



Accelerating the farming transition for future food security

Wildlife & Countryside Link policy briefing

Executive summary

- Recent months have seen increased concern about future food security, and discussion of how best to keep abundant food on shop shelves.
- The farming transition underway since 2020 can address the main threat to future food security, the climate and ecological breakdown already inhibiting food production in the UK.
- The transition can also deliver a fairer financial settlement for farmers compared to the previous EU system by paying them for the environmental goods they produce, rather than the amount of land they farm, contributing towards net zero and nature's recovery.
- The incoming Government has the opportunity to go further with the transition and deliver these benefits faster, by increasing the budget and ambition of ELM schemes.

1) Environmental degradation poses the biggest threat to food security

Reviving nature and tackling climate change is not opposed to food production, it is a precondition for it.

If UK farming continues to operate to recent precedent, continued fertiliser reliance will make food production yet more expensive in an increasingly uncertain world, whilst contributing to an accelerating decline in yields driven by climate and ecological breakdown. The status quo creates environmental problems that constitute an escalator to chronic food insecurity.

Food from UK farms is reducing in quantity due to climate and ecological breakdown – a trend that will escalate further without action.

As the Government's own Food Security Report 2021 highlighted:

*"Climate change and emissions pose significant risks to production and food security. As a consequence of unusual weather patterns associated with climate change, wheat yields in 2018 were 7% below the 2016 to 2020 average, and in 2020 were 17% below that average."*¹

These declines affect the majority of foods produced in the UK. This summer (2022) has negatively impacted farm businesses across the country, a trend that's expected to continue. Similarly, the long hot summer of 2018, saw onion yields down 40%, carrot yields down 25% and potato yields down 20%.

¹ <https://www.gov.uk/government/statistics/united-kingdom-food-security-report-2021/united-kingdom-food-security-report-2021-theme-2-uk-food-supply-sources#united-kingdom-food-security-report-2021-theme2-indicator-2-3-2>



Livestock farming is not immune - risk of thermal heat stress in dairy cattle is projected to increase by over 1000% in Southwest England, the region with the most dairy cattle.² As the Food Security Report concluded, climate change *“poses a risk to UK food production already, and this risk will grow substantially over the next 30 to 60 years.”*

These risks are of understandable concern to farmers. 2021 research from the University of Exeter found that each and every farmer interviewed *“had experienced or witnessed issues caused by extreme weather such as heavy rain or prolonged dry spells in recent years, and expected these to intensify further”*.³ A BBC report from August 2022 profiled the experience of farmers during the recent heatwave, including crop fires and large drops in yields, under the headline *“UK heatwave: Some food supplies could be hit, warn farmers”*.⁴

Soil erosion, a consequence of ecological damage caused by intensive farming practices and of climate change, is also curtailing UK food production. As highlighted by the Food Security Report: *“Estimates suggest soil degradation, erosion, and compaction result in losses of about £1.2 billion each year and reduce the capacity of UK soils to produce food.”*

The reliance on fertiliser and fuel from overseas gas is increasing UK farming costs, just as climate and ecological damage is reducing the amount of UK food produced. These are two closely linked environmental problems, with the former exacerbating the latter.

Late 20th century farming practices, which continue to apply in many places, rely on chemical fertiliser, which makes soil erosion worse, increases costs for farmers and contributes to poor air and water quality. Chemical fertiliser requires gas for its production as both a raw ingredient, and because it is an energy-hungry process. Across the world, fertiliser prices rose by 200% in 2020, due to increases in gas prices. The war in Ukraine has caused these costs to rise further – an ECIU report suggests that if March 2022 prices persist for 12 months the extra fertiliser bill for British farmers over that period could amount to £760 million.⁵

In the words of farmers belonging to the Nature Friendly Farming Network:

*“The events in Ukraine have inadvertently exposed the vulnerability of a food system that is heavily reliant on a range of inputs from around the world, which are often environmentally damaging, finite and at risk from climate change. On a farm business level, reliance on costly inputs hinders profit margins and negatively impacts environmental resilience. If food security is to be a genuine aim, then we need to reduce reliance on these inputs.”*⁶

