



The inescapable truth: Brexit, business and natural capital

A working Paper by the Natural Capital Impact Group

The University of Cambridge Institute for Sustainability Leadership

For 800 years, the University of Cambridge has fostered leadership, ideas and innovations that have benefited and transformed societies. The University now has a critical role to play to help the world respond to a singular challenge: how to provide for as many as nine billion people by 2050 within a finite envelope of land, water and natural resources, whilst adapting to a warmer, less predictable climate.

The University of Cambridge Institute for Sustainability Leadership (CISL) empowers business and policy leaders to make the necessary adjustments to their organisations, industries and economic systems in light of this challenge. By bringing together multidisciplinary researchers with influential business and policy practitioners across the globe, we foster an exchange of ideas across traditional boundaries to generate new, solutions-oriented thinking.

The Natural Capital Impact Group

The Natural Capital Impact Group (NCIG) is a **global network of companies**, working collaboratively, to determine how business can sustain the natural world and its resources through its strategies and operating practices. The Group aims to influence its industry peers through the example of business practice, drawing on research-informed knowledge, processes and tools. Through its engagement with governments and the financial system, the Group seeks to create the economic conditions necessary for these practices to achieve scalable action.



Eleven leading companies currently participate in the NCIG. The following working paper is a result of the Group's efforts to engage with government and ensure that there is an enabling environment for corporate approaches to natural capital to succeed in the UK and more broadly.

Working paper

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Executive Summary

Brexit requires the United Kingdom to develop its own policy towards agriculture and rural land to replace the Common Agricultural Policy.

It is recognised that a competitive and resilient UK business is dependent on natural capital to provide a consistent supply of quality inputs to its supply chain, strong global reputation and brand, and happy and healthy staff and customers. Government is also in the process of developing a new 25-year plan for the environment. These policy changes will have implications on agricultural trade, farm subsidies, farm labour, environmental regulation and management and investment in the natural environment. Such factors will affect business competitiveness and resilience.

A strategy is needed that protects and improves natural capital in order to satisfy the needs of the public, business and the environment. Given the strong interest from business, the University of Cambridge Institute for Sustainability Leadership's Natural Capital Impact Group convened a group of stakeholders including policymakers and corporates at a summit to discuss a number of post-Brexit scenarios. The aim of the summit was to provide input into policy development by bringing together business and government to share their perspectives and co-develop the strategic direction of future policy.

The summit helped identify a number of recommendations regarding post-Brexit policy on natural capital. Key amongst those recommendations was the need for a 'rural' policy that would consider sectors beyond food which impact land use. Amongst an array of approaches, a 'British Ecosystem Services Policy' is a cross-sectoral rural policy that has the potential to deliver the greatest total value of ecosystem services from the land and provide a 'no-regrets' opportunity regardless of the outcomes of Brexit.

Business and policy makers have expressed a need to understand how natural capital could be integrated into new rural policy. This requires a well-designed support system to be developed, regulation to be put in place that recognises good practice, and to have trade deals that allow access to markets.

It is recommended:

- To create a rural policy white paper through collaboration with business and policy makers
- To leverage existing political will to enable a rural policy
- That this rural policy should build upon the British Ecosystem Services Policy that goes beyond food sectors to other land users and ecosystem service providers
- This policy should deliver the greatest total value of ecosystem services from the land, taking account of both marketed and non-marketed outputs
- The policy should be representative of the views of rural stakeholders including progressive businesses

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1. The challenge

Brexit requires the United Kingdom to develop its own policy towards agriculture and rural land to replace the Common Agricultural Policy. Government is also in the process of developing a new 25-year plan for the environment. These policy changes will have implications on agricultural trade, farm subsidies, farm labour, environmental regulation and management and investment in the natural environment. Such factors will affect business competitiveness and resilience. Business has expressed a need to understand how natural capital could be integrated into new environmental, food and farming policy.

Competitive and resilient UK business is dependent on natural capital to provide a consistent supply of quality inputs to its supply chain, protection from risks such as flooding, strong global reputation and brand, and happy and healthy staff and customers¹. The challenge is to develop agri-environment policy that supports both business and the natural environment and reflects the reality of a post-Brexit Britain.

2. The opportunity

Following Brexit there is a special opportunity to influence UK agricultural and environmental policy. Businesses are hungry to engage with policymakers and other stakeholders on these issues. They are keen to advise on the implementation of a natural capital approach² that considers their interests and their strategic objectives in an uncertain post-Brexit trade environment. As the UK negotiates its future relationship with the European Union and the rest of the world, a number of different policymaking platforms have emerged involving a broad range of stakeholder groups, including the Food, Farming and Countryside Commission. However, there is a need for businesses to provide their views on natural capital related policy changes.

The Cambridge Institute for Sustainability Leadership (CISL) is uniquely positioned to bring together business and policymakers to develop post-Brexit policy levers that can inform strategic planning for agri-environment policymaking. CISL convenes a global network of companies called the Natural Capital Impact Group (NCIG). This group of progressive multinationals is working with the University of Cambridge to co-develop, apply and embed innovative and enterprising approaches to protecting soil, water and biodiversity in their businesses. It is in the interest of business and policymakers to shape agri-environment policy that will allow continued productivity and competitiveness with longer term delivery of resilience and security of natural capital. Together they can develop a strategy for a new policy environment in which business can operate and both public and private actors can play their part in achieving national environmental goals.

