

Wildlife and
Countryside



A future Sustainable Farming and Land Management Policy for England

A Wildlife and Countryside Link discussion paper

September 2017

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About Wildlife and Countryside Link

[Wildlife and Countryside Link](#) brings together 46 environment and animal protection organisations to advocate for the conservation and protection of wildlife, the countryside and the marine environment.

The proposals set out in this paper apply to England, and have been developed with the Soil Association, in consultation with Greener UK and Sustain. Our partners in [Scottish Environment Link](#), [Northern Ireland Environment Link](#) and [Wales Environment Link](#) have published briefings and papers setting out their priorities for future policy. Working together, we aim to secure more sustainable farming and land management across the UK.

Summary

Leaving the European Union (EU) is a seismic event for farming and the environment in the UK, and one that will need a policy response of a similar magnitude. After decades of frustratingly slow, iterative ‘reform’ of the Common Agricultural Policy (CAP), there is a widespread recognition that farming and land management policy is in need of a significant overhaul. Brexit offers a once in a generation opportunity to achieve this, something that the Secretary of State recently referred to as an ‘unfrozen moment’.

Recognising this opportunity, this paper sets out the initial thinking of Wildlife and Countryside Link on a post-Brexit Sustainable Farming and Land Management policy for England. Initially, we make the case for change and then look at the bones of a future policy through the questions of why, what and how? We then look at five key policy dependencies that will need to be ‘got right’ in order to make this policy area a success: policy coherence; transition; innovative approaches to finance; devolution and common frameworks; and trade policy.

The case for change

One of the striking things about the current agriculture policy debate is the high degree of consensus around the need for change. Here, we make this case, assessing the many failures of the CAP, specifically Pillar I direct payments, which are summarised as ineffective, inefficient and inequitable. We don’t however start from a blank sheet of paper, and it is important to recognise that we have three decades of experience with the design and implementation of agri-environment and woodland grant schemes. Whilst these have not always been perfect, when well designed, targeted and supported by advice, they provide a proof of concept for the core of a future policy.

Why a Sustainable Farming and Land Management policy?

We are not however complacent. In the future, public spending on farming and land management will have to be justified alongside other essential public services, such as health and education. Although the commitment to match current levels of spending until the end of this Parliament provides some certainty, before and beyond this every pound of expenditure will have to carry a clear and robust justification.

Our first question therefore is *why* do we need a policy, and what should its focus be? Here, we start with the urgent challenge associated with achieving environmental objectives and securing public goods, and the importance of land management to these, to establish the need for policy interventions to secure more sustainable land management. However, we also recognise that there is a legitimate role for Government to play in supporting a productive agricultural sector, resilient to external shocks.

Using the HM Treasury Green Book as a further guide, specifically the focus on market failure, we assess the range of market failures relevant to agriculture and land management. From these, the range of public goods associated with farming and land management, and existing public policy objectives, we have arrived at the following top level objectives for a future policy –

1. Restoring our natural capital
2. Building resilience and managing risk
3. Promoting sustainable, innovative and humane production

Having identified these headline objectives, the key question becomes one of balance and focus, and we make a clear case that the overriding purpose of a Sustainable Farming and Land Management

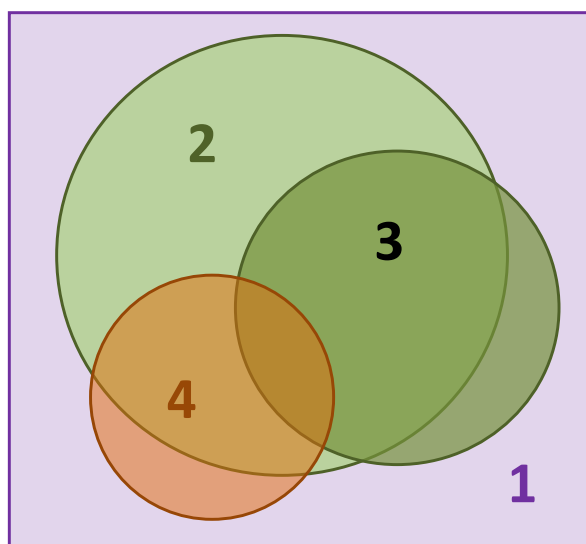
policy should be to restore the natural and historic environment, and drive progress toward more sustainable and humane production. This would make a major contribution to the 25 year Environment Plan's aim of ours being the first generation to leave the environment in a better state than we found it. This is based on an assessment of the intervention logic against a range of different policy outcomes, and the fact that farmers and land managers are uniquely placed to address the range of environmental challenges that we face as a nation.

Given the strength of consensus about the rationale for intervention to secure environmental goods and services, putting the environment first in a future policy is also the best way of securing a long-term funding settlement for the sector, and the stability that agriculture needs.

What policy design is needed?

Based on this assessment of need, case for investment and ten principles developed in early 2017 by Wildlife and Countryside Link and Greener UK, we suggest the following four components for a future Sustainable Farming and Land Management policy.

1. **Effective regulation.** A strong legislative baseline, providing an effective foundation for public investment.
2. **Environmental Land Management contracts – comprehensive.** Universally available payments to address widespread environmental objectives.
3. **Environmental Land Management contracts – targeted.** A range of measures to support more targeted actions and outcomes, ranging from established public policies such as higher-level agri-environment payments to more novel and innovative mechanisms.
4. **Measures to promote production that is resilient, sustainable, innovative and humane.** A range of measures to support advice and training, as well as targeted capital grants and loans



These proposals would see a phasing out of direct payments, in preference for support provided on a programmatic, contractual basis, with every pound of public money invested linked to a specific action or result, in line with clearly defined policy objectives. This model builds on the concept of agri-environment and woodland grant schemes specifically, and rural development programmes more broadly, but envisages a step change in the scale of activity and ambition.

Implementing a Sustainable Farming and Land Management policy?

With debates about future policy, there has been as much focus on the 'how' as the 'what', with significant discussion about who should be responsible for implementation decisions, at what scale these should be made and what the balance should be between the local and the national.

Putting this to one side, we reiterate some of the basics that need to be established, irrespective of these debates. First and foremost amongst these is the need to invest in expert and trusted advice, widely recognised as central to the success of past, present and future environmental land

management policy. Secondly, there is a need to ensure that there are the right systems and processes in place to support implementation, particularly fit for purpose IT systems, an issue that has dogged previous rounds of CAP implementation. Thirdly, we encourage Government to adopt a partnership approach to policy development and implementation, recognising the range and diversity of different stakeholders who have an interest in the future of farming and land management policy. And finally, there is a need to develop a well-resourced monitoring and evaluation framework to facilitate continuous improvement.

With this as the starting point, we have sought to marry the need for local flexibility and leadership with the equal need to ensure that a Sustainable Farming and Land Management policy delivers against national and international objectives and obligations. We therefore propose a continued role for a lead national agency to remain accountable for both elements of the Environmental Land Management contracts, within a national framework that is 'permissive', allowing for significant local leadership and innovation. This would involve a range of state and non-state actors, and a key challenge will be to ensure that it allows for sufficient flexibility, whilst maintaining a coherent national offer.

Five key dependencies

The detailed policy proposals here are relatively narrow in focus, concerned primarily with agricultural production and environmental land management, and the role of public policy in improving outcomes from these. Clearly, these issues do not exist in a vacuum, and we have therefore considered a range of other areas that will have an important influence, to the point where there are a range of key dependencies between these five issues, and the success of a Sustainable Farming and Land Management policy.

1. **Policy coherence.** The proposals set out in this paper will interact with, and depend on, a range of other key policy areas, including rural, food, trade, environment and climate change. Interventions to secure more sustainable production and land management will make a key contribution to these and others. Similarly, policies in these areas will be key to supporting the success of farming and land management policy.
2. **Transition.** We recognise the need to secure a managed transition, and welcome the commitment to maintain funding to the end of the current Parliament. It is critical though that Government set a clear direction of travel from the outset, and that this transition period is pre-defined. Here we suggest a three phase approach, between 2020 and 2025.
3. **Innovative finance.** Although public policy will remain critical in the long term, Government cannot be expected to pay for everything. Expanding the funding available to drive restoration of the natural environment will need private sector and non-Governmental finance, and here we explore a range of emerging options to scale up and mainstream these contributions.
4. **Devolution and common frameworks.** The CAP currently provides a common framework for policy across the UK. Although these proposals are for England, establishing a new framework to maintain a degree of coherence within the UK will be important. Given the political sensitivities associated with this question, we argue that this framework can only be developed through a consensus between the UK Government and devolved administrations, and urge them to engage on this issue now, to ensure that it does not derail ambitious reform in the future.
5. **Trade policy and World Trade Organisation (WTO) rules.** Trade policy will play a major role in determining the regulatory and economic context in which the sector operates. Ensuring that trade policy supports the objectives of a Sustainable Farming and Land Management policy by putting high standards at its core will be essential. Similarly, new policies will be informed by WTO rules on domestic support, and we highlight opportunities to be innovative within these rules in order to create an effective and attractive policy that secures a range of public goods.

Introduction

The purpose of this paper is to explore the key issues that will shape farming and land management policy after the UK leaves the EU, and to build the case for a significant environmental focus in any future policy in England. It is primarily a discussion paper, intended to establish a common understanding of key issues across Wildlife and Countryside Link, build on the ten principles we developed earlier in the year and create a platform for future conversations.

We envisage a future policy applying to all rural land as appropriate, including farmland, woodland and other habitat types. References in the paper to ‘farming and land management’ should therefore be read as including a wide range of land uses, habitat types and land-based activities.

As predominantly environmental, countryside and animal welfare organisations, our focus is on these issues. Our intention is to use this discussion paper as the starting point to engage with other farming and rural stakeholders and the Government, to secure a thriving future for farming and land management, and policies that deliver better outcomes for people, animals and the environment.

Leaving the European Union (EU) will be one of the most defining events for farming and the environment in living memory. Currently, the EU provides the overwhelming majority of policy relevant to agriculture and land management, including funding, regulation and trade.

As new policies are developed in these areas, it is inevitable that there will be significant change, for farmers, land management and the environment. It is essential that this change is managed proactively to ensure that we end up with a system which delivers better outcomes for people and the environment.

Public policy will have a key role to play in this, but it is by no means the only priority. Taking steps to secure more private and non-governmental funding for nature, engaging with consumers and retailers to green the supply chain and working with the farming community will all be key. This broader picture is partly covered toward the end of this paper in Section 7, which looks at innovative funding models.

Recognising the links across different areas of public policy is also essential to creating a coherent framework, and overcoming the confusion created by often incoherent EU policies¹. This does not necessarily mean creating a single policy to address food, farming, environment and public health objectives, but instead recognising the links between these different areas, and ‘designing in’ coherence from the outset. This paper therefore focuses on proposals for a Sustainable Farming and Land Management policy for England, which will focus on creating a resilient and productive agricultural sector that sustains and enhances the natural environment, upon which the sector’s future, and our health and wellbeing depends.

In plotting out a route to future policy, we recognise that we need to start where we are now. This means understanding what the Common Agricultural Policy (CAP) currently provides, and setting out the case for change. We make this case in Section 1, but we also explore proposals to manage the

¹ For example, eligibility requirements for Pillar I direct payments can directly contradict the environmental objectives of Pillar II schemes, by indirectly incentivising the removal of habitats such as scrub, and dis-incentivising habitat creation.

transition from where we are now to where we want to be in the future in Section 6, recognising the need to manage change carefully for both farming and the environment.

The core of this paper is a proposal for a Sustainable Farming and Land Management policy for England, through the lens of *why*, *what* and *how*². Section 2 interrogates the main areas where public intervention may be needed with regard to rural land use and agriculture, focusing primarily on environmental objectives, resilience and risk management and securing production that is sustainable, innovative and humane. Here, we aim to address *why* a future policy should focus primarily on environmental objectives. Section 3 then sets out *what* a broad architecture for a future policy should be, and explores some of the relevant issues, and questions that need to be answered. In turn, Section 4 sets out the interactions with a range of other related policy areas for maximum effect, and Section 5 explores *how* this policy could be implemented.

Recognising the importance of the wider context, the final two sections of this paper then go onto consider the implications of devolution and trade for this policy area.

The Agriculture Bill announced in the Queens Speech this year will provide a once in a generation opportunity to secure farming and land management policies that deliver better environmental outcomes for everybody, alongside a thriving farming and land management sector, investing public money to secure clear public benefits. Recognising the need to manage change carefully, it is essential that the Agriculture Bill sets out an ambitious agenda for reform and clear direction of travel. This discussion paper should be read in that context, and sets out the environmental sectors initial thoughts on the need for reform, and the shape of future policy in England.

Section 1: The case for change

It is important to recognise that a lot of EU legislation has been good for the environment in the UK, and has been crucial to many of the environmental improvements seen in the last four decades³. The Urban Waste Water Treatment Directive, Water Framework Directive and Bathing Waters Directive have been instrumental in driving improvements in water quality, whilst recent reviews by the UK Government⁴ and European Commission⁵ have demonstrated that the Birds and Habitats Directives remain fit for purpose. EU legislation on farm animal welfare has also driven up standards in areas such as pig and egg production and consumer awareness of higher welfare schemes, though a large number of farmed animals are still not protected through specific legislation⁶.

Leaving the EU presents significant risks to these legislative protections, and the way in which this legislation is transposed through the European Union (Withdrawal) Bill will be of critical importance if we are to create a solid basis on which to build in the future. Unlike some other areas of EU policy however, the CAP has for a long time been identified as in need of significant reform, and leaving the EU presents the opportunity to secure a decisive break from the CAP, and establish our own ambitious policy.

Established in the 1950s to meet specific post-war challenges, the CAP is one of the oldest common policies in the EU. Between the 1970s and 1990s the policy was associated with driving over-

² This borrows from Buckwell, A. et al (2017), CAP – Thinking Out of the Box: Further modernisation of the CAP – why, what and how? RISE Foundation, Brussels. <http://www.risefoundation.eu/publications>

³ IEEP (2016), The potential policy and environmental consequences for the UK of a departure from the European Union. Report for WWF UK, RSPB and The Wildlife Trusts

⁴ HM Government (2012), Report of the Habitats and Wild Birds Directives Implementation Review

⁵ Milieu, IEEP and ICF, Evaluation Study to support the Fitness Check of the Birds and Habitats Directives, March 2016

⁶ Broom D (2017) Animal welfare in the European Union. Study for the EP Peti Committee [http://www.europarl.europa.eu/RegData/etudes/STUD/2017/583114/IPOL_STU\(2017\)583114_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2017/583114/IPOL_STU(2017)583114_EN.pdf)

production through market price support and coupled payments⁷, which in turn caused environmental degradation⁸, animal welfare problems⁹ and significant negative impacts on developing countries. Reforms through the 1990s and 2000s achieved some change, particularly the decoupling¹⁰ of payments from production¹¹. However, the pace of change has slowed, and the evidence suggests that the 2013 reform will fail to meet the core objective of improving the environmental performance of the CAP¹².

The policy is currently centred around two ‘pillars’; Pillar I (the European Agricultural Guarantee Fund – EAGF), which provides area-based direct payments and Pillar II (the European Agricultural Fund for Rural Development – EAFRD), which funds Rural Development Programmes. The latter contains agri-environment schemes, alongside a range of other mechanisms¹³.

Between 2014 and 2020, 38% of the EU budget will be spent on the CAP, amounting to over €350 billion. Of this, the vast majority remains allocated to direct payments to farmers (72% of the CAP, or 28% of the EU budget). The CAP as it exists on the 29th March 2019 is likely to be the starting point for building post-Brexit food, farming and environment policies in England and across the UK. Recognising the benefits and flaws of the CAP is therefore essential for understanding why change is needed and what it might look like.

Pillar I Direct Payments: Inefficient, ineffective and inequitable

Direct payments still dominate the CAP. The reasons for this are primarily political¹⁴ – there is little evidence that they contribute toward more resilient and sustainable agriculture in the EU. There is a wealth of literature on this subject, but a recent paper by Alan Matthews¹⁵ clearly sets out the case for change, and can be summarised under three headings.

1. Ineffective

The link between direct payments and the objectives of the CAP is poorly defined. The Commission set out the primary objectives to which direct payments should contribute in the 2015 Management Plan for DG AGRI¹⁶, a summary of which is reproduced here in Figure 1.

⁷ Coupled payments refer to payments per unit of output, for example per head of cattle or tonne of wheat.

⁸ Portugal, L (2002) OECD work on defining and measuring subsidies in agriculture.

<http://www.oecd.org/site/agrehs/35215642.pdf>

⁹ EFSA 201 Scientific opinion concerning the welfare of animals during transport. EFSA Journal www.efsa.europa.eu/en/efsajournal/pb/1966

¹⁰ In the context of the CAP, ‘decoupling’ refers to shifting the basis of payments from volume of production to area in order to reduce market distortion.

¹¹ E. Schmid et al. (2007) Phasing out of environmentally harmful subsidies: Consequences of the 2003 CAP reform, Ecological Economic 60: 596-604

¹² Hart K (2015), Green direct payments: implementation choices of nine Member States and their environmental implications, IEEP London.

¹³ More information on the 2013 reform and the evolution on the CAP can be found at

https://ec.europa.eu/agriculture/sites/agriculture/files/policy-perspectives/policy-briefs/05_en.pdf

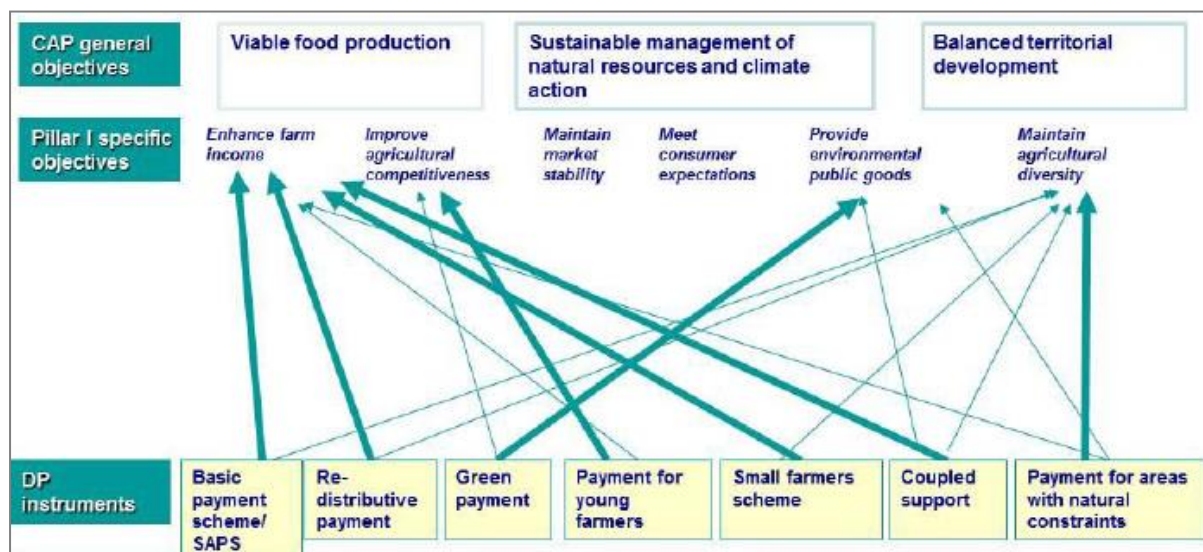
¹⁴ Initially introduced as compensation for the removal of support prices in 1992, direct payments were later decoupled from production in 2003. Politically and economically necessary at first, the ‘adjustment’ and compensation logic of direct payments has since faded, and they are now increasingly difficult to justify. For more information, see

<http://www.reformthecap.eu/blog/how-can-direct-payments-be-justified-after-2013>

¹⁵ Matthews, A. (2017), Why further reform? RISE Foundation, Brussels.

¹⁶ Directorate-General for Agriculture and Rural Development, (2014), Management Plan 2015.

Figure 1 – Intervention logic for Pillar I direct payments



Taken from DG AGRI Management Plan, 2015

The aims of payments covered by the Direct Payments Regulation (including the recently introduced greening payment) is to enhance farm incomes, improve agricultural competitiveness, provide environmental public goods and maintain agricultural diversity.

As Matthews observes, these payments have been “...variously justified as contributing to higher farm incomes, as a necessary support for food security, as providing a safety net for farmers against unexpected market shocks, as compensating for higher regulatory standards and as ensuring more sustainable management of natural resources. These are all important objectives of farm policy, but there is little evidence that decoupled area-based payments are an effective...way of achieving these objectives.”

Specifically, area-based direct payments tend to benefit the farmers with incomes above the EU median, create ‘leakages to unintended beneficiaries’ and maintain a structure of agriculture that may create the conditions for low farm incomes, and inhibit generational renewal.

On the environment, Matthews also observes that the “...fact that the maintenance of permanent grassland requirement and the crop diversification obligation have led to minimal changes in land use, and the fact that the great majority of the land enrolled in EFAs is used for productive options, are pointers that the additional environmental benefits, relative to the pre-greening baseline, in return for the expenditure of €12 billion annually are likely to be low.”

2. Inefficient

This point is inherently bound up with the first. If area payments are not an effective means to meet policy objectives, they must by default be inefficient. This is largely a function of the way in which direct payments are designed. Based on individual entitlements, the level of payment is not related to the target value of the outcome, or the cost of meeting a given objective for the farmer or land manager. For example the Pillar I greening payment accounts for 30% of direct payments, or 9% of the EU budget, but there is no relationship between the amount paid and the cost of delivering the target outcomes. This contrasts directly with Pillar II agri-environment schemes, where payments are

based on income-foregone and costs incurred, and therefore represent a potentially more efficient means of securing a given objective.

The inefficiency of direct payments has a significant impact on the ability of the EU to meet its environmental objectives. Although the direct environmental degradation driven by the CAP has lessened since most payments were de-coupled¹⁷, a series of environmental indicators has seen ongoing decline in the last two decades. Some examples are given in Box 1 below, and highlight that, despite spending 40% of the EU budget on agriculture, significant negative environmental impacts continue. This is indicative of the fact that the CAP has failed to do enough to address these impacts, and restore the damage done by previous payment regimes.

Box 1 – Impact of agriculture on the natural and historic environment in England

The 2016 State of Nature report¹⁸ highlighted that nature remains under pressure across England. Work to inform the report also identified that agriculture has been, and remains, the biggest driver of biodiversity decline across the UK¹⁹. The numbers of farmland birds have declined by 54% since 1970, whilst the populations of priority species overall have declined by 33% in the same time frame²⁰.

Declines in pollinators in recent decades have been dramatic and of wide concern, and are already known to be affecting the health of ecosystem services²¹. Between 2009 and 2014 49% of British bees declined in distribution while only 29% increased²², figures that are likely to underestimate the changes in population numbers. The overall number of moths has decreased by 28% since 1968 and 67% of species are in decline²³. The repercussions of continued declines in key groups of pollinators for agriculture and the health of our environment would be profound.

Beyond biodiversity, soil degradation in England and Wales costs £1.2 billion per year²⁴, and agricultural management is both the single biggest cause of pollution incidents in England²⁵, and the sector responsible for the greatest number of water bodies failing to meet Good Ecological Status²⁶. Agriculture accounts for a tenth of all UK greenhouse gas emissions and, according to the Committee on Climate Change, the “...voluntary nature of the industry-led GHG Action Plan to reduce emissions in this sector and the lack of effective monitoring do not provide confidence of future abatement.”²⁷

Agricultural management is the single greatest threat to Ancient Scheduled Monuments, affecting 34% of the scheduled monuments on the risk register²⁸.

¹⁷ Although support to intensive agriculture through remaining coupled payments remains significant – see Baldock, D. and Mottershead, D.H. (2017) Towards an integrated approach to livestock farming, sustainable diets and the environment: challenges for the Common Agricultural Policy and the UK, Institute for European Environmental Policy, London.

¹⁸ Hayhow DB, et al (2016) State of Nature 2016. The State of Nature partnership.

¹⁹ Burns F, Eaton MA, Barlow KE, Beckmann BC, Brereton T, Brooks DR, et al. (2016) Agricultural Management and Climatic Change Are the Major Drivers of Biodiversity Change in the UK. PLoS ONE 11(3): e0151595.

²⁰ Defra (2017), Biodiversity 2020: a strategy for England’s wildlife and ecosystem services, Indicators

²¹ Garratt, M.P.D, et al. (2013) Avoiding a bad apple: Insect pollination enhances fruit quality and economic value. Agriculture, Ecosystems & Environment, Vol. 184.