² Ibid

³ https://www.exeter.ac.uk/news/homepage/title_857812_en.html

⁴ <https://www.bbc.co.uk/news/newsbeat-62505587>

⁵ <https://ca1-eci.edcdn.com/Food-farming-fertiliser-March-2022-ECIU.pdf?v=1648124498>

⁶ <https://www.nffn.org.uk/nffn-response-to-ukraine-war-why-producing-more-is-not-the-answer/>



Conversely, investment in nature friendly farming is proven to help maintain and even improve yields. A ground-breaking study⁷ demonstrated that maintain 8% of a farm for nature helped to maintain and even enhance yields of some groups and led to no loss in economic or nutritional value. If supported by public goods payments this could provide the foundation for more resilient farm businesses.

2) The farming transition delivers food security & unlocks wider benefits

A new system of paying farmers for the public goods is needed to address the environmental threats to farming outputs and is an investment in food security.

Higher ambition environmental schemes in the Agricultural Transition must be accelerated to help get farming on the path to resilience and increased profitability.

The Government published the Agricultural Transition Plan in November 2020 to set out a post-Brexit future for farming running up to 2027.⁸ The Plan, the *"biggest change in agricultural policy in half a century"*, confirmed a new system of support for farmers whereby Environmental Land Management (ELM) farm payments would be linked to the delivery of public goods, including climate change mitigation and improved soil health, and phased in over seven years to *"create cleaner, greener landscapes"* and *"reverse species decline and improve biodiversity significantly"*.

Environmental Land Management consists of three schemes, starting with the Sustainable Farming Incentive (SFI) designed to set standards for agricultural practices to deliver public goods across a spectrum of farms. The first iteration of the SFI was announced in 2021. A pilot for Landscape Recovery (intended to support long-term, significant habitat restoration) was launched in early 2022. The full detail of the Local Nature Recovery (intended to support locally targeted actions to make space for nature) is yet to be announced.

The schemes and the soil-retaining, climate adapting, biodiversity benefiting, cost-saving outputs they will provide will change farming to assure UK food security, in the face of climate and ecological pressures. The farming transition will also unlock a range of other benefits, including:

Delivering increased profitability for farmers

There is significant appetite among farmers to combine food production with world-leading climate and nature farming practices, in acknowledgement of the direct financial benefits this sort of farming provides. In the words of farmers in the Nature Friendly Farming Network *"A healthy farmland ecosystem means a healthy bottom line"*.

Innovative farming practices go with the grain of nature to drive up farm profits by:

⁷ <https://royalsocietypublishing.org/doi/10.1098/rspb.2015.1740>

⁸ <https://www.gov.uk/government/publications/agricultural-transition-plan-2021-to-2024>



- Opening up new income streams. Nature-friendly farms can offer more products to consumers, through a diverse farmed landscape. This can range from new premium fruit crops from increased tree planting on farms, to participation in carbon offsetting and natural flood management schemes. An August 2022 report from ECIU suggests that greener farming could open up carbon offsetting markets worth £700 million to British farmers.⁹
- Optimising yields, through the enhancing ecosystem services, for example the incorporation of flower-rich habitats. A Royal Society study suggest that laying down new wildflower strips on arable land can improve crop yield by up to 10%, by boosting pollinator numbers and species that consume crop-pests.¹⁰
- Reduced disease impacts for livestock farmers. Extensive, low-density livestock who spend time roaming are healthier and less likely to spread disease compared to tightly packed factory systems. The 2019 'Less is More' report also highlighted how aligning the stocking of upland farms to the carrying capacity of the land reduced costs and improved profitability for farmers.¹¹
- Reduced soil erosion impacts. The loss of soils from farms reduces the ability of the land to produce food. The more soil that is retained, the healthier the farm and more productive the yield.

