SUPPLY CHAIN SYNERGIES

What is the appropriate role of supply chains in achieving responsible production at farm level?

A Forum for the Future and Oxford Farming Conference report

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ABOUT THIS REPORT

This report was commissioned by the Oxford Farming Conference to inform the debate between food system stakeholders and food producers on the UK's food supply chain and what is needed for a thriving food future. Views authors' own.

"On behalf of the Oxford Farming Conference and our Report sponsors Savills and WWF, I would like to thank Forum for the Future and in particular Lesley Mitchell for her efforts in bringing this important report together. The impacts of a long history of supply chain practices that have driven efficiencies over values is now coming home to roost as a consequence of the energy and food shocks triggered by the conflict in Ukraine. This Report goes a long way to highlight the good practice that supply chains are already developing to reshape our food system in response to the climate, biodiversity and health crises that our consumption-based economy has inflicted on us. It further challenges policy and markets to work together in an ambitious cycle of improvement as we seek to farm a more optimistic and healthier future, in which farmers are central to the solutions we need. The challenge is immense, but I hope the recommendations of this Report are an inspiration to all. Doing better has already started and we all have a part to play."

- Emily Norton, Chair, Oxford Farming Conference

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EXPLORING THE ROLE OF SUPPLY CHAINS– AN OVERVIEW OF OUR APPROACH

This report was commissioned by the Oxford Farming Conference in Summer 2022. Through September–November 2022, Forum for the Future conducted desk research and interviewed more than 30 actors across the landscape of food production in the UK and beyond. Interviewees included farming and food worker unions and networks; individual farmers across a range of agricultural sectors; people from across food business functions from sustainability to buying to strategy; community food networks; civil society representatives; levy boards; academics; finance experts; and policymakers and advisors from across the UK including the devolved nations. Interviews were undertaken under Chatham House rules of non-attribution. Outputs are synthesised throughout this report.

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EXECUTIVE SUMMARY

As we enter 2023, food and farming in the United Kingdom (UK) faces its biggest transformation in 70 years, requiring major shifts in what and how we produce food to deliver decarbonisation and restore biodiversity and ecosystems. Food production is the biggest contributor to climate change after energy, and the vast majority of Scope 3 emissions are in the supply base. Our approach to food production could, however, be a major solution to environmental restoration, through shifts toward nature-friendly regenerative and agroecological production methods. This will require new business models, investment, new practices and relationships, while the regulatory environment is refocusing government financial support toward natural capital and payment for public goods.

This transformation is taking place at a point of crisis. Farmers are squeezed on all sides—from the need to provide affordable food, to deep inflationary pressures on costs of production. The food sector needs to maintain affordable and available food supplies at a time when farmers are cutting back on production across sectors from beef, to eggs to fresh produce. Even before the energy crisis hit hard, more than a sixth of all UK households were food insecure in April 2022,[1] and in 2020/2021 almost one in five children lived in families in food poverty.[2]

This report focuses on the role that supply chains can play in shaping the delivery of a more resilient and sustainable future for the UK food system-one that supports livelihoods, healthy diets and environmental restoration.

It asks: **What role can food and farming supply chains play in delivering positive social and environmental outcomes and what is the appropriate role of policy?** How are supply chains supporting transformation—and are we doing enough? Where can we unlock and accelerate transformation and where are signs of this change already happening? And, if the future of food, farming, and the farmers and growers who deliver it, are a priority for the UK, will our current policy environment enable this shift—or what more is needed?

To answer these questions, Forum for the Future conducted desk research and interviewed more than 30 actors across the landscape of food production in the UK and beyond, to explore the barriers to supply chain transformation, identify pathways to change, and outline how both voluntary food sector action and policy could enable these ambitions.

The barriers to change and fragility of UK food supply chains are striking. UK food production is still heavily reliant on fossil fuel intensive inputs from fuel to fertiliser to animal feed, leaving it vulnerable to disruption, with farmers absorbing rising costs, tipping balance sheets into the red. Supply chain power is asymmetric, with major consolidation in retail and processing affecting farmers' negotiating power. Profit margins are tight throughout the supply chain, with farmers' profits disproportionately small, leaving little to invest in transformation. Information and data through the supply chain are opaque. Investment and risk are often borne by the farmer.

However, farmers are the most valuable asset food companies have to meet their social and environmental targets. New approaches will need to recognise the dependence of the supply chain on the farmer and reconfigure supply chain relationships that are capable of delivering this deep and urgent transformation. Farmers highlighted three themes underpinning fair and resilient supply chains:

1. **Rethinking fairness in the supply chain relationship.** Farmers expressed concerns about failure to cover cost of production, unpredictable contracts, asymmetrical notice agreements and cost burden. They highlighted the need for supply chain relationships that are instead characterised by reciprocity and shared negotiation, predictability, stability, confidence, and sufficient resourcing to invest and innovate.

2. **Sharing the challenge of transition**, including investing in new equipment, incorporating new practices, meeting new standards, reporting and verification requirements.

3. **Long term supply chain reconfiguration:**
   a. Recalibration of how value is derived and shared through food production, reflecting the true cost of production and internalising environmental and social costs.
   b. Embedding fairness in supply chain relationships and sharing investment, innovation and risk.
   c. Diversified business models and income streams which reflect the increased complexity and sources of value delivered within the supply chain.
   d. Full chain transparency and traceability enhancing the visibility of the supply chain and its impacts.
   e. Deployment of harmonised standards and metrics that give a true picture of the impact and value of food production.
   f. Deepening consumer engagement and to drive demand for environmentally and socially responsible products.

The potential for collaborative action across the supply chain is significant, including development of new data and tools for decision-making; voluntary payments mechanisms for ecosystem services and incentivising and rewarding action above standard price; guaranteeing offtake for new farm outputs, opening new avenues for new and more diverse supply chains and using marketing to create shared value and consumer demand; new financial mechanisms to mitigate transition risks; and co-creating and co-designing change programmes with producers to increase viability for both the food business and producer.

New policy mechanisms such as the Agriculture Act (2020) are a foundation for action on land management, supply chain governance and wider food system transformation—but will only be effective with ambitious political will. They offer the potential to reorientate payment mechanisms toward desired environmental outcomes, require greater supply chain data for transparency and support greater fairness in supply chains, with provisions strengthened to include actors throughout the supply chain. However the Act's effectiveness will depend on how far the government will proactively drive adoption of viable payment mechanisms, codes and adjudication and whether this can meet the rapid timescale of change required.

Five potential policy areas surfaced:

1. **Integrated political strategy:** An overarching approach across food and farming governance that recognises and prioritises the environmental and social dimensions of food and farming, alongside economics.

2. **Good food governance:** For example, the Agriculture Act (2020) provides potential mechanisms to strengthen transparency in supply chains and to mandate codes of practice where voluntary action is not sufficient.

3. **The power of public procurement:** National and local government procurement standards are a key signal for demand for positive environmental and social outcomes, as well as a key component of delivering our national environmental and climate ambitions.

4. **Trade agreements:** Trading relationships have the potential to open-up new avenues for export. However, if market access is allowed for products with standards lower than those produced within the UK, this could risk damaging 'home-grown' food and farming. It will be difficult to argue for effective delivery of positive environmental and social outcomes if farmers are undercut by imports that are not produced to the same attributes.

5. **Research, innovation and skills:** The shifting landscape of food and farming will require new priorities for innovation, skills and education to deliver the evidence base for change.

CONCLUSION: SUPPLY CHAIN SYNERGIES – ACCELERATING AMBITION

These challenges cannot be left to the market or to the government alone—to achieve our goals, food, farming and the farmers on whom we depend will need to be at the centre of both private sector strategy and public policy, and they will need to work together to complement and accelerate action. If we are to stand up to the greatest challenge in generations and have a chance to thrive and grow, we will depend on the resilience and regeneration of our food landscape.

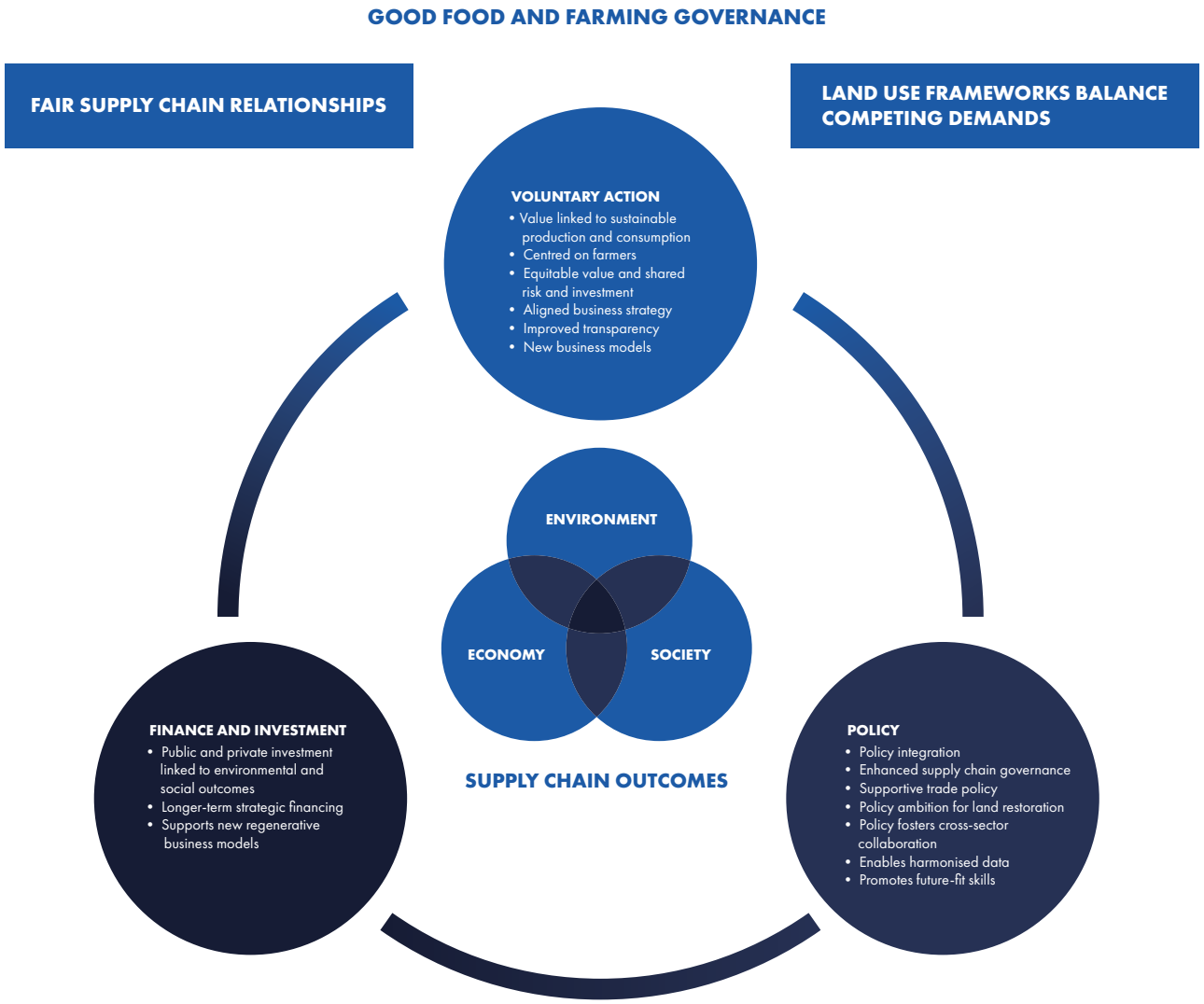


Diagram 1: Ambition loops for supply chain transformation

PART 1

THE CHALLENGE FACING UK FOOD AND FARMING

At COP27, Lord Benyon, the UK Minister of State for the Department for Environment, Food and Rural Affairs ("Defra") highlighted the urgency and importance of transforming our food systems. Echoing this call, Simon Stiell,[4] Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC), made it clear that the food system 'demands urgent and resolute action' and that, without lowering food carbon emissions, we will fail to keep within 1.5°C of global heating. He made the food sector actors' responsibility starkly clear: 'This is about people. This is about us.'