²² <http://jncc.defra.gov.uk/page-6851>

²³ Butterfly Conservation (2013) The State of Britain’s Larger Moths 2013.

²⁴ Cranfield University (2011) Cost of soil degradation in England and Wales. Report for Defra.

²⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/553537/Pollution_incidents_2015_evidence_summary.pdf

²⁶ <https://ea.sharefile.com/share?#/view/s0faa355450243538>

²⁷ <https://www.theccc.org.uk/charts-data/ukemissions-by-sector/agriculture/>

²⁸ <https://historicengland.org.uk/advice/heritage-at-risk/archaeology/scheduled-monuments-at-risk/>

Solutions exist to many of these problems, but to date, the response through the CAP has been insufficient to address the scale of the challenge.

3. Inequitable

Given the concentrated nature of land ownership in the EU and UK, the uniform per ha rate²⁹ and area-based nature of direct payments means that most of the budget goes to a relatively small number of farmers and landowners, with around 80% of direct payments going to 20% of farmers and farm businesses. This is shown in Figure 2 below, which illustrates the concentration of direct payments amongst a minority of beneficiaries. As Matthews points out, these tend to have income above the median. If the purpose of direct payments is to support farm incomes, this is both ineffective and inequitable.

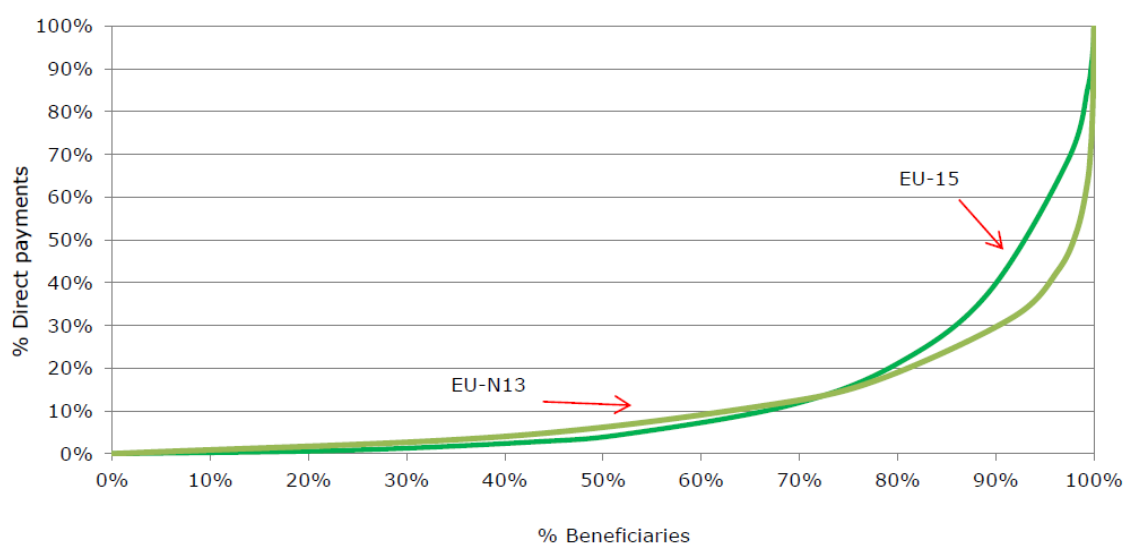


Figure 2 – Distribution of direct payments between beneficiaries in the EU³⁰

More importantly, as a consequence of being both ineffective and inefficient, direct payments are inequitable for society as a whole. Taxpayers do not get a fair return on investment, and citizens do not get a countryside that delivers the things they want and need, such as functioning ecosystems providing abundant wildlife, clean water and resilience to climate change.

Although the analysis by Alan Matthews and wider study by Buckwell et al is a recent distillation of why change is needed, this builds on a wealth of analysis over time that comes to the same conclusion³¹. However, the failings of direct payments do not tell the whole story about why England needs to move on from the CAP when the UK leaves the EU.

Pillar II Agri-environment schemes: proof of concept

The introduction of Pillar II with the Agenda 2000 reforms signalled a major reform of the CAP. The contractual, programmatic structure of Pillar II-funded Rural Development Programmes (RDPs)

²⁹ Recognising the split in England between the three different Basic Payment Scheme (BPS) payment regions.

³⁰ DG AGRI, (2016), Report on the Distribution of Direct Aids to Agricultural Producers (Financial Year 2015). Brussels: European Commission Directorate-General for Agriculture and Rural Development

³¹ For example, see Tangermann, S, (2011), Direct payments in the CAP post-2013 and Buckwell, A, (2009) Elements of the post-2013 CAP

stands in marked contrast to Pillar I, and (in theory at least) addresses many of the underlying structural causes of the inefficiency discussed above.

A compulsory part of the CAP since 1992, agri-environment schemes (AES) have emerged as the main tool used in England to achieve a range of terrestrial and fresh water environmental objectives³². In terms of design, AES are inherently better suited to meeting clearly defined environmental objectives than area-based payments with associated conditions, the model adopted for Pillar I greening. This is set out in more depth in Box 2 below.

Box 2 – Pillar I ‘greening’ and Pillar II agri-environment schemes compared

On the face of it, the purpose of Pillar I greening measures and Pillar II agri-environment schemes is the same – to secure environmental outcomes, and improve the environmental performance of the land based sectors. The two approaches though are very different. The agri-environment model provides a more cost effective and efficient way of securing environmental outcomes. We have illustrated this here by setting out a range of criteria needed for environmental land management interventions to be effective, and identifying whether these are met by either of the two approaches as they are currently deployed in England.

Criteria for effectiveness	Pillar I greening	Agri-environment
Multi-annual for longer term outcomes	✗	✓
Targeted to local priorities	✗	✓
Supported by advice	✗	✓
Programmed expenditure, creating a link between level of payment and scale of action and/or result	✗	✓
A clear, contractual approach	✗	✓
Evidence-based interventions	✗	✓

Failures of greening could be addressed up to a point – interventions could be more evidence based for example – however, particular flaws, such as the lack of any link between the level of payment received and action taken for the environment, create structural weaknesses in the concept.

The evidence suggests that, when these schemes are well designed and well implemented and building from a baseline of effective regulation, they can provide significant benefits for farmers and the environment.³³ As Defra recognise, “Pillar II schemes are the single most important funding source across the UK for biodiversity...”³⁴, and they are similarly important for a range of other objectives. It is therefore hard to overstate the importance of these schemes to environmental land management in England and the rest of the UK.

Achievements of targeted agri-environment expenditure over the last three decades include the recovery of species such as the curl bunting and marsh fritillary, improvements in water quality

³² UK evidence to the Fitness Check of the Nature Directives,

http://ec.europa.eu/environment/nature/legislation/fitness_check/evidence_gathering/docs/Member%20State%20Stakeholders/Nature%20Protection%20Authorities/UK/MS%20-%20UK%20-%20NPA%20-%20EGQ.pdf

³³ Mountford, J.O. & Cooke, A.I. (editors), Amy, S.R., Baker, A., Carey, P.D., Dean, H.J., Kirby, V.G., Nisbet, A., Peyton, J.M., Pywell, R.F., Redhead, J.W. & Smart, S.M. 2013. Monitoring the outcomes of Higher Level Stewardship: Results of a 3-year agreement monitoring programme. Natural England Commissioned Reports, Number 114.

³⁴ UK evidence to the Fitness Check of the Nature Directives,

http://ec.europa.eu/environment/nature/legislation/fitness_check/evidence_gathering/docs/Member%20State%20Stakeholders/Nature%20Protection%20Authorities/UK/MS%20-%20UK%20-%20NPA%20-%20EGQ.pdf

through Higher Level Stewardship (HLS) and Catchment Sensitive Farming and significant interventions to restore some of our most important historic sites and features.

Despite these successes however, various factors have limited their effectiveness to date, both in England, and across the rest of the UK and Europe. These can include poor design³⁵, inadequate systems and processes³⁶, a dominance of low value for money options³⁷ and poor targeting³⁸, amongst others. Even if all schemes were well designed though, and all agreements were of high quality, this would not be sufficient to meet England's environmental objectives given the limited budget associated with agri-environment and RDPs to date. After inter-pillar transfers, spending on AES in England represented just 22% of agricultural payments to farmers and land managers under the CAP, at a total of £394m in 2015³⁹.

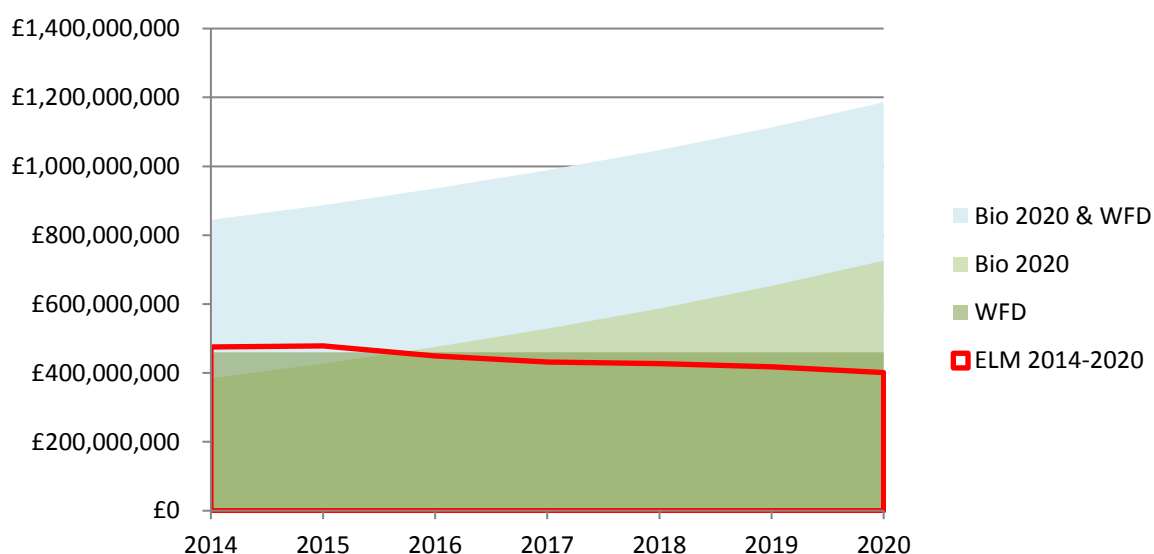


Figure 3 – RDPE funding for Environmental Land Management between 2014 and 2020 set against Biodiversity 2020 and Water Framework Directive cost estimates

When looking at the 2014-2020 CAP period, and considering cost estimates for just biodiversity⁴⁰ (England Biodiversity Strategy) and water quality⁴¹ (requirements associated with the Water Framework Directive), Figure 3 above shows that the scale of need for these two objectives alone significantly exceeds the budget available to environmental land management (ELM) under existing Environmental Stewardship (ES) agreements and new Countryside Stewardship (CS) agreements.

This is brought into sharp relief by the example in Box 3 below, which highlights the gap between what is needed to restore farmland bird populations, and the resources available under current agri-environment schemes.

³⁵ Boatman, N. 2013. Evaluating the impacts of limiting free choice in management option selection by Entry Level Stewardship applicants. Natural England Commissioned Reports, Number 117.

³⁶ National Audit Office (2016), Progress on the Common Agricultural Policy Delivery Programme. Report by the Comptroller and Auditor General

³⁷ GHK (2012), Dynamic Deadweight in Environmental Stewardship: Towards a better understanding of the added benefits of the scheme. Final Report for Defra

³⁸ Defra/Natural England (2008), Environmental Stewardship Review of Progress

³⁹ Defra (2015) Agriculture in the UK. These figures refer to Environmental Stewardship payments (ES) as a proportion of total payments under ES and the Single Farm Payment. They do not include Woodland Grant Schemes.

⁴⁰ Natural England (2013), Statutory and policy commitments in relation to the delivery of terrestrial biodiversity through agri-environment schemes. Report for Defra

⁴¹ Defra (2013) Implementation of CAP reform in England: Consultation document

Box 3 – Farmland birds and higher-tier agri-environment schemes

Surveys of 68 farms in England's Higher Level Stewardship (HLS) scheme during 2008, 2011 and 2014 in three contrasting English regions showed significant increases in abundance of some farmland birds compared to 291 Breeding Bird Survey (BBS) squares lacking bird friendly options⁴². In Oxfordshire and East Anglia, the 19 species on the Farmland Bird Index⁴³ (FBI) increased by 37% between 2008 and 2014, against a decline in the wider farmed landscape of 14%. In the West Midlands, the effect of HLS was even larger, with an increase in the FBI of 165% on HLS farms, against a wider decline of 24%.

However, in this case, the significant impact of HLS on individual farms has not been sufficient to reverse the decline in the wider landscape due to the lack of scheme coverage. In order to stabilise farmland bird populations, the authors of this study estimate that between 20-35% of the FBI populations would need to be subject to HLS-type management. This compares to ~14% during the study period. The lesson to take for future policy is that in many instances we know how to recover wildlife, but previously the budget for these schemes has been too limited. Leaving the EU and the CAP presents the opportunity to reallocate the available funding, and increase the scale and intensity of action at a landscape scale. Doing so is essential if we are to reverse the declines in biodiversity, and meet the Secretary of State's aim of restoring nature within a generation.

As the primary funding mechanism for land management in England and set against the estimated scale of need for land management interventions to deliver biodiversity and water quality objectives alone, it is clear that the available budget for agri-environment schemes has never been sufficient to meet these challenges, regardless of how well schemes are designed or implemented.

This does not mean that the agri-environment model is broken. It is a good starting point, and the examples of success noted above demonstrate proof of concept – we know what works.

Leaving the EU now provides the opportunity to build on this evidence and experience, and design a policy that goes much further, and provides the tools and mechanisms to address the environmental declines referred to in Box 1 and create a thriving farming sector and vibrant countryside for future generations.

Section 2: Why a Sustainable Farming and Land Management Policy?

If the previous section examined the case for change, this section sets out why we need a Sustainable Farming and Land Management policy in England, and why the focus of this policy should be improving environmental outcomes from agriculture, forestry and other forms of land management.

Given the scale of the challenge set out in Box 1 above, there is a clear case and need to support better environmental land management to deliver against a range of environmental objectives. From the findings of the recent State of Nature report, to the SWOT analysis undertaken for the 2014-2020 Rural Development Programme for England (RDPE)⁴⁴ and associated impact

⁴² Walker, L.K, et al (in review), Temporal and regional variation in farmland bird responses to a higher-tier agri-environment scheme

⁴³ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/541593/agindicator-de5-29jul16.pdf

⁴⁴ Defra (2014) United Kingdom – Rural Development Programme (regional) - England

assessment⁴⁵, there is a significant body of evidence that identifies the pressing need to achieve more sustainable land management, and the benefits that this would provide (see Box 4).

Box 4 – Benefits of investing in environmental land management

Investment in more sustainable environmental land management provides a range of benefits across a range of different areas. The following examples illustrate this for three different areas; rural economic growth, the provision of ecosystem services and the importance of enhancing the environment for rural tourism.

Economic Growth – A 2011 study⁴⁶ found that every £1 invested in Environmental Stewardship generated output in the local economy of £1.42, a figure which increased to £2.23 for Higher Level Stewardship (HLS). The impact assessment for the RDPE found an environmental focus with maximum inter-pillar transfer to provide the best value for money, with a benefit:cost ratio of 2.7:1 with £5089m of benefits against £1867m of costs.

Ecosystem services – Priority habitats in the UK have been estimated to provide £1.36 billion of benefits per year⁴⁷, with investment in Sites of Special Scientific Interest (SSSI) in England and Wales returning £956m of benefits, against spending of £111m in 2010⁴⁸, a benefit:cost ratio of 8.6:1. A recent paper⁴⁹ found that creating habitats such as wildflower margins across 8% of an arable farm had no adverse impact on crop yield, and in some cases led to increased yields through improved pollination and promotion of crop pest predators, whilst Devon Wildlife Trust⁵⁰ efforts to restore Culm grassland should provide carbon and water benefits in the region of £20.5m against expenditure of £2m.

Rural tourism – Rural tourism spend in England stands at around £10 billion per year.⁵¹ In 2004 the consultancy GHK estimated that 60% of rural tourism is dependent on high quality landscape and wildlife, yielding £5 billion in gross value added and supporting 192,000 Full Time Equivalent (FTE) jobs⁵². Wildlife engagement is also a significant part of the rural tourism offer in and of itself. Scottish Natural Heritage (SNH) estimated that Scottish rural tourism is worth £1.4 billion per year and wildlife tourism makes up £127 million or 9% of that⁵³. English tourism figures show that ~14% of rural tourists engage directly in wildlife watching⁵⁴.

⁴⁵ Defra (2013), Impact Assessment for the Rural Development Programme for England, 2014 to 2020

⁴⁶ CCRI (2010), Estimating the Incidental Socio-economic Benefits of Environmental Stewardship Schemes. Report for Defra.

⁴⁷ Christie et al. (2011) Economic Valuation of the Benefits of Ecosystem Services Delivered by the UK Biodiversity Action Plan. A Report to Defra.

⁴⁸ GHK (2011) Benefits of SSSIs in England and Wales. A report to Defra.

⁴⁹ Pywell, R.F., et al (2015) Wildlife-friendly farming increases crop yield: evidence for ecological intensification. Proc. R. Soc. B 2015 282 20151740;DOI1098/rspb.2015.1740.

⁵⁰ Cowap. C., et al (2015) The Economic Value Of Ecosystem Services Provided By Culm Grasslands. Report for Devon Wildlife Trusts.

⁵¹ <https://www.visitbritain.org/destination-types>

⁵² <https://www.cbd.int/financial/values/unitedkingdom-valueenviron.doc>

⁵³ <http://www.snh.gov.uk/docs/B720765.pdf>

⁵⁴ Data from <https://www.visitbritain.org/destination-types> shows that 18% of all trips in England are rural.

<https://www.visitbritain.org/archive-great-britain-tourism-survey-overnight-data> shows that in 2014 there were 92.61 million trips in England and so there were approximately 16.7 million rural trips in that year. 2.35 million trips were specifically for wildlife watching which is 14% of all rural visits.

Much of this is set out in the 2010 paper ‘Making Space for Nature’⁵⁵, which identified the pressing need to create a more coherent and resilient ecological network by focusing on more, bigger, better, and joined up habitats in order to create more connected landscapes. Leaving the EU and reforming agricultural policy provides a clear opportunity to achieve these landscape scale outcomes and the ‘step change’ identified as necessary by Professor Lawton in his foreword to the report.

Given this weight of previous evidence and analysis, the case for investing in more sustainable and humane production and better environmental land management through public policy is solid. The main question therefore is why focus future public expenditure on this, as opposed to other areas identified by Ministers as priorities for the future, namely risk management and agricultural productivity.

Clearly there is a legitimate role for Government in supporting a productive agricultural sector, resilient to external shocks, and our proposals envisage a role for public policy in these two areas. However, previous analysis, much of it by Defra, builds a compelling case for why the focus of any future policy should be on maintaining and improving the environment and the value of our natural capital.

Our case starts with the HM Treasury Green Book,⁵⁶ which sets out a clear justification for public intervention, focusing on two key factors –

1. Market failure
2. Distributional objectives, based on equity considerations

The approach of the UK Government to agriculture has, in recent times, centred on market failure as the primary justification for intervention. This was implicit in the 2005 Defra/HMT paper ‘A Vision for the Common Agricultural Policy’⁵⁷, and addressing ‘public good market failure’ was identified by the 2014-2020 RDPE Programme Document as the principal weakness that needed to be addressed.

This is consistent with some key international organisations, particularly the Organisation for Economic Cooperation and Development (OECD), who recently identified addressing the following subjects of market failure as providing the central logic for public agriculture policies⁵⁸ –

- a. Agricultural research and innovation systems
- b. Investment in education and skills
- c. Investment in strategic physical infrastructure
- d. Support for elements of risk that cannot be absorbed by private risk markets or by farmers themselves
- e. Negative (e.g. pollution) and positive (e.g. biodiversity) externalities

Of these, Defra have consistently identified securing environmental public goods (positive externalities) as a primary focus of agriculture policy and funding, as set out in Box 5 below. Promoting sustainable rural development more generally by investing in (a), (b) and (c) above has also featured prominently in England’s Rural Development Programmes.

⁵⁵ Lawton, J.H., Brotherton, P.N.M., Brown, V.K., Elphick, C., Fitter, A.H., Forshaw, J., Haddow, R.W., Hilborne, S., Leafe, R.N., Mace, G.M., Southgate, M.P., Sutherland, W.J., Tew, T.E., Varley, J., & Wynne, G.R. (2010) Making Space for Nature: a review of England’s wildlife sites and ecological network. Report to Defra.

⁵⁶ HM Treasury (2011) The Green Book: Appraisal and Evaluation in Central Government.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf

⁵⁷ HM Treasury and Defra (2005), A Vision for the Common Agricultural Policy

⁵⁸ Defra/Agricultural Economics Society conference, May 2017 - http://www.aes.ac.uk/upload_area/pdf/Jonathan_Brooks.pdf

Box 5 – Defra statements on CAP reform and the environment, 2005-2017

“A sustainable CAP would comprise... a clear framework, set at EU level, to define the goals of EU agricultural policy, focussing in particular on maintaining the environment and promoting sustainable rural development...” (A Vision for the Common Agricultural Policy, Defra/HMT, 2005)

“It [Rural Development] delivers significant public goods in the way that the direct subsidy payments simply cannot. My view is that it unquestionably represents the better use of taxpayer’s money.” (Ministerial foreword, Defra CAP implementation consultation document, 2013)

“Enhancing the natural environment and meeting key environmental commitments is the main opportunity presented in the SWOT...Defra considers that the evidence to support a greater focus on the environment is very strong.” (RDPE Programme document, Defra, 2014)

“...whilst 70% of our land is farmed, just a small percentage of funding is directed towards the provision of...environmental services. So, alongside a fair return from the market, farmers must feel incentivised and rewarded for caring for the environment.” (Secretary of State Andrea Leadsom, NFU Conference, 21st February 2017)

“...the big question is how best to support agriculture. If you are supporting farmers to farm in a more environmentally sustainable way that improves soil management, water quality and the recovery of habitats, then obviously you are paying them for the delivery of something. If you are supporting them to improve farm animal welfare standards so that we become the best in the world, you are supporting them to deliver a public good that we should recognise and be willing to reward...I believe that we should move away from the notion of a subsidy—i.e., a prop to hold people up because they are losing money—and, instead, start to look at how we can use that money to incentivise farmers to do things that are a public good.” (Farming Minister George Eustice, oral evidence to the House of Lords EU Environment and Energy sub-committee, 8th March 2017)

Public support “...can only be argued for against other competing public goods if the environmental benefits of that spending are clear” and “...there is a growing appetite for a new system of agricultural support which puts environmental protection and enhancement first.” (Secretary of State Michael Gove, Speech at WWF, 21st July 2017)

Assuming the guidance set out in the Green Book as a starting point, we have undertaken the following high level analysis that identifies a range of potential objectives for a future policy, and attempts to assess the strength of the intervention logic for each of these.

Policy objectives and strength of intervention logic

The Government recently reiterated the commitment to be the “first generation to leave our environment better than we found it”⁵⁹, and Ministers have repeatedly stated their intention to maintain the UK’s high standards of food safety and of animal welfare⁶⁰.

⁵⁹ Brexit white paper -

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/589191/The_United_Kingdoms_exit_from_and_partnership_with_the_EU_Web.pdf

⁶⁰ PMQs 15.2.17

Wildlife and Countryside Link, with Greener UK, set out our vision for agriculture and land use after Brexit in early 2017, alongside ten principles for a future policy⁶¹. This discussion paper identifies the outcomes and policy objectives needed to help achieve this vision, and the aim of restoring the environment within a generation.

In identifying objectives for a future policy, we have used a public goods framework, using those identified by the Institute for European Environmental Policy (IEEP) in their 2009 paper ‘The provision of public goods through Agriculture in the European Union’⁶². Some of the public goods identified by this study translate more or less directly into measurable and existing objectives, such as biodiversity. Others however are more intangible, such as rural vitality and food security. In these cases, we have identified proxies that will contribute to these public goods, using objectives from existing policies and programmes (e.g. the 2014-2020 RDPE), but also from the OECD typology of market failures affecting agriculture referred to above.

It is also important to restate that our focus here is a farming, forestry and land management policy relating predominantly to primary production and environmental land management.

