Briefing

Should the 25-year Farming Roadmap support regenerative agriculture?

November 2025

Summary

UK farming is under pressure from climate change, low profitability and policy uncertainty. The government's promised 25-year Farming Roadmap, due later this year, aims to secure long term certainty, profitability and sustainability.

Regenerative agriculture is emerging as a major idea in this transition, but it remains loosely defined and contested. This briefing explores whether, and how, the 25-year Farming Roadmap could support regenerative agriculture.

Since stakeholders differ in their view of 'regenerative agriculture' beyond the core principles that aim to 'work with nature' to improve soil health, we had to establish versions of regenerative agriculture to study.

We adopted four versions of this concept that took the main points of tension to their extremes, based on data collected in over 300 survey responses.

The four versions are:

1. **Farmer led, incrementalist**: incremental change, evidence-based, flexible on technology and inputs.
2. **Mixed farming, traditionalist**: heritage focused, low input, community supported.
3. **Tech optimist**: precision farming, data driven, embraces technology.
4. **Community led, transformational**: large scale transformation, land redistribution, localised food systems.

To determine the extent to which the government's 25-year Farming Roadmap should endorse regenerative agriculture, we compared the opportunities and risks each version presents to the government's key priorities on nature, emissions, farm profitability and food security. Overall, we found that all four versions support some aspects of these priorities, but there are great differences between the versions, with potential for negative consequences, as follows.

All versions offer some benefits for soil health, farmland biodiversity, and nutrient pollution. They also show potential to boost farmers' incomes by

reducing input costs and spreading best practice through peer to peer learning.

However, each version carries risks for food security, both due to changes to what is produced that could reduce self-sufficiency, and the potential for food prices to increase. Versions differ widely in their likely effects on off-farm biodiversity and emissions, as follows:

Version 3 (tech optimist) and **Version 4** (community led, transformational), offer the greatest long term potential for helping the UK to meet its climate and nature targets. These versions focus on landscape level change with potential benefits for nature restoration and carbon sequestration. But **Version 3** (tech-led) requires significant upfront investment and creates issues around data ownership. And **Version 4** (community led, transformational) involves large scale changes to the food system, including avoiding pesticides and fertilisers, that could reduce self-sufficiency and increase impacts abroad.

Version 1 (farmer led, incrementalist) allows for a slower transition, which could help reduce disruptions to the supply chain. However, this slower pace risks missing crucial climate and biodiversity targets.

Version 2 (mixed farming, traditionalist) may provide some benefits for on-farm biodiversity. But expanding grazing livestock production at the expense of cropping could reduce self-sufficiency and increase greenhouse gas emissions.

We also explored what aspects of regenerative agriculture are already covered by policy. Initiatives like England's Sustainable Farming Incentive promote healthy soils and reduced nutrient pollution, and Landscape Recovery funds large scale, long term environmental projects. But significant gaps remain, particularly on peer to peer learning, crop and livestock diversification, digital infrastructure and fair access to land. Stricter enforcement of regulations may conflict with farmer autonomy, seen as essential to many proponents of regenerative agriculture.

Recommendations

Overall, regenerative agriculture shares some goals with the government's 25-year Farming Roadmap, but broad and varied definitions make it unwise to endorse it as a single concept. Instead, we recommend that the government:

- Adopt a targeted approach that supports specific aspects of regenerative agriculture that clearly align with the goals of the 25-year Farming Roadmap; such as practices that benefit soil health, reduce excessive inputs and support diversification of practices, as well as spreading best practices through peer to peer learning. While some within the regenerative agriculture movement argue that its true benefits only come from full adoption of the principles, our analysis shows that, for the government to meet its legally binding environmental targets, elements of these versions may still pose risks. Where evidence is limited, the top

priority should be to support further research to understand which practices and system changes most effectively deliver the 25-year Farming Roadmap goals without unintended consequences.