3. Agri-environment policy summit

Given the strong interest from business, CISL's NCIG convened a group of stakeholders to discuss a number of post-Brexit scenarios. The aim of the summit was to provide input into policy development by bringing together business and government to share their perspectives and co-develop the strategic direction of future policy. The summit provided an opportunity for business leaders to understand and shape policy developments. Policymakers were provided with an opportunity to gain insight into the private sector perspectives on what approaches could work and where barriers might exist.

4. Business perspectives

CISL presented a framework of business-led post-Brexit scenarios at the summit. These were developed with CISL's NCIG. In each of the scenarios the impacts of different trade agreement outcomes on farmers, business and environment were explored. Prior to the summit, interviews were conducted with the companies to develop a better understanding of the business perspective. The high-level conclusions are summarised here.

The implications of Brexit effects

Companies provided insight into the assumed implications of Brexit and different drivers that would have an impact upon their business.

Five themes emerged:

- 1) Trade outcomes
- 2) Environmental regulation
- 3) Devolution
- 4) Labour and resourcing
- 5) Effect on UK investment

4.1 Trade outcomes

Business needs stability; there is a high level of uncertainty with regard to expected trade outcomes from Brexit. Companies expressed concern about the potential impacts of different trade outcomes to supply chains, particularly relating to inflation (price of food); also how government may respond in such cases. For example, a response to inflation could be to open UK markets to cheaper goods produced with lower environmental standards; this has implications both for the business and the natural environment. Depending on the trade deals that are agreed, companies noted that UK agriculture could become a low priority in comparison to other sectors such as finance.

4.2 Environmental regulation

Companies are keen to understand what environmental legislation might be enhanced, retained or removed as a result of Brexit. Clarity is needed on the impact of this on divergence from EU standards. It was suggested that this change in environmental standards may lead to companies having to produce 'niche' product lines for specific markets. The potential changes to planning regulation due to effects on protected area designation were also highlighted.

4.3 Devolution

The effect Brexit may have on intra-UK trade and the role the devolved governments could play was raised by some companies as an area that should be better understood. The companies noted that the type of farmer support mechanisms needed varied; the types of natural capital investment and level of priority placed on natural capital may also need to differ between countries.

4.4 Labour and resourcing

Companies raised concerns about the effect of Brexit on labour at the food production end of the supply chain. They also noted the high uncertainty in terms of the treatment of EU citizens in the UK and UK citizens in the EU, and the potential for 'brain drain'.

4.5 Effect on UK investment

Concerns were raised that the uncertainty around Brexit was leading to a discouragement, reduction or delay in UK business investment or a shift to investment outside the EU.

The implications on potential policy changes

Companies commented on the importance of different policy interventions related to agri-environment policy and natural capital policy. Six themes emerged:

- 1) Change in farm subsidies
- 2) Private investment in natural capital
- 3) Alignment of public and private investment in natural capital
- 4) Types of private investment
- 5) Redefining farming policy terms
- 6) Natural capital accounting and metrics

4.6 Change in farm subsidies

There was a strong consensus among the companies to explore both: a) a reduction in subsidies, due to the availability of government funding; and b) a shift away from payment based on the size of the farm to payment based on the outcome of a farmer's management. Companies felt that one or both of these changes were likely.

The impact of change in subsidies may vary in different agricultural sectors, depending on exposure to global market prices and dependence on subsidies as a proportion of their income. It was noted that those sectors for which a high proportion of their income was dependent on subsidies may be buffered to some extent by changes in trade deals. It was also highlighted that there was potential for different agricultural sectors to be treated differently by government in terms of level and type of subsidies provided. How subsidies are labelled could also be important (e.g. as farm support, social benefits or natural capital outcome based payments). It was suggested that labelling payments as natural capital payments could offer a form of competition for private natural capital investment.

4.7 Private investment in natural capital

Two major objectives for private investment in natural capital were highlighted by companies:

- to reduce external costs and enhance natural capital across supply chains
- to offer green infrastructure projects that replace or supplement hard engineering.

It was noted that government incentives (e.g. tax allowances, government co-investment, low-interest loans³) would be effective in increasing levels of private investment. Companies noted that gaining farmer

engagement in the concept of public and private investment in natural capital would be important; farmers need to understand and feel part of any scheme if it is to be effective.

On the other hand, concerns were raised about the risk of private investment leading to a hierarchy of types of natural capital, with greater investment and attention being focused on those aspects that provided high rates of economic return to the detriment of others.

4.8 Alignment of private and public investment in natural capital

The companies were asked to reflect on the alignment of private and public investment in natural capital. They considered whether public funds should primarily be directed towards those aspects of natural capital where there are mainly societal benefits, and conversely whether private investment should only be focused towards those aspects of natural capital where there is a clear commercial return to the business^{4,5}. They highlighted that while private investment would be motivated by commercial return, the concept of strict alignment was a little over simplistic for the following reasons:

- Specific ecosystem services or aspects of natural capital often have multiple beneficiaries which are difficult to disaggregate.
- Commercial beneficiaries may gain in different ways, for example, from direct economic return or reduced risk and enhanced resilience.
- If all subsidies are focused towards natural capital which has no clear commercial link this may affect UK farmer competitiveness.