With this in mind, we have identified three broad objectives that a Sustainable Farming and Land Management policy in England should contribute toward. These are –

1. Restoring our natural capital
2. Building resilience and managing risk
3. Promoting sustainable, innovative and humane production

Within these three policy objectives, we have identified a series of ‘policy outcomes’. These are outlined in Figure 4 below, and include specific outcomes such as biodiversity conservation and water quality.

As indicated in Figure 4, many of these specific outcomes relate to more than one of the three overarching objectives. For example, improving soil function will be important to meeting environmental targets under the restoring natural capital objective, but it will also play a key role in building the long-term resilience of the agricultural sector. Figure 4 also highlights the primary links between these objectives and the public goods identified in the above study⁶³. Most of the public goods listed here have directly parallel outcomes, with the exception of food security and rural vitality.

Both of these public goods are very broad, and this policy will only play a small role in securing them. Therefore, more specific outcomes for this policy have been identified that will make a more measurable and specific contribution. Section 5 in this paper sets these proposals for a Sustainable Farming and Land Management policy in the context of other key sectoral policies, including trade, food and rural policy, and identifies opportunities for coherence to secure the provision of these public goods across multiple policies.

In Figure 4 we have also attempted to highlight that many of the environmental outcomes and associated public goods are essential in securing rural vitality and food security more broadly.

⁶¹ <http://www.wcl.org.uk/docs/Link-GUK%20Agriculture%20Principles%20Briefing.pdf>

⁶² Cooper, T., Hart, K. and Baldock, D. (2009) The Provision of Public Goods Through Agriculture in the European Union, Report for DG Agriculture and Rural Development, Contract No 30-CE-0233091/00-28, Institute for European Environmental Policy: London.

⁶³ We have included all the public goods identified by IEEP (2009), with the exception of Resilience to Fire, which was thought to be less relevant to England than the others

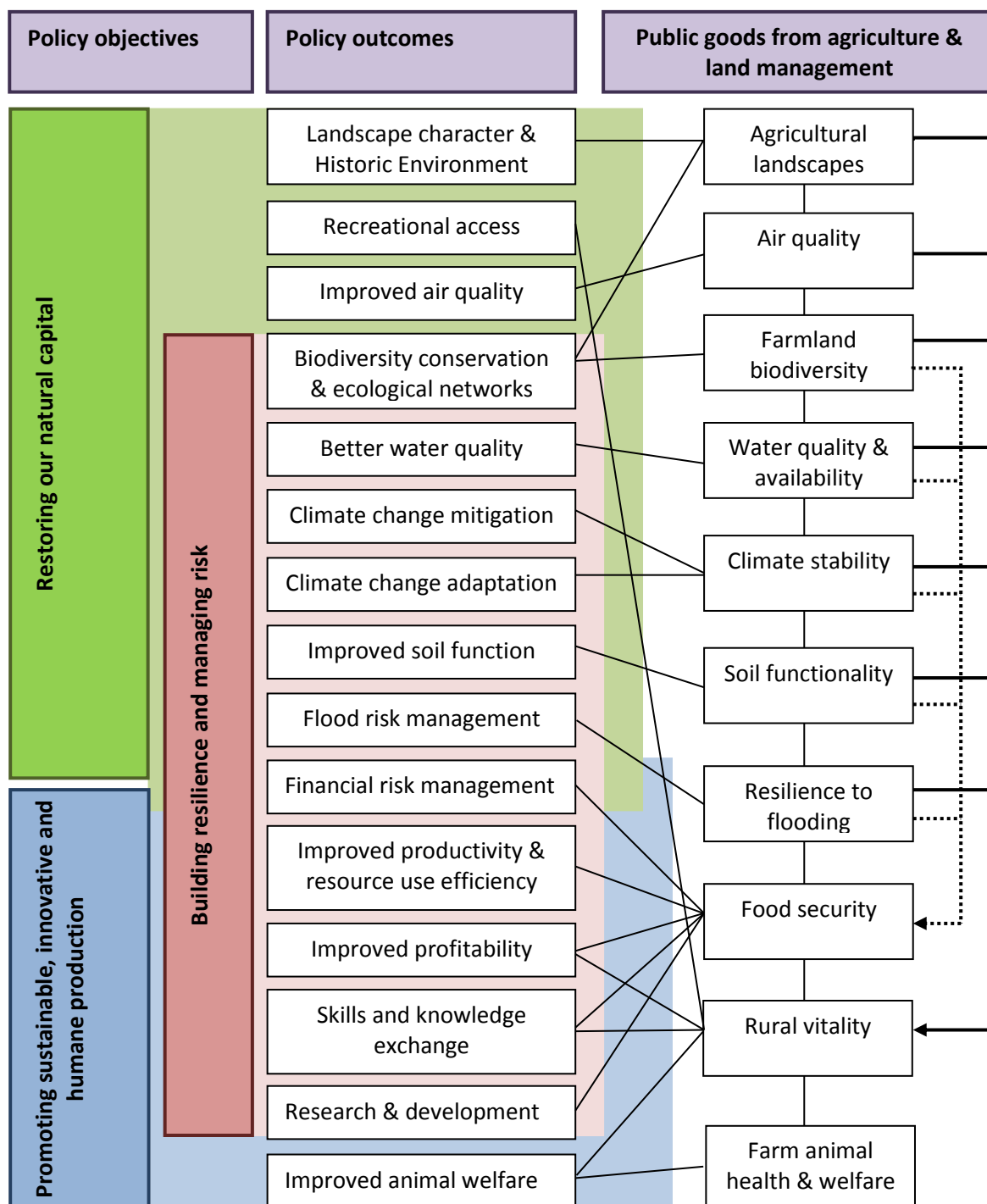


Figure 4 – Links between Policy objectives, outcomes and public goods

Borrowing from criteria set out in a Defra multi-criteria analysis⁶⁴ prepared ahead of the 2014-2020 RDPE, the next step in our analysis was to evaluate the strength of the intervention logic for each of these outcomes. The definition for each of the criteria used and associated analysis is set out in Annex 1.

⁶⁴ Defra (2013), RDPE Value for Money Assessment exercise – Summary of methodology and initial results. Unpublished.

Table 1 summarises the high level analysis that we have undertaken, and is based on a relatively coarse RAG (red/amber/green) rating. The interpretation against these criteria is based on the strength of the case for using public money to secure any given outcome, and is not intended to be detailed, but rather to provide a general overview of the intervention logic.

Green is given where, on balance, the public investment case against an outcome aligns strongly with these criteria. Where there is a degree of caution needed regarding the use of public money, the outcome is rated as amber, and where the criteria suggested a limited or no role for public money, it is rated as red. Where the criteria is judged to be not applicable to the outcome, this is marked with a diagonal fill. As an example, an amber rating is given against the ‘Regulation vs Incentive’ criteria where caution is needed to ensure public money is not used to secure outcomes that should be met through baseline regulation. As such, this exercise provides a ‘traffic light’ approach to how appropriate public money will be in securing a given outcome.

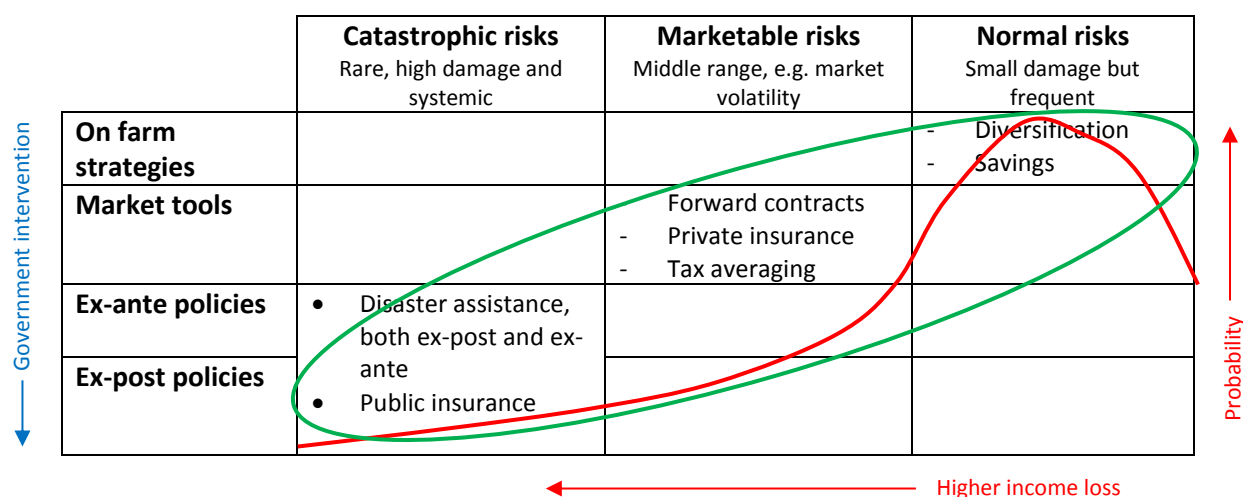
Table 1 - Outcomes for a Sustainable Farming and Land Management Policy, and strength of intervention logic assessed against a range of criteria (see Annex 1 for more details)			Criteria used to provide indicative strength of the intervention logic						Public-Private benefit	Evidence of benefits/ effectiveness
			Public goods	Market failure	Scale of need	Regulation or incentive?	Polluter Pays Principle	Strength of policy driver		
Restoring our natural capital	Biodiversity conservation & ecological networks		Green	Green	Green	Green	Green	Green	Green	
	Landscape character & Historic Environment		Green	Green	Green	Green	Green	Green	Green	
	Improved soil function		Amber	Green	Green	Green	Green	Green	Green	
	Better water quality		Amber	Green	Green	Green	Green	Green	Green	
	Flood risk management		Amber	Green	Green	Green	Green	Green	Green	
	Climate change mitigation		Green	Green	Green	Green	Green	Green	Green	
	Climate change adaptation		Green	Green	Green	Green	Green	Green	Green	
	Improved air quality		Amber	Green	Green	Green	Green	Green	Green	
	Recreational access		Green	Green	Green	Green	Green	Green	Green	
Building resilience & managing risk	Financial risk management	Catastrophic risk	Amber	Green	Green	Green	Diagonal	Green	Green	
		Marketable risk	Red	Amber	Green	Green	Diagonal	Green	Green	
		Normal risk	Red	Red	Green	Green	Diagonal	Red	Red	
Promoting sustainable, innovative and humane production	Improved productivity		Red	Amber	Green	Green	Green	Green	Green	
	Skills & knowledge exchange		Red	Amber	Green	Green	Diagonal	Green	Green	
	Research and development		Amber	Green	Green	Green	Diagonal	Green	Green	
	Improved profitability		Red	Red	Green	Green	Diagonal	Red	Amber	
	Improved animal welfare		Green	Amber	Green	Green	Green	Green	Green	

The financial risk management outcome has been further broken down into catastrophic, marketable and normal risk, a typology taken from the OECD report⁶⁵, ‘Managing risk in agriculture: A policy framework for risk management in agriculture’

For the purpose of this analysis, each outcome has been assigned to one of the three overarching objectives identified in Figure 4. Although not detailed, this analysis indicates that the strongest intervention logic is associated with improving the environment, followed by promoting the sustainable, innovative and humane agriculture, with the analysis for risk management suggesting a much weaker intervention logic against these criteria.

Risk management has been the subject of active debate with regard to the future of the CAP, as well as the future of agriculture and land management policy in the UK post-Brexit. This analysis suggests that whilst the role for public intervention to manage catastrophic risk is potentially significant, the intervention logic for other forms of risk management is limited. Figure 5 provides more information on examples of risk within each of these types, and suggests the interventions that could be used to address these, including both public and private.

Figure 5 – Optimal pattern of risk management strategies and policies (in green oval)



Taken from OECD, 2011

Building on recent analysis by Erik Mathijs⁶⁶, this suggests that financial risk management as a specific outcome should not be a primary focus of a future Sustainable Farming and Land Management policy. It is important to note though that interventions against other objectives and outcomes mentioned above will have significant co-benefits for risk management. For example, improved soil function will create more resilience to drought and disease, and payments for environmental goods and services will provide a business income independent of market volatility. This is explored further in Figure 8, in Section 3 below. As we argue in Figure 4 above, other outcomes will also be key to building the broader resilience of the sector.

In these proposals, steps to improve agricultural productivity and drive innovation are intentionally nested within an objective that also includes the need for sustainable and humane production. In order to achieve policy coherence, it is essential that improved productivity is not achieved to the detriment of the environment, and how we define and monitor productivity will be central to this.

⁶⁵OECD (2011), *Managing risk in agriculture: Policy assessment and design*, OECD Publishing. <http://dx.doi.org/10.1787/9789264116146-3-en>

⁶⁶ Mathijs, E (2016) *Managing volatility and risk in the CAP. A report for the RISE Foundation.*

According to the OECD, established measures of productivity, such as Total Factor Productivity (TFP), typically “...only account for those inputs and outputs for which there are market transactions, while the role of the environment in production is not taken into account. This omission can be a source of systematic bias in productivity calculations and can contribute to incorrect interpretations of the results and subsequent policy conclusions.”⁶⁷ It will be important to address this ‘systematic bias’ in any future policy. For example, the development of an Environmentally-Adjusted Total Factor Productivity measure seeks to incorporate positive and negative externalities in monitoring productivity⁶⁸, and although this is still embryonic, further work in this area will be essential in order to reconcile the public policy objectives to protect and restore the environment whilst improving agricultural productivity.

Regarding the balance between environmental objectives and investment to promote sustainable, innovative and humane agriculture, the analysis above suggests a stronger intervention logic for environmental and animal welfare outcomes. This is strengthened further if we focus specifically on the high degree of market failure associated with environmental outcomes, and associated alignment with the Treasury Green Book, and the scale of need for environmental land management objectives. The most recent comprehensive estimate of costs associated with environmental land management requirements⁶⁹ in England dates from 2009, with an estimate of £1258m per year. The breakdown of these costs is covered in Table 2.

Biodiversity	624.4
Landscape character	107.3
Climate change mitigation	172.9
Flood risk management	43.2
Historic environment (on farmland)	9.1
Soil quality	94.6
Water quality	69.5
Resource protection	99.1
Public Access	38.0
Total	1258

As would be expected, this 2009 report only really provides a general overview, and real costs can be expected to vary. Subsequently, further work has been done to refine these estimates in some areas. For example, the Lawton Review estimated the costs of creating a coherent and resilient ecological network as between £600 million and £1.1 billion per year. Natural England and the Environment Agency have also updated the costs for biodiversity and water quality respectively (see Figure 3 in the previous section), arriving at estimates of £734m⁷⁰ per year by 2020 to meet England Biodiversity Strategy outcomes and £460m⁷¹ per year to meet water quality requirements. The RSPB, National Trust, and The Wildlife Trusts have recently commissioned work to update some of these general estimates, which will be published in autumn this year.

⁶⁷ <http://www.oecd.org/tad/events/environmentally-adjusted-total-factor-productivity-in-agriculture.htm>

⁶⁸ OECD (2014), Green Growth Indicators for Agriculture: A Preliminary Assessment, OECD Green Growth Studies, OECD Publishing

⁶⁹ Cao, Y., et al (2009) Estimating the Scale of Future Environmental Land Management Requirements for the UK. Report for the Land Use Policy Group

⁷⁰ Natural England (2013), Statutory and policy commitments in relation to the delivery of terrestrial biodiversity through agri-environment schemes. Report for Defra

⁷¹ Defra (2013) Implementation of CAP reform in England: Consultation document

This analysis presents a strong rationale for focusing a Sustainable Farming and Land Management policy on environmental objectives, and for the allocation of significant public funding to these goals. With ~70% of England under some form of agricultural management and 10% under woodland or forestry, rural land managers are uniquely placed to deliver these environmental outcomes.

For at least two decades, and through multiple changes in Government and Ministers, UK Governments have reached this same conclusion. Given the strength of consensus about the rationale for intervention to secure environmental goods and services, we believe that a focus on environmental public goods is the best way of securing a long-term funding settlement for the sector. In this respect, recognising the strength of this case is also the best way for farmers and their representatives to secure the long-term stability that agriculture needs.

Section 3: What policy design is needed?

The previous section has set out *why* we need a policy, and how an assessment of the intervention logic suggests that the primary focus of this policy should be to secure more sustainable agriculture and forestry, and better environmental land management.

This section in turn draws on this analysis to identify what policy design is required to deliver against the range of objectives above. This builds on ten principles for sustainable farming and land management policies set out by Wildlife and Countryside Link and Greener UK in February 2017⁷². Annex 2 reproduces these principles, and describes what they mean in practice with regard to policy design, and the associated process of policy development.

Following on from these principles and the preceding analysis, the suggested component parts of a Sustainable Farming and Land Management policy are:

- 1. Effective regulation.** A strong legislative baseline, providing an effective foundation for public investment.
- 2. Environmental Land Management contracts – comprehensive.** Universally available payments to address widespread environmental objectives.
- 3. Environmental Land Management contracts – targeted.** A range of measures to support more targeted actions and outcomes, ranging from established public policies such as higher-level agri-environment payments to more novel and innovative mechanisms.
- 4. Measures to promote production that is resilient, sustainable, innovative and humane.** A range of measures to support advice and training, as well as targeted capital grants and loans.

These would all be supported to varying degrees by a significant programme of research and development, monitoring and evaluation and expert advice.

Although these component parts differ in the specifics of their design, there are some key features common to all aspects of the policy –

- a. A contractual basis. The policy provides a general framework for support to farming, forestry and land management to secure outcomes not provided by the market. There is no concept of ‘entitlements’ in these proposals.

⁷² <http://www.wcl.org.uk/docs/Link-GUK%20Agriculture%20Principles%20Briefing.pdf>

- b. A programmatic approach⁷³ to expenditure, with targeting of all interventions to clearly defined actions or results⁷⁴.
- c. There is a focus on agriculture and land management, but coherence with other key sectoral policies – trade, rural, food, environment, public health and planning.
- d. There is scope for significant simplification compared to the CAP, primarily through the removal of direct payments and associated transaction costs, a more proportionate approach to the control and verification of expenditure and streamlining of process.
- e. Environmental elements of the policy would be multi-year, with varying contract lengths appropriate to the target outcome(s) of the contract.
- f. The policy includes a combination of different mechanisms, such as multi-year payments, regulation, advice, capital grants and loans, amongst others.
- g. Public policy is coherent and integrated with other forms of funding, such as through Payments for Ecosystem Service (PES) schemes, and is structured to pump prime new forms of investment.

Although this model builds upon many mechanisms that are tried and tested, the removal of decoupled direct payments is clearly a radical departure from the status quo. How to secure a stable transition away from these is addressed in Section 6 below.

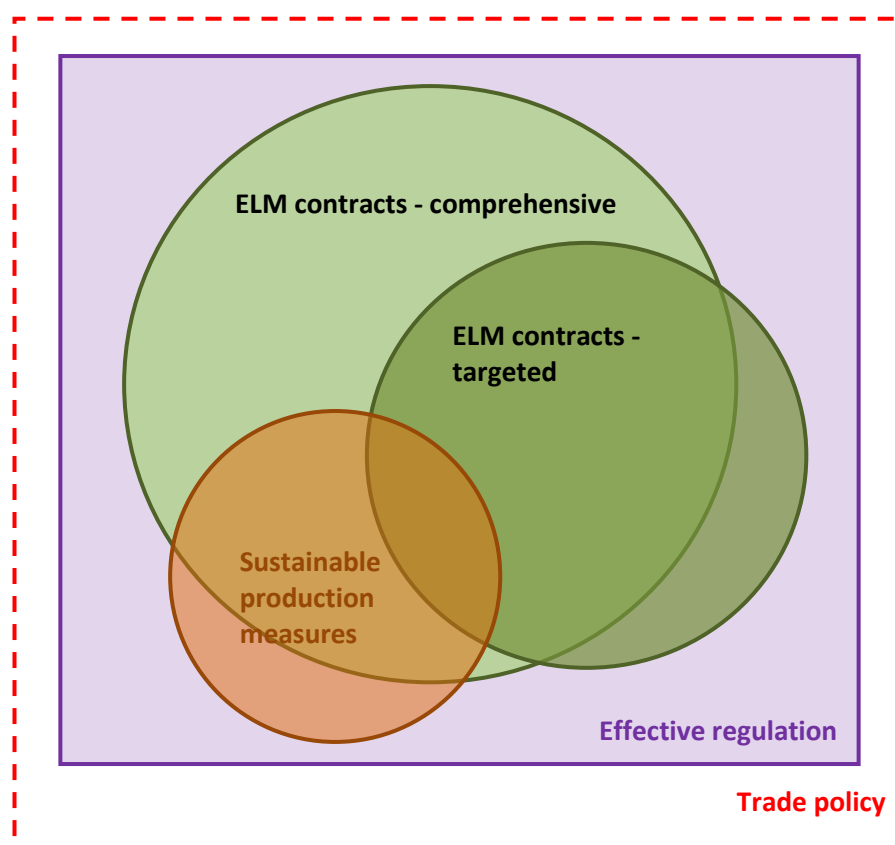


Figure 6 – Proposed structure for a Sustainable Farming and Land Management policy

Figure 6 above sets out very broadly how these different elements relate to one another. Although there is significant read across between the three key features (comprehensive and targeted

⁷³ Defined as investment allocated in line with a specific programme, allowing for a clear line of sight between expenditure and a target outcome.

⁷⁴ Mirroring ongoing debates in the EU about how to reform the CAP, this shift to a programmatic approach is also heralded in the September 2016 Cork 2.0 Declaration, 'A Better Live in Rural Areas'. This is available at http://ec.europa.eu/agriculture/sites/agriculture/files/events/2016/rural-development/cork-declaration-2-0_en.pdf

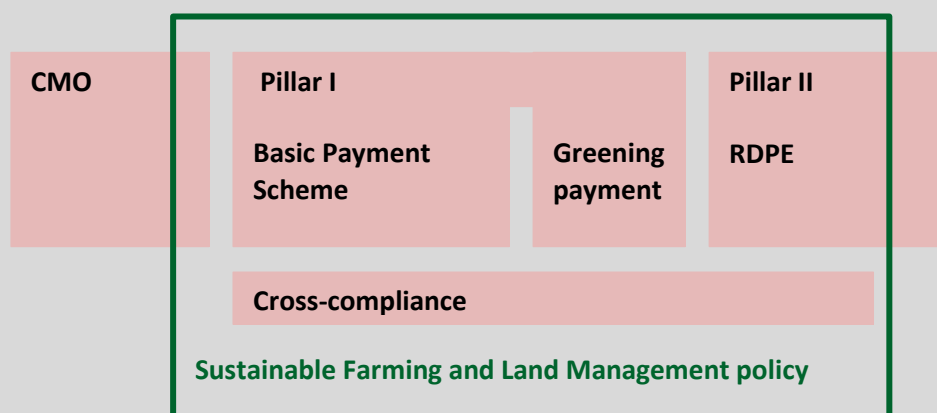
Environmental Land Management contracts and sustainable and humane production measures) and the three broad objectives set out in the previous section, each element can be expected to make a contribution to each objective. We elaborate on this point in Figure 8 below.

Figure 6 is intended to broadly illustrate the scale of action and investment associated with each element of funding, and highlights the encompassing nature of effective regulation to these three components. It is important to restate here – as set out in the introduction above – that these proposals focus on public policy mechanisms, and are only expected to make a *contribution* to the policies' objectives. In some cases, this may be quite small compared to other levers. Whilst trade policy is not an explicit component, it is recognised that trade will have a significant impact on the macro-economic context, and therefore the way in which the other public policies explored here are used, and how effective they are. The trade element above in Figure 6 is intended to illustrate this relationship. This includes the negotiation and implementation of Free Trade Agreements with the EU and other major agricultural producers, and is explored in more depth in Section 9 below.

To clarify how these proposals relate to the structure of the CAP, we have provided a general overarching comparison in Box 6 below.

Box 6 – A Sustainable Farming and Land Management policy and the CAP compared

These proposals are envisaged to replace significant elements of the CAP, but not all. In general terms, a Sustainable Farming and Land Management policy would be focused on the replacement of the funding aspects of Pillar I and Pillar II as they relate to farming, forestry and land management, and the interface between this funding and regulation. The diagram below (not to scale) illustrates the relationship between our proposals for future policy, and the existing CAP.



With the exception of some specific aspects, such as the creation of Producer Groups, we do not include proposals for the replacement of the Common Market Organisation (CMO). This should not be interpreted as a recommendation that the measures contained in the CMO should be scrapped, but rather that they are not core to our organisations expertise.