- Where alignment exists, fill some of the main policy gaps, such as ensuring longer term certainty under payment schemes, better supporting peer to peer learning, regulating supply chain contracts to spread risk and unlocking private finance for investing in regenerative agriculture practices.
- Use the government's food strategy to better align what is eaten with what the land can sustainably supply.
- Support more research into the practical risks and benefits associated with regenerative agriculture across different farming systems.

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Summary of the benefits, uncertainties and potential risks of the four versions of regenerative agriculture

		Version 1: Farmer led, incrementalist	Version 2: Mixed farming, traditionalist	Version 3: Tech optimist	Version 4: Community led, transformational
Alignment with UK environmental goals	**Benefits**	Core regenerative practices support soil health and carbon sequestration.	Mixed farming enhances soil and on-farm biodiversity; and support reduced emissions through a focus on animal welfare	Precision tech and data use reduce emissions, improve soil health, and reduce waste.	Promotes landscape scale restoration, agroforestry, reduced inputs which minimises pollution,
	Uncertainty	Gradual adoption may be too slow for climate targets; reliance on manure poses water risks; unclear role for breeding tech.	Increased ruminants risk raising emissions if total livestock numbers are not reduced; biodiversity gains may be limited.	Outcomes are dependent on what the data shows, as decisions will be data dependent.	The exclusion of artificial fertilisers may prevent meeting some Carbon Budget and Growth Delivery Plan (CBGDP) actions which use additives to improve nitrogen fixing.
	Risks	Unlikely to drive land use change, limiting space for nature restoration.	Reliance on manure without clear nutrient planning risks pollution; use of heritage breeds not optimised for emissions.	Reliance on technology with large environmental footprint.	Red lines on genetic engineering and modification hinders access to low emission breeding technologies.
Impact on farmer income and food security	**Benefits**	Low disruption to supply chains; farmers retain flexibility to adapt.	Local markets and mixed farming could support resilience, if consumer demand materialises.	Improved efficiency and yields; technology may reduce waste and stabilise prices over time.	New income streams and alternative distribution models may improve long term food access.
	Uncertainty	Exposure to volatile input costs remains high.	High labour demands and market dependence create uncertainty.	High capital costs may limit adoption by small farms.	New models of food access and distribution are untested at scale.
	Risks	Slow change may undermine self-sufficiency as climate impacts grow.	Labour intensive systems are likely to increase food prices; profitability is at risk without market support.	Large upfront investment could be a barrier.	Red line on pesticide and fertiliser use will see yields drop with impacts on food security.

Introduction

What is regenerative agriculture?

At its core, regenerative agriculture is about 'working with nature' through six core principles:

- Keeping soils covered
- Minimising soil disturbance
- Maintaining living roots within the soils
- Maximising diversity within and on soil
- Integrating livestock into agricultural practices
- Understanding the context of farms and farm operations

Alongside these principles, being farmer led, built on experimentation and peer to peer learning are seen as fundamental. This makes regenerative agriculture powerful and adaptable, but also contested. And vast divergence has grown in what people see as fitting the broad term beyond these six principles.

Alternative visions for regenerative agriculture

To understand whether the 25-year Farming Roadmap should support regenerative agriculture, we had to first define versions of regenerative agriculture to study. The TABLE initiative's research found stakeholders' visions do not cluster in distinct groups, but tensions exist between them.[1]