There was some variation in response in terms of the likely proportion of private investment to public investment. Some argued that private organisations would make up the highest proportion of the investment, while others believe that “there was no need to look at the extremes of private investment” as this was unlikely.

4.9 Types of private investment and finance models

Companies highlighted that the type of investor would make a difference to the type of natural capital to be invested in and the investment role they could play. This may be influenced by the types and scale of benefits the investor would receive. For example insurance companies and water companies may benefit directly and be ‘major players’, whereas agri-food companies may benefit indirectly through increased resilience and may be smaller investors and facilitators.

Companies indicated that identifying the right co-investors and delivery partners was important. It was suggested that this includes learning from finance models that have been successful within the renewables sector. One comment reflected on how the investment market might develop. This highlighted that initial investment for large-scale green infrastructure projects (i.e. Natural Food Management) may come from investors looking for high rates of return, before this is transitioned on to a wider group of investors.

4.10 Redefining farming policy terms

The question was raised as to whether we need to redefine farming policy terms. If farmers diversify or change their activities to manage land to optimise the natural capital asset and production of ecosystem services through, for example, peatland restoration for flood regulation, would this still be considered farming in a legal sense? Is farming natural capital still farming? This could have an impact on the tax benefit which farmers currently receive and access to agricultural mortgage rates.

4.11 Natural capital accounting and metrics

It was expressed that companies are keen to set natural capital goals and outcomes alongside government. It was agreed that metrics⁶ to assess the current baseline and measure improvements need to be outcome driven, not onerous to measure, and assess return on investment from private and public funds.

5. Scenarios

Scenarios allow us to develop understanding of the effects of policy or management changes on possible futures. A scenario is neither a prediction nor projection but a systematic method to think creatively about complex, uncertain futures. The process of exploring scenarios can help to open up discussion, understand system dynamics and build co-operation between stakeholders.

Scenarios have been used in this work to investigate the effects of implementing various policy options within a range of Brexit trade outcomes. The impacts of these scenarios were assessed for farmers, business and the environment. This allowed exploration of what is needed from an agri-environment policy.

The different perspectives outlined above have assisted in the development of four scenarios:



These scenarios are each driven by the results of different trade outcomes. Subsidy and natural capital investment strategies are then applied to each of the scenarios. The scenarios can be categorised as follows:

	Trade deal	Government response	Subsidies	Investment	Outcome
Scenario 1 <i>Feed ourselves</i>	No trade deal with EU	Government does not alter tariffs	Subsidies remain	Regulation put in place to incentivise investment in natural capital	<ul style="list-style-type: none"> • Price increases • Productivity increases • Quality issues • Regulation benefits environment
Scenario 2 <i>A few pence more</i>	Deal with EU	Government does not seek additional deals outside EU	Subsidies are halved	Government incentivises investment from private sources on aspects of natural capital which benefit sustainable agricultural performance	<ul style="list-style-type: none"> • Small price increases • Small productivity increases • Consolidation within sectors • Performance-focused investment benefits environment and farmers
Scenario 3 <i>Open UK markets</i>	No trade deal with EU	Government reduces UK import tariffs to zero	Subsidies remain	Public and private investment in non-agricultural land	<ul style="list-style-type: none"> • Price decreases • Productivity decreases • Alternative income to farmers from environmental land management
Scenario 4 <i>Feeding new markets</i>	Deal with EU	Government agrees trade deals with other non-EU countries	Subsidies are removed	Government invests in natural capital through British Ecosystem Services Policy	<ul style="list-style-type: none"> • Price declines to be competitive • Production increases • High opportunity cost to producing ecosystem services • Investment benefits environment

5.1 SCENARIO 1 – FEED OURSELVES

Trade outcome: No deal with the EU means that the UK adopts tariffs equivalent to the EU Most Favoured Nation (MFN) Tariffs. As a result, imports from and exports to the EU become prohibitively expensive. The UK focuses on self-sufficiency in food production.

Trade and policy drivers

Trade outcome

No deal with the EU means that the UK adopts tariffs equivalent to the EU Most Favoured Nation (MFN) Tariffs. As a result, imports from and exports to the EU become prohibitively expensive. Lack of competitiveness of UK farming on global markets and lack of market access means there is limited provision for export to non-EU countries. Loss of EU third party agreements means that UK imports from non-EU countries are reduced. It is assumed the UK chooses not to negotiate with either the EU or the World Trade Organization for a share of import Tariff Rate Quotas (TRQ). The UK focuses on self-sufficiency in food production.

Natural capital investment strategy

The government applies environmental legislation which set standards on the state of natural capital set out by the 25-year environment plan and makes the associated reporting mandatory. Subsidy payments will continue to be linked to the basic payment scheme, however cross compliance will be based on assets' condition as opposed to activities. The environmental stewardship scheme remains but is focused on activities which are evidenced to achieve above the minimum asset standards. The new regulation drives investment and innovation from farmers and businesses within the agri-food supply chain to reduce natural capital externalities.