Similarly, we envisage support for rural areas more generally to sit outside this policy. It has always been an anomaly of the CAP that rural development sits within an agricultural policy, given that non-agricultural or non-land based economic activity is a central element of the rural economy. Whilst we therefore believe that support for rural areas should be continued, and that rural areas should be served better by policy more generally, this does not form a specific element of these proposals. A next step to our work in this area will be to engage with other rural stakeholders to develop our thinking in this area.

Effective regulation

We need a strong legislative baseline to safeguard the environment and animal welfare, and protect the interests of society. Currently, the system of cross-compliance creates links between existing legislation and CAP area payments. Although this system is imperfect as it only includes a subset of the environment and animal welfare acquis, the link between compliance and payments provides an important enforcement mechanism. This ‘underpinning’ of legislative protection is essential in order to provide the foundations upon which incentives can then build. Effective regulation also provides certainty and fair treatment for producers, and is often the most cost effective and equitable way of securing public policy objectives. Proper enforcement is also a matter of equity for those who abide by the law.

The regulatory baseline also acts to define the rights and responsibilities of landowners and managers, and so provides clarity about where public/private investment should be deployed to deliver further enhancements. Confidence in regulatory enforcement is an essential prerequisite in building trust that private/public investment in restoring natural capital and improving animal welfare is not undermined by the non-compliance of others.

These standards, regulations and legislation will not form a discrete part of this policy, which is itself focused on funding. However, a structural link between regulation and funding is essential if the spending dedicated to the component parts of a Sustainable Farming and Land Management policy is to realise its objectives and provide value for money. Maintaining the ability to apply penalties to payments for those found to be breaching regulations will be important to ensure coherence across public policies.

That is not to say that we want to simply replicate cross-compliance. Cross-compliance was introduced in 2005 as an attempt to provide a rationale for the continuation of Pillar I direct payments, on the basis that direct payments should be coherent with some parts of European and domestic legislation, and that Pillar II schemes should build from this baseline. However, over time it has created an expectation that the public should pay farmers and land managers to comply with legislation.

Instead, a more effective and proportionate approach would be adopted to improve outcomes for the public whilst reducing bureaucracy for farmers and land managers. A summary is set out below in Box 7.

Box 7 – Replacing cross-compliance with a better system for farmers and the public

The design of cross-compliance, and its enforcement by the Rural Payments Agency (RPA), is ineffective and bureaucratic. The latest available inspections data for 2013⁷⁵ shows that over 40% of inspection failures were associated with cattle (SMR7), sheep or goat identification (SMR8), with a further 13% associated with the Soil Protection review (GAEC1). These tend to be those standards and requirements which are easiest to assess.

For many others that are harder to assess, the proportion of failed inspections is much lower. Whilst in some cases this may suggest a genuinely lower breach rate, in others this suggests that RPA enforcement focuses on those which are readily assessed at a given moment in time. As an example, research commissioned by WWF-UK⁷⁶ highlights the divergence between RPA

⁷⁵ Available at <https://www.gov.uk/government/statistics/cross-compliance-2013-inspection-results>

⁷⁶ Alex Inman Consulting (2014), Investigating Agricultural Compliance Rates. Report for WWF-UK

enforcement and actual breach rates. This research estimates that only between 6 and 7 out of 10 farmers are complying with the sewage sludge Statutory Management Requirement (SMR), and yet in 2013 there were only 55 inspections for this SMR with no failures.

A similar disparity was found when comparing Environment Agency (EA) catchment walkover data⁷⁷ with RPA inspections. The EA identified over 7000 agricultural river pollution risks when just 10% of water bodies were surveyed. Despite the vast majority of these risks being linked to poor soil management, the RPA reported national GAEC soil failures only run into the hundreds, with most related to a failure to adequately complete the Soil Protection Review paperwork.

This disparity between real world events and RPA enforcement can lead to some farmers receiving significant penalties for easy to enforce breaches that may have a relatively small external effect, whilst others that have significant impacts (such as pollution incidents) go unreported.

To overcome these issues, a future regulatory baseline should include the following features –

- Where there is a **functional link between regulatory compliance and publicly funded investments** (for example, investment in improving water quality and compliance with slurry storage regulations), penalties should be applied to any payments to take account of this where a breach is detected, in addition to any prosecution for a statutory breach.
- Responsibility for payments inspections would sit with the **competent authorities** who are more generally responsible for legislative enforcement, such as the Environmental Agency and Animal and Plant Health Agency, as appropriate.
- Following on from this, regulation should be **based on knowledgeable enforcement**, with visits and monitoring undertaken by qualified inspectors.
- A **proportionate approach to penalties is required**, based on the six Macrory Principles⁷⁸. Future enforcement models in England should adopt a similar approach to Scotland's 'General Binding rules' (GBR). Where GBR breaches or pollution risks are identified farmers are given time to address these issues before a second visit is arranged. If remedial action has not been taken, a third and final visit is then scheduled, and if no action is apparent a Fixed Penalty System is levied. Experience has shown that this model was successful in Scotland, in that 88% of farmers inspected after their first visit were either compliant, or had taken action to address failings identified⁷⁹. Moreover, farmers and representative bodies viewed the Scottish approach favourably, regarding the process as balanced and fair⁸⁰. It will be essential to ensure that any system of enforcement is adequately resourced to provide the necessary degree of protection and service.
- Regulators should **target the repeat offenders**. Research for WWF (referenced above) has shown at least 20-30% of farmers failing to comply with cross-compliance standards. A targeted and collaborative approach to working with the 20-30% of farmers to increase compliance levels needs to be undertaken as a matter of urgency.

As well as underpinning public expenditure, regulation will make a direct contribution to a range of policy objectives in its own right. As the analysis in Annex 1 suggests, the role that regulation can and should play in achieving any single objective will vary. For example, current policy for biodiversity and landscape character is based on an assumption that society can expect land owners and

⁷⁷ Jessica Weyell & Robert Cunningham (2014) Catchment Walkovers: Observations of pressures on the water environment Report for RSPB & Environment Agency

⁷⁸ Macrory, R.B. (2006), Regulatory Justice: Making Sanctions Effective. Report for HM Government

⁷⁹ <https://www.sepa.org.uk/media/162484/dpmagdraft-minutes-12-mar-15.pdf>

⁸⁰ Alex Inman Consulting (2014), Investigating Agricultural Compliance Rates. Report for WWF-UK

managers not to damage species, habitats and landscape features, but if society wants them to proactively maintain or restore these, they can expect to be paid to do so. Implicit in this settlement is the need for significant funding in order to secure any improvement to the condition of these features.

On the other hand, significant improvements can be secured to water quality through regulation. Although meeting Good Ecological Status will often also require land use change beyond regulatory compliance, significant progress can be made through the enforcement of effective regulation to address pollution.

This points to the need to apply the overarching principle of ‘polluter pays, provider gets’ to any future policy, and determining where the line is between regulation and funding.

Environmental Land Management contracts - comprehensive

Building from a baseline of effective and proportionate regulation, evidence suggests that there is a need for a widely available element. Widespread environmental issues such as declines of farmland biodiversity, air and diffuse water pollution and maintenance of landscape character and the historic environment point to the need for similarly widespread action. The differentiation between comprehensive and targeted Environmental Land Management contracts (see following section) is largely about the scale and complexity of the environmental issue, the action required to deliver against a certain objective, the degree of targeting necessary and the associated transaction costs.

The widespread issues mentioned above will often need small scale, relatively simple interventions, such as hedgerow restoration, or the creation of sown mixes, alongside some more demanding interventions such as the creation of wildflower-rich habitats. By their very nature though, these issues also require a significant number of these interventions, implemented by a majority of, if not all, farmers and land managers. This necessitates a policy with low transaction costs per contract, given the number of contracts that will be required. This does not mean though that engaging in this element of the policy is purely transactional – significant guidance, advice and support will be needed at all levels of the policy.

The central challenge for this element of the policy is how to achieve value for money. Entry Level Stewardship (ELS) was widely recognised to be a popular and practical scheme, but a large body of evidence also suggested that it did not provide value for money, or deliver against key objectives (see Section 1). This was largely due to some key design flaws, including –

- the inclusion of ‘deadweight’ options that absorbed much of the available budget but provided little additional benefit;
- free choice that allowed applicants to select the easiest and generally least effective options;
- a standard payment per hectare, meaning there was no incentive to select the more effective but onerous and expensive options;
- a lack of targeting, and inadequate advice and support to allow applicants to identify the relevant high priority interventions.

The design of the mid-tier of Countryside Stewardship (CS) sought to address these flaws, by –

- removing key low value options, such as basic hedgerow maintenance and low input grass;
- introducing targeting to direct applicants to the higher priority interventions for their land and competition to drive up the quality of applications;

- changing the payment structure to a per option basis, to establish the principle that the more an agreement holder did, the higher their payment

It is also important to note that many of these changes were driven by a smaller budget, set against a wider range of policy objectives⁸¹. However, CS has been beset by a variety of implementation challenges (primarily associated with a failed IT system), and disproportionate audit and control requirements, meaning that the scheme has never functioned in the way that was envisaged. These issues are earning CS a negative reaction with applicants, who are less likely to recommend wider adoption to less committed applicants.

With the aim of not reinventing the wheel, these proposals therefore seek to take the best from both schemes to form the starting point for this element of a Sustainable Farming and Land Management policy. It's important to state though that we envisage this as much more comprehensive, and ambitious than previous 'entry level' agri-environment schemes, and as such this constitutes a new approach. The purpose of this element of the policy is not just to mitigate harm and tweak around the edges, but to drive a step change to more sustainable production, whilst securing better environmental outcomes and value for money for society.

Key features

- Payments that build on a solid basis of effective regulation
- A single national policy, but with options tailored to different geographic, farming and environmental contexts
- Means to target interventions to the right place, for example through approaches such as packages of options, directed option choice and weighted payments, with option choice informed by a whole farm audit
- Universally available
- An ambitious threshold for entry, known prior to application to create certainty for applicants
- A wider range of options than typical agri-environment schemes, including interventions to secure more sustainable production, and broader agronomic benefits
- Payments to support organic farming that automatically follow certification, in addition to continued support for conversion to organic
- Available to all rural land, not just that currently registered for direct payments
- Designed to offer simple opportunities for progression, from the minimum threshold to more demanding delivery
- A proportionate approach to control and verification
- An intuitive and straightforward application process
- Clear guidance to the applicant to identify the range of benefits to their business and the environment to encourage buy in and recognition of what is being delivered.

In terms of comparing these proposals to the CAP, this element of the policy would effectively replace direct payments as the primary public funding mechanism available to the majority of farmers and land managers to engage with.

Significantly more work is needed to develop the details of this element of the policy. However, for many areas, we do know what the policy needs to do in order to secure many of its objectives. For example, Box 8 illustrates that we have much of the evidence to know what widespread farmland biodiversity needs.

⁸¹ URS (2014) Strategic Environmental Assessment of the Draft Rural Development Programme in England: Environmental report. Report for Defra.

Box 8 – Farm wildlife packages and Environmental Land Management contracts

A significant body of evidence has developed over 30 years of agri-environment schemes about what is needed to address biodiversity declines on conventional arable farmland. Much of this evidence was brought together in the HLS Farmland Bird Package (see Box 3), and the Farm Wildlife Package in Countryside Stewardship expands this model to address the needs of a range of different taxa.

The simplest iteration of this model has emerged from a partnership of eight environmental NGOs⁸², who have identified six key steps to address the needs of farm wildlife, including managing existing habitats, creating flower and seed rich areas, maintaining field boundaries, creating wet features such as ponds and tweaking management in the farmed area, such as through introducing spring crops.

There is now a significant body of evidence to suggest that if around 5-10% of lowland farmland is managed through this package of measures, it has a significant positive impact on species trends at the farm scale, and could have population level effects if implemented at a landscape scale. This simple package approach therefore offers a blueprint for the comprehensive ELM contract in arable and lowland grassland areas, and provides a model for policy that is both simple and effective.

A key debate with regard to widely applied aspects of the CAP has been how to engender a simpler approach that also secures better value for money. Box 9 sets out the context of this debate, and identifies significant scope for simplification compared to the CAP.

Box 9 – Simpler and more effective payments

The proposals for comprehensive Environmental Land Management contracts specifically and a Sustainable Farming and Land Management policy more broadly offer significant opportunities for simplification.

Much of the complexity associated with the CAP flows from Pillar I, and the interaction between Pillar I and II. For example, elements of direct payments such as the active farmer test, eligibility rules for area based payments and associated complex mapping requirements create a significant degree of complexity. Phasing out direct payments will remove the need for political constructs, such as the active farmer test, and will also enable the end of eligibility rules that create perverse incentives to remove often valuable habitats such as scrub.

This will also remove the inconsistency between Pillar I and environmental land management payments, whereby the former's eligibility rules can inhibit the creation and restoration of habitats that may reduce the associated eligible area, such as ponds and other wet features. Addressing this inconsistency will have a material benefit on the environmental coherence of public policy, and improve the experience of farmers and land managers, making it easier for them to do the right thing for the environment.

⁸² The Farm Wildlife partnership includes Amphibian and Reptile Conservation, Bat Conservation Trust, Buglife, Bumblebee Conservation Trust, Butterfly Conservation, Plantlife, RSPB and The Wildlife Trusts, and aims to provide best practice advisory materials to address the needs of a wide range of farmland wildlife, based around six key steps.

Leaving the EU also creates the opportunity to move toward a more proportionate control framework. The recent extension of the CAP's Integrated Administration and Control System (IACS) to Pillar II has led to a significant increase in the amount of records and evidence that individual agreement holders need to keep both for applications and during the agreement management. Whilst accounting for public expenditure will remain essential, developing an approach that better balances environmental effectiveness, accountability for taxpayers' money and practicality for farmers and land managers will now be possible. Defra itself identified the need for a more proportionate control framework in a paper to a recent Farm Council meeting⁸³.

Finally, a focus on multi-annual schemes in preference to the current annual basis of direct payments could help to reduce costs for all concerned. One application per 5-10 years (or at longer intervals as appropriate) is likely to significantly reduce transaction costs for applicants, and evidence from the CAP suggests that multi-annual contracts also provide a more cost effective solution for Government. For example, in 2011 the annual cost of delivering ELS for Natural England was £112 per agreement, rising to £284 per agreement including IT costs⁸⁴. The table below⁸⁵ suggests that even for HLS, which included a significant advisory component, the administration costs relative to scheme expenditure were modest.

2013/14 administration costs excluding IT	Admin Cost per £ delivered	2013/14 administration cost including IT	Admin Cost per £ delivered
CSS	0.01	CSS	0.01
ESA	0.01	ESA	0.01
ELS	0.02	ELS	0.05
OELS	0.01	OELS	0.03
HLS	0.08	HLS	0.16

When comparing this to the Single Payment Scheme (SPS), costs per claim in 2008 were £1743⁸⁶ (equivalent to per agreement costs for ES). Although much of this may be attributable to early complications associated with IT failures and policy implementation challenges following the 2005 reform, by 2012 costs per claim for SPS were still £727 per year⁸⁷.

For a widely available scheme or policy to be successful, it needs to achieve a balance between three key features –

1. Environmentally effective
2. Practical for farmers and land managers
3. Deliverable and auditable for Government

Previous attempts to design widely available schemes have failed to achieve this balance. ELS was practical and auditable within the framework of the 2007-2013 CAP, but it wasn't sufficiently effective or ambitious. CAP greening is auditable, but not much else, whereas the mid-tier has the design to be effective, but some aspects of the scheme are impractical, and the control framework

⁸³ UK non-paper, March 2016, Audit simplification - Information from the UK delegation. Available at <http://data.consilium.europa.eu/doc/document/ST-6909-2016-INIT/en/pdf>

⁸⁴ House of Commons Environment, Food and Rural Affairs Committee. Greening the Common Agricultural Policy. First Report of Session 2012–13

⁸⁵ Natural England, *pers comm*

⁸⁶ National Audit Office (2009), A Second Progress Update on the Administration of the Single Payment Scheme by the Rural Payments Agency. Report by the Comptroller and Auditor General

⁸⁷ <https://www.gov.uk/government/news/government-publishes-costs-of-transactional-services-for-the-first-time>

of the 2014-2020 CAP imposes disproportionate record keeping requirements that create barriers to uptake for farmers and land managers, and significant costs for Government.

The outline proposals set out here for comprehensive Environmental Land Management contracts seek to achieve a balance across these three, and further work to develop this element of the policy will be informed by this framework.

Environmental Land Management contracts - targeted

In addition to a comprehensive element, significant investment in more targeted environmental land management interventions is also required. Whereas comprehensive Environmental Land Management contracts could effectively address widespread issues such as soil conservation, declines of widespread species and diffuse pollution, this element of the policy would be more targeted toward issues that need significant investment, and more complex management.

This would include the maintenance, restoration and creation of priority habitats (designated and un-designated) including woodland, species recovery programmes, supporting strategic natural flood risk management and significant non-productive capital investments in support of land management outcomes.

At its core there would be a national payment which can be adapted to reflect local needs, with associated targets, objectives and monitoring and evaluation, building on the model of Higher Level Stewardship (HLS). However, there would also be various other aspects to this part of a Sustainable Farming and Land Management policy, creating a basket of measures to achieve long term change.

For example, a long-standing issue with agri-environment schemes has been the temporary nature of the action, typically for the duration of the contract. In many cases, such as with the simple interventions envisaged with comprehensive Environmental Land Management contracts, 'renting outcomes' in this way may be inevitable. However, many of the investments in this targeted element of the policy may entail significant and expensive land use change, such as the creation of priority habitats. Securing the long-term retention of these investments in the landscape should therefore be a priority for these more targeted measures, and we encourage Government to examine the use of mechanisms such as long-term covenants to achieve this aim.

Other measures could also play a significant role in both elements of the Environmental Land Management contracts, such as reverse auctions, used effectively by Wessex Water to reduce nitrogen pollution⁸⁸, or funds to be used as 'seed-funding' to help pump-prime the establishment of private PES schemes or pay for the maintenance and enhancement of benefits once such schemes are established, as well as match-funding to draw in contributions from others, such as water companies, private businesses and local communities.

Building on the Countryside Stewardship Facilitation Fund, there should also be funding for landscape scale collaboration, spanning all aspects of the policy.

These targeted contracts are therefore perhaps best described as a selection of different tools. These would be flexible, outcome focused payments designed to secure a variety of outcomes.

⁸⁸ https://www.entrade.co.uk/Content/5697_EnTrade_NE_leaflet.pdf

Key features

- A nationally determined payment building on existing higher-level agri-environment schemes, with significant flexibility to tailor to a farm or landscape context, nested within a broader suite of measures
- Builds on comprehensive ELM contracts, but available as a standalone payment where appropriate
- Supported by significant levels of expert advice
- Targeted, but responsive to local priorities, not just nationally prescribed
- Following on from this, implementation that is significantly devolved, within a national framework
- A combination of results and action based payments⁸⁹
- Flexibility and ability to combine options and measures to maximise potential benefits
- Scope for innovative and complementary mechanisms, such as reverse auctions, covenants and local commissioning. Funding for land purchase where appropriate
- Coherence with private sector finance (see Section 7)

One of the big debates in this area of policy is the balance between local and national approaches, or between established mechanisms such as higher-level agri-environment schemes against more novel approaches.

We feel that it is important for there to be a consistent 'national offer', which is the reason why these proposals retain a national element building on established mechanisms. However, there is significant need to develop and pilot new approaches that can drive innovation in this area, in order to encourage new, local approaches and the use of novel mechanisms. One way to secure the balance mentioned above could be to allow areas to develop a 'local offer' to deliver against a range of local, national and international priorities that would be assessed by a national panel, and funded if it could be demonstrated to provide better outcomes than the established national policy. More detail on this is included in Section 5 on implementation below.

In developing a Sustainable Farming and Land Management policy, Government and stakeholders also need to consider that many of the objectives tackled by both elements of the Environmental Land Management contracts (comprehensive and targeted) will in some cases be associated with High Nature Value farming⁹⁰, systems of agriculture that deliver significant environmental benefits but may be economically marginal. The removal of direct payments poses a significant challenge to these areas, and the agricultural management needed to deliver a range of environmental outcomes, such as Culm grassland in Devon, breeding waders in the Bowland Fells and the ongoing recovery of the ciril bunting in South Devon. The importance of these systems is explored in more depth in Box 10 below.

⁸⁹ Keenleyside C, Radley G, Tucker G, Underwood E, Hart K, Allen B and Menadue H (2014) Results-based Payments for Biodiversity Guidance Handbook: Designing and implementing results-based agri-environment schemes 2014-20. Prepared for the European Commission, DG Environment, Contract No ENV.B.2/ETU/2013/0046, Institute for European Environmental Policy, London.

⁹⁰ High Nature Value (HNV) farming describes low-intensity farming systems which are particularly valuable for wildlife and the natural environment. For more information, see Paracchini, M., et al (2008). High Nature Value Farmland in Europe. An estimate of the distribution patterns on the basis of land cover and biodiversity data. JRC Scientific and Technical Reports. European Communities, Luxembourg.

Box 10 – Environmentally important, economically marginal areas

Many High Nature farming (HNVf) systems are inherently economically marginal. In England, they are often, but not exclusively, associated with upland areas, although it is important to note that not all upland areas are managed in a way that's beneficial for wildlife.

HNVf relies upon sympathetic management of important habitats associated with farming, including grazing with appropriate stocking rates, the traditional mowing of hay meadows, and cutting rush. As a consequence, many of these farms are vital to maintain some of our most important habitats and species, including upland hay meadows and breeding curlew, as well as some iconic landscapes, such as the North Pennine Dales.

In many cases however, these systems will be economically marginal, with very low levels of income from agricultural production. As a consequence, payments under conventional agri-environment schemes can be very low, given their basis in income-foregone and costs-incurred. Transitioning away from direct payments will therefore require careful management in these areas, and an approach to funding the provision of public goods that goes beyond income-foregone may be necessary. Section 9 on World Trade Organisation (WTO) rules explores some of the options for this.

Whilst unsustainable land use in the uplands is a major issue, and Brexit offers to the opportunity to restore significant areas of natural and semi-natural habitat, particularly native woodland and active blanket bog, maintaining support to areas of genuine HNVf should also be a key priority for future targeted Environmental Land Management contracts.

How to structure these targeted Environmental Land Management contracts (and payments through the policy more generally) in a way that supports farming and land management in these areas to provide the target outcomes is something that needs to be given particular consideration, specifically with reference to World Trade Organisation (WTO) rules on domestic support.

Some have suggested that WTO rules inhibit the potential to create a public goods focused policy in these areas, referencing the limits on payments to income foregone and cost incurred associated with the rules under environmental programmes in the Agreement on Agriculture (AoA). We strongly feel that this represents a narrow and unduly restrictive interpretation of these rules.

Whilst a consideration for the design of future policy, WTO rules should not be viewed as a constraint, and allow significant scope for innovative approaches to create payments that are effective and attractive. Section 9 on trade policy sets out more detailed thinking in this area.

Measures to promote production that is resilient, sustainable, innovative and humane

As stated above, the primary focus of a Sustainable Farming and Land Management policy will be the provision of environmental goods and services. However, these proposals also envisage a significant focus on driving more innovative and sustainable production that is resilient to external shocks, and embeds high standards of animal health and welfare as standard practice. As Table 1 and the associated analysis in Annex 1 indicates, the intervention logic for addressing animal welfare objectives is particularly strong. At this stage, we have identified the following as key features of this element of any future policy.

Key features

- A series of measures to provide a framework of support for farmers and land managers to access on a contractual basis, with support tailored to a diversity of farm types and sizes
- A mix of measures such as capital grants, loans and advice
- Proactive support to strengthen the position of producers in the supply chain, such as through the establishment of producer groups and improved marketing
- Grants provided on a contractual, competitive basis, but advice open to all
- Grants provided for unproven investments that establish proof of concept and drive innovation, with loans available to all for tried and tested investments
- A mix of low and high-tech investments depending on need and business case

Figure 7 elaborates on these key features, providing an illustration of how different interventions could contribute to the key policy objectives.