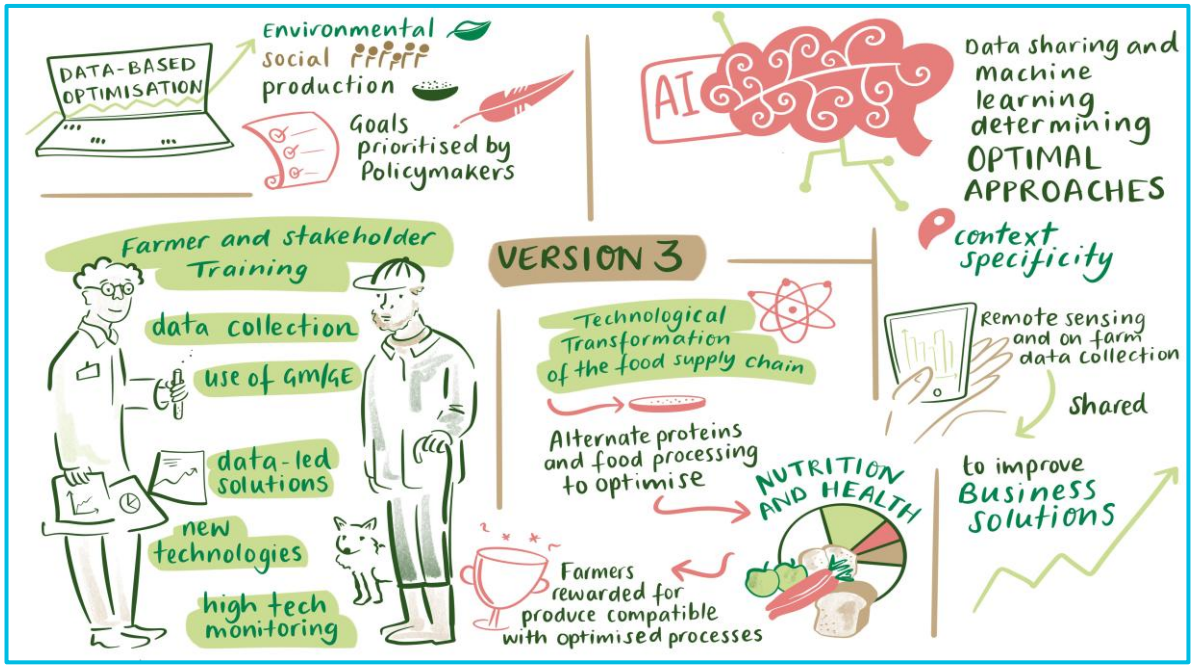
These tensions were used to develop four versions of regenerative agriculture futures which represent the extremes of the potential pathways regenerative agriculture movement could take over the next 25yyears. Each represents a different set of priorities and highlights the issues most likely to divide opinions within the movement. The four versions are:

- Version 1: Farmer led, incrementalist
- Version 2: Mixed farming, traditionalist
- Version 3: Tech optimist
- Version 4: Community led, transformational

Four versions of regenerative agriculture[2]

Version 1: Farmer led incrementalist

Version 2: Mixed farming traditionalist



Version 3: Tech optimist

Version 4: Community led, transformational

These versions diverge in important ways outlined in the summary table below. Version 3 (tech optimist) embraces innovations like genetic modification in livestock breeding, but Version 4 (systematic changes, community led) rejects them entirely. Version 2 (mixed farming, traditionalist) seeks to minimise artificial inputs, whilst Version 1 (farmer led incrementalist) leaves such choices to individual farmers.

The versions also differ in how far they extend beyond the farm gate. Version 2 (mixed farming, traditionalist), concentrates mainly on farming methods, while Version 4 (systemic change, community led) goes further, pushing for systemic shifts in supply chains, consumer behaviour and food distribution. These wider ambitions reflect regenerative agriculture as not just a set of practices, but also a broader movement and mindset.

We explore below what each version, as well as the six core principles of regenerative agriculture, can deliver for the government's food, farming, climate and nature priorities.

