital to the UK's food security. In addition to imports, there is a real opportunity to develop the UK's export markets for high-quality, environmentally sustainable food products, as well as exporting our knowledge and expertise in sustainable production.

But in the wake of Brexit, there is now a policy and standards gap that leaves UK farmers exposed to low-cost imports of food and drink products that are not produced to the same high environmental standards as we follow in this country. While we continue to increase the sustainability performance of UK agriculture through new post-Brexit farming support schemes, there is an urgent need to ensure that all imports meet core environmental standards, so that UK farmers are not undercut.

A range of actors including WWF-UK, the Trade and Agriculture Commission and the Committee on Climate Change have all called for action to link access to UK markets to food production standards, but this was neglected in the Government's National Food Strategy.<sup>57</sup> While the Government has a stated objective of "not compromising on our high environmental protection, animal welfare and food safety standards" the new UK-Australia Free Trade Agreement (2021) contains no such safeguards. Without them, we risk undermining our own sustainability measures and offshoring environmental degradation and carbon emissions.<sup>58</sup>





*Yield can be improved through nature friendly farming methods, but even where this is not the case, reduced input costs often means greater profitability*

runoff and waterlogging during heavy rainfall. Research by King's College London suggests that an average UK farm of 86ha could store an additional 67 megalitres of water if managed regeneratively.<sup>39</sup> Planting trees around fields can shield crops and animals, minimising soil erosion<sup>40</sup> and reducing lambing losses by up to 30%.<sup>41</sup>

**Reduced nutrient loss:** Poor soil structure, bare soils and a lack of natural habitats around fields can lead to high levels of nutrient run-off and leaching. Lost nutrients represent a financial cost to farmers as well as a serious environmental hazard. Planting cover crops can reduce the amount of nitrogen leaving a field by 50% and reduce phosphorus load in waterways by up to 90%.<sup>42</sup> Meanwhile, planting trees between field edges and rivers can reduce nutrient losses by 20-80%.<sup>43</sup>

**Reduced energy use:** Practices such as reduced tillage and reduced phosphate use mean fewer passes over fields using heavy machinery, saving time, labour and fuel. A 2016 study at the Allerton Project showed that the diesel cost per hectare of one-pass drilling was only 26% of the diesel cost per hectare of AHDB conventional ploughing.<sup>44</sup> This can represent significant cost savings across a whole farm, as well as other significant benefits like reduced soil compaction.

**Reduced on-farm bills:** Taken together, these measures represent a potentially significant

reduction in input costs for farmers. The Groundswell Benchmarking Group, a group of 15 farmers practicing regenerative agriculture, found that variable costs were 24% lower whilst labour and machinery costs were 30% lower.<sup>45</sup> Another case study, of a 1,400ha Norfolk estate, reported a £40,000 saving on diesel and a 40% reduction in fixed costs, from £562/ha to £330/ha in just one year.<sup>46</sup>

**Improved animal health:** Anthelmintic plants such as chicory, sainfoin and birdsfoot trefoil have been shown to improve nutrition, control parasitic worms and enhance natural immunity in ruminants which is an effective tool to combat the increasing issue of drug resistance in farm animals.<sup>47</sup>

Increasingly, the evidence is demonstrating that agricultural resilience can be improved by moving away from input dependency and embracing nature-based solutions, which also bring animal health, carbon and biodiversity benefits.

**A productive and profitable way forward**

Moving to regenerative and nature friendly farming practices can be a productive and profitable way forward for farm businesses. In some cases, yield can be improved through using regenerative farming methods, but even where this is not the case, reduced input costs and greater resilience often means greater profitability. Whilst yield is clearly an important aspect of our food security and higher yields mean that less agricultural land is required overall, yield cannot be the only determinant of how we farm. Fixation on high yields often masks hidden costs that we can ill afford to bear.

**Yield implications**

One study on a large, intensively managed commercial farm in central England found that removing up to 8% of the least productive land at field margins from cropping maintained or improved overall yields across a 5-year rotation

**CASE STUDY:**

**Working with nature**

**Treez and Paul Worthen**  
**Livestock Farm**  
**Ewens Farm, West Chelborough, Dorchester**

Treez and Paul Worthen have been running a 6.97 hectare livestock farm in West Chelborough since 2017. The Worthens rear sheep, and have pioneered a silvopasture system on their farm - integrating low-density livestock with mixed broadleaf pasture to create a healthy balance between animals and environmental benefits.

The idea, Paul says, "is to create zones of tree shelter that livestock can choose to access directly on the field." In this system, the tall trees reduce livestock exposure to sun, rain and wind, while the lower shrubs provide the animals with a source of nourishment. Simultaneously, the tree cover and surrounding shrubs provide habitat for birds and wildlife on the farm. The Worthens are practising rotational grazing on their field to allow grasses and herbs to grow in the spring. This rotational grazing allows the grass to grow longer, and provide more food and shelter to local wildlife, birds and insects.

As new entrant farmers, Treez and Paul have experienced a steep learning curve. When they first began to farm sheep, they took their stocking density up to 80 sheep on 17 acres. They quickly realised that the density was too high to maintain a balance with nature on the farm. "When we started our journey, we were massively overstocked,"

*"It's just been a fantastic journey"*



said Paul. They decided to reduce their flock of Shetland Sheep to 32, and have plans to reduce that number even further.

"We see sheep as part of the ecosystem we steward," said Treez. "At Ewens, we are working to balance the presence of sheep with other natural features of the landscape." The sheep contribute to the landscape by "mowing" pastures, and maintaining the grassland habitat. The presence of trees, shrubs and hedgerows provide the animals with food, shelter, nutrition, and reduce the need for synthetic antibiotics.

By diversifying their farm, providing on-farm nutrition for their livestock and reducing their reliance on inputs like fertiliser and feed, and practising rotational grazing, Paul and Treez have reduced their costs and created a livestock farming system that gives back to nature.



despite the lower available cropping area.<sup>48</sup> This was due to the provision of agro-ecosystem services such as pest control and pollination of bean crops. A further long-running 10-year study at Hillesden, a 1000ha arable farm in Buckinghamshire, showed no loss of overall yield despite removing 1-5% of land from production to create wildlife habitats.<sup>49,50</sup> In the case of grazing land, planting a higher diversity seed mix supporting a wider range of wildlife has been found to be more effective than increased mowing and fertiliser applications at generating high forage yields.<sup>51</sup>

However, there may, in some cases, be a resultant drop in yield when moving to pro-nature farming techniques, especially in the initial transition phase whilst soils are still recovering their functionality. The Groundswell Benchmarking

Group of 15 farms have so far reported an average 25% reduction in output per hectare.<sup>52</sup> This is in line with the yield projections made by IDDRI for a fully agroecological UK farming system in 2050.<sup>53</sup> Taking land out of production for nature or carbon sequestration necessarily implies yield loss from that land. However, yield loss is far from uniformly the outcome of nature friendly farming, and adoption of differing practices in different contexts can produce a variety of outcomes. Even removing some land from productive use can actually boost yields overall at farm level. What is critical here is that land use and yield are viewed in a holistic and balanced way, recognising that some land (particularly peat and wetland) is best suited to nature restoration, while other land can balance the needs of nature whilst delivering good

agricultural yield. A nature friendly approach sees the harmony in these different land uses and acknowledges them all as part of a wider system.

**Financial viability**

Beyond and despite the single restrictive focus on yield, however, nature friendly and regenerative farming is widely reported to achieve greater profitability and financial resilience for farmers, primarily through reducing costs.<sup>54</sup> Recent research in the UK on regenerative farming techniques over a five-year farm rotation on different soil types found yields between 3-9% lower but net profit up by 5-18%, alongside increased earthworm count and bird sightings, and decreased soil GHG emissions and carbon footprint.<sup>55</sup> A 2019 study on livestock farming in marginal areas in the UK found that reducing output and stock numbers to levels that could be supported by grazing without any additional artificial fertiliser could also increase profitability.<sup>56</sup> The Groundswell group also reported that net margins were maintained despite yield declines. This is a positive finding given the range of other ecosystem services and resilience benefits that adopting these kinds of measures brings.