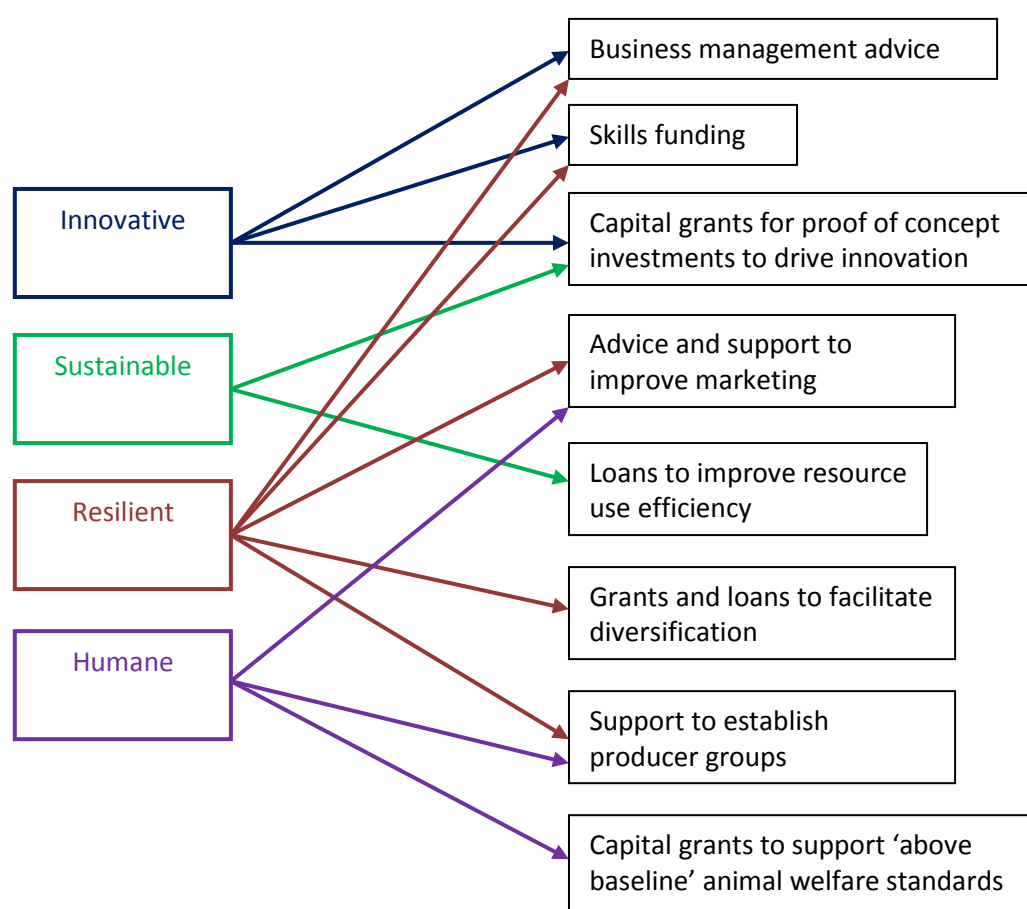


Figure 7 – Example interventions to promote production that is resilient, sustainable, innovative and humane

Investing in more sustainable land management will also play a key role in building resilience, particularly through the comprehensive Environmental Land Management contracts described above, which would have an explicit focus on agronomic measures such as cover crops and minimum tillage.

The issue of renewal within the sector is also relevant here. Given the scale of change some predict with Brexit, it is inevitable that some will exit farming, whilst others may enter. Support such as

advice could play a big role in managing this change. Government may also have a role to play in facilitating access for new entrants, such as through capital investment as seed funding and skills funding through this policy, and interventions in other areas of public policy, such as tenancy reform.

Having considered the intervention logic for financial risk management in Section 2 above, we do not envisage a role for some of the more complicated and interventionist mechanisms that have been suggested, and which are used widely in the USA and Canada. Using the typology developed by the OECD, these schemes tend to address risk across the three types identified, whereas our analysis suggests that there is a weak intervention logic with the exception of catastrophic risk. Whilst Government will presumably continue to have a role in managing the latter, we do not envisage this being part of a Sustainable Farming and Land Management policy specifically, given its occasional and unpredictable nature.

The insurance models used in North America are also administratively complicated and expensive for Governments^{91 92}, bureaucratic for applicants and potentially interventionist from a market perspective. They require significant amounts of data, which the UK does not currently hold⁹³. It is also important to recognise that the tax system in the UK already provides significant reliefs for agriculture, which will presumably continue to play a significant role in enabling farmers to manage risk. Specifically, the introduction of five-year income tax averaging for farmers from 2016/17 will help to manage volatility. This comes in addition to existing capital allowances, that can be used to manage risk, and significant expenditure associated with Agricultural Property Relief and exemptions from Business Rates. The former cost £495m in 2015/16⁹⁴, and whilst it does not explicitly provide a risk management function, will help to insulate farmers from risk in a similar way to direct payments. There may be scope to better use the tax expenditure associated with these reliefs to help farmers manage volatility in the future.

Risk management tools such as crop insurance also have some significant drawbacks, such as moral hazard. This refers to cases where farmers may adopt higher risk behaviour, knowing that their losses will be covered. This can lead to environmentally damaging behaviour, such as locating high risk crops in areas that are vulnerable to soil erosion, which risks undermining the effectiveness and coherence of broader public policy. Commodity specific insurance can also encourage specialisation, which may in turn lead to negative environmental impacts, and increase exposure to climate and market volatility and risk⁹⁵.

Our proposals would avoid these pitfalls, and instead provide a framework of support that is not only coherent with the environmental aspects of a future policy, but also helps to create a more resilient and market facing sector.

As stated above, payments for environmental goods and services will also play an important role in managing financial risk by providing an income stream independent of factors that may increase volatility.

⁹¹ Office of Inspector General (2016), Federal Crop Insurance Corporation/Risk Management Agency's Financial Statements for Fiscal Years 2016 and 2015. United States Department of Agriculture.

⁹² OECD (2007), The Implementation Costs of Agricultural Policies

⁹³ <https://blogs.worldbank.org/psd/files/agricultural-insurance-data-15sept2015.pdf>

⁹⁴ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/579720/Dec_16_Main_Reliefs_Final.pdf

⁹⁵ Soil Association (2017) Soil Association Policy Briefing: Lessons to learn from Crop Insurance programmes worldwide

Contribution of each measure to the objectives of a Sustainable Farming and Land Management policy

This latter point highlights a broader theme – that the proposals here are designed to be coherent, and ensure that each measure within the policy makes a contribution to multiple objectives. This recognises the overlap between the specific outcomes identified in Figure 4 in the previous section, and the broader policy objectives.

We can therefore expect investment in environmental land management not just to secure environmental benefits, but also to provide an income that is independent of market volatility, and improve productivity by restoring functional biodiversity, such as pollinators and soil biota. Similarly, grants and loans to improve resource use efficiency can be expected not just to improve profitability and productivity, but also to improve water and air quality, or mitigate climate change.

Figure 8 attempts to highlight this point by ascribing a token contribution of each policy measure to a given outcome. For example, environmental payments are likely to be the most important lever to secure biodiversity conservation, but effective regulation will be key to prevent activities that may damage habitats and species. Recreational access on the other hand may be primarily about using effective regulation to ensure that farmers and land managers obey the law and maintain rights of way and open access land, with a smaller role for environmental payments to enhance and increase public access where people want and need it.

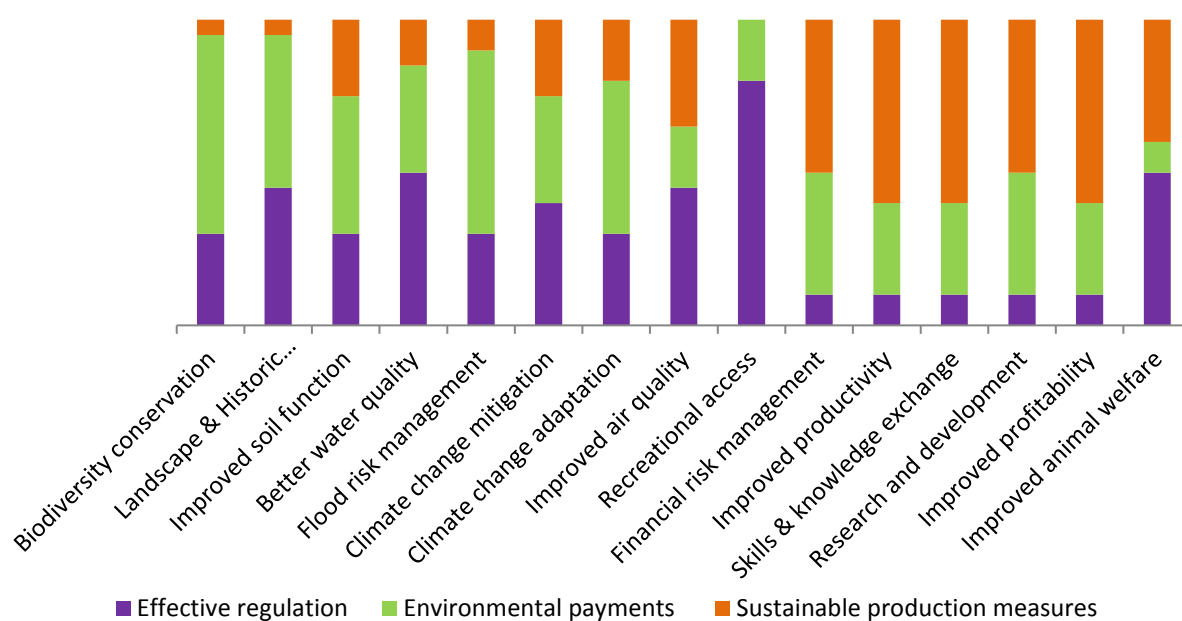


Figure 8 – An illustrative contribution of each measure to the target outcomes of a Sustainable Farming and Land Management policy

These proposals are therefore designed to be internally coherent, something that is key to addressing the flaws of the CAP identified in Section 1.

It is also important to ensure that a Sustainable Farming and Land Management policy is coherent with a range of other relevant and connected sectoral policies. This is the focus of the next section of this paper.

Section 4: Coherence with other areas of public policy

As discussed above, these proposals for a Sustainable Farming and Land Management policy envisage a focus on agriculture, forestry and environmental land management. In order for this policy to achieve its objectives however, it will be crucial to achieve coherence with other key policies. For example, the public goods framework used to inform these proposals includes rural vitality.

This is defined as “...the availability of a certain level of economic opportunity, a minimum level of services and infrastructure as well as human capacity and functioning social networks to sustain the long-term viability and attractiveness of rural areas as places to live, work and visit. The land, the character of the landscape, climate and other natural factors all serve to shape the customs, traditions and identity of rural areas.”⁹⁶ Clearly, farming and land management will only make a limited contribution to this public good, and other rural policy interventions will be needed.

Similarly, whilst these proposals will make an important contribution to food security by securing our natural resource base and improving the sustainability and resilience of production, other areas of policy will be equally if not more important. For example, trade policy will have a key role to play in ensuring access to markets and the integrity of supply chains, and broader food policy will be critical in creating the right conditions for UK food and farming to thrive. The issue of food security is considered further in Box 11 below.

Box 11 – Food security and need for policy integration

Food security is a complex issue - poverty, inequality, utilisation and lack of access to nutritious food, all play a role – there is no simple solution. Global and local food security are two different things with different challenges and solutions. It is clear that we need better, more joined up policies on food, farming and fishing, resource management, wildlife, land, water and public health. We need to focus our attention not on producing more now, but improving access to good food, reducing food waste throughout the chain of production and safeguarding the natural resources on which production depends, so that we are able to meet the needs of future generations better.

To achieve a vision where humans, farm animals and nature thrive, we believe all institutions, organisations and individuals with a stake in the food system need to address global, local, short and long-term food security. We need to ensure that people have physical and economic access to sufficient, safe and nutritious food and that food is produced and distributed in a way that optimises nutritional outcomes whilst protecting livelihoods. But importantly this needs to be produced within a system that maintains environmental integrity. Only by addressing the entire food system and the environmental limits we operate within can we ensure access to food in a manner that also safeguards biodiversity and the wider environment.

Whilst future land and marine management should seek to provide and benefit from a diversity of sustainably produced commodities, food production should also seek to diversify (in approach and produce) where this helps contribute to sustainable development and well-being. For example, organic production can have benefits for biodiversity and ecosystem resilience. Outside the organic sector, crop and livestock diversification is also important for sustainable, resilient food production.

⁹⁶ Hart, K., et al (2011), What tools for the European Agricultural Policy to encourage the provision of public goods? Report for the European Parliament’s Committee on Agriculture and Rural Development

The connections between a Sustainable Farming and Land Management policy and other areas are illustrated in Figure 9. This highlights the fact that these proposals should not be viewed in isolation. Instead, they should be seen as only part of a much bigger policy landscape, the totality of which will be key to achieving the objectives identified in this paper.

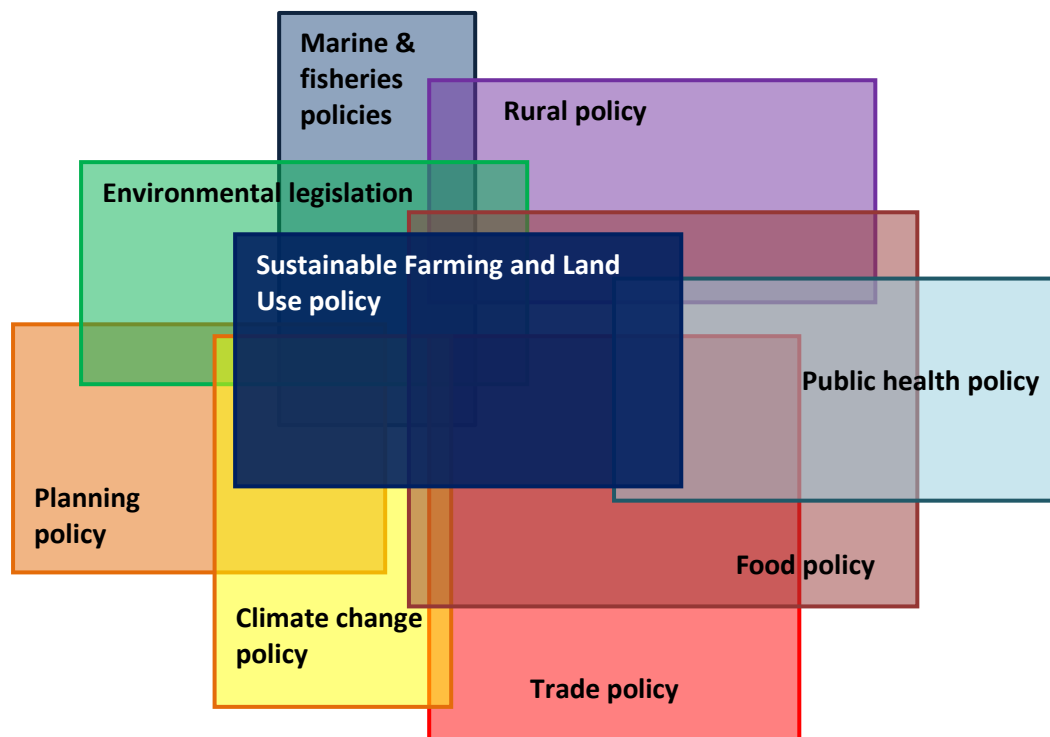


Figure 9 – Coherence of a Sustainable Farming and Land Management policy with other policy areas

Table 3 explores this further to identify how the different policies identified in Figure 9 are relevant to a Sustainable Farming and Land Use policy, and how coherence can be achieved.

Table 3 – Links between a Sustainable Farming and Land Management policy and other key sector policies		
Policy area	Examples of relevance	Steps to achieve coherence
Environmental legislation	<p>Obligations placed on farmers and land managers associated with existing and future environmental legislation will underpin the payments through the Sustainable Farming and Land Management policy, forming a key part of the legislative baseline. These include key protections provided by legislation such as the Birds and Habitats Directives stemming from EU, and the Wildlife and Countryside Act and Countryside and Rights of Way Act.</p> <p>Objectives associated with this legislation will create the policy driver for investing in environmental land management</p>	<p>Environmental payments under a Sustainable Farming and Land Management policy will play a pivotal role in securing the objectives of environmental legislation.</p> <p>Equally, ensuring that these payments build from a baseline of effective and well enforced regulation will be important in making sure that they secure value for money.</p>

<p>Food policy</p>	<p>Food production is the primary output/outcome of farming. It is vital that the two policies are developed coherently to ensure shared outcomes around environmental and social public goods/benefits.</p> <p>Ensuring transparency of the supply chain will also be important to strengthening the position of farmers, and improving their profitability.</p>	<p>Broader food policy will play a key role in supporting a Sustainable Farming and Land Management policy.</p> <p>For example, expanding the role of the Groceries Code Adjudicator and providing it with more powers could strengthen the position of farmers, and improve transparency in the supply chain. As an explicit assumption in a Sustainable Farming and Land Management policy is that farmers will secure more of their income from the market, ensuring food policy enables this will be critical.</p>
<p>Trade policy</p>	<p>Trade policy will play an important role in creating the macro-economic conditions for the sector.</p> <p>Maintaining access to the EU market will be an important part of ensuring the resilience of farming. If UK producers no longer have access to what is currently their home market, it could have negative consequences for some sectors. This may have an impact on the way in which these producers can engage with a Sustainable Farming and Land Management policy.</p> <p>Negotiating Free Trade Agreements (FTAs) with countries that have lower standards, especially in animal welfare and food safety, could expose UK producers to lower cost competition, and undermine the effectiveness of regulation in the UK.</p>	<p>The OECD identifies a stable macro-economic context as a key determining factor in the success of domestic farming and land use policies.</p> <p>As such, ensuring trade policy supports a Sustainable Farming and Land Management policy will be critical. This should entail maintaining access to EU markets for UK producers, something the Government has made clear is a key aim of their negotiating strategy.</p> <p>Ensuring UK producers are not subject to competition from countries with lower regulatory standards will also be key. Ministers and farming unions have made it clear that high environmental, animal welfare and food safety standards are a core part of UK farming. Maintaining these standards through any trade deals should be a central aim, and will be important to building an effective and equitable regulatory framework in the UK.</p>
<p>Planning policy</p>	<p>National and local planning policy will have an important role to play in achieving more sustainable agriculture and land management. For example, through Local Plans, local authorities determine where land use change should occur in their areas, through allocating land for housing and other forms of development. Local Plan policies usually seek to avoid developing on the Best and Most Versatile agricultural land and to plan for green infrastructure in new developments. Local Planning Authorities are under a legal duty to promote biodiversity, and some have plans in place to do this. They also play an important part in avoiding and mitigating</p>	<p>Opportunities exist to achieve better coherence both locally and nationally. Local Plans represent a framework that already exists at a local and sometimes regional level to control land use over extended time periods (25 years or more), and to protect wildlife corridors and other key areas of nature. Local Plans offer an opportunity to plan for more sustainable land use at a local and landscape scale level to meet multiple objectives, ensuring new homes and infrastructure complement our environment, and respect natural process such as coastal change wherever possible.</p>

	development in areas of at risk of flooding and prone to coastal change.	National planning policy should also play a key role in reducing the impact of agricultural production, for example by considering the impact of development on air quality, and requiring appropriate mitigation.
Rural policy	These proposals for a Sustainable Farming and Land Management policy envisage the aspects of existing Rural Development Programmes that do not relate to agriculture, forestry or land management falling under a different policy. Rural development though, such as improving connectivity in rural areas, will be important for agriculture and other land based sectors, just as it will for all rural businesses.	In many respects, a Sustainable Farming and Land Management policy should be viewed as a subset of a broader rural policy. As rural businesses, farming and forestry operations will need access to key physical infrastructure such as broadband in order to grow, and secure market access. As such, ensuring a coherent rural policy is in place will be key to many aspects of these policy proposals, particularly those measures aimed at creating a more innovative, resilient and market facing sector.
Public health policy	There are several points of interaction between farming and land management policy and public health, ranging from the mental health benefits associated with access to the countryside and green space, physical health benefits of outdoor recreation and encouraging healthy and sustainable diets, for example through public procurement for schools and hospitals. In turn, public health policy can create market demand for healthy nutritious food, providing new opportunities for farmers and growers to diversify and add value.	A Sustainable Farming and Land Management policy can contribute to public health goals in many ways. For example, requiring recipients of public money to maintain rights of way will help to ensure continued access, and help to realise the associated physical and mental health benefits. Targeted funding for the creation of new rights of way will also help to address access issues and encourage more physical activity.
Climate change policy	The UK Climate Change Act sets binding targets for emissions reductions. Although the land use sector represents a small proportion of overall emissions, it is an area of the economy where emissions are not dropping rapidly enough. This has led the Climate Change Committee to conclude that the current voluntary approach to reducing emissions is not effective.	A Sustainable Farming and Land Management policy should drive large scale restoration and creation of habitats such as peatlands and native woodland that will in turn store and sequester carbon and other greenhouse gases. It could also compensate farmers for taking sensitive soils out of cultivation, such as deep peat in the Fens. In addition, there is a need to improve resource use efficiency to reduce emissions associated with agricultural production. As discussed above, mechanisms such as loans and advice could help achieve this aim.
Marine & fisheries policies	Although the impact of fisheries policy on agriculture may be limited, agricultural production and land management will have significant impacts on fisheries. For example, nitrogen pollution from agriculture has significant negative impacts	In general terms, the key intervention required to reduce the impacts from agriculture on the marine environment is the proper enforcement of effective regulation. However, targeted funding of improvements to farm infrastructure

	on fisheries and the marine environment, and is subject to legislation such as the Water Framework Directive.	may be appropriate, alongside land management interventions such as buffer strips and cover crops.
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Recognising the links between these different policy areas, and taking the opportunity to improve alignment and coherence between domestic policies, and what have been to date European competencies, is one of the significant opportunities of Brexit.

So far, this paper has looked at both *why* we need a new policy, and broadly *what* that policy should consist of. These ideas are still embryonic, and Wildlife and Countryside Link intend to, in discussion with others, develop these over the coming months.

Another crucial aspect to this though is *how* a Sustainable Farming and Land Management policy will be implemented.

Section 5: Implementing a Sustainable Farming and Land Management policy

Anyone who has ever tried to follow a recipe will know that the *how* is as important, if not more important, than the *what*.

It is perhaps useful therefore to think about policies as tools – how you use them is critical. Agri-environment schemes are a case in point. HLS was used extensively and flexibly to good effect to secure a range of different outcomes in different contexts. This was partly a function of its design, which had this flexibility baked into it, but primarily it was down to the expert advice that was provided in support of its implementation, which was key to making use of this flexible design.

It is no surprise therefore that much of the debate around the future of farming and land management policies has focused on how they should be implemented, and at what scale.

As a starting point, there are some elements to the implementation of a future policy that will be an absolute prerequisite for success. First and foremost amongst these is the need for well-resourced and expert advice. There is an increasing body of evidence to suggest that advice is critical to the success of environmental land management policies, and therefore value for money, which is covered in Box 12 below. Referring back to the need to secure a balance across effectiveness, practicality and deliverability set out in Section 3, a good adviser will get you a long way to helping achieve all three.

Box 12 – The importance of investing in good advice

A major Defra review of advice and incentives in 2013⁹⁷ found that incentives are more effective if supported by advice, and that advice needs to come from a trusted source. This reinforces three decades of experience with environmental land management policy, whereby a high degree of continuity in advice provision is central to building the trust necessary to secure the best outcomes.

A major review of HLS implementation also highlighted the importance of qualified advisers in maximising the effectiveness of the scheme, and using its inherent flexibility to tailor management

⁹⁷ Defra (2013), Review of Environmental Advice, Incentives and Partnership Approaches for the Farming Sector in England.

to a specific farm or habitat.⁹⁸ This advice was also essential in setting appropriate target outcomes, referred to as Indicators of Success. Research has also found that advice is highly effective in improving the quality of habitats.⁹⁹

This evidence base has been further supplemented by two reviews for Natural England assessing the role of advice in both the establishment of HLS agreements¹⁰⁰ and the impact that advice has on the outcomes secured by individual agreements¹⁰¹. These reports highlight the importance of qualified advice to securing the target outcomes and by extension value for money. Importantly, they also demonstrate the importance that farmers place on the advice they receive, with 71% viewing advice as important to the delivery of their agreement, and many expressing concern about the lack of continuity in advice, and patchy follow up support.

In a future policy, we therefore envisage advice being available across all elements of the policy, from helping farmers and land managers to achieve regulatory compliance (separate from enforcement activities), advising on high quality environmental interventions across both the comprehensive and targeted Environmental Land Management contracts, and business advice to provide farmers and foresters with the tools to be more innovative, sustainable and resilient.