But what does that mean for the UK, and the role of farmers, agri-food businesses and government, in delivering transformative environmental and social outcomes, as we begin 2023? Is our policy trajectory aiming us in the right direction and with sufficient velocity? Or will we fall far short?[5]

The future will require us to think and act in ways deeply unfamiliar to the past 70 years of the majority of UK food and farming. The 20th century race for post-war productivity lingers. It has shaped a powerful mindset in our food system of growth, intensification and output, founded on fossil fuel hungry inputs.[6] We have created supply chains that deliver, just in time, some of the relatively cheapest food in the world.[7] But we are seeing the fragility of these supply chains and the cracks are widening, from rationing of shell eggs[8] to massive price hikes of core foodstuffs[9] to the costs of fossil fuel dependent inputs such as fertiliser,[10] to supplies of CO2 for abattoirs.[11] We now recognise that monocultures have stripped away natural resources upon which we depend, such as soil fertility—the UK has lost 84% of fertile topsoil since 1850[12] and soil degradation costs England and Wales an estimated £0.9-1.4bn annually, with almost 17% of land affected by soil erosion.[13] Genetic diversity has shrunk, with just eight crops with small intercrop variability delivering 75% of global production, leading to dietary convergence and a strong reliance on calorific crops. Globally, peak productivity has arrived for major crops and, with climate change impacts, overall yields are predicted to fall significantly.[14]

The UK food system is attempting to deliver these major transformative changes at a time of crisis in supply chain resilience. The food sector will need to maintain affordable and available food supplies, at a time when farmers are cutting back on production across sectors from beef to eggs to tomatoes, as farm gate prices fall below the cost of production. Even before the energy crisis hit hard, more than a sixth of all UK households were food insecure in April 2022,[15] and in 2020/2021 almost one in five children lived in families in food poverty.[16]

"We must transform our land and the way we produce food."[3]

— Lord Benyon, UK Defra Minister

HOW DO WE CREATE A THRIVING FUTURE FOR FOOD?

Central to this challenge are farmers and workers along the value chain. Farmers are much more than food producers: they are our land stewards and hold the key to the environmental and social outcomes we seek to achieve. They enable the health of our citizens; they shape the rural communities on which our food production systems depend; they are the backbone of food security and resilience; they literally hold in their hands the seeds of the future. How can we centre farmers in value chains in ways that enable growers and workers to thrive?

Post-Brexit agricultural policy aims to refocus public payments for public goods, from environmental restoration to soil management, to animal welfare. But, if a root and branch transformation is needed in how food is produced, traded and consumed, are the UK's existing policy commitments enough? Or, is reinvigorated political leadership needed, with its sights set on delivering ambitious positive social and environmental outcomes and a confident proactive enabling environment for our food and agriculture sectors to transform and thrive? Actors across the food landscape will need to evolve together with policymakers to meet these emerging demands.

Brexit was, arguably, conceived to regain our sovereignty, not least over food and farming. But will the UK be standards-makers or standards-takers as it builds new trading relationships? How can the UK ensure this benefits our home-grown food security and resilience?

One thing is clear—we need to design for complex challenges, for unpredictable disruption, and to look far beyond short-term gain and towards resilience and restoration for both people and planet. This requires a system-wide shift. It will be essential if we want to continue to derive value from the food system and support a thriving economy.

At its core, this report asks: **What role can food and farming supply chains play in delivering positive social and environmental outcomes and what is the appropriate role of policy?**

- How are supply chains supporting transformation-and are we doing enough? Where can we unlock and accelerate transformation and where are signs of this change already happening?
- If the future of food, farming, and the farmers and growers who deliver it, are a priority for the United Kingdom, will our current policy environment enable this shift-or what more is needed?

A BRIEF TOUR OF THE UK FOOD SYSTEM TODAY

The UK's food system is diverse, wide-ranging and complex, but a defining feature over the last 50 years has been consolidation of power, supply chains, and value creation. Farmers account for 11% of people employed in the UK food system and have by far the greatest number of enterprises. But, farming is dwarfed by value chain neighbours in food trade (catering, retail, and others) in terms of revenue (see Diagram 2). Steps in the chain prior to farming, such as agricultural input suppliers, and after, such as processing, wholesale, and retail – are significantly more consolidated and profitable. According to UK Research and Innovation (UKRI), farming makes up less than 10% of the UK's food economy.[17] In some industries, like dairy and livestock, middle-actor processors have also seen significant consolidation. In 2021, the 11 largest processing plants accounted for 92% of total slaughtered pigs, while 70% of the UK's annual milk intake is processed by nine companies.[18] Commodity growers and traders also fare well—most notably Cargill, the world's biggest grain trader, recorded their largest profit in 156 years in 2021 with more than $5bn income.[19]

In the UK grocery market sector, the top four leading retailers capture almost two-thirds of market share and are highly successful financially, with more than £4bn in collective profits in 2021-2022.[20] (Note that much of this profit comes from diversified income streams such as fuel, confectionery and alcohol, rather than just food itself). Yet the picture for the farmers in the supply chain is bleak. Recent research from Sustain, looking at a range of everyday products, shows how little, if any, profit goes back to the farmer from retail sales—from 1% for apples to 0.02% (less than a penny) for a block of cheese, to literally nothing for carrots.[21] Cereal production was found to only achieve profit through sheer volume of sales. The vast majority of the intervening profit is created through suppliers, processing and manufacturing.

In 2020-21, 29% of UK farms had a Net Farm Income of less than zero, with an average of £33,000/year.[22] Many farmers have survived due to the presence of basic payments and other subsidies. As these are withdrawn, the UK food and farming sector could face a major crisis if payment regimes are not reconfigured effectively. In logical economic terms, it seems unclear why farmers would continue to interact with supply chains that offer little or no profit margin. The food system, at the end of its resilience, would break. We are already seeing signs of this happening in 2022 in the UK egg sector as farmers, in the face of rising costs of production, decided not to restock, leading to ultimate supply chain failure, product rationing and crisis purchasing from other countries.[23]

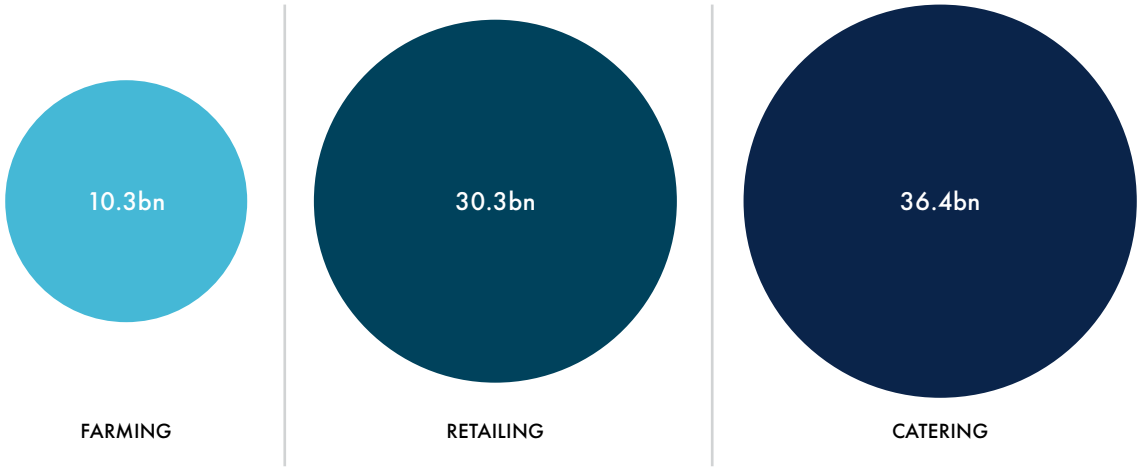


Diagram 2: Economic comparison of revenue in the UK food system, adapted from UKRI (2020)[24]

The challenge we now face is to reimagine and reconfigure supply chains to deliver for different goals of nutrition, environmental restoration, farmer and food system resilience, within a thriving economy. What stands in the way of achieving this transformation?

BARRIERS TO TRANSFORMATION

The current UK food system is not broken-it delivers effectively on its existing goals of productivity and short-term profit maximisation. But the way it operates brings growing risks and is not fit for future demands. This section examines dynamics across the system that are likely to inhibit transformative change.

CHEAP FOOD—AT A COST

The current food system prioritises lowest production cost, convenience, and efficiencies across the supply chain, often at odds with wider environmental and social goals. Value sharing is asymmetric, with the majority of financial value derived in processing, manufacturing, and retail. Increased production quantity over nutritional quality has led to a dietary system where the UK consumes more ultra-processed foods than any other European country.[25] Our food today has hidden costs that are unaccounted for, from health services to the environment and society.[26] Examples include fertiliser runoff polluting waterways, or carbon emission, to public health. If, in the UK, these hidden costs were incorporated into the cost of food, then consumers would need to pay nearly double for their weekly shop.[27] The cost of food is subsidised either through further environmental degradation or implicit subsidy via public health and environmental services. In short, the current food system's total systemic costs outweigh the benefits.[28]

SILOED APPROACHES AND COMPETING GOALS

It is clear that supply and value could be redesigned to deliver more than productivity and profit. But food businesses are often caught between delivering on sustainability ambitions and their commercial requirements and this can confuse market signals and dampen action. In research interviews, retailers and suppliers spoke of challenges of the internal change journey required to deliver more environmental and socially sustainable practices—from misaligned performance KPIs to capability building across functions, to operations that cannot accommodate more diverse product offtake.[29] Procurement teams are rewarded for meeting sales, cost and volume metrics and are at the forefront of delivering cost savings and profit margins. Relationships between procurement teams and producers are often short-term and do not reflect ongoing interdependencies. There is little opportunity for sustainability to make an impact when it is not yet valued, commercialised, or included in the corporate value proposition.