It is these clear, commercial imperatives for the farming transition that has led many farmers to get ahead of ELM roll-out by coming together to pioneer more sustainable farming practices. An example is the 'Weald to Waves' project in Sussex, which is helping farmers and landowners in transitioning towards more sustainable farming. In the words of one participating farmer: *"The Weald to Waves project is an inspiring vision that puts this cooperation into action for the common good and at a landscape scale. I can't wait to get started!"*¹²

Delivering a fairer deal for smaller farmers

The payment system that applied under the EU Common Agricultural Policy saw farmers paid according to the amount of land they owned. This is akin to paying someone for being in the office, not for the work they do. It also rewarded large landowners at the expense of small family farms, with the bulk of the funding going to farmers receiving £100,000 a year or more. 10% of claimants received half of BPS payments with, 33% of farms received less than £5,000 each.¹³

Quite rightly, both the May and Johnson Governments took the opportunity presented by Brexit to break free of this failed bureaucratic approach, in favour of one tied to environmental outputs, which is intrinsically fairer to smaller farmers and rewards innovation. The ECIU's August 2022 'Levelling Up Farming' report also highlights that a system based on environmental outputs will do more for farmers

⁹ <https://eciu.net/analysis/reports/2022/levelling-up-farming>

¹⁰ <https://royalsocietypublishing.org/doi/10.1098/rspb.2015.1369>

¹¹ <https://www.wildlifetrusts.org/sites/default/files/2019-11/Hill%20farm%20profitability%20report%20-%20FINAL%20agreed%2015%20Nov%2019.pdf>

¹² <https://www.wealdtowaves.co.uk/new-page>

¹³ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/834432/evidence-compendium-26sep19.pdf



working in areas targeted by the levelling up agenda, with farms in those locations already securing proportionately 50% more government support for environmental measures on their land than the national average.¹⁴

Delivering against climate and nature goals

Farmers and land managers manage 71% of the land in England.¹⁵ Agriculture is responsible for 10% of our greenhouse gas emissions¹⁶ and is the biggest driver of biodiversity declines¹⁷. This means farming practices will have a significant impact on whether the Government meets its targets to reach net zero by 2050 and to halt the decline in species abundance by 2030. The transition can deliver the changes needed to reduce carbon emissions from farming, and to ensure that the sector delivers for nature's recovery.

The transition can also directly contribute to a nature recovery goal particularly important to the public – the cleaning up of our rivers. As any MP's postbag testifies, communities across England are appalled by the state of our rivers and are demanding urgent action to clean up our waterways. Environment Agency data reveals that agriculture is the primary source of river pollution, with pollution caused by farmed soils (and pollutants embedded in them) washing into waterways affecting 40% of water bodies. By way of comparison, sewage affects 36% of water bodies.

As the Environment Agency Chair Sir James Bevan told the Environmental Audit Committee last year *"Statistically, the largest sector that is impacting our waters, in one way or another, is the farming sector."* The transition to greener farming practices through Environmental Land Management will address the egress of farmed soils into rivers, helping to recover the freshwater environment.

By completing the transition to a public money for public goods system of farming payments, the Government can deliver the changes and support farming needs to thrive into the long term, whilst making strides towards net zero and nature's recovery.

3) Next steps

Since January 2022 Defra has made progress with ELMS, including:

- Launching the Sustainable Farming Incentive, which will allow farmers to improve soil health and boost productivity.
- Launching the Landscape Recovery pilot; with more applicants than expected, it is already proving a popular scheme for farmers and land managers.

¹⁴ <https://eciu.net/analysis/reports/2022/levelling-up-farming>

¹⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1027599/AUK-2020-evidencepack-21oct21.pdf

¹⁶ <https://www.gov.uk/government/statistics/agri-climate-report-2021/agri-climate-report-2021>

¹⁷ <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0151595#:~:text=At%20a%20global%20scale%2C%20the,%2C%20and%20pollution%20%5B%5D>



- Publishing some detail on Local Nature Recovery, including the themes and high-level objectives of the scheme.

However, there is still more to do to provide the level of ambition and certainty needed to make the farming transition a success. The urgency of the environmental threats facing farming requires the new Government to go further and faster to unlock the benefits ELM can provide; two improvements across the ELM programme that would help drive forward the changes particularly needed to assure food security are:

Assigning appropriate budget

Environmental and farming groups have calculated that in order to deliver for the environment and support farmers, the budget for environmental outcomes from farming should be at least £2.1 billion a year (within the overall farming budget), maintained well beyond the current Parliament. Core environmental elements of ELM are already falling behind, with Link estimating large funding gaps (compared to environmental need) over the next two years.¹⁸

The biggest change to farming support in a generation, essential to assuring food security for decades to come, cannot be achieved on the cheap. Farmers should be rewarded accordingly, as they transition to new ways of farming essential to keeping UK food supplies abundant and affordable.