Summary of the main components for the four futures of regenerative agriculture

	Version 1: Farmer led, incrementalist	Version 2: Mixed farming traditionalist	Version 3: Tech optimist	Version 4: Community led, transformational
Drivers and pace of change	Evidence-based, incremental change	Traditional knowledge, farmer led	Data, AI, tech driven	Community dialogue, systemic change
Use of technology	Flexible, genetic engineering (GE) and genetic modification (GM) allowed	Low tech, heritage breeds, minimal chemical inputs used	High-tech, optimistic about AI capabilities, embraces GM and GE	Low tech, excludes GM and GE, heritage focus
Farming practices	Incremental improvements on current systems	Mixed farming, diversified crops and livestock	Precision, optimistic context-specific systems	Highly diversified, small scale, landscape level change
Use of inputs	Evidence based with no red lines drawn on the use of inputs	Avoids artificial inputs, uses manure as fertiliser	All inputs allowed if supported by data	No artificial inputs, relies on nature-based solutions (NbS) and nutrient cycling
Role of livestock	Similar to today	More ruminants and fewer monogastric livestock	Livestock production, only if data shows it is optimal	Fewer livestock, more legumes, fruit and veg, fewer cereals
Horticulture approach	No big changes to what products are produced today	More legumes and veg produced, fewer cereal with a focus on locally adapted crop varieties	Increase in alternative proteins produced in response to consumer demand	Increased production of fruit, vegetables and legumes
Supply chain	Supply chains supportive of farmers and produce fewer foods high in fat, salt and sugar (HFSS)	Communities show support for transformed systems through purchase behaviours	Data sharing is used in the supply chain to reduce waste and increase transparency	Fewer ultra-processed foods, shorter supply chains and a focus on the right to food
Land ownership and employment	No major changes	No change, slight jobs increase	No change, fewer farm jobs but more tech roles	Land redistribution, more small farms, higher farm employment

Environmental goals: what can regenerative agriculture deliver for nature and climate?

We examined how our four versions of regenerative agriculture align with targets set by the Environment Act and Climate Change Act targets. We considered the 13 targets set under the Environment Act which cover air quality, water, waste and biodiversity.[3] We also considered the 32 agricultural-related actions in the 2023 Carbon Budget and Growth Delivery Plan (the government's plan of how it will cut emissions in line with net zero).[4]

The Environment Act: air quality, water, waste and biodiversity targets

We found the four versions of regenerative agriculture vary widely in their alignment to the Environment Act targets. While some futures support progress towards these targets, others carry risks or deliver only limited benefits.

The strongest contribution across all versions was to target 7 which aims to reduce nutrient and sediment pollution in rivers. The core principles of regenerative agriculture focus on protecting soils, which can help minimise soils eroding into waterways.[5] In addition, all versions of regenerative agriculture seek to reduce artificial fertiliser use, which helps reduce nutrients run-off into waterways.[6] However, version 2 (mixed farming, traditionalist) replaces fertiliser with manure, which is also responsible for water pollution, so could undermine progress.[7]

Versions differ in the extent to which wildlife benefit, with implications for the delivery of the biodiversity specific goals in the Environment Act (targets 1-4, covering: halt the decline in species abundance; ensure species abundance is greater at least ten per cent in 2042 compared to 2020; improve the Red List Index for England; restore or create wildlife rich habitats outside protected areas).

Version 2 (mixed farming, traditionalist) mainly benefits on-farm soil organisms, pollinators and other farm-adapted wildlife. Meanwhile, version 3 (tech optimist) and version 4 (community led, transformational) have the potential for larger scale landscape change and restoration for habitat specialist species. Meanwhile version 1 (farmer led, incrementalist) promotes a farming system much like today and may not create space to create new wildlife habitats. Ultimately, all versions lack the specificity to accurately measure delivery towards the government’s specific and measurable targets, for example ‘halting nature’s decline by 2030’ and ‘reducing extinction risk by 2038’.

In addition, we found several important gaps emerged. None of the futures outlined explicitly address tree planting (target 10) or air quality targets (targets 12 and 13), though some practices, like cover cropping, would benefit air quality.

Overall, version 4 (community led, transformational) showed the strongest alignment overall, particularly for biodiversity and nature restoration, but it would require deep structural reform of food and farming systems, beyond the scope of the government's 25-year Farming Roadmap.

Version 1 (farmer led, incrementalist) is unlikely to achieve the pace of change needed for the Environment Act's ambitious targets, as it mostly aligns with current farming practices and outputs.

Alignment of the Environment Act goals with the core principles of regenerative agriculture and the four future versions

Green = supports goal; Yellow = mixed impact/risks involved; Red = hinders goal; grey=no impact or no information on impact.