TRANSACTIONAL AND EXTRACTIONIST RELATIONSHIPS IN THE SUPPLY CHAIN

Farmers and farmed land continue to be perceived by global food markets as a resource that can be exploited. Farmers are price takers in the current market. In researching this report, interviewees close to supply chain behaviour highlighted that contracts—and the rules that govern them—are a consistent challenge at the best of times, let alone for transformation. A consolidated market drives a system in which, although terms and conditions may be unfavourable, there are a dwindling number of options through which to sell a product and remain financially viable: "if they [buyers] put the price down, you can leave within three months… but you need somewhere else to go."[30]

Interviewees across the farming sector highlighted the asymmetric power dynamic in many supply chains. As one example, the UK Dairy Code has been instrumental in setting the terms for supply chain engagement, but, in reality, producers have limited opportunities for alternative markets for their product. One interviewee in the dairy sector pithily noted: "the only thing that keeps the system honest is the fear of a shortage of milk."[31] The asymmetry is also notable when farmers are asked to meet new reporting requirements or standards—often these requirements will be seen as the cost of market access and the additional farmer input remains unpriced with the farmer left to absorb any additional time and cost burden. The Groceries Code Adjudicator plays an important role in the UK food system but cannot currently reach into secondary or tertiary supply relationships, i.e., with farmers further upstream.

It is hard to see how a system that is predicated on squeezing farm incomes and operating space for investment and innovation will allow for deep transformation or ensure resilience and strong social outcomes, not least for the farmers themselves.

FRAGMENTED POLICY LANDSCAPE

National policy priorities often operate in isolation, particularly between departments and across devolved nations. Whilst climate change and nature are increasingly part of politics, the lack of a joined-up approach is exemplified by the fact that climate change falls under the remit of the Department for Business, Energy and Industrial Strategy (BEIS), while environment falls under Defra. Recent research has shown that, in England, food system policy making is shaped by no less than 16 different policy entities, from planning, to technology, to food safety, to health, and to the environment. The English National Food Strategy, and Scotland's Good Food Nation, both call for action on food at all levels and sectors of the policy landscape. In Wales, the Well-being for Future Generations Act requires

public institutions, the government, local authorities, and communities to prioritise the wellbeing of future generations and consider long-term prosperity when making decisions today. The seeds of integration are there—but it will require a large dose of political will to break down these silos and build shared purpose across policy domains.

LACK OF DATA FOR DECISION-MAKING

Data and reporting underpin sustainability. While the sector searches for harmonised and accessible methods for quantifying environmental outcomes, from carbon to soil health or biodiversity restoration, the research encountered a mindset that 'you cannot deliver on what you cannot measure' implying that, without clear data, farmers may not be rewarded for environmental progress or recognised for existing good practice. The explosion of voluntary carbon markets has driven attention to afforestation and rewilding, but outcomes may be less clear for food production landscapes, and the plethora of schemes can lead to inertia, confusion and fatigue. Standards and prescriptive practices can operate as a proxy for environmental outcomes, but place a heavy burden of assurance primarily on farmers, without significant (or sometimes any) compensation.

Certification can be an important stamp of provenance for consumers, but it can also be disproportionately burdensome to smaller farmers. Additionally, farmers have demonstrated concern that, by sharing environmentally relevant data with buyers on inputs such as fertiliser use, they may also inadvertently reveal more information on cost of production and thus compromise their bargaining power on price. Without trust, shared value and cooperation, standards and data collection may impede collaborative impact. However, there are positive signs on quantification and harmonisation, from the Global Farm Metric[32] to the Taskforce for Climate Related Disclosures,[33] explored further later in the report.

CONSUMER DISCONNECT

Across the UK the public has never been so disconnected from the land and the food it grows. Considerable public pressure focuses on animal welfare, with growing public consciousness over biodiversity loss and water pollution. However, other issues at the forefront of the food system, such as dwindling farmer numbers, fragile incomes, or reliance on imports for important healthy foods, such as fruit and vegetables, are less visible. And while positive environmental actions may be taken in the supply chain, they are rarely communicated to consumers in a way that enables them to differentiate products' environmental or social credentials.

Consumer pressure is growing, providing impetus for corporations and governments to verify green claims or face backlash. Attention to, and legal action against, greenwashing is increasing. However, with little transparency of how middle actors operate, especially in traded commodities where links in the supply chain are more disparate, clarity for consumers is difficult. Yet, with growing retailer commitments on climate and environment, this could be an area with huge potential that resonates strongly with consumers. 'Citizen consumers' could play a strong role in driving public demand for transformation of food supply.

BARRIERS TO TRANSFORMATION OF UK SUPPLY CHAINS

Current food and agriculture system is designed for 20th century goals and needs

Investment and financial models are only just waking up to environmental and social risks

Market does not reward social and environmental outcomes or value natural capital

OPERATING CONTEXT

Land access and tenancy structures may not support longer term transformation

Policy on finance, agriculture, health and climate is siloed

Policy and regulatory frameworks do not adequately support transformation

Metrics and data are inconsistent on enviornmental outcomes

Business models reward least cost and prioritise shareholder return

Higher yields and efficiency are default measures of success

Highly consolidated food business limits routes to market

FOOD AND SUPPLY CHAIN SYSTEM BEHAVIOUR

Supply contracts are short term and asymmetric

Supply chain infrastructure is built for intensive, specialised systems

Agriculture research agenda is still focused on efficiency and 20th century production methods

Market based models and incentives do not support robust farmer livelihoods

Transparency of information through the supply chain is insufficient

FARMERS LAND AND FOOD PRODUCTION

Access to reliable information on impact of transformation

Financial rewards do not effectively incentivise environmental and social outcomes

Limited access to farmer relevant knowledge and skills development

Lack of clarity of ambition for transformation

Short term/precarious tenancies and financial relationships prevents longer term decision making and investment

The business case for adoption of new practises is unclear

Diagram 3: What's wrong with the UK food and farming system?

PRINCIPLES FOR A RESPONSIBLE FOOD AND FARMING SYSTEM

What do we mean by responsible supply chain outcomes-what is the social, environmental, and economic reorientation that is being demanded of the UK food system?

CLIMATE CHANGE

In 2021, agriculture accounted for 11% of UK greenhouse gas (GHG) emissions, including 70% of nitrous oxide and 56% of methane.[34] The country is committed to peak fossil fuel energy use by 2025, and agriculture must play its part in the UK's net zero goal by 2050. The National Farmers Union (NFU) has committed its members to deliver net zero farming by 2040.[35] The key challenge will be how we accelerate action ahead of 2030.

Food businesses are among the thousands of companies setting science-based targets for greenhouse gas reductions, putting carbon mitigation front and centre of future business strategy. Science-based targets 'provide a clearly-defined pathway for companies and financial institutions to reduce GHG emissions, helping prevent the worst impacts of climate change and future-proof business growth.'[36] This is particularly relevant for farming, as the vast majority of Scope 3 emissions are found within the agricultural supply chain. Lowering Scope 3 GHG emissions will be impossible without a transformation in the way we produce and consume food.

Climate change has also become a major area of concern for finance, and thus for shareholder and investor confidence underpinning the future of business. There is increasing scrutiny on carbon emissions through frameworks such as the Task Force on Climate-Related Financial Disclosures (TCFD),[37] a tool for market transparency on climate related risks, with aims to ensure climate risk is priced accurately in the market. This framework focuses on reporting on four pillars covering governance, strategy, risk management, and targets and metrics. The recommendations of the TCFD are now incorporated into the Financial Conduct Authority Listing Rules for major listed companies, and similar reporting on climate change has been extended through the UK Companies Act to other listed companies and the largest private businesses.[38] The TCFD requires companies to go beyond reporting their emissions status alone, to examining where and how they can shift emissions across their business. As the TCFD notes:

> **'Through widespread adoption, financial risks and opportunities related to climate change will become a natural part of companies' risk management and strategic planning processes. As this occurs, companies' and investors' understanding of the potential financial implications associated with transitioning to a lower-carbon economy and climate-related physical risks will grow; information will become more decision-useful; and risks and opportunities will be more accurately priced, allowing for the more efficient allocation of capital.'** [39]
>
> **Taskforce for Climate Related Financial Disclosures (TCFD)**

RESTORING NATURE

Carbon emissions are not the only area for vigilance and action. Science-based targets for nature are in development, while planning legislation in the UK already requires developers to create biodiversity 'net gain', and the long-awaited Convention on Biological Diversity meeting in December 2022 was a focal point for attention on nature restoration. The TCFD framework is now echoed in the development of the Taskforce on Nature Based Financial Disclosures (TNFD),[40] currently in the consultation phase. This broadens the requirement for consideration of environmental risk significantly. While not yet in play, its signals are clear regarding understanding of risk, mitigation and restoration, as well as the potential for nature-based solutions within supply chains. The Convention on Biological Diversity's delayed COP15 conference will determine the extent of global ambition on restoring biodiversity, but private sector actors are already working together (e.g. via One Planet Business for Biodiversity[41]) to build out frameworks for action. Regenerative and agroecological practices that rebuild soil health and support biodiversity can be considered a powerful nature-based solution.

SOCIAL IMPACT

The most recent transparency framework currently in development is the Taskforce for Inequality Related Disclosures (TIFD),[42] launched in November 2022. This is a global collaborative effort to develop a systemic risk management framework to reduce socioeconomic inequality created by the private sector. While TNFD and TIFD are not yet adopted frameworks for UK business, they signal clear attention to future expectations on equitable value and social impact in supply chains.

INTEGRATED MEASURES OF SUCCESS

International benchmarks send clear signals to business regarding good practice, from their environmental performance and treatment of workers, through to contribution to healthy nutritious diets. The World Benchmarking Alliance's Food and Agriculture Benchmark assesses the social, environmental performance of 350 of the world's largest food and agriculture companies. Its 2021 benchmark found the food and agriculture sector globally falling far short of the Sustainable Development Goals and the Paris Agreement, with less than one in 10 companies having strategies aligned with the 1.5°C global heating target; one in four demonstrating no sustainable development targets; less than a tenth with human rights and child labour strategies; and only one in five actively contributing to nutritious diets.[43]

WWF-UK's 2022 'What's in Store for the Planet' report, associated with their WWF Basket work, underlined key outcomes and areas for concern closer to home. The report uses aggregated data from nine UK retailers to evaluate the distance-to-go to meet WWF's target of halving the environmental impact of UK shopping baskets by 2030 across seven key areas (climate, agriculture, deforestation, diets, food waste, packaging and marine). Under each area there are specific targets, from greenhouse gas emission reduction, the use of robust environmental schemes and sustainable water management practices in agricultural production, to the use of deforestation-sourced ingredients, to the balance of plant-based diets, and elimination of food waste.