**Hidden costs**

Increasing UK yields and self-sufficiency at the expense of nature will do little to protect food supply against the shocks to our food system that we know will become more frequent and severe. High yields often mask a hidden cost in the form of high fertiliser inputs, soil degradation and the related loss of natural capital - air and water quality, and biodiversity. These externalities threaten the long-term viability of food production through degrading the ecosystem services provided by soils, biodiversity and the climate.

The same hidden costs are also present in the livestock sector, where intensive farming of pigs and poultry uses very little land directly in the UK but hides the reality of sprawling 'ghost acres' in the UK and abroad used to grow feed. Over 40% of the UK's arable land is dedicated to animal feed, with an additional 850,000 ha abroad used

**Soil: the foundation of agricultural resilience**



Soil is one of the primary victims of 20th century farming, neglected and degraded over decades of intensive farming. With insights from science, we are now becoming aware of the hidden world beneath our feet. Soils are amongst the most complex and diverse ecosystems on the planet, hosting one quarter of the world's biodiversity, including nematodes, fungi, bacteria and arthropods.<sup>59</sup> In every teaspoon of soil where plants are well established, there is more than a kilometre of fungal filaments, and more living organisms than there are people living on earth.<sup>60,61</sup>

All of this life matters, not just for its own sake, but for agriculture too. Soil organisms are vital in the dynamics of soil organic matter and nutrient cycling, enhancing nutrient availability and uptake for use by crops. Healthy soil has a sponge-like structure that holds water, supporting farms in their natural flood management and helping them to weather droughts and downpours with less crop and soil damage. Bacteria in the soil interact in synergy with plants to stimulate and enhance pest control response.<sup>62</sup> Living soils are the most important carbon store on earth.<sup>63</sup> In all, the FAO's 'State of Knowledge of Soil Biodiversity' lists 18 different ecosystem functions and services provided by soils.<sup>64</sup>



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for soy meal alone, mostly in areas at high risk for deforestation and conversion of critical natural habitats. Moving to sustainable levels of high quality meat and dairy consumption could more than compensate for the extra land required if crop yields were overall slightly reduced. Nature friendly farming takes a holistic view on yield, balancing productivity with the other metrics that we know are needed to allow us to continue to produce food sustainably for years to come.



### The UK is suffering from an epidemic of diet-related ill health underpinned by empty calories

Our post-war food and farming system has not only led to the widespread degradation of nature, but has also driven an emerging crisis in diet-related ill health. While food is overall more abundant and readily available than at any other time in history, much of what we are eating is not making us any healthier. Overall, diet is the leading cause of avoidable harm to the nation's health, accounting for four out of the top five risk factors for total years of life lost to early death, ill-health and disability.<sup>65</sup> The key dietary causes of this are the low levels of whole grains, fruits, legumes, nuts and seeds; and high levels of processed meat, salt, trans fatty acids and sugar.<sup>66</sup>

In addition, research has shown that the nutritional quality of a wide variety of crops is declining, likely caused by the uptake of new higher yielding crop varieties which have traded off nutrient quality with faster growth. Climate change may further exacerbate this phenomenon, as increased CO<sub>2</sub> concentrations in the air cause faster growth and nutrient dilution.<sup>67</sup> A study of 43 different vegetables found significant declines in calcium, iron, protein, phosphorus, riboflavin and vitamin C between 1950 and 1999,<sup>68</sup> whilst long-term controlled studies on wheat by Rothamsted Research show an overall decrease in mineral content (iron, zinc, copper and magnesium) of between 20-30%.<sup>69</sup>

The lower nutrient content of food causes a double hit on top of a food environment that already promotes the consumption of high fat, salt and sugar (HFSS) ingredients and ultra-processed foods. This has led to a rise in the prevalence of 'empty calories' that contribute to the growing incidence of obesity, whilst failing to fulfil essential micronutrient needs. Overall, the UK food system generates both production- and consumption-related health costs of around £54bn every year, with consumption-related costs relating predominantly to cardiovascular

MARCIN JUCHA / ADOBE STOCK



## 3. Diverse, healthy diets depend on diverse and healthy food production





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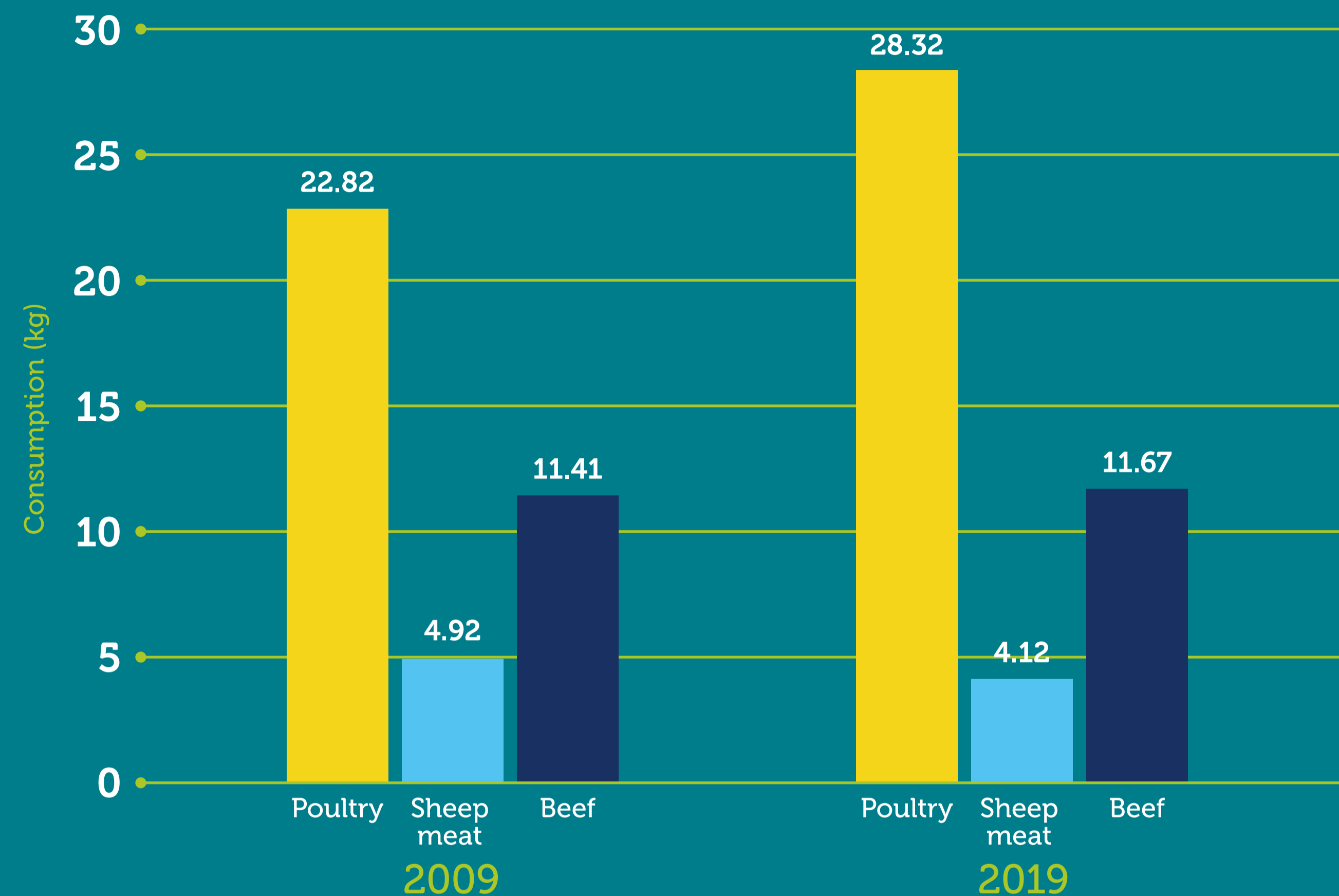
disease, cancer, diabetes and kidney disease.<sup>70</sup> The burden of obesity alone also lowers UK labour market outputs - due to absenteeism, early retirement, lower employment rate and reduced productivity - equivalent to 944,000 full time workers every year, at a cost of an additional £409 per person per year paid through taxes.<sup>71</sup>

### Changing what we eat can transform our health and put nature on the road to recovery

The good news is that changing our diets has the potential to not only tackle much of the burden of diet-related ill health, but also to support some of the changes to farming and land use that are critical to our future. By reducing our dependence on unhealthy ultra-processed convenience food, we reduce demand for the bulk commodities that drive large-scale monoculture production at the expense of the environment. By consuming a wider range of whole foods including wholegrains, nuts, seeds, vegetables and legumes, we can support a farming system that is more diversified - supporting wider crop rotations, mixed production systems such as agroforestry, and a wider range of on-farm habitats.