Scenario 1 Feed Ourselves

Natural Capital Investment Strategy: New environmental regulation which set natural capital based standards to drive private natural capital investment.

Farming Sector	Trade Impact	Price	Production	For Farmers	For Business	For Environment
Grazing Livestock, Poultry and Pig meat	Increase domestic demand due to increase in tariffs + trade admin costs on EU imports and loss of sheep TRQ's	↑	↑	<ul style="list-style-type: none"> ✓ Increase in farm income and production ✓ Increased environmental resilience ✗ More red tape ✗ Increase in costs 	<ul style="list-style-type: none"> ✗ Cost: Increase in cost of raw material for supply chain ✗ Quality: Decline in quality of goods (Beef, lamb and horticulture) ✗ Supply: High variability in lamb prices due to ✗ Need to develop increase processing (meat/diary) capability in the UK (maybe good for national level businesses) ✗ Reduced environmental resilience with in the supply chain ✗ Further increase in raw material costs due to increased regulation 	<ul style="list-style-type: none"> ✗ Increases in production across all sectors ✗ Potential for increase in agricultural externalities ✗ Potential increases in requirement for increases in cropping area for cereal production and grazing
	Offset to some extent by issues of carcass sharing (cattle, pig and poultry) and seasonality (sheep)					
Dairy	Loss of SMP export so milk being shifted to cream production			<ul style="list-style-type: none"> ✗ Increase in costs 	<ul style="list-style-type: none"> ✗ Need to develop increase processing (meat/diary) capability in the UK (maybe good for national level businesses) 	<ul style="list-style-type: none"> ✓ Protection of environment through increased regulation
	Increase domestic demand created by tariffs + trade admin costs on imports	↑	↑			
	Loss of TRQ's on Butter and Cheese Imports					
Cereals and Oil seed	Increase in demand due to increase in Dairy and Livestock production	↑	↑	<ul style="list-style-type: none"> ✗ Increase in costs 	<ul style="list-style-type: none"> ✗ Further increase in raw material costs due to increased regulation 	<ul style="list-style-type: none"> ✓ Protection of environment through increased regulation
	Partially offset by decline in demand for Oilseed rape from EU due to export tariff and admin cost					
General Cropping and horticulture	Increase in domestic demand created by tariffs and trade admin costs and loss of TRQ's from sugar	↑	↑	<ul style="list-style-type: none"> ✗ Increase in costs 	<ul style="list-style-type: none"> ✗ Further increase in raw material costs due to increased regulation 	<ul style="list-style-type: none"> ✓ Protection of environment through increased regulation

Figure 1. Scenario 1: Feed ourselves. Arrows indicate direction and level of change. Text and arrows represent effects of trade outcome. Text in blue boxes represents natural capital investment strategy.

Impacts

Effects of trade outcome

As all sectors are net importers, except cereals, the addition of tariffs on EU imports requires an increase in production to meet UK demand. In some cases surplus produce is used to replace imports (for example barley for maize) as a result of the loss of the EU export market. Cereal demand also increases to meet the needs from additional livestock production. Livestock production increases will be offset somewhat by issues of carcass sharing and seasonality.

The trade affects results in a positive outcome for farmers in terms of increased production and farm income. It has a negative impact on companies owing to increased costs within the supply chain due to increases in food prices. The quality of goods accessible to the UK supply chain will be reduced due to more carcass cuts being used in the UK and issues of seasonality. The UK will need to increase processing capability (as much of this is done within the EU); this may benefit companies at a national level, but increase costs for multinational companies at least in the short term. Increased production across all farming sectors has the potential to raise agricultural external costs and lead to increases in cropping area.

Effects of subsidy and natural capital investment strategy

Enhanced regulation will aim to protect the environment but may increase costs for farmers and companies. However, regulation may act as a driver to encourage innovative thinking, investment in natural capital and sustainable intensification techniques from farmers and companies to address the impacts of increased agricultural production and avoid exploitative practices. However, it is likely to require investment and increase costs in the short term.

5.2 SCENARIO 2 – A FEW PENCE MORE

Trade outcome: The UK creates a successful UK–EU Free Trade agreement. Increased costs from trade administration of 5 to 8 per cent mean that imports and exports to EU and non-EU countries cost a little more.

Trade and policy drivers

Trade outcome

The UK creates a successful UK–EU Free Trade agreement. Increased costs from trade administration of 5 to 8 per cent mean that imports and exports to EU and non-EU countries cost a little more. A lack of competitiveness of UK farming on global markets and lack of market access result in limited provision for new imports or exports from non-EU countries.

Natural capital investment strategy

Subsidies are cut by 50 per cent. Both direct payments and payment for environmental stewardship schemes are halved. Cross compliance applies to the remaining SPS (Single Payment Scheme) payment. A proportion of the funds saved are used by government to develop an incentive scheme that allows farmers and business to make decisions that focus on restoring the natural capital assets important for improvement in agricultural performance.

Scenario 2- A few pence more

Subsidy Effect: Reduction in subsidies by 50% (direct payments and environmental stewardship scheme)
Natural Capital Investment Strategy: Government uses a proportion of funds saved in subsidy payment to incentivises private investment in restoring the natural capital assets important for improvement in agricultural performance.