Relevant Environment Act Goal	Version 1: Farmer led, incrementalist	Version 2: Mixed farming traditionalist	Version 3: Tech optimist	Version 4: Community led, transformational	Six core principles of regenerative agriculture
1. Halt the decline in species abundance					
2. Ensure species abundance is greater at least ten per cent					
3. Improve the Red List Index for England					
4. Restore or create wildlife rich habitats outside protected areas					
7. Reduce nitrogen, phosphate and sediment pollution from agriculture					
10. Increase total tree and woodland cover					
11. Reduce residual waste per capita					

The Carbon Budget Delivery Plan (CBDP)

The 2023 CBDP outlines 32 actions to cut emissions from the agriculture sector, which is responsible for 12 per cent of UK emissions.[8] The government released the 2025 version of the Carbon Budget Delivery Plan in October 2025. This analysis is based on the 2023 version of the plan, as the updated version was not available at the time the research was conducted. However, the actions outlined in the 2023 plan remain closely aligned with those in the revised 2025 plan, particularly in relation to the agricultural sector.

We found that 17 of the 32 CBDP actions align with at least one version of regenerative agriculture. However, we also found that seven of the CBDP actions could be set back by at least one of the versions.

The core principles of regenerative agriculture, which aim to improve soil health, showed the strongest alignment to the CBDP. These include integrating grass and herbal leys in rotation in arable systems; avoiding use of nitrogen in excess; using grass-legume mixtures for biological fixation of nitrogen on grassland; and preventing soil compaction.

As livestock contributes to 63 per cent of the emissions produced by the agricultural sector, some of the CBDP actions promote selective breeding practices to reduce these impacts.[9] Version 1 (farmer led, incrementalist) and version 3 (tech optimist) do include selective breeding practices, but these are to prioritise heritage breeds, rather than for traits that could lower emissions.

Version 2 (mixed farming, traditionalist) integrates ruminant livestock into arable systems. This could raise overall livestock numbers and so is not compatible with the CBDP. Better livestock health, which version 2 (mixed farming, traditionalist) and version 3 (tech optimist) both support, does align with CBDP evidence showing that healthier animals are linked to lower emissions.[10]

The land-based solutions within the CBDP such as agroforestry and peatland restoration are most compatible with version 4 (community led, transformational), which allows for broader transformation. In contrast, the slow change in version 1 (farmer led, incrementalist) may hold back progress in these areas.

In summary, as for the Environment Act targets, no single version delivers all the changes needed to cut emissions, but some versions present more risk than opportunity. Version 3 (tech optimist) aligns best with the CBDP actions that rely on innovation, such as improved fertiliser use and selective breeding. Version 4 (community led, transformational), which performed best against the Environment Act targets, is the most compatible with peatland restoration, agroforestry and broader land use change. Version 1 (farmer led, incrementalist) and version 2 (mixed farming, traditionalist) offer least opportunity to cut emissions, due to limited land use change and expansion of livestock.

Alignment of the CBDP actions with the four versions of regenerative agriculture

Green = supports goal; Yellow = mixed impact/risks involved; Red = hinders goal; grey =no impact/not relevant to the version.

Relevant CBDP targets (2023)	Version 1: Farmer led, incrementalist	Version 2: Mixed farming, traditionalist	Version 3: Tech optimist	Version 4: Community led, transformational	Six core principles of regenerative agriculture
151: Conventional breeding to reduce emissions					
154: Improved animal health, cattle					
155: Improved animal health, sheep					
156: Genetic testing for low emission traits					
159: Analyse manure prior to application					
160: Integrate herbal leys					
161: Avoiding excess use of nitrogen					
162: Improve pest and disease control					
164: Biological fixation of nitrogen using legumes					
166: Use of plant biostimulants					
167: Use of nitrification inhibitors					
168: Reversing soil compaction					
170: Precision farming					
172: Crop varieties with better nutrient uptake					
173: Growing cover crops					
175: Agroforestry to ten per cent of all arable land					
176: Increase tree canopy & woodland cover to 16.5 per cent by 2050					
178: Peat restoration					

Farm profitability and food security under regenerative agriculture

Improving farm profitability is a main goal of the 25-year Farming Roadmap and the food strategy, which also aims to support a healthier, more affordable, sustainable and resilient food system. We assessed how the four versions of regenerative agriculture could affect farm incomes, food prices, and self-sufficiency.