The picture on agriculture was opaque. Estimates of food companies' Scope 3 emissions accounted for a whopping 97% of total emissions, with little evidence suggesting these are reducing. Only 4% of crops are sourced from lands with robust environmental schemes (to the Basket's definition) and only 6% of soy supply in retail supply chains was confirmed as deforestation free.[44]

SUSTAINABLE NUTRITION

Henry Dimbleby's National Food Strategy report is probably the most detailed assessment of the state of the food and agriculture system in England.[45] It proposed four succinct goals for the UK food and farming system:

- **Deliver healthy diets:** Make us well instead of sick.
- **Robustness:** Be resilient enough to withstand global shocks.
- **Restoration:** Help to restore nature and halt climate change so that we hand on a healthier planet to our children.
- **Quality:** Meet the standards the public expect, on health, environment, and animal welfare.

These outcomes echo those raised by both Scotland's Good Food Act and Wales' Well-being for Future Generations Act. But, if these are future goals rather than the current outcomes our food system achieves, how can supply chains enable responsible positive social and environmental outcomes?

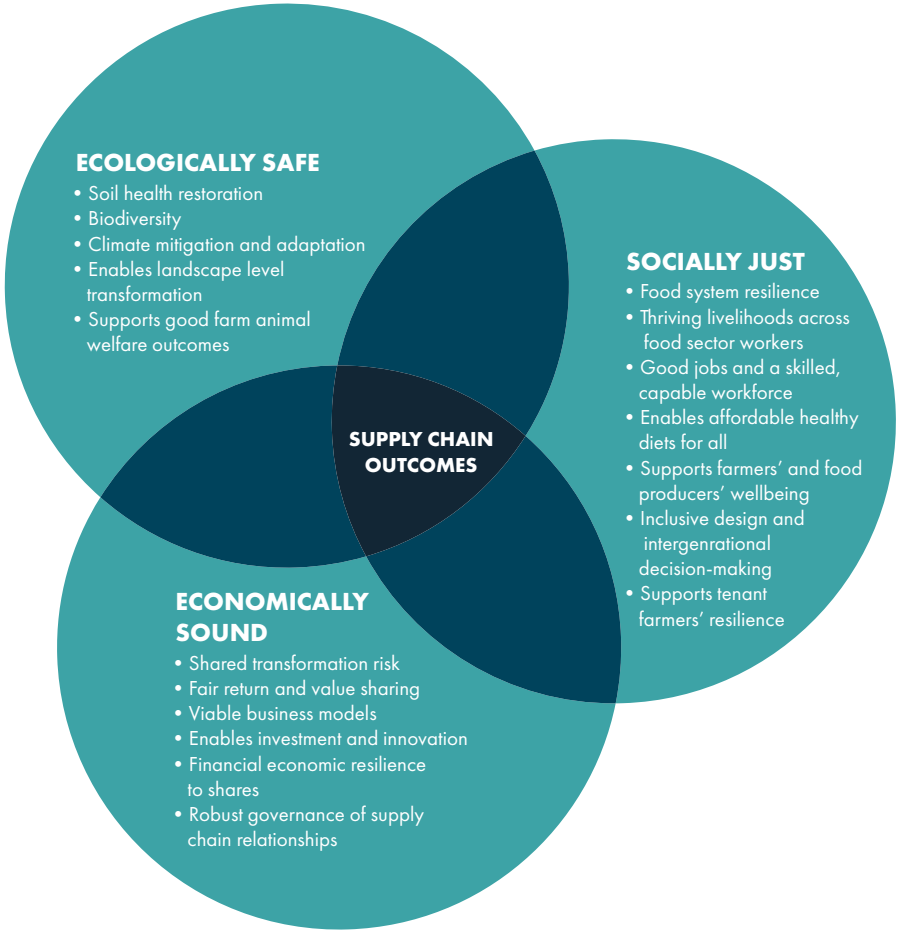


Diagram 4: Transforming the goals of the UK food and agriculture supply chains

PART 2

HOW CAN SUPPLY CHAINS SUPPORT RESPONSIBLE OUTCOMES FOR SOCIETY AND ENVIRONMENT?

COP26's harvest of net zero commitments has shifted the scale and focus of ambition. Demands for environmental reporting and ESG have tightened. The need for a re-orientation of business models towards the needs of the future operating context is clear—from climate response to environmental regeneration, human health and a just transition to more equitable value chains—all while meeting consumer demands. This section explores the potential for shifting the dynamics of supply chains to deliver these goals, and what farmers and actors across the supply chain say they need.

DEMAND-SIDE ACTION: DEVELOPING HIGH LEVEL ORGANISATIONAL AMBITION AND EMBEDDING ENVIRONMENTAL AND SOCIAL PERFORMANCE IN BUSINESS SUCCESS

Through the research for this report, we sought to identify real change that demonstrates how the food and agriculture system is shifting. The vast majority of power and value in the supply chain is held by major food processors, manufacturers, retail, and food service. Their reconfigured business models have the potential to provide profound demand-side signals to the wider supply chain, reallocate value, and accelerate action towards positive environmental and social outcomes. Three examples from major companies demonstrate the shift in direction.

Dairy giant Danone has put human health and environmental regeneration at the core of their global business strategy. Their 2030 goals focus on 'One Planet. One Health', with the headline 'Accelerating the food revolution by 2030', which centres on delivering the Sustainable Development Goals. Business goals incorporate financial, health, environmental, and social performance. It links the value proposition of products with social and environmental outcomes. Innovation is used to enable 'superior food experiences' which will deliver sustainable value growth for the business while being aligned with the needs of the current and future business context. They claim, 'At Danone, we believe that each time we eat and drink, we can vote for the world we want.'[46]

This has impacts through the supply chain, from produce sourcing to acquisition and scaling of new businesses such as Alpro's plant protein brands. It includes a major shift to regenerative dairy farming, which requires close relationships with producers and suppliers alongside collaborative initiatives on soil health. Danone has developed ecosystem and livelihoods funds to enable financial and technical support to 100,000 farmers. However, this transition has not been without challenge with shareholders questioning business performance[47] and leading to a shift in leadership.

Ahead of COP26 in 2021, food and agriculture companies made a wave of net zero commitments, not least Compass UK and Ireland, one of the UK's largest food service companies.[48] Compass' core target centres around decarbonisation, with implications for regenerative production and reformulated menus. As a business-to-business (B2B) company, Compass has significant opportunities to enable the ambitions of its clients for carbon reductions and to deliver government procurement shifts toward net zero. With the vast majority of Scope 3 emissions derived in their supply chain, their producers are the lynchpin to the delivery of carbon-reducing outcomes, such as goals for 70% of

their fresh meat, dairy, and vegetables to be sourced from regenerative agriculture by 2030. Across the food sector, businesses' attention to net zero implementation could be a powerful vehicle for synergistic redesign and delivery of other positive social and environmental outcomes, from equitable supply chain value distribution to healthy diets, to restoration of biodiversity.

Food manufacturer Nestlé has focused on regenerative agriculture to deliver its goals on carbon, shifting practices toward better livestock management, reducing methane through animal nutrition, grassland conservation and soil carbon sequestration. Nestlé says it will work with suppliers to improve soil health through practices such as crop and livestock rotation and restoring degraded lands. They are also shifting their product portfolio towards being more climate-friendly, with the inclusion of healthier and more sustainable ingredients.[49]

While these major global food companies are beginning to turn the tide on supply chain practices, there are other exciting business models emerging that connect farmers and consumers, shortening supply chains, creating local networks of resilience and working with the dynamism and diversity of produce that come from regenerative and agroecological farming systems. This is not new, but the scale of attention and urgency driven by Covid and the current economic crisis has sharpened focus on new routes to market. An Agrismart/Sustain survey of 500 farmers found that over half wanted to supply into a different market and almost three quarters would consider this.[50] Farmers were motivated by perceived benefits of better margins, customer links, resilience and better wages. They wanted more ability to address climate and nature, soil management, animal welfare and closer public engagement. The main challenges they saw were in infrastructure, from retail avenues to storage and distribution, alongside finance and marketing. Some could see potential for scale through farmer networks and co-operatives.

Many of these examples are currently small, but offer huge potential for diversification of routes to market if replicated and scaled. For example, in January 2020 the Better Food Traders network launched with the aim 'to harness and focus the collective power of all of those ethical enterprises committed to climate-friendly growing and eating.' The network is supported by the Esmee Fairbairn Foundation, partnering with Sustain.[51]

Riverford is a certified B Corp, employee-owned company, focused on environmental and social sustainability. It is a founder and leader in bringing veg box schemes to the market, creating markets for seasonal produce. It shortens the links between farmers and consumers and actively markets the diversity of foods suitable for growing in the UK: 'From old favourites done right, to the weird and wonderful world of kohlrabi, samphire, oca and cardoons—it's all grown for maximum flavour.'[52] Their model aims to support equitable supply chain value and work with 'small-scale growers and makers for the long term, agreeing good prices well in advance and always sticking to our word. And there are no discounts for new customers; instead, a fair deal for all.'[53]

Kingsclere Estates has transitioned after four generations of conventional farming, from commodity agriculture to regeneration, aiming to build a 'circular community'. They are actively seeking innovative sustainable businesses to join them, enabling access to land, finance and business support.[54]

These more diverse business models include networks of localised and smaller scale producers working together to enable local food resilience. Community Supported Agriculture (CSA) is a multi-stakeholder cooperative for UK wide CSA farms.[55] It was set up in 2013 to represent the grassroots CSA movement and have representation across the board including government. More than 150 farm members grow and supply food for over 25,000 people. CSAs not only provide food grown accordingly to CSA principles but also support local communities and their wellbeing including supporting positive mental health, community cohesion and social interaction.

These are a small flavour of examples of new and diverse business models and there are many more, from the rebranding of Cornish sardines and now Cornish sole and king crab[56] to regenerative beef farmers in Scotland creating new value through luxury leather.[57] There are good opportunities for collaborative dialogue and action, with organisations like the Food Farming and Countryside Commission[58] and Food Ethics Council[59] acting as powerful advocates and conveners for actors focused on diversification and fairness of food systems, reflecting the importance of local food systems and good environmental standards as noted in the English National Food Strategy.[60] Later in 2023, Forum for the Future will be bringing together a range of diverse actors across the food system to explore what is needed to unlock further scaling and replication of new business models.[61]

BUILDING TRANSFORMATION WITHIN FOOD BUSINESSES

For food companies and consumers, their environmental performance is dependent on actors upstream in the supply chain. Relationships between buying teams, growers and intermediaries are the crunch point for many farmers in our current supply chains. The biggest internal shift for food companies is the embedding of sustainability goals throughout corporate functions, from purchasing and supply chain management through to financing and research and development. Food service and retail buying teams can have a major impact on farmers' ability to deliver positive social and environmental outcomes by setting the terms of the relationship between the farmer and the food company. Shifting purchasing parameters will be key to scaling practices that deliver these outcomes. This requires a different business mindset, shifting from one that maximises short-term gain and least cost, to one that recognises that shareholders' best interests are met through building resilient supply chains based on robust positive social and environmental outcomes. This highlights the need for long-term collaboration and co-creation of solutions both along and across the supply chain. This different approach also recognises the dependence of the supply chain on the farmer and positions the farmer as the most valuable asset food companies have to meet their targets.

