

Resilient Agricultural Production

Climate pressures and global instability mean farming will need to change whether we like it or not. But if we act now, we can adapt in a way that supports farmers and rural economies, and builds national resilience.

The Vision

UK farms will operate as financially viable businesses within carbon budgets, producing the healthy foods our nation needs. Agriculture will feature integrated crop–livestock systems that enhance soil health and reduce import dependence. Domestic production of fruits, vegetables and plant proteins will have expanded dramatically, while livestock farming – though reduced in scale – remains valued for its role in mixed farming systems, soil health, ecology and landscape management. Farms will generate renewable energy, deploy precision techniques, and operate within circular resource flows that strengthen productivity and environmental stewardship.

Co-benefits

The transformation of UK agriculture brings benefits far beyond emissions reduction. It strengthens national food security by reducing vulnerability to import disruptions while directly tackling climate change through integrated crop–livestock systems that enhance soil carbon storage. Expanding domestic production of fruits, vegetables and wholegrains creates new rural employment in horticulture, agroforestry and their associated supply chains while supporting healthier UK diets. More diverse, climate-adapted farming systems deliver environmental gains through reduced water pollution and enhanced biodiversity while building resilience against the extreme weather events that are already disrupting UK agricultural production.

Priority Actions

UK agriculture is locked into patterns that drive greenhouse gas emissions, with 85% of farmland supporting livestock production. We import half our vegetables and most fruit, and are facing

escalating climate risks. The following actions can build resilience across the industry:

Financial and transition support:

- Establish transition funds for farm businesses, providing grants and low-interest loans for diversification and infrastructure.
- Ensure farmers have 10-15-year-minimum security through long-term contracts and policy commitments.
- Support UK horticulture expansion with industrial strategy and capital grants for infrastructure to meet a projected five-fold increase in production.

Policy and market mechanisms:

- Reform subsidies to reward sequestration, biodiversity improvement and sustainable production aligned with nutritional needs.
- Develop carbon and ecosystem service markets that properly value on-farm emissions reductions and nature-based solutions.
- Create structural adjustment mechanisms for communities most affected by transition.

Knowledge and innovation:

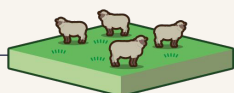
- Expand socioeconomic transition research on behaviour change, implementation pathways and distributional effects.
- Build knowledge exchange networks between researchers, advisors, farmers and food businesses.
- Strengthen interdisciplinary research addressing not just technologies but more fundamental questions about what is produced and consumed.

These interventions will enable UK agriculture to meet climate targets while delivering multiple benefits for farmers, communities and the environment.

3 essential transformations

Stronger, more resilient farming

2025



SPECIALISED FARMING

Largely livestock or crop monocultures, separated geographically



HIGH EMISSIONS

Dominated by livestock production, synthetic fertilisers and diesel machinery



VULNERABLE TO SHOCK

Dependent on imports for feed and manufactured inputs and exposed to extreme weather events

proactive planning
& coordinated action



2050



MIXED & DIVERSE FARMING

Livestock and crops more integrated on farms and in regions, with more UK-grown vegetables, fruits and wholegrains



LOW-CARBON TECH

Full deployment of methane reduction and capture technologies, precision tools and renewable energy



FARM BUSINESS RESILIENCE

More diversified income sources and better matched to UK healthy dietary needs

A sustainable, prosperous and secure UK