There is also evidence that food produced using agro-ecological methods can be healthier. For example, organically grown crops contain significantly higher levels of antioxidants - and four times lower levels of pesticide residues.<sup>72</sup> A side-by-side study of US regenerative farms alongside conventional counterparts found food with more magnesium, calcium, potassium, zinc, vitamins and phytochemicals, and lower levels of detrimental elements including sodium, cadmium and nickel.<sup>73</sup> Grass-fed beef and milk, meanwhile, have highly beneficial ratios of omega 6 / omega 3 fatty acids compared to other production systems.<sup>74</sup>

## UK consumption per capita



### Animal proteins

One of the most critical links between diet and the farmed environment is our current consumption of intensively produced meat, eggs and dairy. Whilst a combination of grazing and crops grown for animal feed make up 85% of the UK's total agricultural land footprint at home and abroad, animal source food supplies only 32% of our calories and 48% of our protein.<sup>75</sup> Over 40% of the UK's arable land and 50% of our wheat harvest - equivalent to 10.7bn loaves of bread - is given over to animal feed.<sup>76</sup> The reliance of much of the livestock industry on feed grown on land that could otherwise have been used to feed people directly means that we are misusing one of our most valuable resources. On a global basis, if all of the arable land producing livestock feed was instead used for feeding people, we could support another four billion people on the planet.<sup>77</sup>

Focusing on the production of sustainable animal proteins using extensive systems that deliver on

outcomes for nature is a key lever for change in our food system, tackling the high greenhouse gas and land footprint of animal agriculture head on. Livestock production is an important part of a nature friendly system: pasture fed ruminants play a key role in transforming grass, an inedible resource, into highly nutritious food for people. Done sensitively, grazing can be part of a biodiverse landscape - preserving valuable grasslands, and enhancing soil fertility on arable land as part of a rotational system. Adopting these methods can also help farmers to gain higher margins, reduce input costs and tap into higher value markets at home and abroad.

Despite the important role of animals, and particularly ruminants, in sustainable farming, it is vital to recognise that there also needs to be an overall reduction in the consumption of animal products in the UK. A recent analysis by Oxford University found that reduction in animal source protein in diets is the single most effective intervention to reduce food system emissions,



without which it will be impossible to limit planetary warming to 1.5°C.<sup>78</sup> We need to see a shift from intensive, impactful forms of livestock production that rely on high amounts of inputs, to business models based around quality, with fewer inputs and animals.

There is a need for caution over the role of poultry and pigs in a nature friendly farming system. Even as beef and lamb consumption have fallen over time, poultry has risen stratospherically and now accounts for over 50% of meat eaten in the UK. Over 95% of broilers are kept in intensive units and have been bred to be efficient feed converters, growing to slaughter weight in only 5-7 weeks. This means that the chickens we eat today have 2.5x more fat than in 1970, 69% less iron, 26% less phosphorus and 5x less Omega 3 fatty acid.<sup>79</sup> As well as providing less nutrition per unit of product, today's poultry production has a heavy environmental footprint. Chickens and pigs are responsible for the majority of the UK's livestock feed footprint - over 2million ha in the UK and 850,000ha abroad for soy alone.<sup>80</sup> In addition, improper storage and disposal of manures produced by intensive poultry units creates severe water and air pollution.

### Changing diets can bring opportunities for farming

Supporting a shift to healthier, more sustainable diets need not be to the detriment of farmers and farming communities. Farmers have always adapted to the changing needs of society, and for many, a just transition out of the high intensity, low margin and low welfare industrial livestock system will be welcome, especially as the squeeze on input prices makes this an increasingly unprofitable space.

For farmers of grazing animals, adapting to sustainable stocking rates and balancing land management for food production, biodiversity and carbon sequestration can open up new diversification opportunities and income streams. As we outlined in our Farming for Climate Action

## Supporting a shift to healthier, more sustainable diets need not be to the detriment of farmers and farming communities

report in early 2022, following a landscape-scale approach and encouraging diversity on and between farms could facilitate new ideas and systems, for example, by involving several farms to create a mosaic of habitats and food production.<sup>81</sup> These approaches allow farmers to stay firmly in the picture as dietary habits change in coming years.

One thing is for sure, change is coming, and we have a choice as to how we respond. Farms that look to improve their self-reliance rather than depending on imported feed and fertilisers will have greater resilience. It is not government policy that will ultimately drive change - consumption patterns, driven by consumer attitudes, are also changing without the impetus of government intervention. There is a sea change among young people, with the percentage of consumers choosing plant-based food and drink alternatives doubling in the last ten years<sup>82</sup> - 44% of 25-44 year olds now consume plant-based milk.<sup>83</sup> The market size for plant-based food has doubled between 2016 and 2020, growing to over £1bn.<sup>84</sup> We have a responsibility to ensure that these products also come from sustainable, nature-positive farming systems, whether at home or abroad. This presents a huge opportunity for UK-based farmers.

### A diverse agricultural landscape, designed for people and health

The farm of the future will move away from the increasing specialisation that characterised 20th century agriculture. By introducing a wider range

#### CASE STUDY:

## Diversified and resilient farming

**Pete Thompson**  
Horticulture and arable farm  
Brooke Farm, Great Oakley, North Essex.

Brooke Farm is a third generation family farm in North Essex - one of the driest parts of England. The farm was founded in 1948 by George Thompson. Today, Pete Thompson, George's grandson, runs the farm.

Brooke Farm is primarily a vegetable farm - producing onions and brassicas. Over the past few years, the farm has hosted trials and innovation projects which has seen the Thompsons diversify into more unusual types of cropping - citrus, figs, and olives - to name but a few. They have also taken some part of their farm out of production and entered the English Woodland Carbon Code scheme.

To incorporate these different types of cropping, Pete has worked with a forestry company to develop a seven bed system - alternating 13 m vegetable beds with 10m strips of different tree species. These strips of trees include nut trees, trees for timber cultivation and trees for establishing more permanent woodland. Using this system, "we can deliver vegetable crops, timber and nut protein without compromising on yields," said Pete.

*"If you want to produce food in a nature friendly way, the farming system needs to be seen holistically"*



Pete has plans to take these efforts further. In a year's time, he intends to install a 6-acre block. "It will be a first of its kind," he said, "delivering four-fold revenue - vegetables, timber, protein and carbon sequestration." The idea of introducing this new system is not only to diversify the farm's income streams, but also to improve the farm's resilience to weather shocks in the future.

"We had a 16-bed field completely burn off in the heat wave this year," said Pete. The hope is that having areas of timber interspersed with vegetable fields will reduce evapo-transpiration and protect crops against the heat and wind in the future.

The Thompsons have taken significant efforts to diversify their farm and increase its resilience to future weather shocks; however, they are still facing significant barriers to keeping their farm running. Growing economic pressure on farms is forcing people like Pete to decrease the variety of crops they cultivate. "We've tried to diversify into fruit, but unless you're a large farm you're just not viable," said Pete. "If we, as a society, want affordable food, government money needs to come to the people doing the farming activity - otherwise it is not going to deliver change."





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of crops, animals and products, not just overall, but within individual farms, we can create greater resilience, improve farm incomes through new product lines and sales routes, and maximise the positive synergies between different parts of the system.

