

National Assembly for Wales Climate Change, Environment and Rural Affairs Committee

Inquiry into the Future of Agricultural and Rural Policies in Wales

Submission by Cyfoeth Naturiol Cymru/Natural Resources Wales

The purpose of Natural Resources Wales (NRW) is to pursue sustainable management of natural resources.

Responses to Inquiry Questions

Question (i) - What are the fundamental outcomes that we want to see from agricultural, land management and rural development policies?

1. Sustainable management of natural resources (SMNR) is a prerequisite for the well-being of future generations. Achieving this is difficult and complex because it lies at the intersection of nature, society and economy.
2. Wales faces many challenges, such as securing energy, food and fuel supply, creating jobs and income, tackling poverty and inequality, tackling the threats of climate change, flooding and drought, and improving people's health and well-being.
3. Natural resources in Wales are not managed sustainably at present. Poorly managed natural resources and ecosystems increase the long term risks to well-being and make dealing with the challenges more difficult.
4. SMNR revolves around the stewardship of the natural and physical assets of Wales, the resilience of these ecosystems and the flow of benefits they provide (both market and non-market) to achieve the well-being goals identified in the Well-Being of Future Generations (Wales) Act 2015.
5. The outcomes identified as part of the Environment Strategy Wales are still valid but need to be delivered through the lens of SMNR and well-being goals¹.
- 6. NRW believes that the fundamental outcome required from future agricultural, land management and use and rural development policies is that they should achieve SMNR.**
7. Our natural resources provide many economic, social and cultural benefits (Annex 1) as well as contributing to the seven well-being goals (Annex 2). More

¹ [Environment Strategy for Wales \(2006\)](#)

information is available in the recent State of Natural Resources Report (SoNaRR 2016).²

8. Whether our natural resources can continue to provide these benefits in future depends very much on the way they are managed and the use which is made of the land. Despite some notable successes such as ongoing improvements in water quality, recovery of some key wildlife species and the good work carried out under a succession of agri-environment schemes, there is substantial evidence of underachievement within Welsh land use and land management policy (Annex 3).
- 9. The new policy framework should address the use of natural resources in a way, and at a rate that maintains and enhances the resilience of ecosystems, and the benefits they provide. This will enable Wales to meet the needs of current generations without compromising the ability of future generations to meet their needs, whilst contributing to the achievement of the well-being goals set out in the Well-being of Future Generations Act.**
10. Applying the principles of SMNR to maximise the benefits for well-being in the long term requires natural resources to be considered in a holistic way that involves integrating rural policies across all sectors.
- 11. Farmers, foresters and other land managers operate across approximately 90% of Wales. An integrated approach across all sectors will be vital to achieving SMNR.³**
- 12. The new policy framework should be based on a mixture of regulation, incentives and guidance capable of supporting all land managers in the delivery of SMNR.**
13. Restructuring land use and land management advice around SMNR is challenging and could be perceived as irrelevant rather than a mechanism capable of delivering resilient businesses with long term viability. There are existing sectoral sustainable management frameworks covering management practice standards, animal health and welfare, worker health and safety and environmental best practice (such as CoGAP⁴, UKFISA⁵ & UKFS⁶). These frameworks are variable and in some circumstances provide a foundation to embed SMNR and well-being approaches.
- 14. A common framework to convey ‘what good looks like’ under SMNR will ultimately lead to better outcomes as a mechanism capable of delivering resilient businesses with long term viability. The principles underpinning**

² [Natural Resources Wales \(2016\). State of Natural Resources Report \(SoNaRR\):](#)

³ [Natural Resources Wales \(2016\) State of Natural Resources Report \(SoNaRR\):](#)

⁴ [Code of Good Agricultural Practice \(2011\)](#)

⁵ [The Forest Industry Safety Accord](#)

⁶ [The UK Forestry Standard](#)

SMNR should be integrated across the entire regulatory, incentive and guidance framework.