Farming Sector	Impact	Price	Production	For Farmers	For Business	For Environment
Grazing Livestock, Pig meat	Small increase in domestic demand due to increased trade admin costs on imported goods from the EU	↑	↑	<ul style="list-style-type: none"> ✓ Small increase in farm income and production. 	<ul style="list-style-type: none"> * Small increase in cost of raw material for supply chain. 	<ul style="list-style-type: none"> * Small increase in production. * Potential for increase in agricultural externalities.
Dairy and General Cropping	Small increase in domestic demand due to increased trade admin costs on imported goods from the EU	↑	↑	<ul style="list-style-type: none"> * Fall in farmer income due to reduction in subsidies * Some consolidation particularly those sector highly dependent on subsidies 	<ul style="list-style-type: none"> * Small reduction in environmental resilience with in the supply chain. 	<ul style="list-style-type: none"> * Potential need for increases in cropping area for cereal production and grazing.
Cereals and Oil seed	Small increase in demand due to increase in de diary, grazing, pig production and poultry Partially offset by small decreases in price and production Oil seed and Barley, due to reduction in exports due to trade admin costs	↑	↑	<ul style="list-style-type: none"> ✓ sustainable performance improvement in farmers ✓ Lower costs mean UK can supply at a lower cost access EU markets 	<ul style="list-style-type: none"> ✓ Supply declines due to sector consolidation are offset by investment to enhance sustainable performance, e.g. sustainable intensification ✓ Increased resilience 	<ul style="list-style-type: none"> ✓ Restoration of natural assets closely associated with agricultural productivity * Trade off with investment in other aspects of Natural Capital, less emphasis on providing broader social value
Horticulture and Poultry	Small increase in domestic demand due to increased trade admin costs on imported goods from the EU	↑	↑			

Figure 2. Scenario 2: A few pence more. Arrows indicate direction of change and size of arrows level of change. Text and arrows represent effects of trade outcome. Text in blue boxes represent impacts of subsidy (white text) and natural capital investment strategy (black text).

Impacts

Effects of trade outcome

As most sectors are net importers, the increase in administration costs on imports from the EU allows the price of UK goods to shift upwards. The increased cost of imported goods from the EU leads to a small increase in demand for UK produce, increasing levels of production. Increase in livestock production drives increases in UK cereal production. This is partially offset in some sectors by a fall in UK prices and demand for commodities for which the UK is a net exporter (i.e. barley and oilseed). There will be a negative impact on the environment due to increased UK production.

Effects of subsidy and natural capital investment strategy

Reduction in subsidies will lead to a loss of income for farmers. Some potential restructuring and consolidation is likely in sectors for which subsidies make up a high proportion of farm income. The drop in income is much higher and is not offset by any gain from the trade outcome. The poorest performing farmers and those with high debt may go out of business, with the land likely being taken over by others in their sector. While farm income will decline, this will have a limited effect on farm production or food prices. However, lower farm incomes will mean farmers have to maintain yield but at lower costs (i.e. improve performance) to remain in business. Government incentives such as tax allowances will encourage farmer and business investment in restoring the natural capital assets important for improvement in agricultural performance. This may be at the expense of those areas of the environment which have less direct link to agricultural production and may therefore receive less investment.

5.3 SCENARIO 3 – OPEN UK MARKETS

Trade outcome: No deal with the EU leads to the UK unilaterally dropping all UK tariffs on agricultural products to zero. Agricultural imports which are produced more cheaply, potentially with differing welfare and environmental standards, will enter the UK. For some commodities the UK prices are currently significantly higher than global market prices, which will lead to a reduction in UK domestic prices and UK production.

Trade and policy drivers

Trade outcome

No deal with the EU leads to the UK unilaterally dropping all UK tariffs on agricultural products to zero. Agricultural imports which are produced more cheaply, potentially with differing welfare and environmental standards, will enter the UK. Increases in trade administration costs due to the loss of the customs union and EU third party agreements will offset some of this effect on UK prices. For some commodities UK prices are currently significantly higher than global market prices, which will lead to a reduction in UK domestic prices and UK production. While phytosanitary and technical standards may protect UK farmers from some international competitors in some cases, government may choose to reduce standards to make UK farmers more competitive in global markets.

Natural capital investment strategy

Government establishes a framework through legislation which encourages private investment in the management of land for non-agricultural use. Emphasis is placed on nature-based solutions as an alternative to grey infrastructure.

Scenario 3: Open UK Markets

Natural Capital Investment Strategy: Government establishes a framework through legislation which encourages private investment into managing land for non-agricultural use. Emphasis is placed on nature based solutions as an alternative to grey infrastructure.