Secondly, investment in basic systems and processes is essential. Experience with various CAP IT systems (not least the current iteration in England, Siti Agri) demonstrates how comprehensively policy objectives can be undermined if these systems are not fit for purpose. Retaining the current failed IT system and allowing it to dictate policy design would be a fatal mistake that could significantly constrain ambition and restrict our ability to realise the opportunities of Brexit¹⁰².

Thirdly, adopting a partnership approach by engaging farmers and land managers, the public and stakeholders at all stages of the policy development and implementation process is essential in securing their insight and buy-in. This in turn can lead to policies that are relevant, create a sense of co-ownership, and enable long-term and enduring change.

Finally, investing in comprehensive monitoring and evaluation to facilitate continuous and iterative improvement is essential. The development of agri-environment schemes in the last three decades has been fuelled by this process, and England has been a leader in Europe in the development of the evidence base for what works in environmental land management. Leaving the EU provides an opportunity to build on this legacy, and use monitoring and evaluation to drive innovation in this area of public policy.

These four aspects – advice, investing in critical systems and processes, partnership and monitoring – should be viewed as the bedrock of *how* we go about implementing future policy, and relevant regardless of any other approaches to implementation that are developed.

⁹⁸ Mountford, J.O. & Cooke, A.I. (editors), Amy, S.R., Baker, A., Carey, P.D., Dean, H.J., Kirby, V.G., Nisbet, A., Peyton, J.M., Pywell, R.F., Redhead, J.W. & Smart, S.M. 2013. Monitoring the outcomes of Higher Level Stewardship: Results of a 3-year agreement monitoring programme. Natural England Commissioned Reports, Number 114.

⁹⁹ Lobley M, Saratsi E, Winter M, Bullock JM. (2013) Training farmers in agri-environmental management: the case of Environmental Stewardship in lowland England. *Int. J. Agric. Manag.* 3, 12–20. (doi:10.5836/ijam/2013-01-03)

¹⁰⁰ Jones N, et al. (2015) ES quality assurance programme, 2013/14: Assessing the role of advice and support on the establishment of HLS agreements. Natural England Contract Reference LM0433

¹⁰¹ Boatman N, et al. (2015) Agreement scale monitoring of Environmental Stewardship 2013-14: Assessing the delivery of Higher Level Stewardship agreement outcomes and their relationship with the quality of advice and support provided to agreement holders. Natural England Research Report LM0432.

¹⁰² Keeping in mind the definition of the 'Sunk cost trap' could be important here: "The tendency of people to irrationally follow through on an activity that is not meeting their expectations because of the time and/or money they have already spent on it"

Treating this as a starting point, there have been a range of other debates about how to implement a future policy. These have covered issues such as the balance between local and national delivery, the role of state and non-state actors, and to what extent public policy (and associated payments) in this area is permanent, or a bridge to private markets and other innovative financing mechanisms (see Section 7 below).

For example, implicit in our policy proposals above is at least some continued role for a national public agency, such as Natural England. Others however have proposed a more devolved model, from delegating policy design and delivery to other public bodies such as National Parks¹⁰³, to more radical approaches such as direct local commissioning models as proposed by Dieter Helm¹⁰⁴, or national ecosystem procurement funds and Local Environmental Governance Organisations, as proposed by Ian Hodge¹⁰⁵.

There is much to learn from these ideas and approaches, and we recognise that there is significant merit in a more local approach. As such, our proposals above, particularly with regard to targeted Environmental Land Management contracts, entail significant local flexibility and the piloting and adoption of novel and innovative mechanisms. Within this, there would be scope for local and non-state actors to play a significant role.

We do however maintain that there is a need for a consistent national offer, and a coherent national framework, given the importance of this policy in contributing toward national and international commitments and obligations. Rather than a traditional, top-down approach though, this could be based on a more 'permissive framework', one that enables a diversity of approaches and associated innovation. As such, the initiative for action would be shared between all interested parties, from central government to local partnerships and individual land managers, recognising that the impetus to restore the environment will need to come at all scales, and from both public and private.

The proposals set out below for how to implement this policy therefore attempt to achieve a balance between the local and the national, providing an active, coordinating role for public agencies whilst allowing space for communities, farmers, non-governmental organisations and others to play a significant part in implementation, and take ownership of the policy and its objectives. To achieve this, we therefore envisage the following key features.

Key features

- As a single national policy, comprehensive Environmental Land Management contracts would be delivered by a national agency with the culture and remit to secure high environmental outcomes. Natural England currently provide the closest fit for this role.
- The same agency would be accountable for the implementation of targeted Environmental Land Management contracts, coordinating the two within a single national framework to deliver against national policy objectives, realising opportunities for landscape-scale outcomes.
- This framework though would be 'permissive', allowing significant scope for local leadership to determine local priorities and drive delivery. This could be taken forward by a variety of actors in collaboration with a national agency, such as groups of farmers and land managers, Catchment Partnerships, National Parks and NGOs.

¹⁰³ National Parks England (2017) *Farming In The English National Parks: Ideas from the National Parks England Task and Finish Group on the Future of Farming*

¹⁰⁴ Helm, D. (2016), *British Agricultural Policy after BREXIT*. Natural Capital Network – Paper 5.

¹⁰⁵ Gawith, D., & Hodge, I. (2017), *Envisioning a British Ecosystem Services Policy: Policy brief on an alternative approach to rural land policy after Brexit*.

- To drive innovation, the lead agency would fund pilots and novel approaches, such as reverse auctions and direct commissioning of specific outcomes, in many instances devolving initiative and delivery to local partnerships.
- The same agency would act as a broker, using public money to leverage contributions and collaboration from others, such as water companies.
- Building on the model of the Countryside Stewardship Facilitation Fund, there would also be a significant role in implementation for groups of farmers and land managers, something that may often build on existing networks. This would put peer-to-peer learning and advice at the centre of a future policy, enabling longer-term change and ownership of the policy objectives.
- Advice would be central to all elements of the policy, and be provided by a variety of actors. There would be significant public investment in advice, recognising its importance in securing effectiveness and overall value for money.
- All elements of the policy would be covered by a comprehensive monitoring and evaluation framework, designed to drive constant improvements. Key to this will be engaging farmers and land managers in the process, building on approaches used by initiatives such as the Innovative Farmers network and their use of field labs¹⁰⁶.

As the policy became established, and systems and processes were bedded in, the balance between a national approach and a more devolved approach could shift in favour of the latter. This could be achieved by allowing local areas to 'opt out' of the national policy by proposing to deliver higher quality outcomes in a given area, having had their plans for this approved as consistent with national priorities, but allowing for more innovative and locally relevant approaches.

Whatever the approach to secure more local leadership and buy-in, this does entail an acceptance that things may be 'messy'. Crucially, it is also something that cannot be prescribed from the outset – the purpose of this framework for implementation should be to create the conditions for novel and innovative approaches to delivery to emerge. As such, we have not attempted to describe what these might be in detail here.

Figure 10 below attempts to illustrate what this framework would look like, informed by the key features above, and the policy design set out in Section 3.

In this model, policy objectives are set at a national level, reflecting the importance to the policy in meeting national and international commitments and obligations, such as the Sustainable Development Goals. To steer implementation against these objectives, there would be a national governance framework based on the partnership principle, reflecting and engaging the wide range of civil society interests with a stake in this policy area.

Regulatory standards would be applied by competent authorities, such as the Environment Agency (EA) and the Animal and Plant Health Agency (APHA). As set out in Section 3, there would be systems in place to identify where recipients of public money were breaching legislative standards in a way that undermined the effectiveness of that investment, with proportionate penalties applied as appropriate.

For the comprehensive and targeted Environmental Land Management contracts, Figure 10 illustrates the mix of state and non-state actors responsible for implementation across both of these elements, with a national public agency remaining accountable for all expenditure, and its contribution to national objectives. The size of the arrows in this area is intended to illustrate the proportional role that these different delivery agents would play in policy implementation, and is

¹⁰⁶ <https://www.innovativefarmers.org/>

fluid across both the comprehensive and targeted elements; this would be crucial to achieve a resilient and coherent ecological network.

The implementation of measures to promote production that is resilient, sustainable, innovative and humane would be variable, and spread across public, private and non-governmental actors as appropriate. For example, grants could be provided to groups of farmers or networks to undertake field labs to test new ideas and approaches, and then support provided to achieve dissemination of these. Loans may be provided by private sector financial institutions given their obvious expertise, with guarantees provided by Government where necessary.

Wrapping all this together is the comprehensive monitoring and evaluation framework mentioned above, with monitoring applied to all levels of design and implementation, feeding back to national and local governance structures to facilitate continuous improvement.

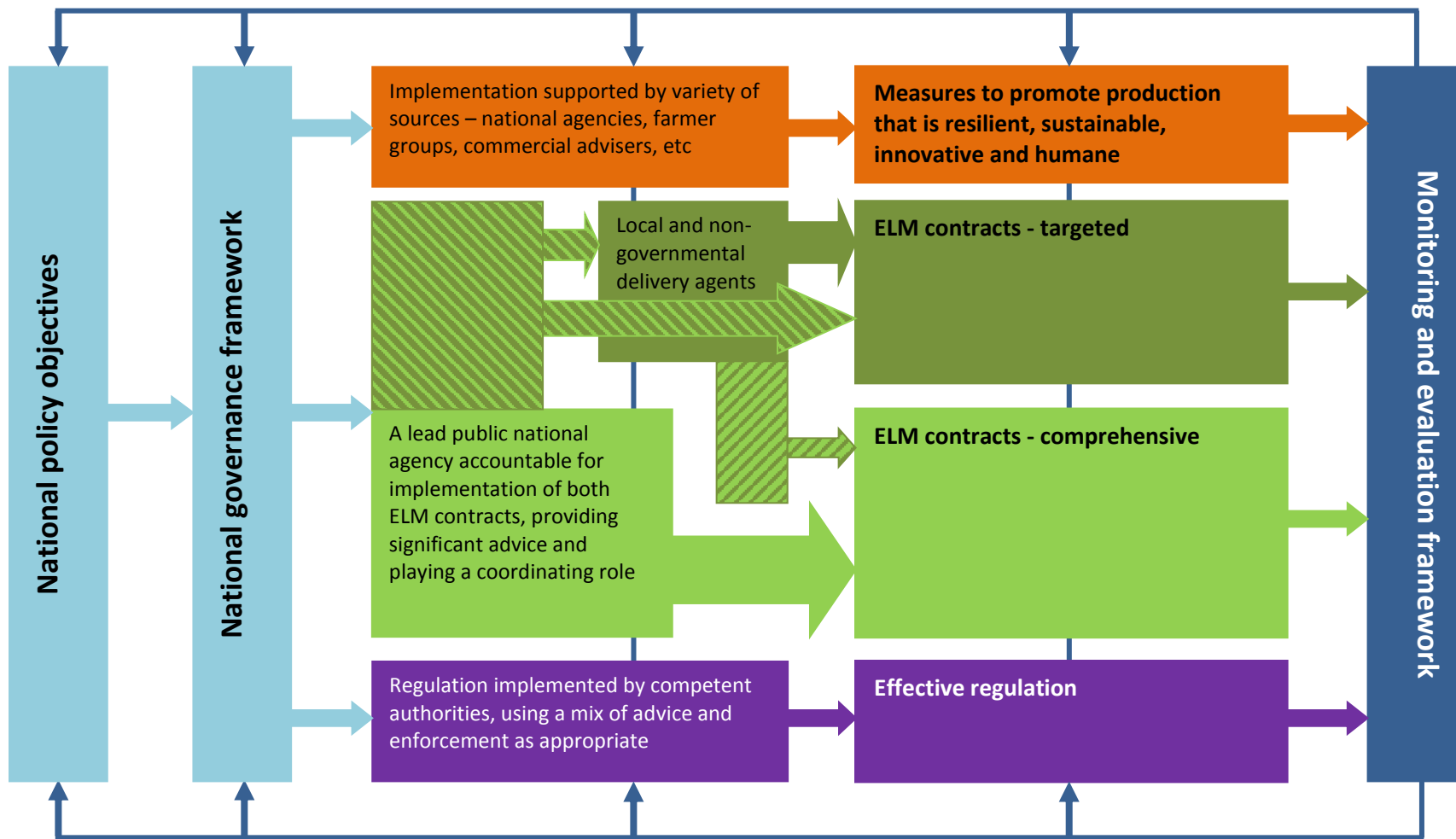


Figure 10 – A framework for implementation

Many of these ideas and proposals are still embryonic, and we will look to develop them in the coming months, in discussion with others. For some of the more novel approaches set out above, there will be a need to pilot these alongside the development and implementation of new policies after 2020. This in turn leads us to consider the broader issue of transition, and how we can move from the status quo, to the new policy and delivery model set out above.

Section 6: Transition

The issue of transition is key.

Although our proposals are not as revolutionary as those that others have suggested¹⁰⁷, they do represent a significant departure from the status quo. The most obvious example of this is the end of direct payments, given the role these play in farm incomes¹⁰⁸, and the major refocusing of public support toward the provision of public goods.

As such, we recognise that there is a need to transition from our current policies under the CAP, to a future policy. Practically, there is also a need to build towards this new policy, given that the architecture and delivery arrangements will need to be developed, and in some cases piloted.

Recognising this however does not mean that Government should kick this policy area into the long grass. Having secured new primary powers by 2020 through the proposed Agriculture Bill and factored in delivery lead times for new and adjusted policies, there can be no excuse for delay over the implementation of new policies given the need to proactively manage change and secure better value for money. Government must set a clear direction from the outset, and with this in mind, should use the Agriculture Bill to:

- a. Set out a pre-defined and time limited transition period. In order to provide certainty and stability, farmers and land managers will need clarity on the duration of a transition period to allow them to plan for the future.
- b. Provide a clear statement of intent to put the environment at the heart of future policy, and provide timescales for implementation. This will allow farmers and land managers to plan for future policy with clarity as to its purpose.

Securing clarity on these two points is essential if we are to avoid drift and stagnation, something that is not in the interests of farming or the natural environment.

The proposals set out here are predicated on this clarity being achieved as soon as possible, and are aimed at proactively managing change, and identifying ways in which we can practically manage the transition between policies for farmers, Government and the environment. They also assume that the commitment to match current levels of CAP expenditure in cash terms to the end of the current Parliament extends to 2022, and that our departure from the EU coincides with the end of the Article 50 period in March 2019.

From this basis, we envisage an approximately five year transition period to 2025, falling into three phases.

Phase 1 – Beginning of 2020 to end of 2021

The focus of this phase would be on using existing mechanisms and new primary powers to start the process of change. This would include:

¹⁰⁷ For example, we reject the idea of moving to the 'New Zealand model', and still see a role for public support for agriculture in return for clearly defined public goods. We similarly are not convinced that now - given all of the uncertainty and challenge of Brexit - is the time to move immediately to some of the more novel approaches that others have suggested, such as those set out by Dieter Helm referred to above.

¹⁰⁸ Defra (2016), The role of CAP payments in farm income

- From 2020, redeploy the 30% of direct payments allocated to Pillar I greening measures and start capping direct payments, with funding transferred and re-purposed to increase the budget available for Pillar II schemes, including Countryside Stewardship, and pilots for new policies.
- From 2021, following the end of the CAP, start phasing out direct payments. Various options should be explored, including tapering payments, or de-linking them from their area basis. The latter would allow the delivery resource currently devoted to administering and inspecting BPS to be immediately redeployed to facilitate the roll out of the Environmental Land Management contracts.
- As these Pillar I funds are released, channel them into a phased early roll out of the comprehensive Environmental Land Management contract. This would enable a staggered transition between policies, and allow for any initial issues to be addressed before full implementation in 2022.
- From 2020, pilots begin for all aspects of this new policy, including new approaches to both design and implementation. This would include building on the existing results-based payment scheme pilots¹⁰⁹, as well as pilots for more novel approaches such as reverse auctions, locally-led delivery and PES schemes.
- From 2020, invest public money in other areas to manage the transition, such as business advice, knowledge exchange and research and development. If direct payments are de-linked from their area basis, there may be scope capitalise these into bonds to fund retirement schemes for those who want a managed exit from the sector, whilst also focusing public policy effort toward complementary measures that facilitate access for new entrants, such as tenancy reform.
- During this phase, it will also be important to build in lessons from other initiatives, such as the 25 year Environment Plan Pioneer projects.

Phase 2 – Start of 2022 to start of 2025

The focus of this phase would be the implementation of a new policy, and the end of the transition away from direct payments and other obsolete CAP mechanisms.

- At the beginning of 2022, make fully available a new Sustainable Farming and Land Management policy, complete with all the elements set out in Section 3 above. Applications for contracts available on a monthly basis to manage demand and workloads for delivery bodies, with applicants transferred from existing mechanisms such as Countryside Stewardship on a voluntary basis.
- For those who remained in existing agri-environment schemes beyond this point, given the likelihood that these payments may be lower than a new policy, there may be scope for a transitional direct payment, modelled on the Upland Transitional Payment (UTP)¹¹⁰, to ensure those in existing schemes are not disadvantaged.
- Phase out of direct payments continues, in conjunction with transitioning across to a new policy, and significant support through advice and other measures to support resilience set out in Section 3.
- Continue pilots for new and innovative approaches, increasing in scale and ambition, with a focus on bringing in private sources of finance and developing new markets for environmental goods and services.

¹⁰⁹ More information available at <https://www.gov.uk/government/publications/results-based-agri-environment-payment-scheme-rbaps-pilot-study-in-england>

¹¹⁰ The UTP provided de facto compensation to those unable to enter the new Uplands Entry Level Stewardship scheme, due to participation in an Environmentally Sensitive Area (ESA) or Countryside Stewardship Scheme (CSS) agreement.

Phase 3 – Beginning of 2025 onward

The focus on this phase is to bed in new policy arrangements as business as usual, with an end to all direct payments, and the final transition of all farmers and land managers to the new policy framework.

- By 2025, all direct payments come to an end, with only some residual transitional direct payments for those in longer term existing agri-environment agreements remaining.
- A Sustainable Farming and Land Management policy is well established, with new delivery arrangements in place, significantly up-scaled advisory provision and monitoring and evaluation in progress.
- Ongoing policy developments to improve performance, as the outcomes of earlier pilots are embedded into local and national approaches to policy.

These proposals will allow for a staged and managed transition to a new policy, providing time for farmers and land managers to adapt, for Government to develop policies and associated systems and processes, and for delivery bodies to manage their resources and the staggered phase out of the CAP over to a new policy.

They are also pragmatic, and recognise the scale of change that the sector faces, whilst providing a clear signal to the Treasury and the public that their investment in agriculture post-Brexit will overcome the flaws of the CAP set out in Section 1, and start to yield a clear return on investment.

However, to make these proposals work, clarity is needed about the timing and direction of travel as soon as possible.

This proposed transition period focuses primarily on how to move from one public policy to another, but there are clear signals, for example in suggestions for pilots to develop new markets, that we view public policy as just one lever to achieve change. Many members of Wildlife and Countryside Link have worked extensively on the development of other, non-Governmental sources of funding for the environment. Whilst public funding will remain of critical importance to secure a range of public goods, Brexit offers the opportunity to design this public policy in a way that aligns more coherently with, and helps to catalyse other forms of investment.

Section 7: Innovative finance

The intervention logic explored in Section 2 centres around the degree of market failure associated with certain objectives, and degree to which they meet the definition of a public good, amongst others. Some of these objectives, such as biodiversity and the historic environment are likely to remain inherently non-marketable in most circumstances. However, for some, such as water quality and flood risk management, there are many examples where there may be a willing buyer, and willing seller, for these services.

In the medium to long-term, post-Brexit strategies and economic models for farming and land management must therefore recognise the vital and integral role played by natural resources - and the various ways in which a more innovative funding approach can be taken to achieving this, alongside continued investment through public policy.

The Government and taxpayers cannot be expected to pay for everything; the private sector depends on natural capital and must contribute to its maintenance. Future investment in green infrastructure and wildlife-friendly farming should therefore be supported by a combination of public payments and

private capital, making it profitable and rewarding to manage land sustainably for both private and public benefit. Taking such a hybrid public:private approach to securing natural capital will not only help enhance natural assets that provide important services to society and underpin food production, but open farming and land management to new funding opportunities – especially in the uplands.

Payments for ecosystem services (PES) offer one of the quickest wins here, not least with wider industry becoming more aware of its dependency on a healthy natural environment. In addition, there is a growing evidence base involving the Defra PES pilots¹¹¹ and existing initiatives like *SCaMP*¹¹² and *Upstream Thinking*¹¹³ providing lessons on which to build. A PES approach could complement a future public policy, helping deliver public benefits and environmental sustainability at lower cost to the taxpayer. However, there are a number of reasons why this type of approach does not currently exist. The PES pilots run by Defra identified a number of non-financial barriers to creating an effective payment mechanism. These included economic challenges, such as ensuring a fair contribution is made by those who benefit and that payment rewards additional service delivery, rather than preventing bad practice (which should remain the function of legislative standards and regulation to ensure equity and a level playing field). There are also the practical challenges of establishing hydrological and ecological standards for natural engineering, and developing contracts that enable counterparts to specify standards of service delivery and define its limits.

Even so, there is potential for functioning markets based on private investment in environmental restoration that delivers tangible benefits for individual businesses. For example, power network operators investing in upstream land to reduce the costs of flood protection, or food businesses investing in soil restoration on the farms in their supply chains. And there are already some small-scale examples in place, such as Wessex Water N-Trade (a market in reducing farmers' nitrogen inputs to improve water quality) and the Green Alliance and National Trust's work on "natural markets"¹¹⁴. The concept being developed here is an area-based market in avoided costs, delivering improvements by bringing together groups of farmers and land managers to sell ecosystem services to groups of beneficiaries. It is a multi-seller, multi-buyer consortium contract for large scale interventions in the environment, beginning with a market in flood alleviation and water quality, and targeting the upper-reaches of a catchment.

Research by Green Alliance has also concluded that such a "natural markets" approach should be coupled with a new model for policy makers, based on the concept of environmental efficiency, enabling food businesses to maintain the natural assets they depend on, and protect themselves from increased costs. Improving environmental efficiency will bolster the long term economic resilience of the UK food and farming sector, and is likely to reduce overall costs, compared with dealing with the consequences of continued environmental decline.

There is a strong economic case for the food sector as a whole to take action on environmental restoration. However, the mismatch between control over how land is managed, which lies with farmers, and the financial resources within the sector for environmental restoration, which sits with their customers and other downstream businesses, is a major barrier to progress.

Alongside public policy, a new Sustainable Farming and Land Management policy should significantly increase incentives for private investment in environmental restoration. As an illustration, Green Alliance estimates that a one-off investment of £240 million, which is the same amount as the

¹¹¹ Defra (2016), *Defra's Payments for Ecosystem Services Pilot Projects 2012-15: Review of key findings*

¹¹² <https://www.unitedutilities.com/corporate/responsibility/environment/catchment-management/>

¹¹³ <http://www.upstreamthinking.org/>

¹¹⁴ Green Alliance (2016), *New markets for land and nature: How Natural Infrastructure Schemes could pay for a better environment. Report for the National Trust.*

estimated annual losses to the farming sector from soil degradation, could restore soils on over three million hectares of farmland, nearly a fifth of the UK's agricultural land¹¹⁵.

In order to progress these and other market-based solutions, like conservation and restoration bonds, environmental impact bonds, offsetting regimes and tradable permits, we need a mix of actions:

- Introduction of quantifiable long-term objectives for environmental restoration to facilitate market creation, by driving up demand for resource efficient processes, rewarding investment in natural systems, and penalising or prohibiting practices which degrade the natural environment.
- Better understanding of the quality and extent of natural infrastructure assets, as well as capital and maintenance spending needed – with a role for asset registers and corporate natural capital accounting.
- Investment programme and a catchment-based approach allowing for more joined up work from the tops of hills to the sea – using the power of mapping and local data to inform and direct where public payments should be invested and new markets created for greatest benefit.
- On the supply side, providing land managers with the confidence that investment in nature will be recognised, through long-term contracts and markets.
- On the demand side, giving potential buyers—such as developers, utilities and local authorities – confidence in the product they are buying.