Agroforestry can produce fruits, nuts and timber, at the same time as benefiting arable fields through improved soil health, reduced runoff, and pollination and predator habitats. Expanding crop range with rotations opens up new opportunities for plant proteins or home-grown livestock feed. Legumes add fertility without requiring ever-greater quantities of external inputs. Introducing herbal leys for grazing animals into arable rotations, and pasture based systems can provide dietary and health improvements for livestock, and build soil fertility and structure for future crops.<sup>85</sup> Reintroducing diversity in the form of close-to-market horticulture, especially for high value and delicate fruit and vegetable produce, will also reduce our reliance on imported goods, and promote healthy, fresh and regionally-

specific products. Diversity is about more than food. Modern farms also deliver carbon sequestration and nature restoration alongside crops. All of this can mean a range of income streams for farms that bolster financial resilience in turbulent times.

**Connecting people to food and farming**

Of course, there is no direct link between what we choose to grow on our land and what people will choose to buy. Changes to supply and demand have to go hand in hand. To do this, we need government to coordinate food and agriculture strategies, with cooperation between farmers, manufacturers, retailers and caterers, supported by strong trade policy. We need to recognise that the food system as it currently exists is highly wasteful - the UK produced around 9.5 million tonnes of post-farm gate food waste in 2018.<sup>86</sup> Reducing waste both pre- and post-farm gate will support broader food security goals. We also need to close the huge gulf in knowledge and experience between our rural and urban communities. Our population has become deskilled around food production and cooking, and saturated in a food environment dominated by pre-prepared, high fat, salt and sugar processed foods. Fewer people than ever are involved in farming - intensive chicken farms generating up to £1m revenue each year, employ only a handful of workers,<sup>87</sup> and a dwindling number of people are needed to sustain large-scale arable operations reliant on capital and tech.

A survey of British school children by the British Nutrition Foundation found that a quarter of primary school children think cheese comes from plants; one in ten 8-11 year olds think pasta comes from an animal, and 18% of 5-7 year olds say that fish fingers are made from chicken.<sup>88</sup> The most recent survey found that only half of adults know that chickpeas are a source of protein.<sup>89</sup> But there is a new generation of farmers engaging citizens around farming through farm visits, outreach activities and social media. Farm diversification creates more and better opportunities for engaging people

in the agricultural landscape through tourism and recreation, direct sales through farm shops, and new employment opportunities, bringing the rural landscape to life. A greater emphasis on local production and consumption, which is implicit in much of this generational change, will foster the relationships that are needed to create a food system that is more secure, for people and nature.<sup>90</sup> Government funding to support local infrastructure and food systems is a key part of delivering this step change.

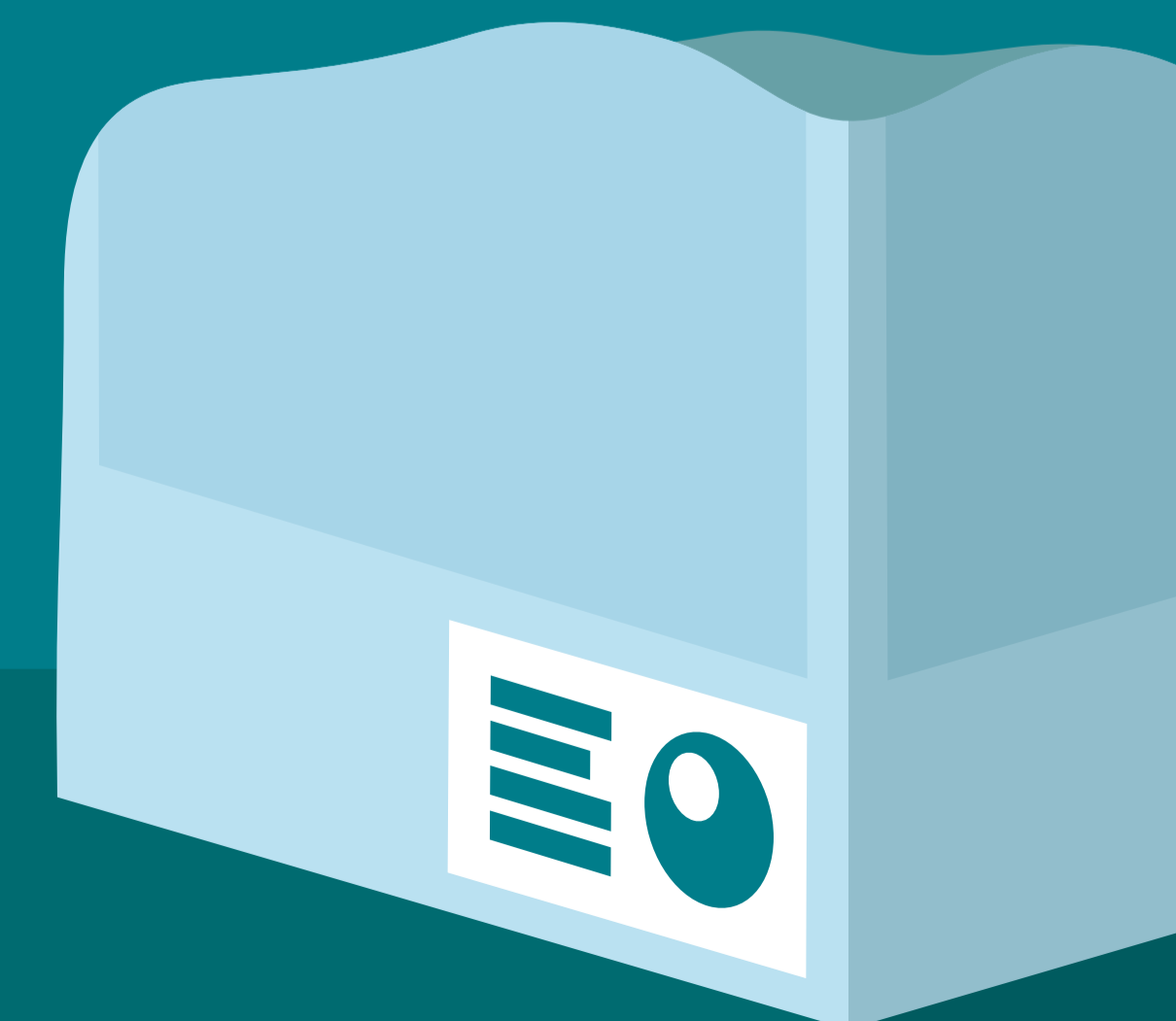
*Changes to supply and demand have to go hand in hand... to do this we need the government to truly coordinate food and agriculture strategies*

**Better food and drink labelling**

Better labelling is a bridge between farmers, food companies and consumers, helping to make consumer intent around dietary change into real buying behaviour that can support changed farming practices. Over a quarter of consumers surveyed by the Food Standards Agency said that eating healthy and sustainable diets was important to them. Yet compared to health, only half as many consumers say they know what a sustainable diet consists of.<sup>91</sup>

Trusted and accurate labelling can help consumers make sustainable choices. However, doing this in practice is a huge challenge given the range of interacting and potentially competing sustainability factors that need to be part of the equation. There is the potential for on-package eco-claims to be misleading and confusing, especially if they focus on single metrics rather than whole systems.<sup>92</sup> Farming systems are one of the more complex aspects of sustainability

performance to communicate to consumers - whilst standards such as 'organic' are broadly well understood, other terms such as grass-fed are used inconsistently and are not governed by specific regulations. The Nature Friendly Farming Network supports the approach of C.L.E.A.R (The Consortium for Labelling for the Environment, Animal welfare, and Regenerative farming), advocating for farm and producer level method-of-production information to be mandatory on food labelling.