Farming Sector	Impact		Price	Production	For Farmers	For Business	For Environment	
Grazing Livestock, pig and poultry and general cropping	Poor price competitiveness between UK and global for mean that global prices + trade admin costs are lower than UK prices leading to a significant decrease in UK demand	Reduction in agricultural production provides opportunity for Natural Capital Investment on land for nature based solution	↓	↓	<ul style="list-style-type: none"> ✘ Decrease in farm income and production ✘ Poorest performing farmers and farmers with high debt may go out of business. 	<ul style="list-style-type: none"> ✓ Decline in prices for input to the supply chain ✘ Supply chain expands to be more global in nature, which may make it more difficult to manage (exchange rates etc.) 	<ul style="list-style-type: none"> ✓ Decline in production across all groups ✓ Potential for decrease in agricultural externalities 	
Dairy	Poor price competitiveness for butter on the global market mean that demand for UK butter production declines Decline in EU demand for milk powder due to tariffs and trade admin costs		↓	↓				
Cereals and Oil seed	Decline in EU demand and UK production for Barley and Rape seed oil due to increased EU export tariffs and admin costs		Provide alternatives to less sustainable use of land (i.e. house building)	↓	↓	<ul style="list-style-type: none"> ✓ Alternative income generation 	<ul style="list-style-type: none"> ✘ Higher variability in environmental standards for food coming into the UK may impact on marketing. 	<ul style="list-style-type: none"> ✘ Variability in environmental standards for food coming into the UK increases. This may encourage a less regulated UK system
	Decline in demand due to declines in live stock sectors			↓	↓			
Horticulture	Competitive prices of UK goods on the world market mean that there is a small increase in UK prices and production due to increase in UK import admin costs		↑	↑		<ul style="list-style-type: none"> ✓ Opportunity to invest in and facilitate ecosystem system service markets 	<ul style="list-style-type: none"> ✓ Major investment in large scale natural capital solutions interventions 	

Figure 3. Scenario 3: Open UK markets. Arrows indicate direction of change and size of arrows level of change. Text and arrows represent effects of trade outcome. Text in blue boxes represent impacts of subsidy and natural capital investment strategy (black text).

Outcomes

Effects of trade outcome

For a number of commodities the UK is not competitive in global markets. This leads to a reduction in UK agricultural production in most sectors as a result of being outcompeted by cheaper goods from around the world entering the UK market. Cereal production, although globally competitive in price for some commodities (wheat), faces a decline in demand due to a reduction in livestock production. This in turn leads to a reduction in land use across the UK. This is further compounded by the loss of EU exports due to tariffs imposed by the EU. This drives down farm incomes and leads to the poorest performing farmers going out of business.

Effects of subsidy and natural capital investment strategy

To fill this gap government legislation encourages private investment in natural capital for nature-based solutions (i.e. low-interest loans etc.); this encourages sustainable management of the land for ecosystem services and provides a sustainable alternative income generation for farmers and rural communities. Agri-business may be less inclined to invest in Payments for Ecosystems Services (PES) schemes as many of the supply chains and associated externalities will be overseas. Payments could be focused on providing regulating services such as flood control and carbon sequestration. Major private investment may come from insurance companies and tourism sectors. There may be an expansion of the tourism industry around visiting 'wild Britain' and outdoor activities. This could be facilitated by the reintroduction of charismatic climax species with high cultural values. This may potentially lead to a long-term shift in culture, size and structure of rural communities.

Companies benefit from declines in price of raw material inputs, but have to contend with a more complex supply chain, with materials coming from a wider range of countries and potentially higher variability in standards. The UK environment benefits from a reduction in agricultural production and investment in nature-based solutions. However, with an increased amount of food consumed in the UK produced outside the country this has potential for outsourcing our environmental externalities.

5.4 SCENARIO 4 – FEEDING NEW MARKETS

Trade outcome: Britain establishes a UK–EU Free Trade agreement and non-EU trade agreements. Britain gains access to growing markets for agricultural products through new Free Trade Agreements. In some agricultural sectors UK farmers' poor ability to compete in global markets results in poor export opportunities and opening UK markets to global competition.

Trade and policy drivers

Trade outcome

Britain establishes a UK–EU Free Trade agreement and non-EU trade agreements. Britain gains access to growing markets for agricultural products through new Free Trade Agreements. Increased costs from trade administration of between 5 to 8 per cent for import and export to the EU and non-EU countries mean that food prices will be impacted. In some agricultural sectors UK farmers' poor ability to compete in global markets results in poor export opportunities and opening UK markets to global competition.

Natural capital investment strategy

All subsidies are removed and a British Ecosystem Service Policy (BESP) introduced⁵. Public payments are provided to any landowner who is best able to provide public goods. A framework is established to allow payments for ecosystem services from both public and private sources.

Scenario 4: Feeding new markets

Subsidy Effect: Removal of all farm subsidies
Natural Capital Investment Strategy: A British Ecosystem Services Policy is applied. A framework for ecosystem services markets is established and public payments are provided to any landowner who are best able to provide public goods