Overall, improving farmers' livelihoods by securing better returns and stability was central to the versions of regenerative agriculture we explored. The consequential impacts on food prices, a major focus for this government, have not previously well explored.

One clear benefit across all versions is the focus on increasing fruit, vegetable, and pulse production. This would boost self-sufficiency, help to meet dietary guidelines and diversify farm incomes.[11] Beyond this, divergence emerges.

Version 1 (farmer led, incrementalist) has the slowest rate of change. In the near term, this is likely to perpetuate the existing situation where farm profits are highly variable depending on input costs and the weather. In the long run, the slow pace of change in this version risks worsening self-sufficiency challenges, especially as climate impacts intensify.[12]

Version 2 (mixed farming, traditionalist) could see a sharper rise in the cost of food production due to its more traditional, labour intensive practices. How these additional costs would be shared across the supply chain is unclear. While it assumes communities will support local produce, there is no mechanism to deliver this. This version also proposes reducing monogastric livestock (pigs and chickens), while increasing ruminants (cattle and sheep). Without a corresponding shift in UK diets, this could undermine self-sufficiency in pork and chicken, particularly as the UK is already less self-sufficient in pork compared to lamb or beef.[13] The result could be greater reliance on imports, effectively displacing nature and climate impacts to other countries.

Version 3 (tech optimist) would require significant upfront investment in technological infrastructure, which could be a barrier to adoption, particularly for smaller farms. If these costs are passed along the supply chain, UK-grown food may become more expensive in the short term, either reducing its competitiveness against imports, or pushing up prices in shops that prioritise British produce. Over the long term, efficiency gains from technology, such as input-reducing precision system, and greater food waste reduction through data driven farming practices can work together to raise farm profitability, boost national self-sufficiency and help stabilise food price inflation.[14]

Version 4 (community led, transformational) promotes more diverse income streams and alternative pricing models, which may improve farmer

resilience and improve food access for vulnerable groups. Yet, higher labour costs, shifts in production patterns, and red lines on synthetic inputs, raise near term risks for self-sufficiency and affordability. The emphasis on localised food systems, while bringing communities closer to farming, may also increase vulnerability as food supply chains could be disrupted if local production fails and there are limited back-up options. Some costs might be absorbed by wealthier consumers through premium markets or supply chain redistribution, helping to protect affordability for others, but this is not built into the version.

Overall, versions 3 (tech optimist) and 4 (community led, transformational) offer the greatest potential to tackle low farm incomes and food insecurity, but they also carry high risks and costs. While versions 1 and 2 minimise disruptions, they may not build enough resilience for the future. Policy could play a role in determining who absorbs the costs and risks of transition, whether that is farmers, consumers or the supply chain.

Summary of farm profit and food security implications across each version of regenerative agriculture

	Version 1: Farmer led, incrementalist	Version 2: Mixed farming, traditionalist	Version 3: Tech optimist	Version 4: Community led, transformational
Cost to farmers	£ Reliance on existing inputs keeps pressure on farm costs (which have risen) however, flexibility allows farmers to pursue actions to increase productivity	££ Higher labour costs and dependence on consumer enthusiasm for local products create risks to farm profits, but lower use of inputs may cut costs in the long term	£££ High upfront investment in digital/AI infrastructure is especially challenging for smaller farms but long term efficiency gains possible	££ Diversified income models reduce reliance on volatile markets, but alternative payment schemes reduce revenue predictability
Cost to consumers	£ Minimal disruption in supply chains, due to the gradual nature of change, means costs might be absorbed by farmers	£££ Prices are likely rise due to labour intensive practices; some consumers are willing to pay a premium for sustainable food	£ With increased efficiency in food production and less waste on farm, it could lead to less food price inflation	££ Higher food prices are likely in the short term; alternative pricing mechanisms may improve accessibility for vulnerable groups
Self-sufficiency	 Largely maintained, with stable yields and continuity of supply	 Greater dietary diversity but trade-offs with staples (eg cereals decline as ruminant production rises)	 Stable or improved, with precision farming and alternative proteins sustaining output and resilience	 Short term risks to self-sufficiency and supply stability; potential long term gains in food access through new distribution models

What is current policy doing to support regenerative agriculture?