The Government can address these needs and facilitate market development by taking steps such as:

- Removing policy barriers and providing the derogations and licences required to trade. For example, ensuring that the Reservoirs Act does not inhibit use of natural flood management practices on farmland.
- Increasing research and development grants to, for example, fill-in gaps in knowledge regarding the effectiveness of natural flood management methods at catchment scale.
- Making available seed funding to support development of new institutions and payment mechanisms, for example development grants to fund up-front costs of land management consortia selling ecosystem services from land under their control.
- Broker and support a new Sustainable Food Pact, which would be a structured pre-competitive collaboration between food sector companies, focused on restoring and maintaining natural systems needed for agricultural productivity.
- Introducing incentives to support private investment into natural capital, such as Natural Capital Allowances, based on an extension of the existing capital allowance tax relief scheme, that would be available to businesses at all levels in the supply chain, not just land managers. This would supplement, not replace, public payments to farmers and would use public funding to leverage private sector investment required to restore natural assets at the scale needed. This government contribution could result in a five-fold increase in private investment from food manufacturers and retailers, leading to significant public and private benefits.
- Use of smart regulation to, for example, establish units of measurement, trading periods, certification, and responsibilities on polluters that can help create demand.

Some of these steps could be taken within a Sustainable Farming and Land Management policy, such as the provision of seed and match funding, or funding of networks and pilots. Other areas would sit outside this policy, such as a Sustainable Food Pact, but provide directly complementary funding.

Some of these measures may fail, but others will succeed. We therefore need to recognise that failure is an integral part of successful innovation, and Government can help to cushion the impact of failure

¹¹⁵ Green Alliance (2016), *Natural Investment: Future proofing food production in the UK*.

on private businesses, farmers and land managers that are willing to invest in these new approaches to securing sustainable land management.

So far, this paper has focused on the issues immediately relevant to a new policy for England. These have included the case for public investment, what a new policy should look like and how it can be implemented, alongside an assessment of three immediately relevant dependencies including broader policy coherence, the importance of private sector investment, and how we can transition to a new policy from where we are now.

There are however two broader ‘macro-dependencies’ that will have a material impact on our approach in England to this policy area: devolution and common frameworks, and trade policy and World Trade Organisation rules.

Section 8: Devolution and common frameworks

The impact of the UK’s withdrawal from the EU on the UK’s devolution settlements “...is one of the most technically complex and politically contentious elements of the Brexit debate”¹¹⁶. Given this complexity, it is useful to clarify that there are two issues that need to be addressed through the Brexit process. One is replicating existing EU laws (and the common frameworks they provide) in domestic law through the European Union (Withdrawal) Bill. The other is replacing EU policies like the CAP with new replacement policies following this withdrawal process. It is the latter that we are addressing in this paper.

Who has competency over future farming and rural land management policy is a hugely contentious issue. Agriculture, animal welfare and environment policy are largely devolved policy areas, subject to compliance with the common framework currently provided by EU legislation in these areas. This legislative framework has limited the scope for significant policy and legislative divergence within the UK. Our understanding is that the default legal position would be that these policy areas would remain devolved when we leave the EU¹¹⁷.

Further to this, the UK Government has stated that “no decisions currently taken by the devolved administrations will be removed from them”, although it is not clear what this will mean in terms of those decisions currently taken at EU level. Whilst in theory the UK Government could re-reserve certain powers post-Brexit, or legislate in devolved areas without consent¹¹⁸, to do so would be “politically highly controversial”¹¹⁹. With the recently tabled European Union (Withdrawal) Bill, UK Ministers have suggested that they are not considering breaking the Sewell Convention, by which the UK Government seeks legislative consent from the devolved administrations to legislate in devolved areas¹²⁰.

There is, though, a clear need for some form of common framework between the four countries of the UK, in order to achieve sustainable management of shared natural resources and address trans-boundary objectives, such as climate change and biodiversity conservation, and ensure that the UK Government can meet its international obligations in all the areas discussed in this paper, to which it

¹¹⁶ House of Lords EU Select Committee (2017) Brexit: Devolution report. 4th Report of Session 2017–19

¹¹⁷ The UK in a Changing Europe. (2017). Brexit: Six months on. A report by the UK in a Changing Europe for the Political Studies Association of the UK.

¹¹⁸ For example, see the ‘Miller judgement’ - <https://publiclawforeveryone.com/2017/01/25/1000-words-the-supreme-courts-judgment-in-miller/>

¹¹⁹ Baldock et al. (2016). The potential policy and environmental consequences for the UK of a departure from the European Union. Institute for European Environmental Policy.

¹²⁰ <https://www.theguardian.com/politics/2017/jul/13/scotland-wales-brexit-great-repeal-bill-naked-power-grab-nicola-sturgeon-carwyn-jones>

is committed. In addition to this, there is also the need to maintain the integrity of the UK single market by maintaining common environmental standards in order to prevent competitive deregulation across the different parts of the UK.

How to arrive at this common framework is therefore a hugely difficult issue given the febrile nature of politics in this area, and the timescales that we face. Recognising the political unacceptability of the UK Government pursuing a unilateral approach to developing frameworks, it is vital that the four governments start to work effectively together to begin the process of developing and agreeing a common approach.

The political reality also suggests that the UK Government will find it difficult to pursue a unilateral approach, and still secure the politically necessary legislative consent motions, or potentially even a majority in the UK Parliament¹²¹.

The need to develop this framework by consensus across the four countries should be accepted sooner rather than later in order to allow the necessary time to it, and then feed this agreement into an Agriculture Bill at Westminster, which will presumably be the vehicle by which to legislate for pan-UK issues.

With this process in mind, and more generally beyond agriculture, Wildlife and Countryside Link and Greener UK have set out some initial criteria for common frameworks that should apply across the board¹²². These frameworks should:

- a. Set ambitious common standards that are at least as high as those set out in existing EU law, at the same time as retaining an appropriate degree of flexibility so as to allow implementation to be tailored to the specific environmental and legislative context in each nation.
- b. Prevent competitive deregulation but not prevent any nation from introducing higher standards.
- c. Be developed alongside a new set of fair and transparent funding arrangements based on objective environmental criteria and the delivery of public benefit, to replace the loss of EU funding streams and to enable effective implementation.
- d. Include robust shared governance arrangements (e.g. clear monitoring and reporting obligations and associated enforcement mechanisms) as a means of holding all four nations to account and resolving disputes following the loss of the functions currently carried out by the EU institutions in this respect.

A common framework for farming and land management should build on these to demonstrate high environmental ambition across the board whilst recognising that individual policies will have to reflect the different cultural, political and environmental contexts in each country.

Our proposals for a Sustainable Farming and Land Management policy in England have been designed to reflect this ambition.

¹²¹ Without a majority, the UK Government could find it hard to drive through a Bill that does not have the consent of the devolved administrations, given that MPs from Wales, Scotland and Northern Ireland that sit on the Government benches or in coalition with the Government hold the balance of power.

¹²² <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/european-union-committee/brexit-devolution/written/48411.pdf>

Section 9: Trade & WTO rules

In addition to devolution and common frameworks, trade policy and WTO rules will have a material impact on future policy in England.

The broad banner of trade policy covers a range of topics, including but not limited to:

- The impact of any limits to UK farmers ability to access EU markets;
- The impact that new Free Trade Agreements with other parts of the world will have on UK producers;
- The extent to which changes to trade policy will have an impact on regulatory standards and other protections, otherwise referred to as non-tariff barriers;
- The influence that World Trade Organisation rules on domestic support will have on policy development.

This section is primarily concerned with the last of these points, given the focus of this paper. However, as we noted in Table 3 above, it will be critical that trade policy is coherent with, rather than undermines a Sustainable Farming and Land Management policy, and broader environmental objectives.

As a recent paper highlights, there are "...key risks that a new...policy built around 'public money for public goods' with high standards at its core could be undermined by trade policy...based upon limited environmental regulation."¹²³

We strongly believe that the future of farming in England and the rest of the UK lies in quality and high standards – there is no mileage in a race to the bottom. To support this, trade policy should make sure that imports to the UK meet these high standards, to ensure the integrity of food being purchased by UK consumers, and that UK farmers are not placed at a competitive disadvantage.

It is therefore welcome to see a recent Defra statement that, "As the secretary of state has made absolutely clear, there will be no diminution or watering down of food standards. Leaving the EU provides us with a golden opportunity to develop a new farming and food policy. We will remain global leaders in environmental and animal welfare standards, maintain our high quality produce abroad..."¹²⁴

Given the influence of trade policy on the broader macro-economic context of agriculture, and the importance of stability within this in order to make effective use of public policy¹²⁵, making sure high standards and sustainability are hard wired into future trade deals will be essential to the long-term success of a Sustainable Farming and Land Management policy in England.

World Trade Organisation rules

WTO rules will inform how the UK governments develop and structure agriculture policy in the future. Some have suggested that they present significant barriers to basing this policy on public

¹²³ Gravey, V., Brown, I., Farstad, F., Hartley, S.E., Hejnowicz, A.P., Hicks, K., and Burns, C. (2017) 'Post-Brexit Policy in the UK: A New Dawn? Agri-environment'.

¹²⁴ <http://www.bbc.co.uk/news/business-40530700>

¹²⁵ Defra/Agricultural Economics Society conference, May 2017 - http://www.aes.ac.uk/upload_area/pdf/Jonathan_Brooks.pdf

goods¹²⁶. However, it is our case that this argument is based on a narrow and unimaginative interpretation of the rules and, whilst they are a consideration for policy development, they should not be considered a constraint in the development of an effective and attractive public goods focused policy.

We do though need to consider the implications of these rules, particularly given our proposals to phase out direct payments, and move to a new model. These rules are set out in the Agreement on Agriculture¹²⁷. Specifically, Annex II of that agreement relates to support that can be notified as Green Box compliant, and therefore not limited. More general information is provided in Box 13 below.

Paragraph 12 of Annex II sets out the rules associated with environmental programmes, and of primary relevance here are the limits on payments to income-foregone and costs-incurred. As Box 2 above sets out, this basis for payments is inherently better suited to securing better environmental land management than the most readily available alternatives (area-based direct payments with associated conditions). The direct link between expenditure and an action or result is the best way of securing value for money, and creating transparency about what public money is actually paying for. Importantly, it also fits with the principles that the more someone does to provide public benefits, the more they should receive in return.

However, using income-foregone and costs-incurred does present some issues. Creating enough of an incentive to secure sufficient uptake, or uptake in the right areas can be problematic, especially in sectors of agriculture that are potentially highly profitable. At the other end of the scale, where income from farming is low or non-existent, such as in parts of the uplands, payments can be very low, even if the ecosystem service benefits are significant.

Box 13 – WTO rules and domestic support

The WTO Agreement on Agriculture (AoA) came out of the Uruguay round of trade talks in the 1990s. It sets out the rules for domestic support to agriculture. One the purposes of the AoA is to ensure that support is minimally trade distorting, or limited if distorting.

There are different types of farm support which have different levels of impact on trade distortion. The AoA separates the types into three areas (Boxes): the Green Box covers any financial support that is non or minimally trade distorting and such payments have no spending limit; payments in the Amber Box are considered trade distorting and are subject to reductions against a baseline; payments in the Blue Box are for programmes that limit production, and are not subject to any limits yet. A member country reports to the WTO annually on which boxes it has assigned its support payments to. The EU declared in 2012-3 that it had €71.1 billion in the Green Box, €5.9 billion in the Amber and €2.7 billion in the Blue Box. In addition, a country is allowed to give payments for any farm products less than 5% of the value of output for that product annually or for payments that are non-product specific but less than 5% of total agricultural output. This is known as a *de minimis*.

Demonstrating if a payment is Green Box compliant can only be done if challenged by another WTO member country, as the WTO Secretariat does not actively 'police' members support

¹²⁶ http://fuw.org.uk/index.php?option=com_content&view=article&id=12860:gove-s-vision-for-agriculture-a-concern-fuw-says&catid=13&lang=en&Itemid=181

¹²⁷ https://www.wto.org/english/docs_e/legal_e/14-ag_01_e.htm

regimes to ensure compliance. None of the EU direct payment measures have been challenged, though a current dispute is assessing Chinese farm subsidies.

The AoA guidelines state that payments will be Green Box compliant if: an income payment is decoupled from production (i.e., does not influence the type or volume of production); an environmental payment is limited to loss of income or extra costs; structural payments (e.g., for new buildings or farming methods conversions) are time limited; payments are for marketing or training or for farming in a disadvantaged area, amongst a range of others. These rules are included in Annex II of the AoA.

There has been significant debate about what approach the UK should take when it leaves the EU. It is our view that the support should be provided within the Green Box, and that there is significant flexibility within these parameters to create a highly effective public goods focused policy.

It is therefore necessary to explore how we can innovate within WTO rules to maximise the potential effectiveness of a Sustainable Farming and Land Management policy and create a policy that is attractive to farmers and land managers whilst providing clear value for money to the public purse.

We have explored some potential options in Table 4 below. This analysis builds on the model of income-foregone and costs-incurred for the reasons described above to explore how this model could be supplemented with additional approaches where necessary. It does not provide any definitive answers, but identifies areas that we think merit further work.

Table 4 – Using WTO Green Box rules innovatively to improve the environment, landscape and animal welfare	
Option	Details
Paying total costs of production (based on a broader understanding of 'costs-incurred' than conventional agri-environment schemes)	Based on work commissioned by LUPG ¹²⁸ to secure public goods in areas where agriculture is inherently uneconomic but needed to secure environmental outcomes. Payments would cover entire costs of production, not just income-foregone and costs-incurred of a specific action. This would enable a future policy to secure public policy outcomes in areas such as the English uplands, without the need for inefficient and untargeted direct payments.
Structural adjustment assistance provided through resource retirement programmes (Para 10, Annex II)	These allow for payments to remove land and/or livestock from production for a minimum of three years. There is no explicit limit on the level of payment.
Paying for training, market and promotion services (Para 2, Annex II)	These payments allow for training and marketing promotion programmes set up by the Government to promote certain products based on higher welfare or environmental production.
Paying for capital costs of infrastructure (Para 2 g, Annex II)	These payments would allow for capital costs such as higher welfare dairy housing where revenue is foregone providing the payment is not paid to the producer.

¹²⁸ Barnes A.P., et al (2011), Alternative payment approaches for noneconomic farming systems delivering environmental public goods. Report for the Land Use Policy Group.

All of these options are based on the key principle that expenditure should be linked to an action or result. We encourage Government to be innovative in their interpretation of WTO rules; whilst they are clearly something to consider, they should not be a significant constraint to building an effective and attractive policy.

Conclusion

Leaving the EU poses a range of questions, challenges and opportunities for both farming and the environment. If there is consensus anywhere, it is around the need to reform and reshape agriculture policy, particularly to secure a wider range of public benefits, and significantly improved value for money.

In this paper, we have set out a clear case for change, with investment in the environment at the heart of a future Sustainable Farming and Land Management policy. This is not only essential if we are to achieve the aim of the 25 year Environment Plan to restore the natural environment within a generation, but it provides the best long-term option for the sector to secure a stable policy and funding settlement from Government.

The proposals on what policy we need, and how we can deliver it, seek to do revolutionary things in evolutionary ways. We therefore build on three decades of experience with agri-environment schemes – both good and bad – whilst seeking to achieve an order of magnitude shift in activity, ambition and outcomes. With farming and the environment facing a variety of headwinds, and the future uncertain, we need an active policy response from Government to address these challenges, and manage the inevitable change that Brexit will bring. This response is essential if we are to realise the range of opportunities in the years ahead, and mitigate the very real risks that we face.

This paper therefore, and the analysis and proposals that it contains, should be viewed as a constructive, pragmatic and ambitious contribution to the debate, and will form the basis of future conversations with farmers and land managers, Government and other stakeholders in the months and years ahead.

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Annex 1 – Multi-criteria analysis

The purpose of this analysis is to provide a general assessment of the intervention logic against the outcomes and objectives identified for a Sustainable Farming and Land Management policy. We have used established criteria to undertake what is an intentionally top level assessment, and make no claims to complete objectivity.

These criteria are defined in Table 5 below. The assessment against these criteria is based upon the rationale for using public money to achieve the outcome in question.

Criteria	Definition									
Public goods	<p>The public goods framework used in this paper is provided in Figure 4, and drawn from the referenced paper by the Institute of European Environmental policy (IEEP). This is in turn largely drawn from an understanding of public goods rooted in neoclassical economics, whereby the degree to which something is understood to be a public good is determined by the extent to which it is non-rival and/or non-excludable. The neoclassical approach identifies a spectrum, illustrated by the table below¹²⁹.</p> <table border="1"> <thead> <tr> <th>Characteristics of goods</th> <th>Excludable</th> <th>Non-excludable</th> </tr> </thead> <tbody> <tr> <td>Rival in consumption</td> <td>Private goods e.g. a loaf of bread</td> <td>Common pool resources e.g. an aquifer</td> </tr> <tr> <td>Non-rival in consumption</td> <td>Club goods e.g. golf club</td> <td>Public goods e.g. biodiversity</td> </tr> </tbody> </table> <p>The public goods framework here does also draw from a socio-political understanding of public goods, which is broader, and understands public goods to be those that result from “collective and institutional choices about what is considered as a collective issue or benefit”¹³⁰. This is evident in the inclusion of rural vitality, food security and animal welfare.</p> <p>For the purposes of this analysis (i.e., understanding the role of public money in securing a given objective), we treat public goods as positive externalities arising from management interventions or non-interventions designed to maintain or increase the provision of a public good, as opposed to negative externalities (e.g., poor water quality arising from pollution), whereby an intervention may be needed to prevent the reduction in public good provision (see ‘Regulation or incentive?’ and ‘Polluter pays Principle’ below).</p>	Characteristics of goods	Excludable	Non-excludable	Rival in consumption	Private goods e.g. a loaf of bread	Common pool resources e.g. an aquifer	Non-rival in consumption	Club goods e.g. golf club	Public goods e.g. biodiversity
Characteristics of goods	Excludable	Non-excludable								
Rival in consumption	Private goods e.g. a loaf of bread	Common pool resources e.g. an aquifer								
Non-rival in consumption	Club goods e.g. golf club	Public goods e.g. biodiversity								
Market failure	<p>This refers to the extent to which the outcomes identified are subject to market failure. This is strongly associated with the extent to which they are also a public good, as often whether something is non-rival or non-excludable will determine if it is marketable. Market failure is defined by the HM Treasury Green Book as “... where the market has not and cannot of itself be expected to deliver an efficient outcome.”</p>									
Scale of need	<p>The scale of need is primarily associated with the financial needs required to achieve a given outcome. The rating against this criterion is determined by both the evidence associated with this, and the scale. For example, there is strong evidence to inform our understanding of how much funding is needed to achieve biodiversity objectives, and this need is significant, leading to a ‘green’ rating for this outcome in the analysis below.</p>									
Regulation or incentive?	<p>Regulation will have an important role to play in achieving a range of the outcomes identified. The role of regulation in this assessment refers to the degree to which regulation could be used to achieve the relevant outcome, and specifically the need for funding in addition to this. As an example, biodiversity is rated as amber, because</p>									

¹²⁹ Adapted from Ostrom E. (2005) Understanding Institutional Diversity. Princeton University Press, Oxford

¹³⁰ Dwyer, J., et al (2015), Public Goods and Ecosystem Services from Agriculture and Forestry – a conceptual approach

	regulation will be key to ensure that species and habitats are not damaged, and funding to ensure this does not happen would be inappropriate, but funding to secure positive management is essential. An amber rating therefore simply signals that a degree of caution is needed when using public money to secure an outcome, so as not to displace regulation.
Polluter pays principle	The polluter pays principle is well established, and should form a key part of the judgement on whether a regulatory or fiscal mechanism is most appropriate. As an example, water quality is amber, on the basis that poor water quality is often associated with negative externalities from agriculture such as point source pollution for which regulation will be the most equitable solution. Improving water quality that has deteriorated as a result of the activities of others on the other hand may need proactive positive land management interventions, for which a land manager may reasonably expect to receive a payment.
Strength of policy driver	This refers to legislation, international obligations, manifesto commitments and other drivers that will play a large part in determining the strength of the intervention logic against a specific outcome. This analysis assumes that European legislation transposed through the European Union (Withdrawal) Bill will provide the same drivers for action as now.
Public-Private benefit	Many investments in agriculture and land management will yield both public benefits for society, and private benefits for an individual farmer or land manager. An assessment of where the balance lies between the two will help determine how appropriate it is to use public money.
Evidence of benefits/ effectiveness	It will be important to know that a public policy intervention is likely to be effective, and the magnitude of the benefits that may result from any investment.

Biodiversity conservation & ecological networks		
Criteria	Rating	Assessment of intervention logic
Public goods		A 'pure' public good, biodiversity is both non-rival and non-excludable.
Market failure		Subject to high degree of market failure, largely as a consequence of public good characteristics. Attempts to secure at scale through market mechanisms either limited or unsuccessful.
Scale of need		Significant financial need, and robust evidence base. Natural England estimates for England Biodiversity Strategy suggest costs of £734m per year by 2020.
Regulation or incentive?		Amber on basis that role for regulation significant in preventing intentional damage to priority species and habitats, e.g. SSSIs, hedge cutting restrictions in breeding season, etc. Caution therefore needed to ensure that public money builds on regulatory baseline and incentivises positive action, as opposed to preventing harm.
Polluter Pays Principle		Established public policy model does not generally treat biodiversity decline as pollution. Often, agricultural operations damaging to biodiversity (e.g. silage cutting during bird breeding season) are seen as essential and therefore unintentional, with negative impacts therefore inevitable. This has built a model for biodiversity whereby steps to restore biodiversity are seen as beyond the polluter pays principle. Pervasive negative impacts however are associated with pollution (e.g., diffuse water pollution) and impacts of pesticides on non-target species. A consideration of the polluter pays principle will therefore be important.
Strength of policy driver		Significant drivers for investment, including Birds and Habitats Directives, Wildlife and Countryside Act and England Biodiversity Strategy. Strong international commitments and obligations associated with the Convention on Biological Diversity, Sustainable Development Goals, Bern Convention and Ramsar Convention.
Public-Private benefit		Although increasing evidence of ecosystem service benefits for individual farmers in some instances, e.g. pollination, these are poorly quantified. Therefore significant case to provide 100% funding for any land management interventions for biodiversity.

Evidence of benefits/ effectiveness		Strong evidence of benefits associated with existing agri-environment schemes, including evidence of steps needed in policy design process to increase/maximise effectiveness. Consequently high confidence that policy can deliver target benefits if design is evidence based. Strong evidence of benefits arising from organic farming.
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Landscape character and historic environment		
Criteria	Rating	Assessment of intervention logic
Public goods		A 'pure' public good, landscape character and many historic features are both non-rival and non-excludable.
Market failure		Subject to high degree of market failure, largely as a consequence of public good characteristics. No significant attempts to secure at scale through market mechanisms.
Scale of need		Strong evidence on scale of need associated with historic environment ¹³¹ , with scale of expenditure modest relative to other objectives. Evidence of scale of need for landscape character more limited.
Regulation or incentive?		Amber on basis that role for regulation significant in preventing intentional damage to protected landscape/historic features, e.g. Scheduled Ancient Monuments. Caution therefore needed to ensure that public money builds on regulatory baseline and incentivises positive action, as opposed to preventing harm.
Polluter Pays Principle		Established public policy model does not treat degradation or lack of management of landscape/historic features as pollution.
Strength of policy driver		International policy drivers limited to European Landscape Convention. Stronger domestic drivers associated with Historic England obligations with regard to Scheduled Ancient Monuments.
Public-Private benefit		Limited private benefits. Some specific opportunities to 'market' historic interest at site/farm scale, but not reliable in securing market return nationally.
Evidence of benefits/ effectiveness		Strong evidence of benefits associated with existing agri-environment schemes, including evidence of steps needed in policy design process to increase/maximise effectiveness. Consequently high confidence that policy can deliver target benefits.

Improved soil function		
Criteria	Rating	Assessment of intervention logic
Public goods		Identified as a public good in the framework in Figure 4, soil function exhibits public good characteristics, but this can depend on circumstances, such as land control and ownership. As a generally private resource, soil and its use can be both rival and excludable, and it is in the long-term interests of private land owners to sustainably manage soils to retain agricultural productivity. In the short term however, there can be private gains from unsustainable use. The long-term benefits to society of better functioning soils are non-excludable and non-rival. The extent to which soil is a public good are therefore dependent on temporal factors.
Market failure		The short-term gain arising from unsustainable use referred to above points to significant market failure. Whilst it is in the long-term commercial interests of farmers to manage soils sustainably, there is rarely a market return in the required timeframe to cover the associated costs, such as bringing in organic matter and establishing cover crops, even if these investments may yield a long-term benefit. The market failure is therefore temporal, which may suggest that mechanisms such as loans could play a role in the capital investment needed to address soil degradation.