Farming Sector	Impact	Price	Production*	For Farmers	For Business	For Environment
Grazing Livestock, and Pig meat	Poor competitiveness of UK prices in global markets for Beef and Sheep meat mean that global prices + trade admin costs are lower than UK prices leading to a decrease in UK demand	↓	↑	✖ Poor price competitiveness in global markets from a number of sectors means farmers can't take advantage of new market opportunity created by new FTA's. In many cases this leads to a decline in UK prices and production as sectors are more exposed to global markets ✖ Poorest performing farmers go out of business ✔ High performing farmers expand to become net exporters with access to global markets	✔ Decline in prices for input to the supply chain ✖ Supply chain expands to be more global in nature for some commodities, which may make it more difficult to manage (exchange rates etc.) ✔ Higher variability in environmental standards for food coming into the UK. May impact on marketing. ✔ Low price material available from the UK for supply chains	✔ Decline in production for most sectors – partially offset by increases in wheat and horticultural production ✔ Potential for decrease in agricultural externalities in most sectors ✔ Potential decreases in requirement for cropping area for grazing ✖ Increase production in all sectors to meet demand in new markets as well as UK demand ✔ May incentivise farmers to intensify in a sustainable way
Dairy	Poor price competitiveness for butter on the global market mean that demand for UK butter production declines Export admin costs reduces the competitiveness of milk powders in new markets.	↓	↑			
General Cropping	Poor price competitiveness for sugar on the global market mean that demand for UK sugar production declines	↓	↑			
Cereals and Oil seed	Due to it competitive price on the global market wheat shifts to net export due to increased market opportunities due to FTA Partially offset by reduction in UK demand of Livestock and less competitive prices of barley and oil seed	→	↑	✖ Limited impact from subsidy reduction		
Poultry	Poor competitiveness of UK prices in global markets for Poultry mean that global prices + trade admin costs are lower than UK prices leading to a decrease in UK demand	↓	↑	✔ Gain opportunity to increase income further through providing public environmental goods		
Horticulture	Due to it competitive price on the global market horticulture shifts to net export (constrained to some extent by shelf life of products)	→	↑			

Figure 4. Scenario 4: Feeding new markets. Arrows indicate direction of change and size of arrows level of change. Text and arrows represent effects of trade outcome. Text in blue boxes and blue arrows represent impacts of subsidy (white text) and natural capital investment strategy (black text).

Outcomes

Effects of trade outcome

Fairtrade agreements outside the EU mean that the UK now has access to new growing markets for its agricultural goods. Those sectors in which the UK is competitive on prices are able to increase production to become global exporters, for example cereals (wheat) and horticulture. However, for many commodities UK farmers are not competitive in terms of global prices. For these sectors, being open to new markets results in a decline in prices and a lowering of production as cheaper goods are imported to the UK from these new markets.

Effects of subsidy and natural capital investment strategy

To increase the competitiveness in these sectors the government may choose to cut subsidies to zero. The combined effects of increased competition from global markets and removal of subsidies would result in a major consolidation and restructuring of a number of agricultural sectors (for which subsidies make up a high proportion of their income), due to loss of farm income. Poor-performing farmers will go out of business, resulting in high-performing sectors which are able to compete in global markets. This may result in the UK shifting from being a net importer of agricultural goods to becoming a major global exporter, which would lead to an increase in production and the potential increase in land in agricultural use.

Public and private investment from the BESP may encourage farmers to intensify in a more sustainable way, incentivised by payments. Progressive farmers may be able to replace a large proportion of the subsidies lost through these payments. However, payments may need to be high to offset the opportunity cost farmers may occur from a focus on environment over production. The potential for global export may lead to very high opportunity costs for farmers to produce ecosystem services. However, it may be that public payments from the BESP are focused towards less productive or remaining non-agricultural land owing to poor uptake by farmers due to their focus on production.

Agri-food business may be a significant investor in natural capital through PES to ensure resilience within supply chains. Companies will benefit from a decline in supply chain costs due to a reduction in prices from both trade outcomes and the consolidation of sectors which occurs due to subsidy reduction. However, there may be some variability in supply while farming sectors are going through the consolidation process.

6. Outcomes of the summit

The scenarios outlined above were explored at the Brexit summit. Participants helped identify a number of recommendations regarding post-Brexit policy on natural capital. Key points raised in the discussions included: the need to be ready for 'no deal'; flexibility across the UK; and a requirement for a new 'rural' policy.

It was agreed that the UK must be prepared for 'no deal'. No trade deal is likely to mean that politicians focus on economic gains rather than environmental protection. The UK must ensure the environment is not ignored. UK businesses are dependent on natural capital across the country to provide a consistent supply of quality inputs to its supply chain, which stimulate the UK economy. This further underlines the need for policies that support the UK's natural capital. The government must be prepared to address food security if the UK is not self-sufficient. In doing so, there will be considerable debate over whether agriculture will intensify or increase its geographic footprint, both of which have implications for environmental sustainability. No trade deal would also limit UK farmers' access to agri-chemicals which are currently sourced from the EU.

Policy instruments are needed to support increases in productivity that don't come at the expense of natural capital. Driving natural capital investment through profitability is a better route to motivate farmers than using regulation. Government incentives (e.g. tax allowances, government co-investment, low-interest loans) would be effective in increasing levels of private investment in natural capital. They must align business and environmental outcomes with incentives from government. Public and private partnerships should be actively encouraged.

Flexibility across the UK is important. The government must plan for land use across different regions, e.g. upland/lowland and east/west. Tools should be provided to support farmers with market volatility.

A new 'rural' policy should be considered. This should consider sectors beyond food which impact land use and natural capital. A new 'rural' policy should incorporate energy, water, etc. and not focus on agricultural

policy alone. The policy should focus more broadly on different forms of land use and enable mixed income streams for farmers, including the option of PES. The promotion of a BESP⁵ is one option that can potentially support the long-term social value that is delivered from ecosystems in the UK. Public funding could be used to support the delivery of specific ecosystem services where these are not adequately provided through markets. There is also an option to support upland communities for environmental outcomes with a social payment. It is important that messaging is carefully managed to avoid any misunderstandings, particularly around how potential new policies will impact farmer livelihoods.