The budget for ELMS must be allocated according to the three-way equal funding split originally promised¹⁹, until it is clear how funding needs to be prioritised in order to meet our nature and climate goals. This will ensure the schemes drive environmental improvements in the most robust and cost-effective manner. Targeting in this way will help meet drive forward the outputs that will have the greatest environmental and food security benefits, providing value for money for taxpayers.

Providing clarity on scheme detail and ambitions

A lack of clarity from Defra about what the schemes will offer and what they will require has led to poor environmental performance so far and made it difficult for farmers to plan ahead.

While Defra is developing 'environmental improvement in the farmed environment' objectives behind the scenes, the Department has yet to finalise and state these publicly – including how they sit within a series of themed 'strategic specifications' to guide budget spend and prioritisation across the three ELM schemes. This information needs to be made public to help farmers make informed decisions about their future plans.

¹⁸ https://www.wcl.org.uk/docs/Autumn_Budget_Spending_Review%202021_representation-%20WCL-1.PDF p12

¹⁹ "By 2028, Government spending is expected to be evenly split across farm-level, locally tailored, and landscape-scale investment" <https://www.gov.uk/government/news/government-unveils-plans-to-restore-300000-hectares-of-habitat-across-england>



The contribution that the agriculture sector is expected to make to net zero, nature recovery and public access and wellbeing objectives has also yet to be quantified. In terms of climate change, this leaves agriculture lagging behind other sectors which have clear obligations for decarbonisation. The Climate Change Committee's 2021 progress report highlighted that an ELMS decarbonisation plan is lacking, stating that current ambitions "remain largely short-term and incomplete across the UK".²⁰ Similarly, there has been slow progress on identifying how Environmental Land Management will contribute towards nature recovery targets, including the commitment to create 500,000ha of wildlife-rich habitat by 2040, and to halt the decline of species by 2030.

Discussion of actions and interventions without a clear picture of outcomes creates a difficult consultation framework and misses the opportunity for genuine co-design with external stakeholders. Clear targets for decarbonisation and nature recovery in the farmed environment should be set and published at the earliest possible time.

Specific improvements to the respective ELMs schemes would also deliver further progress:

Sustainable Farming Incentive

As planned, the Government opened applications for the Sustainable Farming Incentive (SFI) in June 2021. The SFI standards cover grassland soils, arable soils, moorland and rough grazing (the latter being the 'introductory' level only).

This initial offer under the SFI for 2022 presents a limited set of options for farmers which are relatively low in ambition. Defra has committed to rolling out more advanced levels to these initial standards and additional, new standards to build the offer between 2023-25 with the two important foci of biodiversity and climate change mitigation, but as yet none of the standards look to integrate public access, which a key commitment in the 25YEP.

These standards should be delivered swiftly and to a high ambition. They should include:

- A Farmland Biodiversity standard, introduced alongside the planned roll out of the hedgerows and integrated pest management standards. Introducing the Farmland Biodiversity standard soon would provide farmers with a more rounded and coherent farm-wide offer that will enable them to get nature working hard on their farm now, whilst helping wildlife to rebound. This would also ensure government remains on track to achieve the 2030 species abundance target in the Environment Act. Studies suggest that requiring at least 10% of farmland to be managed for nature under a Farmland Biodiversity standard constitutes a positive tipping point for the recovery of threatened species.²¹

²⁰ <https://www.theccc.org.uk/publication/2021-progress-report-to-parliament/>

²¹ <https://zslpublications.onlinelibrary.wiley.com/doi/10.1111/acv.12386>



- Updated and improved soils standards, capable of rewarding farmers for actions that will genuinely improve soil health and fertility. The introductory and intermediate soil standards launched last year are pitched too closely to basic good practice and baseline regulatory requirements. This effectively provides increased payments for no real change, undermining the value for money credentials of ELMS, as well as failing to deliver the uplift in soil retention needed to assure food security. Defra should improve the ambition of these standards to reward actions that will significantly boost soil health.