To understand better how policy could support aspects of regenerative agriculture, we explored how well existing policies would support the four versions.

The policy landscape for farming in the UK is devolved. We focus on the mix of incentives, regulations, and supply chain pressures shaping farming in England.

Main area of alignment

We identified the following areas of alignment between current farming policy and the goals and outcomes across the four versions of regenerative agriculture:

- The Sustainable Farming Incentives (SFI), part of the Environmental Land Management (ELM) schemes, pays farmers for adopting individual, on-farm environmental practices and includes actions aligned with the core principles of regenerative agriculture such as low input farming or improving soil health.
- More ambitious programmes in ELM include the Landscape Recovery scheme which supports large scale, long term land use change, aligning with the transformational changes outlined in version 4 (community led, transformational). By supporting groups of landowners to work together, these schemes foster peer to peer learning, a cornerstone of regenerative agriculture, which relies on farmer knowledge and collaboration.
- The upcoming Land Use Framework from the government is intended to support more strategic land redistribution and prioritisation across England. It aligns with the need for a co-ordinated approach to balancing food production with climate and nature goals, as reflected in version 4 (community led, transformational). The framework also emphasises the use of data and evidence-based decision making to guide where and how land is used, aligning closely with version 3 (tech optimist).
- The Farming Innovation Programme, led by the Department for Environment, Food and Rural Affairs (Defra), in partnership with UK Research and Innovation (UKRI), funds R&D projects to enhance the sustainability and productivity of English farming. By funding technical innovation, it aligns most closely with version 3 (tech optimist) which emphasises the use data and innovation for the future of farming.
- The Farming Rules for Water (2018) set baseline standards to reduce agricultural pollution and protect water quality by requiring better nutrient management, soil cover and runoff prevention. They align with regenerative agriculture through their emphasis on input reduction and soil health, core principles shared across all versions.

- The Grocery Code Adjudicator (GCA) and Defra's Fair Dealings Obligation for Milk promote fairness and transparency in supply contracts, addressing power imbalances between farmers and processers or retailers. These measures can support regenerative agriculture by safeguarding fair livelihoods for farmers. They provide contractual stability that reduces risks when adopting new technologies or systemic changes to farming practices, aligning across versions 2 (mixed farming traditionalist), and versions 3 (tech optimist) and 4 (community led, transformational).

Major policy gaps

We identified the following gaps that could limit the widespread adoption of regenerative agriculture:

- **Current payment schemes**, such as SFI, lack long term certainty, making it difficult for farmers to plan and invest in lasting change.
- **Minimal direct support** for improving the nutritional quality of food or diversifying production (such as growing more fruit and vegetables). Policy would need to address gaps in post-harvest infrastructure suited to the diversity of the foods produced under regenerative agriculture.
- **Critical enablers**, such as peer to peer learning frameworks, recognition of diverse knowledge systems and infrastructure for digital technologies are underdeveloped in current policies.
- While data sharing could enable regenerative practices by offering greater clarity for supply chains, there is currently a gap in the rules around data ownership, which could limit farmers' willingness to share this information.
- At the broader food system level, there is no national framework for equitable land access and limited support for alternative food distribution models (such as community initiatives). Together, these gaps highlight the need for policies in which support both the ecological and social aspects of regenerative agriculture.

Should the 25-year Farming Roadmap endorse regenerative agriculture?

Some elements of the four regenerative agriculture versions align with the goals set out for the government's upcoming 25-year Farming Roadmap. Indeed, regenerative agriculture is partially supported through existing policies in many ways. However, the broad and loosely defined nature of regenerative agriculture presents challenges for policy makers. No single version of regenerative agriculture fully aligns with the roadmap's goals, and the diverse versions have opportunities and risks that are both distinct and sizeable.