7. A 'no-regrets' rural policy

"We should be paying [farmers] and rewarding them for the ecosystem services they provide – not giving them a subsidy and saying they should be grateful, ..."

George Eustice, Minister of State at Defra in an interview with *Farmers Weekly*

As the Brexit summit drew to a close there was widespread agreement of the need for 'rural' policy. A new 'rural' policy would need to consider sectors beyond food which impact land use and natural capital and not focus on agricultural policy alone. The policy would need to focus more broadly on different forms of land use and enable mixed income streams for farmers, including the option of PES. One of the better examples of what this new 'rural' policy might look like is the BESP, a concept that has been co-developed by David Gawith and Ian Hodge in the Department of Land Economy at the University of Cambridge.

The BESP is cross-sectorial rural policy approach to deliver the greatest total value of ecosystem services from the land. It aims to support the development of PES schemes for private investment in natural capital alongside providing public payments for those goods and services for which the benefit falls to society as a whole and which have no clear commercial beneficiary. Payments are provided to those who achieve standards above those set by regulation. It would provide an option for farmers to diversify income generation through the provision of ecosystem services. It also provides opportunity for other landowners (e.g. conservation charities) to receive payments to produce ecosystem services from both public and private investment. The main operation of the BESP would be through the government buying services on behalf of society, using public procurement funds. Public funding would be used to support the delivery of specific ecosystem services where these are not adequately provided through markets. A BESP has the potential to provide 'no-regrets' solutions in this period of uncertainty, satisfying the needs of the public, business and the environment.

The intention is that the BESP supports the establishment of private PES schemes alongside public payments for ecosystem services. While it will not directly incentivise private investment in natural capital, the BESP will support the establishment of private PES schemes through the development of infrastructure that is underpinned by a natural capital approach. The governance structure and administration established could support the administration of private alongside public payments. These structures could also play a role in co-ordinating the alignment of public and private investment to meet targets at national and local levels. A new administrative and information management system would need to be developed, and this will allow evaluation of outcomes from both private and public investment against a baseline state of natural capital.

Business has a number of potential roles in the development of the BESP:

- The governance infrastructure created may provide incentives for private investment in natural capital.
- Business will play a role in defining which ecosystem services can be provided by markets and which will require public support. Business needs to work alongside and consult with procurement funds and local environmental governance organisations. These organisations could have business advisory groups which assist in providing information on the current state of markets for private investment in natural capital. This may have a number of benefits:
 - It will ensure that public investment does not act as a disincentive for private investment in natural capital.
 - It will avoid the development of a hierarchy of ecosystem services in which those ecosystem services with a higher rate of private return on investment receive greater funding than those that benefit society as a whole.
 - Depending on the Brexit trade outcome, the BESP may play a different role in the development of PES markets and the need for public payments. For example, under Scenario 1 markets may develop for soil quality and reduction of agricultural externalities vs Scenario 3 where markets may develop for large-scale green infrastructure and reforestation projects. Business may have a good insight into these changes and strong ability to provide advice based on its close links to markets.
- Business will need to be able to evaluate the outcomes of its investment through PES schemes. It will be in the interest of business to work alongside the public organisations within the BESP to develop baselines for the state of natural capital (which consider both the stocks and flows) and develop measures and metrics to assess improvements from payments.
- Business may be keen to have a role in setting the environmental standards within the BESP to ensure a level playing field nationally.

8. Recommendations

Business has expressed a need to understand how natural capital could be integrated into new environmental, food and farming policy, preferably a rural policy.

Competitive and resilient UK business is dependent on natural capital to provide consistent supply of quality inputs to its supply chain, protection from risks such as flooding, strong global reputation and brand, and happy and healthy staff and customers. A strategy is needed that protects and improves natural capital in order to satisfy the needs of the public, business and the environment. This could be delivered by a new rural policy.

It is recommended:

- To create a rural policy white paper that addresses the inescapable truth that there is a special opportunity to develop UK agricultural and environmental policy to the benefit of business and society

- To leverage existing political will to enable a rural policy
- That this rural policy should build upon the British Ecosystem Services Policy that goes beyond food sectors to other land users and ecosystem service providers
- This policy should deliver the greatest total value of ecosystem services from the land, taking account of both marketed and non-marketed outputs
- The policy should be representative of the views of rural stakeholders including progressive businesses

9. Conclusion

Brexit has generated concern about the future of food, farming and the environment in the UK. However, despite these concerns there is also a special opportunity to ensure that a natural capital approach is embedded in future policy. The Brexit summit helped identify a number of recommendations regarding post-Brexit policy on natural capital. There was widespread agreement of the need for a 'rural' policy that would consider sectors beyond food which impact land use and natural capital and not focus on agricultural policy alone. The advancement of the BESSP has the potential to provide a 'no-regrets' option, satisfying the needs of the public, business and the environment. Members of the Natural Capital Impact Group are committed to continue working collaboratively with policymakers to ensure that any new policy will provide an enabling environment that supports private investment in natural capital.

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