WHAT DO FARMERS SAY IS NEEDED FROM THEIR SUPPLY CHAINS TO SUPPORT THE TRANSITION?

The previous section highlighted the sea change that is coming in food and agriculture. Yet this is just the beginning—as both the WBA benchmark and WWF Shopping Basket report show, the scale of action to date is not commensurate with the challenge we face. Indeed, emissions continue to rise despite commitments.[62] This has the potential to place additional burden on farmers to deliver the food sector's ambition. Farmers will need to continue to do their day job while also needing to rethink relationships; grow new and potentially unfamiliar crops; adapt practices to enable soils to regenerate; implement the requirements for verification of environmental performance; and operationalise new and different business models and income streams. The whole supply chain, from input providers to consumers via retailers and manufacturers, will need to be part of the solution so this does not fall solely on farmers. The shift in supply chain relationships can be considered across three time horizons: 1) how today's supply chain relationships are framed, 2) how to enable a medium-term transition and, 3) how to create scale in the long term.

1. **Rethinking fairness in the supply chain relationship.** Farmers interviewed for this report expressed wider concerns than unpredictable and volatile pricing and the failure to cover an enterprise's cost of production. Of course, that is the basis for any viable business' survival. But other concerns include short-term (and therefore inherently unpredictable) contracts, asymmetrical notice agreements which penalised farmers, quality expectations that reinforced waste, the costs of managing waste and loss, and the costs of evidencing and reporting to environmental standards. They highlighted the need for supply chain relationships that are instead characterised by reciprocality and shared negotiation, predictability, stability, confidence, and sufficient resourcing to invest and innovate. They highlighted the need to be rewarded equitably for their value creation, whether from products or ecosystem services. Each of these requirements challenges the core tenets of today's business models predicated on a least cost model and short-term extraction.

2. **Farmers also highlighted the challenge of transition**, including investing in new equipment, incorporating new practices, meeting new standards, reporting, and verification requirements. The speed of transformation required by the climate crisis has revealed how ill-prepared we are, with gaps in evidence on which to base business decisions on environmental intervention, the efficacy of new practices, and a lack of harmonised metrics and measurement. Farmers need a bridge across the innovation information gap, with advisory services often not equipped to deal with the emerging complexity of issues raised by regenerative production systems. They highlighted the need for pre-competitive spaces to build and share sector-wide knowledge. And most importantly, they flagged that offtakers need to understand both the time and risk involved in transition. As farmers begin to shape their transition, they need longer-term relationships, underpinned by contracts suitable for a transitioning farming system. These new relationships need to be characterised by the sharing of risk; sharing investments in the costs of transition; clarity and stability to enable multi-year planning; and mechanisms to share knowledge both peer-to-peer within sectors and along the supply chain.

3. **Long term transformation and scaling.** Future supply chains could look quite different from today. New crops will feed new product development. Complex and diversified production will require new machinery and infrastructure to support new practices. The role of labour will shift. Offtakers will be working with farmers with diversified income streams, reflecting farmers' delivery of ecosystem services and landscape stewardship, alongside new uses of land, from carbon sinks to renewable energy generation. Taking a longer-term view now allows for re-'visioning' and reconfiguring where and how value is derived in the shift from extraction to restoration, to embed an ecologically safe and socially just future for food production. This has several significant implications:

   a. Recalibration of how value is derived and shared through food production, reflecting the true cost of production and internalising environmental and social costs, and exploring the potential for insetting (capturing carbon benefits derived from the crop and surrounding land within its downstream supply chain).

   b. Embedding fairness in supply chain relationships, and sharing investment, innovation and risk, reflective of the interdependency of actors along the supply chain, delivering equitable value to producers.

   c. Diversified business models and income streams, which reflect the increased complexity and sources of value delivered within the supply chain, potential for greater value creation upstream, and novel income streams which may be shared by other actors in the landscape, from energy generation to carbon sequestration to tourism.

   d. Full chain transparency and traceability enhancing the visibility of the supply chain and its impacts.

   e. Deployment of harmonised standards and metrics for positive social and environmental outcomes that give a true picture of the impact and value of food production, from pollution to biodiversity to livelihoods to human wellbeing.

   f. Deepening consumer engagement and to drive demand for environmentally and socially responsible products, understand how to differentiate them, and accept new products from more diverse crops.

SHARED SUPPLY CHAIN ACTION

The potential for joint action across the supply chain is significant. This section outlines a range of cases where actors along the supply chain are already co-creating solutions to deliver positive environmental and social outcomes.

New data for decision-making: Farmers need access to tools that will help them understand the interlinked economic and environmental implications of new practices. Carbon calculators such as The Cool Farm Tool,[63] the Farm Carbon Toolkit[64] and Agrecalc[65] are beginning to be used by UK farmers to measure their business carbon footprint and explore impacts of farm management on greenhouse gas emissions. The MySoilCapital programme allows farms to link financial and environmental information, as well as anonymously compare performance to others in their supplier group. The latter has now expanded to enable farmers to capitalise on improved carbon performance through the voluntary carbon market.[66] Farmobile connects farmers and buyers with farm monitoring data.[67]

The Global Farm Metric has been designed through extensive multi stakeholder collaboration across the food sector in the UK and is now branching out to on-farm pilots in several countries.[68] This tool has the potential to deliver a harmonised assessment and metric for a suite of environmental and social outcomes. There is also potential to align these metrics with other forms of assessment such as the World Benchmarking Alliance's food and agriculture benchmark, and vehicles in development to assess regenerative agriculture from those of One Planet Business for Biodiversity[69] and the Regen10 Initiative.[70]

New data can provide proof points for consumers on the environmental value of products. In the US, General Mills partnered with supplier White Oak Pastures and Quantis, to assess the carbon impact of regenerative cattle ranching practices, demonstrating that the beef production system sequestered more carbon than it emitted.[71] However, there is still more work needed to harmonise metrics. Data also has risks and can be used perversely, as a penalty or to stop buying products or ending contracts.

Voluntary payments for (or access to) ecosystem services are exploding, most prominently in carbon markets. For example, the Soil and Water Outcomes Fund provides farmers with financial payments for the outcomes of on-farm conservation efforts.[72] In the UK, Water Resources East is using 'Water Funds' (an institutional platform that helps resolve governance issues by bridging science, jurisdictional, financial and implementation gaps) to design and enhance financial and governance mechanisms, uniting stakeholders around the common goal of water security through nature-based solutions and sustainable watershed management.[73]

Voluntary payments for carbon and ecosystem services can enable growers to develop new income streams. However, offsetting risks disconnecting production from its climate impacts. Many food companies are now turning to insetting mechanisms that link production impacts to the final product.[74] However, the cost of insetting within a supply chain can be significantly greater than buying offsets, so those purchasing carbon benefits will need to ensure this is reflected in their business model, not just farm gate price.

Incentivising and rewarding action above standard price can be a powerful enabler for new practice adoption. Nestlé supports its milk suppliers with a 'sustainability contribution' for delivering milk with a lower emissions footprint and similar mechanisms are utilised across the UK and European dairy sector, such as Arla and First Milk.[75]

Creating shared value and consumer demand: Partnerships between suppliers, processors and food businesses can have mutual benefits. Supermarket Lidl announced its first net zero cheese, developed in partnership with supplier Wyke Farms. Its communications demonstrate provenance and robust claims to the consumer.[76] Philadelphia cheese (a Mondelez product) engaged consumers with on-pack marketing information on animal welfare. This was possible through supplier FrieslandCampina's 'Foqus planet' programme which requires outdoor grazing and welfare outcome assessments for cows, for which they are awarded a premium. This won the brand a Compassion in World Farming 'Good Dairy Recommendation' in 2013, and again in 2020.[77] M&S have partnered with Wildfarmed, an organisation aiming to be the biggest soil regeneration programme on British arable land, to launch a range of regenerative bread.[78]

Ensuring demand for farm outputs: During the transition the potential market for new produce—or smaller batch sizes from different crop rotations—can be uncertain. Offtakers' commitments to purchasing these products can provide powerful certainty in an emerging market context. One example of this in action is how Carrefour is supporting 500 growers on the transition to organic farming by providing longer contracts with guarantees for minimum price and volume offtake.[79] In the US, General Mills is sourcing whole crop rotations from farms in Montana for its macaroni and cheese and Bunny Grahams.[80] Funding is available for organic conversion for dairy in the UK.[81]

Retailers are **opening new avenues for new and more diverse supply chains**. Morrisons' 'Nations Local Foodmakers' aims to provide new markets for small scale localised products. They claim to have reduced barriers to market access such as logistics of access to stores.[82] The East of England Coop's 'Sourced Locally' programme has been running for 15 years, inspired by the realisation that "South American asparagus was being sold in stores mere miles away from fields full of the British crop ... [by] partnering with local farmers [we] sold a staggering 33,000 bundles in the first season."[83] Enterprise stacking is opening new opportunities for value creation. For example, Wakelyn's, a 56 acre farm in Suffolk, has long pioneered agroforestry but is now supporting a number of businesses, such as a bakery, a market garden, and a haberdashery.[84]

New financial mechanisms can mitigate transition risks. For example, Forum for the Future-led Tea Swaps project tested methods to reduce the volatility of the tea auction market by enabling buyers and sellers to agree a fixed price for a fixed period.[85] Anheuser-Busch's brand, Michelob ULTRA Pure Gold, purchases 'transitional' barley at a premium price during the three-year transition period to organic production as part of its 'Contract for Change' program.[86] Partnerships can provide access to more patient capital, for example, Danone North America has partnered with rePlant Capital to provide its farmer network with access to slow loans with lower interest rates.[87] Linking prices to production costs is particularly critical in times of inflationary periods, for example, Danone has a price management system that evolves with production costs, rather than market pricing.[88] An impact fund from AXA, Unilever and Tikehau capital is planned following an MOU between the organisations. The focus of this is to promote regenerative agriculture practices by focusing on areas like soil health and helping to unlock technological solutions.[89]

Co-creating and co-designing change programmes with producers potentially increases viability for both food business and producer. Supplier groups advise leading retailers in the UK on embedding new sustainability measures, collaborative projects, and to understand what farmers need to enable the transition. Knowledge transfer and peer-to-peer learning are also a key benefit of supplier networks. For example, Cargill provides farmer access to technical resources and customer demand trends.[90] In the UK, Innovative Farmers provides an important peer-to-peer network, enabling farmers piloting new practices to share evidence and ideas.[91]

Consumer communication on sustainability credentials can result in greater brand preference, increasing brand equity and market share and can open new funding avenues within a food business for sustainability initiatives, such as through use of marketing budgets. For example, brands are keen to communicate new ventures, sourcing commitments, and pilots, such as Guinness' regenerative barley pilot.[92] Specific brand commitments can also stand out and highlight the way forward for the wider business, from KitKat's pledge to become carbon neutral by 2025, ahead of the wider parent company Nestlé's longer-term commitment to net zero by 2050.[93] Within Compass Group, the Levy's events business is taking the lead on sourcing, climate friendly product reformulation, and chef engagement.[94] Grassroots works with brands to design and build regenerative agriculture into their sustainability plans, links to their network of accredited farmers and leverage their buying scale to drive impact at pace across the natural landscape.[95] Communications can also encourage consumers to reject products with less sustainable sourcing practices and demonstrate differentiation, such as Tony's Chocoloney's 'Slave-free chocolate' campaign.[96]

These are just a sample of actions that add up to a huge potential to reframe and reconfigure supply chains, increase food system resilience, and rapidly chart a course toward the major positive social and environmental outcomes that society seeks. Can the UK policy environment support this transformation?