- 15. Land managers should be asked to demonstrate compliance with the regulatory baseline consistent with SMNR and future well-being goals as a condition of securing any additional incentive payments.**
16. Economic conditions have an impact on the scale of resources available for the implementation of future agricultural and rural policies. This emphasizes the need to adopt an innovative approach to intervention. For example, the current drive in wider business to increase green credentials may facilitate the development of additional funding streams for environmental investment. Being able to harness such so-called PES (Payments for Ecosystem Services) funding is likely to play an increasing role in delivering SMNR.
17. In doing so, it is essential that the limitations of such funding streams are recognised and not treated as a simple surrogate for government intervention. Furthermore, the management and regulation of such interventions will be critical to ensure that they operate in concert with existing funding approaches, in line with the common goal of delivering SMNR.
- 18. Throughout the process of drafting future agricultural and rural policy, facilitating and regulating new markets should be borne in mind as an important context in order that we do not inadvertently or unnecessarily hinder innovation and further developments of PES.**
19. Continued emphasis on income support mechanisms such as the Basic Payment Scheme (BPS) will result in an uneven trajectory development across the agricultural sector. Some land managers will improve their competitiveness through SMNR, whilst others will continue with current practices even where this compromises long term resilience and business sustainability. Supporting activities which fail to maximise the benefits arising from SMNR will run counter to achieving the well-being goals.
20. Future international trading arrangements are likely to exacerbate the uneconomic aspects of current rural land use. For example increased volatility in lamb prices could reduce levels of expenditure within the rural economy as farmers take action to safeguard their own businesses. Whilst the removal of agricultural subsidies in New Zealand may be an overly dramatic comparison, the resulting financial shock caused farmers to reduce expenditure on all non-essential repairs and maintenance, as well as fertilizer applications and capital expenditure on new plant and equipment. This had wide ranging social effects, with many small rural firms going out of business, as farmers did more of their own work. Many small rural towns experienced population declines as people left for jobs elsewhere and public services such as schools and local hospitals contracted.

21. Despite the links between farmer expenditure and the rural economy, the maintenance of direct support (in the form of the Basic Payment Scheme) is not necessarily the best way of achieving cohesive communities and a vibrant Welsh culture. The development of bespoke rural policies to support rural communities will remain necessary even if marginal agriculture continues to be supported. Changes in post-EU trading arrangements and the consequential needs of agricultural and rural policies to support SMNR are likely to result in dynamic changes in communities.
22. Limited resources (both financial and administrative) will mean that choices need to be made. Funding for innovation measures that can boost SMNR alongside policies to support rural communities should take precedence over trying to maintain the current situation. Moving away from income support will allow for changes in land use, agriculture to reconnect to the market whilst playing a greater role in delivering SMNR and contributing to the sustainability of rural communities.⁷
23. Spatial shifts in land use from forestry to farming, and farming to forestry could yield better economic returns, especially when multi use approaches (e.g. recreation) in line with well-being goals are adopted. However, these shifts may present challenges in terms environmental (e.g. acid sensitive catchments, landscape and open habitats) and safe working conditions (e.g. steep slopes). Long distances to markets and the challenge these pose need to be addressed by developing local supply chains. Shifts in land use may not necessarily result in shifts in people already living in rural communities.
24. Forestry in the UKFS has a pre-requisite in larger scale forests to include portions of non-intervention (for the resilience of the developed forest ecosystem whether native, mixed or non-native species). The scales of intensity of land management has a role to play in Wales. The 're-wilding' of land scenario is a particular challenge and of suitability for Wales. This can be complementary not mutually exclusive to traditional land uses as long as everyone is accepting of the spectrum of land use and land management choices.
- 25. The new policy measures should no longer maintain marginal land use as a goal in itself, but provide a framework within which land use can change where optimal benefits can be derived from natural resource management.**
- 26. Further thought needs to be given to the integration of cultural and cohesive communities into the wider rural policies required to support the well-being of future generations.**

⁷ [Agriculture and the Environment 2020](#)

27. Agriculture, forestry and rural development policy need to form part of a more integrated approach to managing natural resources. These policies need to be an integral part of the SMNR delivery framework⁸ and as such needs to be evidence based so as to enable the development of enhanced resilience, the identification of risks/opportunities and be a part of an iterative process which is adaptable to future challenges such as climate change. Area-based approaches such as the development of Well-being Plans by Public Service Boards will be a critical test of expressing what a truly integrated natural resources based programme of land use, land management and rural development policy could look like.
- 28. Targeting of agricultural and rural policies should be responsive to the challenges of tackling environmental problems but also the opportunities presented in SoNaRR and be informed by the National Natural Resource Management Policy and the production of Area Statements.**
- 29. Any targeting of future interventions should be underpinned by an evidence-based spatial data which are regularly reviewed and updated by all agencies involved in the collection of the relevant information.**
- 30. Targets for agricultural and rural policies should be outcome based, rooted in evidence, and challenging but achievable. Prioritisation of the actions identified should be based on achieving optimal public benefit.**
- 31. Climate Change adaptation and mitigation measures as well as the interaction with ongoing human responses to the management of natural resources need to be integral part of these policies going forward.⁹**

Question (iia) - What lessons can we learn from current and previous agricultural, land management and rural policies?

32. Identifying why previous policies may have failed to meet their objectives is a complex process. Many other drivers besides policy have an indirect impact on land management, including changes in demography, economics, culture, behaviour and technology.¹⁰ In addition, many of the more direct drivers such as climate change, land use change, pollution, overexploitation of natural resources and the impacts of disease and invasive non-native species (INNS) often interact in complex and unexpected ways.
33. The concept of market failure underlies many policy interventions.¹¹ For example, the value of conserving biodiversity is rarely reflected in the prices that consumers

⁸ [WG \(2015\) SMNR Delivery Framework](#)

⁹ [Climate Change Impacts Report Cards Agriculture and Forestry](#)

¹⁰ UK NEA. 2011. The UK National Ecosystem Assessment (UK NEA) – Technical report. Chapter 3 Drivers of Change in UK Ecosystems and Ecosystem Services. Cambridge, UNEP-WCMC.