Overall, version 4 (community led, transformational) offers the greatest potential for large scale landscape restoration with benefits for nature and carbon sequestration, but it also has risks for self-sufficiency and food prices. Version 3 (tech optimist) might better support market resilience and innovation but presents concerns around equity for farmers as initial costs for investing in this technological transition are minimal. Versions 1 (farmer led, incrementalist) and 2 (mixed farming, traditionalist) may hinder progress on achieving net zero and restoring nature.

This diversity is a fundamental feature of regenerative agriculture: many of its advocates reject a prescriptive definition, favouring flexibility and local adaptation. While this can be a strength, in practice it complicates policy making, especially when only some outcomes align with policy goals.

As such, wholesale government endorsement of 'regenerative agriculture' as a unified concept is neither practical nor advisable, given the variation in approaches and associated trade-offs. With that in mind, we recommend the following:

Recommendations

1. Adopt a targeted approach

Specific aspects of regenerative agriculture clearly align with the goals of the 25-year Farming Roadmap, including practices that benefit soil health, reduce excessive inputs and support diversification, as well as spreading best practice through peer to peer learning. While some within the regenerative agriculture movement argue that its true benefits only come from full adoption of the principles, our analysis shows that, for the government to meet its legally binding environmental targets, elements of these versions may still pose risks. Where evidence is limited, the priority should be to support further research to understand which practices and system changes most effectively deliver the 25-year Farming Roadmap goals without unintended consequences.

2. Fill policy gaps where alignment with regenerative agriculture exists, particularly:

- Lack of long term certainty in payment schemes
- Insufficient peer to peer learning frameworks
- Limited support for on-farm production diversification
- Unlocking and guiding private finance into aligned regenerative outcomes

3. Use the food strategy to support system-wide change:

The food strategy could play a stronger role in driving demand for sustainable and healthy food options, such as increasing consumption of fruit and vegetables and pulses which are supported under all versions of regenerative agriculture, while ensuring that the costs and risks of producing them are more fairly shared across the supply chain and not just borne by farmers. However, further exploration is needed to understand the impacts of these shifts.

4. Invest in further research

Investment in research is needed to understand the practical risks associated with different regenerative agriculture visions as well as their likely uptake and impact across various farming systems.

More strategic, selective engagement would enable the government to back those regenerative practices that can deliver genuine transformation in the long term, without overcommitting to a concept that is inherently undefined and constantly evolving.

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Endnotes

[1] Our four versions of regenerative agriculture were developed from survey responses (~300), literature review and 35 interviews. Using Archetypal Analysis to map the extremes of views (rather than clusters of similar viewpoints.
[2] Illustrations by Esther Springett
[3] The Environment Targets (Biodiversity) (England) Regulation, 2023
[4] Department for Energy Security and Net Zero (DESNZ), 30 March 2023, Carbon Budget Delivery Plan
[5] L Payton, 2021, *Saving our soils: healthy soils for our climate, nature and health*, Soil Association
[6] Ibid
[7] "More than 40% of total nitrogen pollution comes from livestock manure in England" from: Sustain, 4 July 2023, 'Alarming levels of industrial animal waste poisoning UK rivers'
[8] Climate Change Committee (CCC), 26 February 2025, *The seventh carbon budget*
[9] Ibid
[10] H Bartlett et al, 2024, 'Reconciling trade-offs in pig farming requires a change in mitigation approach', *Nature*
[11] L Collas, 2025, briefing, 'The strong economic case for expanding UK horticulture', Green Alliance
[12] Energy & Climate Intelligence Unit, 2024, 'England set for top three worst harvest as impact of wet winter continues to linger'
[13] Department for Environment, Food and Rural Affairs, 22 October 2024, *United Kingdom food security report 2021: theme 2: UK food supply sources*
[14] J MacPherson et al, 2022, 'Future agricultural systems and the role of digitalization for achieving sustainability goals. A review', *Agron Sustain Dev*, 42(4)