PART 3

PUTTING THE FOOD SYSTEM AT THE HEART OF POLICY

THE TANGLED REALITY OF FOOD AND AGRICULTURE POLICY IN THE UK

As Professor Tim Benton has noted, there is "A fundamental problem with the UK's governance mechanisms – namely, that policymaking is often trapped within departmental silos too focused on the short-term. In a complex world, decisions made for the benefit of one sector, or group, have the potential to affect other sectors in myriad ways over long periods of time, but the government struggles to manage these competing interests." [97]

Currently, 16 different political functions govern national food policy in England alone, from planning to work to environment to climate regimes.[98] Departmental leads and ministers can be wary to encroach on others' overlapping remits.[99] This presents a real challenge for integration of policy, addressing areas with multiple impacts and for overall governance of the food and agriculture system. It also misses the opportunity to develop synergistic policy that meets multiple needs, or avoidance of unintended and conflicting outcomes. Multiple authors, not least through England's National Food Strategy research, have highlighted the need for integration of food- and farming-related policies to meet the scale of environmental and social transformation required in the face of climate, biodiversity and health crises.

Interviewees for this report highlighted the potential of devolved policies in Scotland and Wales to stretch the scope of food and farming policy and integrate immediate and longer-term impacts. Both encourage more systemic and cross-political thinking in both political jurisdiction and over time. The Scottish government notes, 'The Act places duties on Scottish Ministers and certain public authorities to produce plans of their policies in relation to food and set out what they will do to make those plans real. These plans will also have to set out the main outcomes to be achieved in relation to food-related issues, the policies needed to do this and the measures that will be used to assess progress. These plans will deliver outcomes which support e.g. our nation's social and economic wellbeing, the environment, people's health and physical and mental wellbeing, economic development, animal welfare, education and child poverty. A Scottish Food Commission will also be established for scrutinising and making recommendations in relation to the progress in achieving the outcomes in the good food nation plans.'[100] Interviewees for this report saw the potential for action being the multi-jurisdictional approach where communities, local government and others have an umbrella under which to act.

The Wellbeing of Future Generations (Wales) Act takes a longer-term view for policy making, focused on goals of equality, prosperity, resilience, health, community cohesion and culture and Wales' global responsibility. It emphasises a goal for a more joined-up and preventative approach to social challenges.[101]

ENVIRONMENTALLY FOCUSED POLICY

The refocusing of agricultural policy toward environmental outcomes is gathering pace internationally, from the EU Farm to Fork strategy to the US Inflation Reduction Act and its prioritisation of investment in carbon-related innovation and regenerative agriculture.[102] The signals in the UK of the shift in focus toward recognition of natural capital and delivery of public goods through the Agriculture Act (2020) and the Agriculture Transition Plan could herald a significant transformation, with the replacement of basic payments with the Environmental Land Management (ELM) schemes and Sustainable Farming Incentive (SFI). The SFI is designed to pay farmers for 'public goods', such as cleaner water and air, and carbon reduction. Payments are 'action-based', for farmers who adopt environmentally friendly practices that go beyond regulatory requirements.

However, so far, evidence suggests uptake of the sustainable farming incentive has met mixed response. An Agriculture and Horticulture Development Board (AHDB) analysis of uptake notes that, 'unless a farmer is environmentally oriented, higher financial reward is the main driver in encouraging more ambitious environmental actions. While the SFI standards… generally increased net profit levels, a small increase may not seem worth the time and effort needed to carry out the actions.'[103] As such, it is not clear the extent to which farmers are simply being rewarded for actions they are already taking, and thus how it will contribute to delivering the UK's environmental targets. This farmer feedback also sends a clear signal, echoed by the NFU and others, that payments for environmental and social outcomes need to be materially sufficient and reflect the true cost of new practices to incentivise mainstream adoption.

ELMs are a step in the right direction, but its scale of ambition and action has been challenged. Climate Action Tracker notes: 'The UK's exit from the EU's Common Agricultural Policy (CAP) represents a unique opportunity to redesign UK agricultural policy with a focus on emissions reductions and other environmental goals. While new policies such as ELMs represent a step forward, targets and policies remain largely short-term, unambitious and incomplete. As a result, currently no policies or plans exist that can be seen as credible in reducing emissions. This needs to be urgently addressed.'[104]

The Sustainable Food Trust also highlights concerns regarding ELMs' approach to separation of conservation and farming and the potential to miss the opportunity for multiple environmental outcomes from regenerative farming practices. Its CEO Patrick Holden noted: 'We believe the current proposal for ELM and its three pillars—the Sustainable Farming Incentive, Local Nature Recovery and Landscape Nature Recovery—is at risk of perpetuating the separation of food production from nature conservation… While there are clearly some necessary and beneficial habitat protection measures which should find a place in this new farm support package, if they are not linked to whole farm adoption following the principle of 'do no harm', our concern is that the desired nature and decarbonisation targets for agriculture will not be realised.'[105]

The shift to ELMs will have divergent impacts on different types of farming. For example, some sectors, particularly grazing livestock and mixed farms, are heavily reliant on the Basic Payment Scheme.[106] Indeed, as the sector moves to more agroecological and regenerative farming methods, mixed farms and rotations are likely to become more prevalent. If the UK is to ensure a just and fair transition to new funding arrangements, schemes will need to be tailored to reward diverse farming types for their environmental outcomes. Almost one-third of farmers fail to break even under current payment regimes, so new funding mechanisms will need to provide strong enough financial rewards for environmental goods to deliver viable business models. There is a short window to 2027 to set the parameters that will motivate farmers to engage and transform.

SUPPLY CHAIN GOVERNANCE AND THE AGRICULTURE ACT

The Agriculture Act (2020) contains promising mechanisms for better supply chain governance on key areas of concern to farmers. These include the ability to require more transparent data collection from actors within the supply chain; the requirement for written contracts that specify terms such as premiums or deductions; and most importantly the extension of these powers to cover other actors in the supply chain and thus reach the processors and distributors who have direct relationships with farmers, rather than just the retailer and primary suppliers as governed by the Groceries Code Adjudicator. The purpose of this new provision is 'aimed at addressing the unfair trading practices in agrifood supply chains which arise because of the disparity between primary agricultural producers who "tend to be small, individual businesses operating without strong links between them" compared to other actors further up the supply chain, who are 'typically highly consolidated businesses that command substantial shares of the relevant market.'[107]

To that end, the act also allows for further creation of producer organisations, to boost the bargaining power of farmer groups in areas that might otherwise be seen as impinging on competition law. Producer organisations can provide a range of specialist technical, legal and marketing services to members and build closer relationships between buyers and farmers. The provisions in the act could also enable the development of mandatory codes of conduct for contractual relationships, where voluntary codes of conduct are not sufficient to deliver fairness in the supply chain. The development of a mandatory Dairy Code, currently in negotiation, has been a key outcome of the Agriculture Act.

However, the devil is in the details. Each of these provisions is only effective if enacted and robust. For example, in consultation for the Dairy Code, NFU Wales outlined five key components as necessary to enable fairness in the supply chain:[108]

1. **Pricing mechanism:** Prices should be transparent and should be calculated using a clear and verifiable mechanism which is market focused, sharing risk on pricing between farmer and processor.

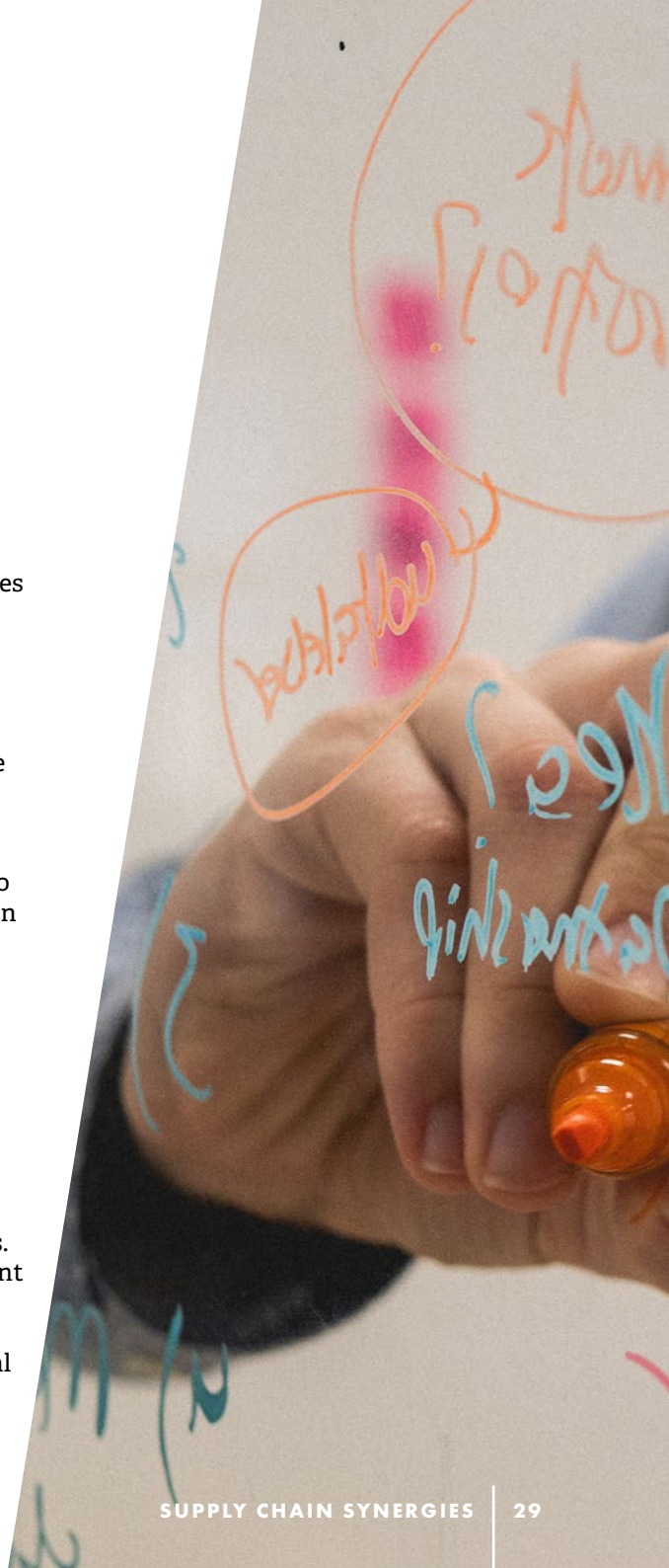
2. **Relationships and farmer representation:** Any changes to the contract should be agreed by both parties.