¹³¹ Historic England (2012) Landscape & Historic Environment Evidence, Measures and Mechanisms for the Next Rural Development Programme. July 2012

Scale of need		Significant need associated with scale of degradation, although unclear what extent public funding should be used to address this.
Regulation or incentive?		Significant role for regulation to address soil degradation. Soil erosion arising from inappropriate management can cause major negative externalities for society, such as poor water quality, increased flood risk and high levels of greenhouse gas emissions. Caution needed to ensure that public funding is targeted toward incentivising positive management, not displacing regulation.
Polluter Pays Principle		As with 'Role of regulation', proper implementation of the polluter pays principle needed to ensure society does not bear the costs of inappropriate management, such as maize cultivation on slopes at high risk of erosion.
Strength of policy driver		Recognised as a policy priority, but no major legislative drivers specifically associated with soil. Strong drivers associated with climate change and water quality will drive action for soil function in part, e.g., Climate Change Committee recommendation to achieve sustainable management of soil by 2030.
Public-Private benefit		Significant private benefits associated with sustainable soil management, particularly in medium-to-long term.
Evidence of benefits/ effectiveness		Emerging evidence of benefits arising from land management interventions, such as cover crops, and strong evidence of benefits associated with maintenance of soil organic matter and soil carbon, amongst others. Strong evidence of benefits arising from organic farming.

Better water quality		
Criteria	Rating	Assessment of intervention logic
Public goods		Identified as a public good in the framework in Figure 4, water quality exhibits public good characteristics, as it is non-rival and generally non-excludable, particularly in the long-term. It is important to note however that poor water quality is often the result of pollution and therefore a negative externality. Whilst a public good therefore, it will not always be appropriate to use public money to achieve water quality objectives.
Market failure		Subject to high degree of market failure, largely as a consequence of public good characteristics. Attempts to secure at scale through market mechanisms either limited or unsuccessful, although emerging work to address this through new approaches such as Payments for Ecosystem Services.
Scale of need		Significant need identified in England, with annual need of meeting Water Framework Directive objectives through the RDPE estimated at £460m.
Regulation or incentive?		Significant role for regulation to address water quality. Poor water quality arising from inappropriate management can cause major negative externalities for society, including damage to designated sites and higher water bills. Caution needed to ensure that public funding is targeted toward incentivising positive management, not displacing regulation.
Polluter Pays Principle		As with 'Regulation or incentive?', proper implementation of the polluter pays principle needed to ensure society does not bear the costs of inappropriate management. It is an offence to "cause or knowingly permit" pollution, which may suggest a red rating here, but amber is selected due to issues with enforceability and affordability of fully applying the polluter pays principle.
Strength of policy driver		Significant policy drivers associated with WFD, and N2K obligations for water dependent sites. Other drivers relevant to land management and agriculture associated with the Bathing Waters Directive, amongst others.
Public-Private benefit		Some private benefit associated with investment to address water quality issues, particularly capital investment to improve resource use efficiency (e.g. investments associated with Catchment Sensitive Farming programme), in addition to benefits for water supply and shell fisheries.
Evidence of benefits/ effectiveness		Some evidence of benefits associated with existing agri-environment schemes, including evidence of steps needed in policy design process to increase/maximise

		effectiveness. However, also evidence of over reliance on voluntary approaches, and lack of regulatory enforcement.
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Flood risk management		
Criteria	Rating	Assessment of intervention logic
Public goods		Identified as a public good in the framework in Figure 4, flood risk management exhibits public good characteristics, as it is non-rival and generally non-excludable. It is important to note however that increased flood risk may often be the result of unsustainable land management, particularly in the case of highly localised events, such as muddy floods. Whilst a public good therefore, it will not always be appropriate to use public money to achieve flood risk management objectives.
Market failure		Subject to high degree of market failure, largely as a consequence of public good characteristics. Attempts to secure at scale through market mechanisms either limited, although emerging work to address this through new approaches to such as Payments for Ecosystem Services.
Scale of need		Significant need associated with land management interventions to reduce flood risk, although this is poorly quantified. Interventions to address soil function and water quality particularly may have significant co-benefits for flood risk management.
Regulation or incentive?		Significant role for regulation to address flood risk, particularly those regulatory interventions associated with water quality and soil function. Caution needed to ensure that public funding is targeted toward incentivising positive management, not displacing regulation.
Polluter Pays Principle		As above, application of polluter pays principle for water quality and soil function should underpin public investment in land management to address flood risk.
Strength of policy driver		Significant policy drivers associated with the Floods Directive, and domestic legislation. Significant economic drivers, particularly associated with the built environment.
Public-Private benefit		Limited private benefit – interventions to reduce overall flood risk may increase flood risk on specific farms, or require more water storage in the catchment.
Evidence of benefits/ effectiveness		Some catchment specific evidence of land management interventions successfully reducing flood risk, but more research needed to adequately quantify contribution of environmental land management to addressing flood risk more generally. Good evidence of effectiveness of interventions that increase water storage in the flood plain, e.g., ‘room for the river’ approaches and creation of wash lands.

Climate change mitigation		
Criteria	Rating	Assessment of intervention logic
Public goods		A ‘pure’ public good, climate stability is both non-rival and non-excludable. Although emissions from agriculture can be categorised as a negative externality, the contribution of UK agriculture to climate change is an order of magnitude lower than its contribution to poor water quality or soil degradation.
Market failure		Subject to high degree of market failure, largely as a consequence of public good characteristics. Attempts to secure mitigation of agricultural emissions at scale through market mechanisms limited or unsuccessful.
Scale of need		Significant need associated with land management interventions and changes to agricultural production to mitigate emissions. Significant overlap with biodiversity conservation, given role of habitat maintenance and restoration in storing and sequestering carbon.
Regulation or incentive?		Significant role for regulation, e.g. to require protection of habitats that store significant amounts of carbon and better soil management. Caution needed to ensure that public funding is targeted toward incentivising positive management, not displacing regulation.

Polluter Pays Principle		Climate change is driven by pollution, and implementation of the PPP will therefore be important in mitigating these emissions.
Strength of policy driver		Strong drivers associated with United Nations Framework Convention on Climate Change (UNFCCC) and the Climate Change Act.
Public-Private benefit		Although some private benefits associated with improved resource use efficiency, in general terms, public benefits of climate action are an order of magnitude greater.
Evidence of benefits/ effectiveness		Strong evidence of benefits associated with environmental land management and agri-environment schemes, including evidence of steps needed in policy design process to increase/maximise effectiveness. Consequently high confidence that policy can deliver target benefits if design is evidence based. Strong evidence of benefits arising from organic farming.

Climate change adaptation		
Criteria	Rating	Assessment of intervention logic
Public goods		A 'pure' public good, climate stability is both non-rival and non-excludable. Adaptation for species and habitats also a public good on the same basis. Adaptation for agriculture and other forms of production such as forestry exhibit both public and private good characteristics.
Market failure		Adaptation for the natural environment subject to high degree of market failure, largely as a consequence of public good characteristics. Attempts to secure at scale through market mechanisms either limited or unsuccessful. Some scope for markets to drive adaptation for agricultural production.
Scale of need		Significant when associated with scale of need more generally for biodiversity, flood risk management and other associated objectives where adaptation is relevant. As consequence, should be significant scope for synergy with these objectives.
Regulation or incentive?		Amber on similar basis to biodiversity conservation and landscape/historic environment outcomes above.
Polluter Pays Principle		Generally not applied to adaptation, although may be scope to apply if pollution arises in the future from maladaptation, or a failure to adapt.
Strength of policy driver		Significant policy drivers associated with range of legislation and conventions noted above against climate change mitigation, biodiversity and flood risk management. Role of Climate Change Committee and Adaptation Sub-Committee significant in steering Government policy.
Public-Private benefit		Limited private benefits associated with adaptation for the natural environment, but potentially significant private benefits associated with adapting farm and other businesses.
Evidence of benefits/ effectiveness		Strong evidence of benefits associated with environmental land management and agri-environment schemes, specifically with regard to where measures such as habitat creation and restoration are targeted to expand species range/provide coastal flood risk benefits. Consequently high confidence that policy can deliver target benefits if design is evidence based. Strong evidence of benefits arising from organic farming.

Improved air quality		
Criteria	Rating	Assessment of intervention logic
Public goods		Identified as a public good in the framework in Figure 4, air quality exhibits public good characteristics, as it is non-rival and non-excludable. It is important to note however that poor air quality is often the result of pollution and therefore a negative externality. Whilst a public good therefore, it will not always be appropriate to use public money to achieve air quality objectives.
Market failure		Subject to high degree of market failure, largely as a consequence of public good characteristics. Attempts to secure at scale through market mechanisms either limited or unsuccessful.

Scale of need		Potentially significant for both human health and the natural environment. For example, ammonia has significant local effects on designated sites, and deposition of atmospheric nitrogen has a significant impact on site condition and species diversity in the wider countryside.
Regulation or incentive?		Significant role for regulation to play in addressing air quality, at local and national level.
Polluter Pays Principle		As with previous criteria, application of the PPP needed to internalise costs of air pollution to individual businesses through regulation.
Strength of policy driver		Significant policy drivers associated with Air Quality Directive, as well as climate change and biodiversity legislation, amongst others.
Public-Private benefit		Significant public benefits associated with improvements in air quality, but improvements in resource use efficiency will give rise to major private benefits.
Evidence of benefits/ effectiveness		Evidence that interventions such as regulation can improve air quality from agricultural production. Emerging evidence that more efficient use of inputs such as slurry can also lead to local improvements.

Recreational access		
Criteria	Rating	Assessment of intervention logic
Public goods		Legal rights of way, most recently affirmed in the Countryside and Rights of Way Act establish access as a relatively 'pure' public good, given strong non-rival and non-excludable characteristics.
Market failure		Subject to high degree of market failure, largely as a consequence of public good characteristics. Limited market for access in some instances where legal rights to access do not exist.
Scale of need		Limited scale of need associated with public investment. Focus on capital investment and establishing new rights of way.
Regulation or incentive?		Significant role for regulation to address outcome on basis of legal duty to maintain rights of way and open access arrangements where relevant. No role for public expenditure in maintaining these rights.
Polluter Pays Principle		Not applicable.
Strength of policy driver		Strong driver to maintain access to the countryside, although driver for direct investment is weak.
Public-Private benefit		Strong public benefits associated with recreational access. Some private benefits associated with access underpinning tourism and other recreational activities, although these are co-benefits arising from legislation, not investment.
Evidence of benefits/ effectiveness		Strong evidence that access brings significant benefits, particularly associated with rural economic growth and health and wellbeing. Evidence that highly targeted investment in capital infrastructure and support to create new rights of way can lead to benefits associated with direct public investment.

Financial risk management – normal risk		
Criteria	Rating	Assessment of intervention logic
Public goods		Not a public good. Managing 'normal' risks (see Figure 5 for definition) is part of normal business practice.
Market failure		No significant market failure. General business management and existing tax reliefs provide sufficient tools to address this level of risk, and existing business/market strategies such as savings and forward selling available in many instances.
Scale of need		Significant need for improved performance in this area. Potential role for some public funding to support increased take up of business advice.
Regulation or incentive?		No significant role for direct regulation in this area. Potential regulatory levers in the broader supply chain, such as the Groceries Code Adjudicator, to strengthen position of producers.

Polluter Pays Principle		Not applicable.
Strength of policy driver		Limited legislative drivers, but relevant manifesto commitments to maintain stability for farming, identified by background notes for the Westminster Agriculture Bill.
Public-Private benefit		Overwhelming private benefit associated with taking steps to maintain a functioning business.
Evidence of benefits/ effectiveness		Evidence that significant public investment in this level of risk helps to contribute to resilient production is mixed, and limited. Inefficiencies of direct payments as part of CAP addressed in Section 1.

Financial risk management – marketable risk		
Criteria	Rating	Assessment of intervention logic
Public goods		Not a public good. Taking steps to manage ‘marketable’ risks (see Figure 5 for definition) is part of normal business practice.
Market failure		Some market failure associated with issues such as adverse selection and systemic risk. May be a role for Government to engage with insurance industry to develop appropriate private sector tools, and provide more coherent package of tax reliefs from existing tax expenditure associated with agriculture.
Scale of need		Significant, but limited role for direct public expenditure.
Regulation or incentive?		No significant role for direct regulation in this area. Potential regulatory levers in the broader supply chain, such as the Groceries Code Adjudicator, to strengthen position of producers.
Polluter Pays Principle		Not applicable.
Strength of policy driver		Limited legislative drivers, but relevant manifesto commitments to maintain stability for farming, identified by background notes for the Westminster Agriculture Bill.
Public-Private benefit		Significant private benefit associated with taking steps to maintain a functioning business, but also public benefits associated with maintaining a resilient agricultural sector, able to meet market demand.
Evidence of benefits/ effectiveness		Some evidence from North America that public investment in this level of risk has benefits, although also significant dis-benefits, such as administrative costs, market interventionism and risks associated with moral hazard.

Financial risk management – catastrophic risk		
Criteria	Rating	Assessment of intervention logic
Public goods		Not recognised as a public good in the framework used in this paper, catastrophic risk with sector-level impacts demonstrates public good characteristics given that it can be difficult/impossible to exclude oneself as a business, and the impact on one does not necessarily reduce the impact on the other. At scale, it may also have an impact on food supply chains and associated availability.
Market failure		As per OECD typology, catastrophic risk subject to significant degree of market failure.
Scale of need		Potentially significant, although will depend on scale and severity of the event. Whilst significant public expenditure may be required in dealing with catastrophic risk, farming and land use policy envisaged in this paper unlikely to be the most appropriate mechanism.
Regulation or incentive?		Dependent on nature of risk. Significant role for ex ante regulation to guard against catastrophic risk associated with animal health issues, e.g. foot and mouth. Given ad hoc and unpredictable nature of weather events, role of regulation likely to be minimal where these present catastrophic risk.

Polluter Pays Principle		Not applicable.
Strength of policy driver		Dependent upon scale and nature of the risk. Significant where this involves animal health, both ex ante and ex post. Significant ex post where climatic/weather events involved.
Public-Private benefit		Clear public benefits in maintaining broader health of sector in face of this level of risk, but obvious private benefits to maintaining business viability.
Evidence of benefits/ effectiveness		Strong evidence associated with ex post crisis management, but limited evidence of effective ex ante risk management strategies. Strong evidence of ex ante benefits associated with robust regulation.

Improved productivity		
Criteria	Rating	Assessment of intervention logic
Public goods		Not a public good. Clear private benefits to improving productivity.
Market failure		Some market failure in terms of access to credit for certain sectors and types of tenure. In general however, market returns are available in relatively short time frames following investment in productivity.
Scale of need		Potentially significant given issues with productivity of UK agriculture, although poorly quantified regarding need associated with public investment.
Regulation or incentive?		Limited role for direct regulation to achieve productivity, although general importance of maintaining a level playing field and consistent implementation to ensure business certainty.
Polluter Pays Principle		Limited relevance, although key to ensure any steps taken to improve productivity do not increase negative externalities from agriculture, including pollution and environmental degradation more broadly.
Strength of policy driver		Limited legislative drivers, but strong manifesto commitments associated with the agricultural sector.
Public-Private benefit		Legitimate public interest in a productive agricultural sector, although significant private benefits associated with improved productivity.
Evidence of benefits/ effectiveness		Evidence of effectiveness associated with previous public policy, specifically Pillar II interventions. Good evidence on a case-by-case basis, and significant monitoring and evaluation associated with steps needed to ensure effective scheme design.

Skills and knowledge exchange		
Criteria	Rating	Assessment of intervention logic
Public goods		Not a public good as applied to agriculture, given general approach that investment in skills delivers predominantly private benefits to individuals and businesses.
Market failure		As identified by OECD (see Section 2), subject to a degree of market failure, although not consistently so – many businesses invest in skills recognising long-term economic benefits. Significant market failure associated with environmental land management skills.
Scale of need		Identified as a significant priority to support broader policy objectives, including improving productivity and environmental objectives.
Regulation or incentive?		Some role for direct regulation to improve skills and knowledge exchange, e.g., potential role in requiring training to undertake certain agricultural operations.
Polluter Pays Principle		Not applicable
Strength of policy driver		Limited legislative drivers, but strong manifesto commitments associated with the agricultural sector.
Public-Private benefit		Legitimate public interest in a productive agricultural sector, although significant private benefits associated with improved productivity. Significant public interest in improving environmental land management skills of farmers/land managers.

Evidence of benefits/ effectiveness		Evidence of effectiveness associated with previous public policy, specifically Pillar II interventions, and non-governmental initiatives, such as Innovative Farmers. Good evidence on a case-by-case basis, and significant monitoring and evaluation associated with steps needed to ensure effective scheme design.
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Research and development		
Criteria	Rating	Assessment of intervention logic
Public goods		Not recognised as a public good in the framework used in this paper, but demonstrates public good characteristics given that publicly funded research, if freely available, should be non-rival and non-excludable. At scale, it will play an important role in food security, and environmental public goods.
Market failure		As identified by OECD (see Section 2), subject to a strong degree of market failure, (although not universally so – some businesses invest in R&D if able to, recognising long-term economic benefits). Significant market failure associated with environmental R&D.
Scale of need		Potentially significant given issues with productivity of UK agriculture, although poorly quantified regarding need associated with public investment.
Regulation or incentive?		Limited role for regulation in driving investment in agricultural and environmental R&D (although regulation creates conditions in which it can occur).
Polluter Pays Principle		Not applicable.
Strength of policy driver		Limited legislative drivers, but strong manifesto commitments associated with the agricultural sector.
Public-Private benefit		Legitimate public interest in better R&D, although significant private benefits associated with outcomes. Significant public interest in improving environmental land management skills of farmers/land managers.
Evidence of benefits/ effectiveness		Evidence of effectiveness associated with previous public policy and non-governmental initiatives, such as Innovative Farmers. Good evidence on a case-by-case basis, and significant monitoring and evaluation associated with steps needed to ensure effective scheme design.

Improved profitability		
Criteria	Rating	Assessment of intervention logic
Public goods		Not a public good. Clear private benefits to improving profitability.
Market failure		No significant market failure, recognising issues with systemic lack of profitability in certain sectors. Latter caused by range of factors, including aspects of market dysfunction (i.e., asymmetry of market power between different actors), Government failure through ongoing subsidy and associated structural inefficiency.
Scale of need		Potentially significant given issues with profitability of UK agriculture, although poorly quantified regarding need associated with public investment.
Regulation or incentive?		No significant role for direct regulation in this area. Potential regulatory levers in the broader supply chain, such as the Groceries Code Adjudicator, to strengthen position of producers.
Polluter Pays Principle		Not applicable
Strength of policy driver		Limited, although some link to manifesto commitments associated with agriculture.
Public-Private benefit		Overwhelming private benefits associated with steps to improve profitability.
Evidence of benefits/ effectiveness		Some evidence that public policy interventions through improved skills, R&D and support to establish producer groups and cooperatives can improve profitability.

Improved animal welfare		
Criteria	Rating	Assessment of intervention logic
Public goods		Identified as a public good primarily based on socio-political rationales outlined in above definition.
Market failure		Degree of market failure variable, with some sectors consistently deriving a market return for high welfare standards, whereas in other sectors market return/differentiation is low.
Scale of need		Potentially significant given high demand for high welfare standards, although poorly quantified regarding need associated with public investment.
Regulation or incentive?		Significant role for regulation to address outcome on basis of requiring improvements in farm animal welfare, and internalising associate costs to individual businesses (model used to date to secure welfare improvements in England).
Polluter Pays Principle		Limited relevance, although key to ensure any steps taken to improve welfare standards do not increase negative externalities from agriculture, including pollution and environmental degradation more broadly.
Strength of policy driver		Significant drivers associated with EU and UK welfare standards, and public policy commitments from Ministers.
Public-Private benefit		Significant public benefits associated with high welfare standards on basis of consumer/citizen demand and ethics. Private benefits associated with access to new and higher value markets.
Evidence of benefits/ effectiveness		Strong evidence that public policy can secure improvements in animal welfare through targeted investments, such as support for on farm infrastructure that exceeds regulatory minimums. Strong evidence of benefits arising from organic farming.

Annex 2 – Principles for securing a sustainable future for our countryside, and implications for policy design

<p>A shared countryside We all have a stake in our countryside. We need an open and inclusive debate about its future to develop policies that reflect society’s shared needs.</p>	<ul style="list-style-type: none"> • Transparent policy making, with clear, publicly known milestones • Formal legislative processes – Green paper, White paper, Bill • Formal consultations at key points in the process
<p>Nature everywhere We need a healthy, thriving natural environment across the whole of the countryside, not just in protected areas. Public policy is integral to efforts to halt declines in wildlife and the wider environment, and should drive restoration at a landscape scale</p>	<ul style="list-style-type: none"> • A universally or widely available element of a future policy to improve environmental land management across the wider countryside • This should include an element of targeting and advice to get the ‘right’ management in the ‘right’ place
<p>For future generations Policies must ensure that our countryside is managed in a way that addresses the challenges of the future, particularly climate change, so that each generation leaves the environment in a better state than they found it.</p>	<ul style="list-style-type: none"> • Long-term, stable funding, beyond normal political cycles. • Significant restoration or creation should be permanent, and subject to regulatory protection • The policy should be based on multi-annual agreements
<p>Value for money Taxpayers’ money should be invested in public benefits that the market does not provide, including healthy soils, abundant wildlife, better animal welfare and beautiful places for people to enjoy. In the long term, the market needs to better complement public funding, making it profitable and rewarding to manage land sustainably for both private and public benefit.</p>	<ul style="list-style-type: none"> • Policy based on a general framework providing support on a contractual basis against pre-defined objectives. • Focus on environmental goods and services • Pilots, supported by Government, business and civil society to explore how to leverage more private finance into conservation.
<p>Unacceptable to harm nature We need a strong legislative baseline to safeguard the natural environment, and protect the interests of society.</p>	<ul style="list-style-type: none"> • A robust series of legislative protections that underpin public investment.

<p>These simple rules should apply everywhere irrespective of payments, with properly resourced and effective enforcement.</p>	<ul style="list-style-type: none"> Enforced with a system of inspections and penalties that is transparent and proportionate.
<p>Easy to help nature Simple systems for accessing the right financial support, underpinned by trusted advice, will make it easier for farmers, foresters and land managers to restore and integrate the environment into their businesses. Rewards should be related to outcomes: those that deliver greater public benefit should receive greater public support.</p>	<ul style="list-style-type: none"> Payments that are evidence based and effective, whilst providing farmers with an application process that is intuitive and accessible. Payments linked to actions and or results, to ensure a structural link between activity and levels of remuneration. Significant investment in advice to support public policy objectives.
<p>Fair to farmers The government should ensure farmers receive a fair share of the profit generated in the supply chain, creating more resilient farm businesses. We must all contribute toward greater public understanding of where food comes from, and how it is produced.</p>	<ul style="list-style-type: none"> Steps to improve the transparency of the supply chain to strengthen the position of producers as direct payments are phased out. This should include strengthening the role of the Groceries Code Adjudicator, providing support for producer groups and ensuring broader policy coherence.
<p>Built on strong evidence and past success Future policies should build on successful agri-environment schemes, drawing on evidence and experience of how to reverse declines in nature, and secure ecosystem services vital to farming and wider society. A well resourced programme of research and monitoring will facilitate continuous improvement</p>	<ul style="list-style-type: none"> All interventions based on evidence of what works, with a solid basis provided to underpin public investment. A significant programme of research, monitoring and evaluation to allow for continuous and iterative improvements to policy design and implementation. Independent oversight and scrutiny of policy, building on the approach used for the RDPE Programme Monitoring Committee, and allowing for statutory advisers such as JNCC and Natural England to express independent advice on policy performance.
<p>Coherent with other policy areas There must be clear and coherent objectives, targets and milestones that are much better aligned with other areas of policy such as trade, food procurement, public health, heritage, tourism and climate change.</p>	<ul style="list-style-type: none"> Steps to ensure that there are structural links between farming and land management policy, and other key policies, particularly environment and climate change legislation, and the 25 year plan for the environment. Robust and binding environmental targets and milestones for farming policy.
<p>The right action at the right scale By using data to understand the environmental, social and cultural value of different places, we can ensure action is targeted in the right way. Coherent action at landscape scale, for instance a catchment-based approach, would make sure policy was relevant to local needs and contributed towards regional and national environmental objectives.</p>	<ul style="list-style-type: none"> Support for landscape scale initiatives, with policy designed to operate at the option, farm and landscape or catchment scale. Effective targeting of interventions, using the best available data, and the input from local stakeholders, farmers and land managers.