### Farming is a contributor to the climate emergency, but done right, it is critical to the solution

How we farm is not only an essential determinant of human health within the UK, but is also key promoting planetary health. The food system is a major contributor to global climate change, and without changing how it works, we will be unable to meet net zero targets.<sup>93</sup> The UK food system, including food produced outside of the UK for consumption here, is responsible for around 160MtCO<sub>2</sub>e,<sup>94</sup> equivalent to 35% of the UK's territorial emissions.<sup>95</sup>

Agriculture is a significant contributor to these impacts. Emissions from agriculture make up over 50% of food system emissions, and 10% of the UK's total greenhouse gas emissions.<sup>96</sup> Methane constitutes 55% of these agricultural emissions, nitrous oxide 32% and carbon dioxide 13%.<sup>97</sup> Ruminant animals, animal manures, application of nitrogen fertilisers, and machinery usage on-farm are some of the major drivers of agricultural emissions, alongside crops grown for animal consumption.<sup>98</sup>

The evidence is clear. Farming practices are driving a negative cycle — exacerbating global climate change, which in turn is making farming systems more vulnerable in the face of droughts, heatwaves, and extreme weather. This needs to change. Some emissions from farming are unavoidable, but we need a roadmap to reducing emissions as far as possible, alongside taking every opportunity to sequester carbon in agricultural systems. The importance of agriculture to achieving net zero makes the case for promoting nature friendly farming especially strong. We need to flip the food and farming system from one that fuels vulnerability to one that is part of the solution. Doing so is not only a way to mitigate harm, but to harness farming's benefits to achieve the UK's ambitious net zero goals.

Policy across the UK will be essential to making this 'flip' happen. Recent research conducted

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by WWF has shown that it is both necessary and possible to reduce UK direct agricultural greenhouse gas (GHG) emissions by at least 35% by 2030 and 51% by 2050 on 2018 levels, although currently little has been achieved.<sup>99</sup> To move towards these goals, policy needs to take a three-pronged approach — (1) facilitating emission reductions by reducing fuel and nitrogen use, methane emissions from ruminants and nitrous oxide emissions from soils;<sup>100</sup> (2)

maximising farmland's natural ability to sequester carbon in soils, hedgerows, grassland and woodland, and (3) ensuring that our food system impacts are not exported to other contexts by promoting nature friendly trade. These three elements need to be supported in parallel to ensure that farming systems are really delivering emission reductions, and promoting agricultural climate resilience.

## 4. We cannot tackle the climate and ecological emergencies without transforming farming

*We need to flip the food and farming system from one that fuels vulnerability to one that is part of the solution*



## The freefall in UK biodiversity over the last 70 years has been directly caused by the intensification of farming

Agriculture and land use change is not only driving climate impacts, but also causing a dramatic decline in wildlife, putting hundreds of species at risk of extinction.<sup>101</sup> Over the last 70 years, nature in the UK has been degraded and depleted. The UK is now one of the most nature-depleted countries on earth.<sup>102</sup> The 2019 State of Nature report found that 41% of species were in decline and 10% threatened by extinction. UK skies have lost 40 million birds in the last fifty years.<sup>103</sup> And the loss continues. The rate of wildlife decline has become worse since 2010.

There are many drivers of nature loss, including urbanisation, pollution and climate change,<sup>104</sup> but agriculture stands out.<sup>105</sup> Most of the UK's agricultural land has not been recently converted from natural habitats - we lost most of our forested land many centuries ago. Forest cover in the UK has grown considerably since 1900.<sup>106</sup> What has changed is the way in which we farm. In the post-war period, massive expansion of intensive agriculture took off, driven by market pressures and government incentives. This led to growth of field sizes, increased animal stocking density, chemical and pesticide use, and the clearing of margins, hedgerows and grassland. Over time, farm consolidation, tighter profit margins and a focus on yield growth have pushed nature out. And intensification continues. The number of intensive livestock units in Wales grew 21% in the three years between 2017 and 2020, and 10% in Scotland.<sup>107</sup> Pollution from poultry farms is severely polluting rivers, causing toxic algal bloom and killing species that depend on these water systems.<sup>108</sup>

Farmland was once a rich refuge for plant and animal species that co-evolved with agriculture and lived alongside human activities. Today, this farmland biodiversity is severely depleted, with many once-common farmland birds, flowers and

invertebrates at risk. This is highly significant at national scale, as agricultural land makes up 70% of total land in the UK.<sup>109</sup> Nature simply cannot survive on the remaining 30% of land alone, isolated in poorly connected nature 'islands'. This is important not just for nature in its own right, but also for food security. Biodiversity on and near farmland fulfils important ecosystem services such as pollination and pest control. Species loss leaves agricultural systems more vulnerable to pests, pathogens and climate change.<sup>110</sup>

While the expansion of intensive agriculture has been responsible for biodiversity loss across the UK, farming systems are a vital part of the solution, which lies in a balanced approach to land use, echoing the 'three compartment model' advocated in the 2021 National Food Strategy. Here a mosaic of different landscape<sup>s111</sup> is created — (1) nature restoration and habitat creation for species that do not naturally thrive on farmland, on land which is not naturally productive; (2) low-intensity agriculture with a strong agroecological emphasis, and (3) sustainably intensive, high yield agriculture applying nature friendly methods on more typically productive land. At both ends of this three compartment spectrum farmers can balance nature and agriculture. High yields and nature do not need to be inimical, but holding land back for habitat creation can still contribute to overall food production, as the Hillesden project demonstrates.<sup>112</sup> With the right mindset

**High yields and nature do not need to be inimical, but holding land back for habitat creation can still contribute to overall food production**



### CASE STUDY:

## Restoring biodiversity and building a flourishing business

**Nicholas Watts**  
**Arable Farm**  
**Vine House Farm, Spalding, Lincolnshire**

Nicholas Watts and the team at Vine House Farms run a 1400 hectare arable farm in Lincolnshire. They have 68,000 free range hens on the property, grow 15 different crops, including 400 acres of organic cropping. They also grow 400 acres of various types of bird food plus beans, peas, potatoes, sugar beet, rape, barley and wheat.

Nicholas has farmed at Vine House Farms since 1964. His enthusiasm for farming and wildlife is the reason why Vine House Farm Bird Foods was born. Nicholas conducted his first bird surveys in 1982 and by the early 1990s realised that bird populations on the farm were declining. Since then, Nicholas has been practising nature friendly farming methods to promote birdlife on the property - direct drilling, reducing ploughing, keeping wide grass margins, installing owl boxes and creating a 35-acre wetland. 10% of Vine House Farms' land is now managed for wildlife.

"I didn't see improvements in the first couple of years, but over time we've observed a gradual increase in bird numbers and variety of species." The number of barn owls on the property have increased from

3 or 4 in 1985 to 12; lapwing presence has increased from 4 to 20 birds. Nicholas has also seen an increase in the number of tree sparrows, whitethroats, sedge warblers, reed warblers, common terns, black headed gulls, shoveler, mallard, gadwall, redshank, coot, oystercatcher, and tufted duck.

Nicholas has trialled and researched many different approaches to promoting wildlife on farm. "Being nature friendly has altered my life. Farming in this way spawned our bird seed business, the farm shop and the café," he said. "Farming in a responsible way has led to three other farmers asking me to farm their land. Most other farmers have no idea on how to look after their land or the wildlife on it."

There are, however, many barriers preventing the wide-scale adoption of the approaches practised at Vine House Farms. Farming payments for wildlife habitat creation, in their current form, are not sufficient to encourage farmers to create space for nature. "There just are not enough people who are interested in wildlife," said Nicholas. This will need to change to promote a broader uptake of nature-friendly practices. While Vine House Farms has provided a haven for wildlife, we need much broader uptake of nature-friendly methods to support wider birdlife and biodiversity gains.



and approach, responsible land management can produce food while also creating space for a diverse range of plant and animal life to thrive.

### **By transforming farming and the food system we can protect nature and restore carbon, alongside food production**

Nature friendly farming systems are explicitly designed to deliver carbon and nature benefits alongside food production. By changing the way we farm in the UK, we can sequester more carbon in our soils, reduce water pollution, and create space for other species to thrive. Evidence



SORCHA LEWIS

has shown that making this transition does not need to come at the expense of productivity. In fact, nature friendly farming is essential to promoting the long-term resilience of our food system.