3. **Exclusivity and volume:** Farmers should be able to choose between exclusive and non-exclusive contracts, this would enable milk to be supplied to multiple businesses which may enable farmers to take advantage of new or different markets.

4. **Elimination of unilateral changes and one-sided contract terms:** Many contracts allow the processor to make changes without agreement or even consultation with the farmer and/or feature terms which are very one-sided, generally placing the risk onto the farmer.

5. **Consequences of a breach:** A mandatory code only works if there are measures in place to ensure it is being followed, as a result there must be clear (financial) consequences for any breaches.

Other organisations have proposed the need for codes of conduct across all major farming sectors in the UK. These could support harmonised good practice across industries. However this is no quick fix. Consultation and development of the Dairy Code has taken two years, with a potential two-year transition phase once in law. At a time when urgent responses are needed to climate and environmental breakdown, attention to more ambitious voluntary and mandatory action will be needed.



FUTURE POLICY

There are two major areas of emerging policy that could have profound impacts on the potential to deliver environmental and social outcomes through the food and farming system. These are relevant to supply chain practice as they influence where food supplies are sourced from and the standards to which they are produced. They also impact the viability of UK farmers and growers within the market.

The first is trade policy, and the potential for agreements to set standards that are substantially poorer than are asked of our domestic food producers. The World Trade Organisation (WTO) Agreement on Agriculture sets out the rules and commitments on agricultural trade practices as agreed by WTO members, covering domestic support for agriculture, market access; and export subsidies. There is a potential conflict on both market access and domestic support, in relation to stronger environmental standards in UK food production. However, across interviewees who spoke on this subject, the call was almost universal: trade policy should require imports to meet the same standards required as if produced in the UK.

Secondly, the Retained EU Law Revocation Bill has the potential to remove from UK regulation any retained EU laws (REUL), by 31 December 2023.[109] This impacts around 800 pieces of food safety legislation alone.[110] To add to this complexity, EU rules for food and feed will continue to be directly applicable in Northern Ireland under current NI Protocol terms. Further, this would require the government to recreate any current REUL before the end of 2023. Even if the timeline is pushed out, this could have profound impacts on environmental and biodiversity protections required by law, and risks turning civil service attention away from the profound environmental, social and economic challenges the UK currently faces.

The way in which these policy areas develop will have significant impacts on the context for UK farming's economic resilience and thus their ability to deliver on environmental and social outcomes.

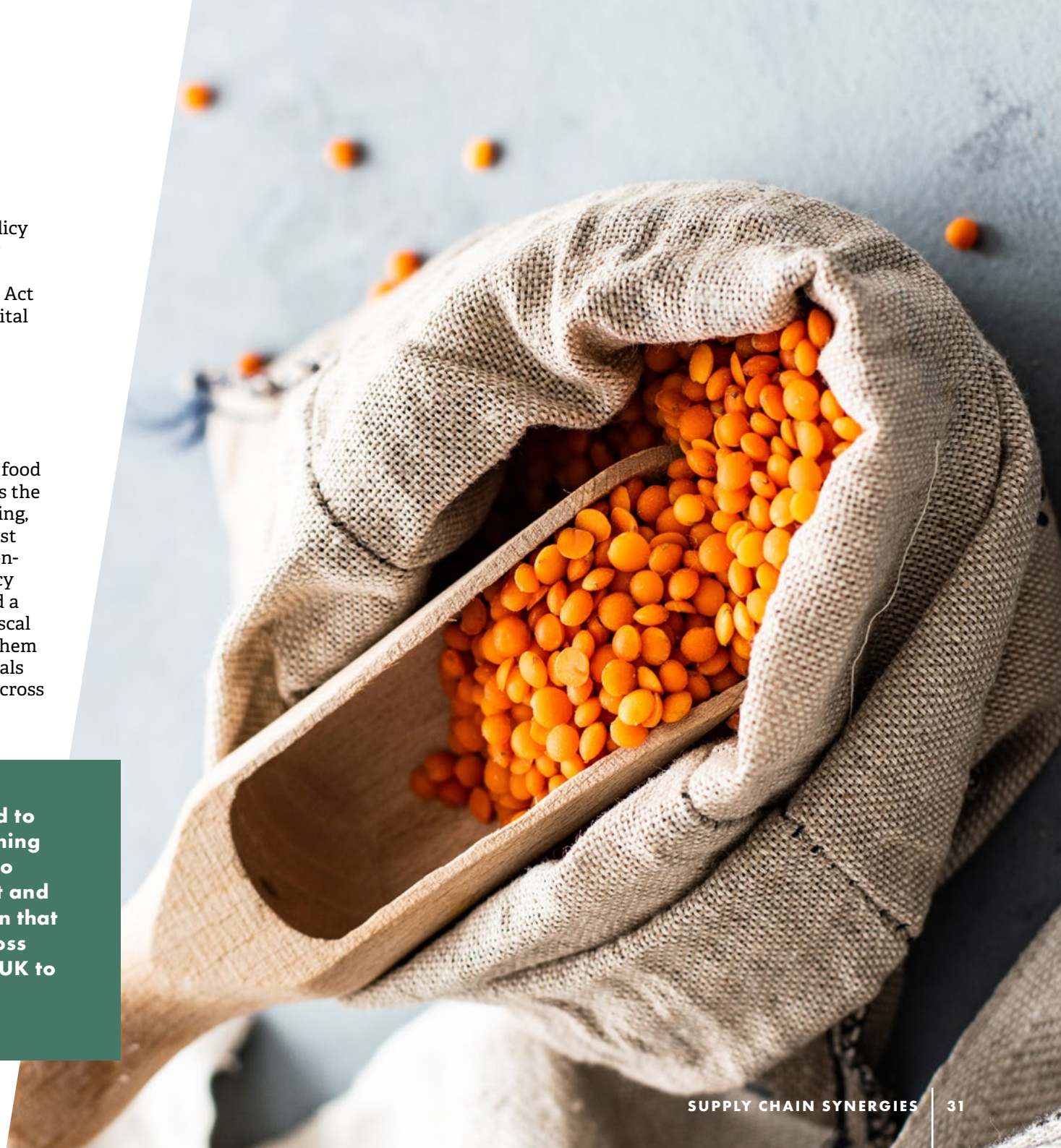
POLICY POTENTIAL

The breadth of touchpoints for food and agriculture policy suggests that, in theory, the architecture for refocusing supply chains on positive environmental and social outcomes exists. We have seen through the Agriculture Act (2020) that there is political will to focus on natural capital and payment for public goods. But how can we unlock further policy potential?

Through this research, common themes became clear:

Integrated political strategy: Almost all contributors identified the need for an overarching approach across food and farming governance, that recognises and prioritises the environmental and social dimensions of food and farming, not just the economic. After energy, food has the greatest impact on climate, and diets are the leading cause of non-communicable diseases, so the need for integrated policy is clear and action will become inevitable. Farmers need a unified strategy—including planning, tenancy rights, fiscal regimes, research, and knowledge transfer—to enable them to do more than scratch the surface of change. The signals of potential are there, but perverse incentives remain across siloed policy areas.

An integrated policy for food would need to reflect the deep impacts of food and farming across sectors from treasury, to health, to business and innovation, to environment and agriculture. This would require regulation that sets priorities and direction of travel across different areas of government and from UK to regional jurisdictions.



Good food governance: A number of interviewees highlighted the importance of food supply chain governance as a key area for policy potential. The Agriculture Act (2020), as outlined above, provides potential mechanisms to strengthen transparency in supply chains and to mandate codes of practice where voluntary action is not sufficient. The Food Strategy emphasises the importance of greater transparency in the supply chain. The Competition and Markets Authority's Green Claims Code has already been used to hold businesses to account. Sustain and others have proposed the need for new legally binding buying codes for each supply chain sector i.e. dairy, red meat, horticulture, etc. with an independent regulator to work in close association with the Grocery Code Adjudicator.[111]

The power of public procurement: National and local government procurement standards are a key driving signal for demand for new positive environmental and social outcomes, as well as a key component of delivery of our national environmental and climate ambitions. It could forge a strong link between production and consumption of healthier foods through school, military, and health catering. It could also augment local guidelines and frameworks and allow regional and devolved bodies to align actions at different levels, as envisaged in Scotland's Good Food Act. It also contributes to intergenerational justice, increasing the potential for younger people to access healthy foods. However, it is clear that, as budgets are squeezed, consumption of healthy foods decreases. So, this approach will require sufficient funding and political will, but is surely a sound investment in the health of the nations and their future.

Trade agreements: Brexit has, arguably, created an opportunity to determine our own trading standards. Trading relationships have the potential to open-up new avenues for export. However, if market access is allowed for products with standards lower than those produced within the UK, this could risk damaging 'home-grown' food and farming. This may improve our food security with cheap imports in the immediate term, but risk increasing our dependence on imported food if the UK's own farming sector shrinks. Furthermore, it will be difficult to argue for effective delivery of positive environmental and social outcomes if farmers are undercut by imports that are not produced to the same attributes. Trade policy is thus inherently entwined with our domestic food supply chains. This theme was widely reflected in interviewed stakeholders' priorities, from farmers, to retailers, to civil society. Furthermore, the EU 27 countries remain our primary trading partner, and, with emerging EU legislation and strategy on climate and agriculture, such as Farm to Fork, it will be important to understand the implications for UK farming of new expectations for positive social and environmental performance. Provenance is a key selling point for UK food, but demands for transparency and provability of environmental claims are likely to increase.

Research, innovation and skills: The shifting landscape of food and farming will require new priorities for innovation, skills and education to deliver the evidence base for change, to ensure we are acting effectively to deliver key science-based targets and wider outcomes, and to embed the skills and practices needed for more regenerative, natural capital-based approaches to farming and food.