Across the board, Defra must ensure that all SFI standards are designed in tandem to include biodiversity, climate and public access, so they dovetail at a farm level, avoiding complexity and maximising delivery. This will ensure farmers are clear how the different standards work with each other and work for the farm business. In the absence of a new regulatory baseline (the minimum environmental and animal welfare standards which all farms are expected to meet), the Government should also set out clearly what the SFI aims to achieve and by when, to help farmers plan and evolve their businesses accordingly and ensure continued value for the taxpayer.

Landscape Recovery

The Landscape Recovery scheme has great potential to deliver landscape-scale improvements for nature and climate.

Demand for the Landscape Recovery pilot, due to run until 2024, has been high, demonstrating that there is a desire from land-managers and farmers across the country for a transformative scheme. Defra was hoping to attract 15 projects for the pilot but has received over 50 applications and ended up supporting 22. In the words of then Secretary of State George Eustice in September 2022: *"There has been significant interest from farmers and land owners in coming together on landscape scale projects to manage environmental assets on their land."*²²

The high demand for the pilot strongly suggests that Defra should increase their ambitions for this scheme, by:

- Increasing funding up to 2024. Defra has committed £50 million for Landscape Recovery pilot over this parliament. However, the scale of farming demand and environmental need is much higher. With over 50 applications to the Landscape Recovery pilot's first 'developmental' phase (focused on species recovery and water resources) and a second round expected to focus on climate change, it is clear that demand is higher than the current supply of funding. Similarly, environmental need far exceeds the parameters of this initial budget allocation; it is estimated that between £500m-£700m a year will be needed to restore semi-natural habitats in line with the 25YEP plan to create or restore 500,000 hectares of wildlife-rich habitat. The budget for Landscape Recovery in this Parliament must be in excess of £50 million to meet both the scale of both farming demand and environmental need.

²² <https://www.gov.uk/government/news/projects-of-landscape-recovery-scheme-announced>



- Provide clarity for the scheme after 2024: Landscape Recovery projects will have a development phase of 1-2 years, then viable projects will enter into long-term agreements that span decades. There is uncertainty around where funding will come from post-2024 for any long-term agreements signed at the end of the project development phase. Whilst some funding may come from private finance, it would be unrealistic to assume that private markets for biodiversity and climate will be sufficient by 2025 to provide the level of funding necessary to see these projects through in their entirety, at-least in the coming years. Defra should come forward with a clearer plan for Landscape Recovery for the remainder of the Agricultural Transition, along with a robust proposition for how long-term agreements will be funded from 2024.

Defra should also seek to make Landscape Recovery more accessible to smaller farmers, either through supporting collaborative bids from smaller farmers working together or by reducing the minimum size threshold for project.

Local Nature Recovery

Having focused on getting the Sustainable Farming Incentive scheme operational and launching the Landscape Recovery pilot, Defra must now publish more details on the Local Nature Recovery (LNR) scheme, including detailed scheme objectives, to provide certainty and clarity for the sector. Given the surge in uptake of Countryside Stewardship in recent years²³, there is clear demand amongst farmers for a scheme like LNR.

The Local Nature Recovery scheme should provide new opportunities to farmers and other land managers who have previously lacked the financial and technical support they need to do things differently; to make substantive changes to the way they manage their land, to deliver public goods such as flood mitigation or public access, alongside and as part of genuine nature-friendly food production. This can be achieved by making sure that LNR:

- Is prioritised according to environmental need; funding within LNR must spatially target the opportunities that have the most potential to deliver for nature.
- Has built-in flexibility in its options to ensure maximum environmental delivery from LNR; flexibility will allow management to be tailored to deliver priorities in a local context.
- Use Local Nature Recovery Strategies (LNRSs) set up by the Environment Act to target interventions where there is the greatest opportunity for environmental outcomes; this will deliver the best returns for nature and ensure value for money.
- Has a clear, well-funded advice function for farmers, rather than leaving it to private suppliers.
- Is scaled up from the planned 500 agreements for the initial 2023 scheme roll-out, to enable more farmers to join sooner.