Nature friendly farming actively promotes emissions reductions by harnessing natural fertility and processes rather than relying on high-footprint external inputs. It reduces the need for fossil-fuel intensive fertilisers, and minimises use of machinery by reducing tillage requirements and pesticide applications. By aligning levels of livestock production with their function in agroecological systems, integrating livestock into arable rotations and reducing reliance on cereal- and soy-based feed for animals, nature-friendly farming can slash livestock emissions. Restoring agricultural soils, both arable and grassland, is a top priority, including carbon-rich peatlands. Above-ground carbon stores such as trees, woodlands and hedges can be integrated on and alongside productive agricultural land, in addition to some relatively unproductive land being primarily used for dedicated sequestration. The Committee on Climate Change recommends that to achieve net zero, trees should be integrated into 10% of all farmland, and that by 2050 hedgerows need to extend by 40%.

We are dependent on our land and landscapes for so much - clean water, fresh air, climatic stability, nutrition, raw materials, and medicine. Given the looming impact of the cost of living crisis, increasingly obvious impacts of climate change and declining quality of life for citizens, this has never been more important.

### **Delivering these public benefits won't happen without a land strategy and a well-designed payment system**

Excellent land management strategies and agricultural payments to support nature friendly farming are critical to make a nature friendly food system a reality. Many farmers are already

practising nature friendly farming, but we cannot expect all farmers to deliver these additional public goods without support. Payments to farmers create a revenue stream for the services to the environment and nature that they provide which are not yet factored into economic decision making. This broader economic recognition is the critical step that will help achieve net zero, deliver biodiversity gains, provide food security and resilience, and improve dietary and nutritional health. The need for strong leadership through legislation and appropriately framed land management policy cannot be underestimated in bringing this future food system to life.

A balanced land use strategy is essential for both achieving this goal and for outlining how land needs to be managed to balance the various 'goods and services' it provides. A good strategy will outline how carbon sequestration and storage, food production, and nature restoration can be balanced, whilst also recognising that all elements are essential in a resilient and secure food system. It is not possible to outline a one-size-fits-all approach to land use across the UK so local communities need to be involved in the strategic development process, which should also be specific to the areas of the UK in concern, with holistic farm health and whole farm planning approaches at the fore.

These changes are already happening. Since the UK left the EU at the end of 2020, the four devolved administrations have been developing new agricultural policies and schemes to replace the European Common Agricultural Policy (CAP). Under the CAP system, farmers received direct payments through the Basic Payments Scheme (BPS). This subsidy mechanism paid farmers for the area of land they had under cultivation. In a post-CAP landscape, there is an immense opportunity to support farmers to adopt genuinely sustainable farming practices and reward them for the benefits they provide to society alongside food production. This means paying farmers for sequestering carbon, reducing greenhouse gas emissions, restoring biodiversity and improving water quality.

## ***Strong leadership through legislation and appropriately framed land management policy cannot be underestimated in bringing this future food system to life***

So far, the direction of travel has been positive, with governments across the UK making initial steps towards recognising farming's role in addressing the challenges of runaway climate change and nature loss. But we can do more and it is important to stay consistent in the face of challenges. An ambitious agricultural transition is a prerequisite in building a more resilient future for farming. Any moves to shift focus will do nothing but increase the vulnerabilities of our current food and farming system. Anything less than a transformation of land management would also be a blow to the UK government's net zero targets. By taking a balanced approach to land use, securing outcomes for rural environments, while recognising the strengths of different landscapes, we can restore natural habitat and create new wetlands and nesting habitats where most needed, and focus on nature-based productivity where appropriate. We must not delay. Data analysis by the Green Alliance has suggested that any delay to the implementation of agricultural schemes that support Net Zero targets could potentially halve the carbon savings that could be achieved by 2035<sup>113</sup>.



# 5. Barriers to mainstreaming nature friendly farming

Nature friendly farming can provide solutions to many of the interconnected challenges we face. It is economical, practical and environmentally beneficial. It presents farmers with the opportunity to make their businesses both profitable and resilient,<sup>114</sup> whilst transitioning to a food system that works to help deliver net zero by 2050, and restore nature across our landscapes. Farmers are food producers, stewards of nature and critical to mitigating climate change. They are a central part of transforming the food system.

Nature friendly farming is already practised by many farmers to varying degrees, but taking it to scale across the UK to the extent that we need will face many challenges. Not least, it requires a change in mindset - not just for farmers, but also policy makers, retailers, food manufacturers and consumers, whose roles in the food system are equally important.

In conducting this research, we spoke to farmers to find out what they saw as the major barriers to the wide-spread adoption of nature friendly farming. These barriers are outlined below:

## Perceived tension between profits and nature friendly farming:

There is a widespread perception that adopting nature friendly farming practices will lower farm profits. Whilst there can be transitional investments, in the long-term, nature friendly farming often helps farmers to cut costs for external inputs, increasing financial resilience. "If you are farming in balance, you will be at your most profitable and nature will benefit," said Chris Clark, an English farmer. NFFN's Nature Means Business report demonstrates how nature friendly farming can make farm business more profitable and resilient.

## Lack of suitable support systems and training:

Current education for farmers is not providing the required tools and knowledge. On-farm advice and training has been too focused on providing the skills and knowledge needed to increase production. As such, many farmers don't know where to begin changing the farming practices they have used for decades. There is a shortage of good, knowledgeable advisors who can support farmers in making this transition. Building up advisory capacity to support farmers will be key to addressing this barrier.

## Peer pressure:

"There is a sense that if you are not focused on yields, then you're not a real farmer," said one NFFN member, "Some people think the best way to spoil a good farm is to allow nature in." Farming communities can tend to stick with what they know, creating 'peer pressure' to keep farming in the same ways. Sharing the success stories from thriving nature friendly farms through case studies and visits will help develop the "small shifts in mindset" that can add up to significant changes over time.

EDDIE CLOUD/ADOBE STOCK



## Uncertainty around new support schemes:

"People feel secure in what they know and can understand", said Sam Kenyon, a member of the Nature Friendly Farming Network. Given the introduction of new agricultural payment schemes, there is a lot of uncertainty about what the future will look like for farmers, making it a difficult time to start doing new things on farm. The government needs to publish clear guidance about what these new schemes will entail and what kind of payments they can expect to receive.

## High up-front costs:

"Infrastructure costs can be prohibitive", said a nature friendly farmer in Wales. Some governments are rolling out capital cost funds to help support farmers to cover costs like direct drills, rotary tillers and efficient irrigation systems, while other NGOs like the Woodland Trust are providing funds to plant hedges and trees. According to NFFN member Michael Clarke, "we need more joined up thinking between public and private sectors."

## Short-term focus from land agents and owners:

For tenant farmers, making long term commitments to improve the state of nature on their farm can be very challenging without the support of a landlord, said a NFFN member in Scotland. The rules governing tenant farming will need to change to ensure these stewards have the same opportunity as owner-occupiers. Land agents and owners are in a key position to help tenant farmers to nurture long-term sustainable returns.



# 6. Recommendations for change

At the heart of the argument for a more nature-centric food and farming system lie the market dynamics that have pushed nature out of farming over the last half century. While farmers play a central role in the transition to nature friendly farming, other food system actors like governments, food processors, manufacturers, retailers and consumers will play important enabling roles. These food system actors need to align to ensure that farmers have the support, knowledge, time, money and resources they need. The change that we need to be making is systemic - it is not for farmers to make this transition alone.

## Policy and trade

### 1 Lead with holistic, pro-nature food strategy.

To move towards the vision for farming that we describe in this report, government needs to set joined-up food strategy that takes the systemic nature of the food seriously by dealing with agriculture, health, environment, land and livelihoods together, rather than in siloes.

### 2 Support a just transition to payments that support nature friendly farming.

Now is not the time to pause the phasing out of the Basic Payment Scheme (BPS), despite demands for this. We need to proceed with confidence and pace to a post-BPS system where farmers are paid for the public goods that they produce.

### 3 Develop land use strategies for food and environment.

Robust land use strategies are critical to shaping a future for agriculture where food production sits alongside nature, working in tandem rather than at odds with each other. These should follow a three compartment model approach to recognise that diversity is strength and key to sustainable production.