PART 4

AMBITION LOOPS – INTEGRATING VOLUNTARY AND POLICY ACTION TO ACCELERATE CHANGE

The challenges we will face moving into the next 10-20 years will transcend debates about government intervention versus the will of the market—it will be on all of us, from wherever we stand in the food and agriculture system, to create the conditions for change and enable farmers to transform food production. It will be our choice, as we stand on the brink of a 1.5˚C heating world-a choice between stability or volatility, equitable shared value and resilience vs disruption and extraction. Currently our food and agriculture systems are not on course to deliver an ecologically safe and socially just future; indeed, we are far off. We risk embedding food poverty and poor nutrition, slowing our climate leadership, perpetuating extractive supply chain practices of past generations, and hampering our ability to grow to meet the demands of the UK's future resilience and renewal.

Accelerating voluntary action will be essential to enable positive social and environmental outcomes. At the same time, policy will need the level of ambition commensurate with the challenges we face. But how can public and private action work synergistically to create the fundamental shifts needed? The 'ambition loop' is a concept used in transition of the energy and forests sectors, where 'a positive feedback loop in which bold government policies and private sector leadership reinforce each other, and together take climate action to the next level'.[112] It emphasises the role of business in shaping public policy priorities: 'Governments must use this as a strong vote of confidence [from private sector action] and advance ambitious policies that provide companies with the clarity and confidence they need to unlock further investments in climate solutions.'

We are seeing signs of change emerging across the food and farming landscape. This begs the question, will the UK be a leader or laggard? These challenges cannot be left to the market or to the government alone–to achieve our goals, food, farming and the farmers on whom we depend will need to be at the centre of both private sector strategy and public policy. If we are to stand up to the greatest challenge in generations and have a chance to thrive and grow, we will depend on the resilience and regeneration of our food landscape.

These ambition loops centre on five key components:

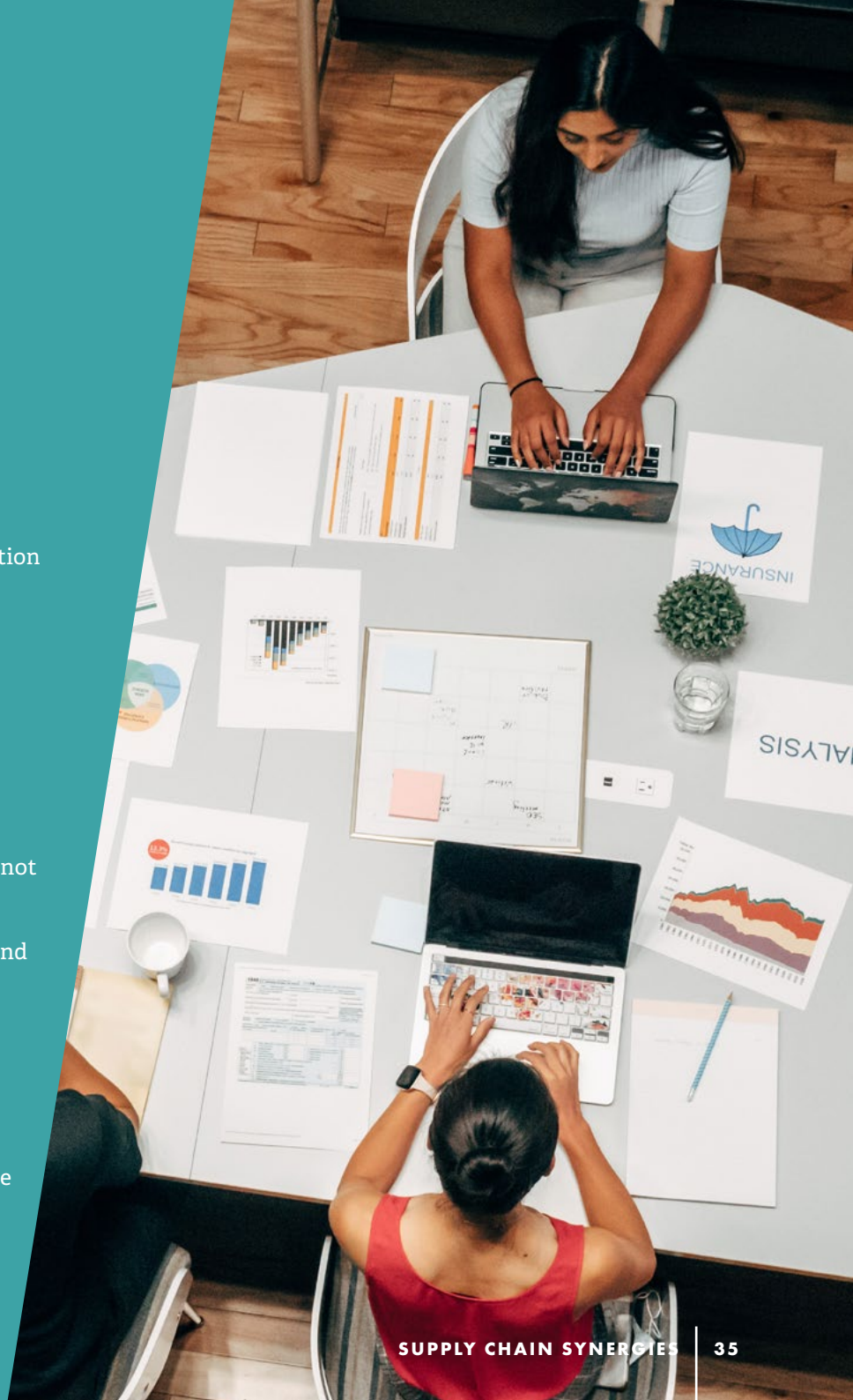
1. They deliver the core principles and outcomes of sustainable and equitable production of the right kinds of foods to deliver healthy available and affordable food for all—underpinned by nationally agreed targets

2. Good food and farming governance:
   - Ensuring the mechanisms that enable fair supply chain relationships are strengthened
   - Enabling integrated decision-making across sectors through development of clear land use frameworks that include food production and balance competing interests and ensure environmental vitality

3. Voluntary action in supply chains:
   - Delivering value through sustainable production and healthy consumption
   - Centred on and co-designed with farmers
   - Delivering equitable value and shared risk and investment with farmers during transformation
   - Realigned business strategy that unlocks levers for change across the supply chain and its enabling factors (such as finance and business advocacy)
   - Improved transparency of supply chains
   - Enabling of decentralised market and business models that can embrace resilience and diversity
   - Unlocking collective challenges through pre-competitive collaboration

4. Ambitious political leadership toward a reframed political economy:
   - Policy integration across key areas from planning to environment to nutrition to health
   - Enhanced supply chain governance toward equitable supply chain action
   - International trade policy that is supportive of social and environmental principles that do not stop at our borders—from supply chain practices to trade equivalency
   - Clear policy ambition that encompasses the potential for food production to enable land restoration and nutrition outcomes and creates frameworks for integrated approaches to land use and food production
   - Fosters cross sector collaboration
   - Supports development and utilisation of robust harmonised data for decision making
   - Invests in future-fit skills and education and engages farmers who are shaping new farming practices

5. Finance flows to support transformation:
   - Public and private investment links financial flows to environmental and social performance
   - Financial strategies focus on longer term value, patient and accessible capital
   - Investments help decentralised food networks and business models to replicate or scale
   - Finance is supportive of shared risk in farmer transition



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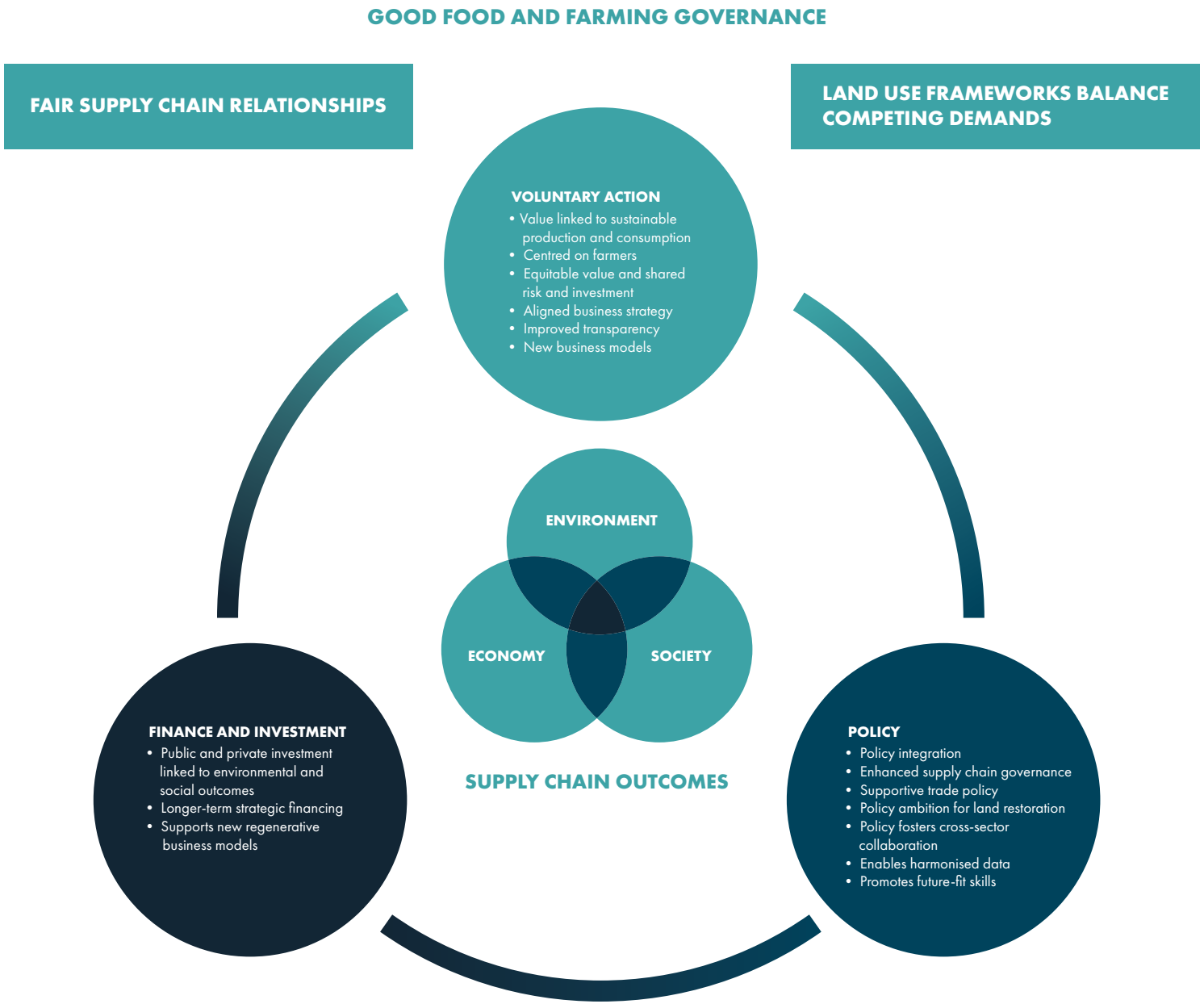

Diagram 5: Ambition loops for supply chain transformation

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CREDITS

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