²³ <https://www.gov.uk/government/publications/rural-payments-agency-annual-report-and-accounts-2021-to-2022/successful-and-sustainable-futures-annual-report-and-accounts-2021-22-html-version>



In addition to the above, we recommend a detailed transition plan for farmers currently in Higher Level Stewardship and other higher ambition schemes to ensure that farmers already delivering public goods are fully supported through the transition to LNR. Without easy transition, these farmers may be stuck with existing agreements that have not benefited from the recent payment uplift.

Conclusion

Rising concern about food security requires a proportionate and coherent response. A faster, more effective roll-out of funding for greener farming will provide this, increasing support and certainty for farmers whilst accelerating the climate-proofing of food production in this country.

By going further and faster with the farming transition, the Government can deliver the changes farming needs to thrive into the long term, keeping food supplies abundant.



Appendix – key facts

It is sometimes claimed that the farming transition is unpopular, and that simply putting more land into agricultural production would represent a surer route to food security. Both claims do not stand up to security.

The farming transition is popular with both farmers and the public

In 2019 Link commissioned detailed polling, asking 500 farmers for their views on the farming transition. The polling found:

- Half of farmers agree with the principle of 'public money for public goods' compared to one fifth against it.
- Eight out of ten farmers believe a healthy natural environment is important or very important for their farm business.
- 40% of farmers reported direct adverse financial impacts already increased weather volatility.²⁴

Public polling also shows high levels of public support. A 2022 You gov poll found 44% support for public money for public goods, with only 10% opposed.²⁵ Support was highest amongst Conservative voters.²⁶ This is unsurprising, given that the new system of farm payments marks a departure from EU policies, as a result of Brexit. A September 2022 YouGov poll found the environment to be in the top three of public concerns.²⁷

Putting more land into agricultural production is not a certain path to food security

In the words of the previous Defra SoS: *"there isn't a direct correlation between the amount of land that is farmed and our agricultural output... around 60 per cent of our agricultural output comes from just 30 per cent of land"*.

The least productive 20 per cent of land in England produces just three per cent of our calories.²⁸ Putting more of unproductive land into intensive use for agriculture will do little for food production, as the experience of the Second World War demonstrated – an extra sixth of England's agricultural land turned over to crops, but food production grew by only 0.5%.²⁹ What a new push on unproductive land will do

²⁴ https://www.wcl.org.uk/docs/WCL_Farmer_Survey_Report_Jun19FINAL.pdf

²⁵ <https://green-alliance.org.uk/wp-content/uploads/2022/07/YouGov-Green-Alliance-survey-results-June-2022.pdf>

²⁶ <https://www.express.co.uk/news/science/1639680/brexit-news-scrap-eu-rules-food-crisis-lower-prices-farming-lifeline-CAP-agriculture>

²⁷ <https://yougov.co.uk/topics/politics/articles-reports/2022/09/03/cost-living-should-be-top-priority-new-prime-minis>

²⁸ https://www.nationalfoodstrategy.org/wp-content/uploads/2021/08/NFS_Evidence-Pack.pdf#page=40&zoom=auto,-14,31

²⁹ <https://greenallianceblog.org.uk/2022/04/05/how-to-avoid-food-becoming-putins-next-weapon/>



is to squander the opportunity for use more of these areas to offset the climate and ecological breakdown threatening the very future of farming. Any such new push on unproductive land would also incur very high costs, given the high price of the fertiliser and fuels needed to put the land into intensive agricultural production.

Altering other intensive land uses, often on very productive land, offer more potential for food security. For example, if the UK ceased to use crop-based biofuels and the land was used to grow sustainable food for people instead, we could feed around 3.5 million more people a year.³⁰

For questions or further information please contact:

Matt Browne & Hannah Conway, Wildlife and Countryside Link

E: matt@wcl.org.uk hannah@wcl.org.uk

Wildlife and Countryside Link (Link) is the largest nature coalition in England, bringing together 65 organisations to use their joint voice for the protection of the natural world

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³⁰ <https://green-alliance.org.uk/briefing/food-security-and-uk-crop-based-biofuel-use/>