### 4 Champion a global nature-positive food system through trade policy.

Overseas trade is an important part of securing a resilient and healthy food supply, and creates opportunities to export our products abroad. But agriculture in the UK cannot be undercut by cheap, poor-quality imports, and we must not 'offshore' our environmental impacts elsewhere. This needs to be enshrined in our approach to trade policy.

## Communication and knowledge sharing

### 5 Fund farmer peer-to-peer learning.

We know that peer-to-peer knowledge exchange is important for farmers and supports them in taking initial risks in changing their farming systems towards a more nature friendly approach. We call for governments to significantly upscale funding to support and encourage the growth of farmer clusters and knowledge sharing networks for regenerative and agroecological approaches.

### 6 Support research into nature friendly farming approaches.

More evidence is needed to show how nature friendly farming creates benefits for farmers, nature and people across the board. We ask farmers, academic institutions and NGOs to collect high quality data using harmonised metrics, to demonstrate the change in their businesses, and to talk about it.

## Supply chains and market opportunity

### 7 Facilitate collaboration to drive sustainable dietary change.

A shift to sustainable, healthy diets is one of the most effective interventions to generate beneficial outcomes in the food system. Governments, retailers and the food service sector need to play a leadership role to put in place the policy and action to support consumers and farmers in this change

### 8 Introduce standardised environmental labelling.

Without clear and reliable information consumers cannot make good decisions about the food that they purchase and consume. We advocate for better product labelling for, initially, all meat products, and in due course, all fresh produce, displaying method of production and environmental credentials - across both food retail and food service.

### 9 Lead by example in public procurement.

Public procurement can lead the way in supporting the production and consumption of nature friendly food. Government Buying Standards requiring higher environmental production standards for food should be applied mandatorily across the whole public sector.

### 10 Encourage retailers to support farmer innovation.

The retail sector can support UK farmers as they diversify and innovate for a nature friendly future. To drive lasting change, retailers can develop long-lasting relationships with farmers based on trust and mutual aspirations, and use levers such as sustainable sourcing policies, price premiums and new product spotlights.





WHITCOMBERD/ADOBE STOCK



# Key Asks for... Wales

*“Food security isn’t just about the volume of food we produce - it’s about what we produce and how we produce it, who can access it, what produces food waste. Policies that support farmers in Wales need to reflect that.”*

Rhys Evans, NFFN Sustainable Farming Lead for Wales

Around 90% of Wales’ total land area is used for agriculture.<sup>115</sup> As such agriculture is at the core of the Welsh economy and holds an important place in Welsh social and cultural life. Within this landscape, many farmers are already working in tandem with nature to deliver environmental benefits like sequestering carbon, increasing biodiversity and improving water quality; however, nature friendly farming is not yet the ‘norm’ in Wales. To enable a country wide, landscape-scale transition to a nature friendly food system, we ask the Welsh government to undertake the following actions:

**Lead with holistic, pro-nature food strategy.** The Welsh Agricultural Bill — currently passing through a period of Senedd scrutiny — includes a welcome emphasis on sustainable food production, mitigating and adapting to the climate emergency, restoring biodiversity, and promoting farming as a cultural resource. We support the current direction of travel. We do, however, see a need for greater connection between agricultural and food policy in Wales,

which includes facilitating shorter supply chains and local food economies. The current draft Food (Wales) Bill needs to complement and work alongside the Agricultural Bill to ensure that food production in Wales is treated in a joined-up way.

**Support a just transition to payments that support nature friendly farming.** The transition away from CAP-style subsidies and towards the Sustainable Farming Scheme is critical to creating a more resilient farming landscape. Facilitating a just and considered transition will be vital to its success. The Welsh Government has made a good start in outlining plans for this new scheme, but there is a need for greater clarity on how it will work and what payments farmers can expect. Greater clarity and communication will allow farmers and farming families to plan ahead and adapt to the new policy landscape.

**Champion a global nature-positive food system through trade policy.** Under the ‘Well-being of Future Generations Act in Wales’, the Welsh Government has recognised the need to reduce

impact on the global environment and climate change. The Government needs to continue championing reduction of its international footprint, by reducing its imports of commodities, like soy-based feed, which are often linked to land-use change and deforestation abroad.<sup>116</sup> Rewarding Wales’ farmers for environmental improvements is a futile exercise if we continue to import food and commodities that contribute towards global nature and climate declines.

**Fund farmer peer-to-peer learning.** The Welsh Government’s farm advisory body, Farming Connect, will play an important role in delivering the Sustainable Farming Scheme (SFS). To date, Farming Connect has focused its advice to help farmers improve production, yields and efficiency. Now, it needs to serve a new purpose by providing affordable advice to help farmers deliver benefits for nature and climate.

**Support research into nature friendly farming approaches.** Wales lacks robust monitoring approaches for agri-environment schemes. Farmers are often asked to implement new practices, but there is limited follow up to assess what impact new practices are having. The Welsh Government needs to encourage farmers to keep and capture data that can be used to understand the impacts of new farming schemes. Furthermore, encouraging farmers to undertake simple monitoring activities such as spade tests or soil infiltration testing, in addition to offering more specialised services such as soil carbon and biodiversity testing, would be very beneficial. After all, you can’t manage what you don’t measure.

**Lead by example in procurement.** Welsh public procurement guidelines need to give preference to farmers with established nature and climate friendly farming practices and excellent environmental land management. The Welsh Government can ensure that schools, hospitals, and public institutions are sourcing from local farmers that practise nature friendly practices.





IRINA SCHMIDT / ADOBE STOCK

*“We need agricultural policies that have nature friendly farming at their heart. We need the government of Northern Ireland to commit to the development of a nature friendly agricultural bill to make this happen”*

Phil Carson, NFFN Sustainable Farming Lead for Northern Ireland

supporting farming for nature and carbon, but they have yet to lay out a plan for how they will make this a reality. Much more must be done. The government of Northern Ireland needs to ensure that farmers are being supported to deliver benefits like greenhouse gas emission reductions, biodiversity, clean air and water, which are crucial for food production.

**Develop land use strategies for food and environment.** Northern Ireland currently has no land-use strategy. The government needs to develop a strategy to guide how land is used in Northern Ireland. A land-use strategy is a crucial mechanism in unlocking farming’s potential by making wiser decisions about land use.

**Champion a global nature-positive food system through trade policy.** Northern Ireland is heavily reliant on imported soya and other proteins to feed livestock.<sup>120</sup> Northern Ireland currently has the highest stocking density of livestock in the UK with over 25 million poultry birds and pig rearing at a 10-year high.<sup>121</sup> This level of livestock production drives deforestation and land-use change in other parts of the world where ingredients for feed are grown. NI needs to ensure that livestock production is sustainable by reducing its dependence on external feedstock.

**Fund farmer peer-to-peer learning.** NI passed its Climate Act in February 2022.<sup>122</sup> This Act includes a provision to fund a just agricultural

transition.<sup>123</sup> Support for farmers for knowledge sharing, based on the principles of nature friendly farming, needs to be provided as part of this transition framework.

**Support research into nature friendly farming approaches.** Northern Ireland is in the process of surveying soil health and organic carbon stocks across the country.<sup>124</sup> This data collection process will play an important role in developing a baseline carbon assessment. This surveying also needs to include up to date habitat surveys and biodiversity audits to ensure that measurement is holistic and not only focused on carbon management.

**Facilitate collaboration to drive sustainable dietary change.** Livestock is one of Northern Ireland’s biggest areas of production. There is a need to transition to a more sustainable approach to livestock in the country. Northern Ireland has an opportunity to pioneer this transition.

**Lead by example in procurement.** Northern Ireland needs to have specific public sector procurement targets to support nature friendly food production.<sup>125</sup> The current Food Strategy Framework mentions the need for better procurement; however, this is too vague and unlikely to deliver tangible change. Specific government procurement targets should be adopted to support a local market for nature friendly produce.

## Key Asks for...

# Northern Ireland

Agriculture is one of Northern Ireland’s most important industries. 75% of Northern Ireland’s land is used for agriculture.<sup>117</sup> Beef, sheep and dairy are the industry’s largest sectors, making up 80% of the country’s agricultural output.<sup>118</sup> While many farmers have embraced nature friendly farming practices, farming and land use accounts for nearly a third of Northern Ireland’s greenhouse gas emissions.<sup>119</sup> As such, farming in Northern Ireland will play a critical role in addressing the biodiversity and climate crises, building resilience in the food system and promoting healthy, sustainable diets. To achieve these three aims, we ask the government of Northern Ireland to undertake the following actions:

**Lead with holistic, pro-nature food strategy.** Northern Ireland is currently the only part of the UK that hasn’t committed to developing its own legislation on agriculture. We need to see the current agricultural strategy and framework documents turned into law to support nature friendly farming practices at scale, while providing a clear pathway for the future.

**Support a just transition to payments that support nature friendly farming.** Northern Ireland have rolled over area-based subsidies and have only committed to very incremental changes to the existing BPS subsidy scheme. The government has verbally committed to



# Key Asks for... England

In England 69% of land is used for agricultural purposes.<sup>126</sup> 55% of this land is used to cultivate arable crops - primarily cereals like wheat and barley - with 41% as permanent grassland, typically used for rearing livestock.<sup>127</sup> Many farmers in England are already practising nature friendly techniques to enhance biodiversity and achieve greater resilience; however, the agricultural policy landscape in England is uncertain and ever-shifting, which is making it challenging for farmers to know what to expect. To facilitate a transition to a nature friendly food system, the government in England needs to undertake the following actions:

**Lead with holistic, pro-nature food strategy.** Despite having laid out a Food Strategy in 2022. There is not a strong enough link between England's Food Strategy and the Environmental Land Management scheme (ELMs). Neither ELMs nor the Food Strategy go far enough. We call for a Food Bill that seeks to bring together England's food and agricultural sectors to promote a nature friendly food system – aligned with the country's net zero and biodiversity goals.

**Support a just transition to payments that support nature friendly farming.** The transition away from CAP-style payments toward 'public

money for public goods' via Environmental Land Management is crucial in locking in a transition to a more resilient farming sector. The three-scheme structure must be maintained with one

*"Many farmers are demonstrating how ambitious action for nature and climate is key to building resilient, profitable farm businesses that deliver sustainable food production, growth, and rural prosperity. Government must reaffirm their commitment to policies that unlock this potential, from how land is managed, to wider changes across our food system."*

Lottie Alves Sustainable Farming Lead for England

scheme to address widespread environmental objectives, another to deliver spatially targeted environmental land management, and a third which helps build landscape resilience at scale. Funding must reflect the scale of the challenge.

**Develop land use strategies for food and environment.** Land use frameworks can help mitigate trade-offs and maximise co-benefits agriculture and conservation. Currently England has no process to prioritise and weigh up competing pressures on land. DEFRA needs to develop a Land Use Framework for England based on a three-compartment model to guide decision making and ensure that food production and land use help us meet the country's climate and biodiversity goals.<sup>128</sup>

**Fund farmer peer-to-peer learning.** In England there isn't currently specific government investment into knowledge sharing. We ask England to follow the Scottish model and facilitate knowledge exchange to support the transition to a nature friendly food system.

**Facilitate collaboration to drive sustainable dietary change.** We can only expect so much change to come from individual behaviour shifts and changing retailer sourcing practices. Government intervention and legislation is required to drive sustainable dietary change. We call on the English government to support the transition to a lower-impact sustainable diets across the country.

CAVAN/ADOBE STOCK





# Key Asks for... Scotland



*"In Scotland, we're very lucky to have a government that has a clear vision for agriculture and food - Scotland just needs to figure out how to deliver on that vision"*

Kirsty Tait, NFFN Sustainable Farming Lead for Scotland

MR DOOMTS/ADOBE STOCK

Around 80% of Scotland is under agricultural production. More than half of this land is dedicated to upland sheep farming and mixed sheep and cattle farming.<sup>129</sup> In 2022 the Scottish Government set out their Vision for Agriculture to deliver high quality food production, climate mitigation and adaptation and nature restoration. We support this vision, and ask that the Scottish Government continue to work towards implementing and delivering on its goals. To make this future vision a reality, we ask the Scottish government to undertake the following actions:

**Lead with strong, pro-nature agriculture, crofting and food policy.** Scotland is in the process of developing a number of different strategies, bills and frameworks - including a new Agriculture Bill, Biodiversity Strategy, Land Reform Bill, Natural Environment Bill and sector specific Just Transition Plans. While we support all of these efforts, we believe the current approach

is siloed. We need a more joined up approach to food, agricultural, and nature strategies in Scotland. We ask the Scottish Government to harness the Good Food Nation Act to connect these strategies and bills to deliver a holistic vision for the future of food.

**Support a just transition to payments that support nature friendly land management.**

The Scottish Government is in the process of phasing out the existing BPS scheme. We ask that the Government maintain its commitment to phase out area-based subsidies in the upcoming Agriculture Bill. Targeted outcomes for biodiversity gain and low emissions production will be essential to creating a nature friendly food system. Area based payments will not achieve nature restoration or climate targets as part of a just transition.

**Develop land use strategies that acknowledge that nature and farming can work in harmony.**

Scotland has a strong Land Use Strategy and

has made significant progress in land reform and embedding land rights and responsibilities. The latest Land Use Strategy acknowledges that we need to balance the demands we make of our land alongside a commitment to ensure that Scotland continues to produce high quality sustainable food. This is an approach we support. Now, we call on the Government to take this further and galvanise initiatives to implement this strategy, using Regional Land Use Partnerships.

**Ensure that trade policy sets high environmental standards for imported goods.**

The Food Security Task Force recently published their plan to ensure Scottish food security in the face of the war in Ukraine.<sup>130</sup> While we support the development of a food security plan and the creation of a food security unit within Government, we believe to be truly effective, they must recognise the role that nature friendly farming systems play in promoting resilience and real food security.

**Fund farmer & crofter peer to peer learning -** We call upon the Scottish Government to commit to increased multi-year Investment in advisory services and knowledge transfer/peer to peer learning for farmers and crofters, to accelerate a transition to agroecological farming and land use. This can be built on current agroecology and agroforestry projects funded through the Knowledge Innovation and Transfer Fund.<sup>131</sup>

**Support research into nature friendly farming approaches.** We welcome the roll-out of The National Test Programme and the commitment to 'design, test, improve and standardise the tools, support and process necessary to reward farmers, crofters and land managers for the climate and biodiversity outcomes they deliver.' The Scottish government needs to increase funding to support this work to create a universal approach to measuring and monitoring on-farm outcomes.

**Facilitate collaboration to drive sustainable dietary change.** Scotland needs to support a transition to more sustainable meat production, and facilitate collaboration between retailers, farmers and consumers to achieve this goal. The emphasis and ask cannot only be on farmers to transition their livestock systems - the government needs to support this transition by identifying when meat is produced in a nature friendly way through robust standards, accreditation and transparent labelling.

**Lead by example in procurement:** Scotland's Good Food Nation Act places duties on Government, local authorities and health boards to create good food nation plans. These plans will set out clear outcomes, indicators and policies across a range of areas relating to food including the environment, health and the economy. Preference in these national and local plans and procurement should be given to local food produced by farmers and crofters with established nature and climate friendly practices and excellent environmental land management.



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### **About Rethink Food**

The Nature Friendly Farming Network's Rethink Food campaign examines the myths, challenges and opportunities presented to farmers in the current food system. It seeks to explore the role of UK farmers in shaping a better food system from the farm ground up.

### **About the Nature Friendly Farming Network**

The Nature Friendly Farming Network (NFFN) is a UK-wide, farmer-led organisation that champions working harmoniously with nature to produce food, fibre and other products from our land. For many years, nature-friendly farming has been building momentum in response to resource intensive systems that have driven our landscapes to degradation. Nature-friendly farming comes in all shapes and sizes as part of a bigger transition towards a fairer food and farming future. What unites the NFFN is how food and farming can positively influence change.



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