¹¹ Pannell, D & Vanclay, F (2011). Changing Land Management: Adoption of New Practices by Rural Landowners. Csiro Publishing.

pay for agricultural and timber products. Learning from new ways of working through current programmes outside of the agricultural and rural policy framework also needs to be taken into consideration. Of particular relevance to this Inquiry, we can draw lessons from:

- Implementation of the Common Agricultural Policy (CAP) Direct Payments Schemes;
- Implementation; previous stocktakes and reviews and audits of rural development policy and schemes
- Woodland policy and programmes including performance to UKFS and long term forest management planning systems;
- Implementation of LIFE and European framework programmes including Water Framework Directive;
- Outcome based performance of key environmental permitting regimes and assessment processes such as Strategic Environmental Assessment, Environmental Impact Assessment and Habitat Regulations Assessment.
- NRW's three Natural Resource Management Area Trials;
- The delivery of the Ecosystem Resilience Fund, Nature Fund and Sustainable Management Scheme;
- UK Marine Conservation Zones;
- Emerging policy delivery for the Well-Being of Future Generations Act and the role of Public Service Boards.

Emerging principles can be summarised as follows:

34. The new policy framework should also cover the development of relevant demands and supply chains (both agri-food and timber products) as part of supporting and incentivising better management of natural resources.
35. Sufficient time and resources need to be allocated to the process of policy design, including stakeholder involvement at the earliest opportunity.
36. Targeted and more precisely formulated support schemes generally produce better environmental outcomes, albeit at higher administrative cost.
37. Both experts and stakeholders need to be engaged in the process of gathering and interpreting evidence on the issues that need to be addressed. Tackling the root causes of an issue rather than reacting to immediate and visible problems (e.g. avoiding "end of pipe" solutions) may be complex, but will be more effective in the long term.
38. Support to land managers should continue to be available through investment in research and development. The research should be embedded via technical and professional development, skills and knowledge transfer, demonstration sites and training events. The importance of one-to-one contact in ensuring that any new practices are fully explained and understood should not be underestimated.

39. Co-operative approaches have proved to be very successful in helping to tackle some long standing challenges in land management practice. Such schemes require a substantial up-front investment in terms of facilitation and the time required to build new social capital.¹²
40. An outcome-based monitoring framework should be incorporated from the outset. This needs to build on the recent State of Natural Resources Report (SoNaRR) and at a scale which is suited to the issue under consideration. Evaluation should determine how effective the whole regulatory, incentive and advisory framework is rather than concentrate on the effectiveness of payment based incentives in isolation. The framework should evaluate the effectiveness of the whole intervention framework in tackling the unsustainable management of natural resources, contribution of land use productive and protective functions (e.g. to soil and water), health and safety of workers, plant and animal health, ability to optimise the provision of well-being benefits to society and its value for money.
41. To be able to provide the evidence base for delivery it is important the appropriate data is collated.¹³
42. Although SMNR considerations need to be planned at a strategic scale, delivery needs to be at a meaningful scale for engagement with stakeholders.
43. Systematic attempts should be made to design out the risk of perverse outcomes from any new policy framework. For example, whilst WG policy seeks to increase the area of woodland the current BPS reduces the incentive for farmers to plant new woodlands, whilst some of the current audit rules may have promoted woodland removal.¹⁴
44. Supporting new entrants through skills improvement, mentoring, capital grants and support for co-operative ventures can promote business innovation. Support should be conditional on a commitment to SMNR. In many cases, the most vulnerable time from an environmental perspective is when a change of land ownership takes place. Incorporating SMNR concepts into training and advice programmes will strengthen the linkage with economic sustainability.

Question (iib) - What about agricultural, land management and rural policies elsewhere?

45. The integrated approach being discussed in Wales will need to learn lessons from rural, land management/use and agricultural policies outside of the UK. Most of

¹² [Evaluation of the Commons Development Officer Role under Glastir in Wales](#)

¹³ [Natural Resources Wales \(2016\) State of Natural Resources Report \(SoNaRR\):](#)

¹⁴ [Keep Trees on Farms Campaign](#)

the literature considers policies separately. The following are models from agriculture which provide a spectrum of approaches.

46. The Organisation for Economic Co-operation and Development (OECD) annual publication on Agricultural Policy Monitoring and Evaluation summarises information on agricultural policy approaches from across the globe.¹⁵ For example, the US and Canadian models aim to mitigate risks to farm revenue and income (together with a cross compliance approach to conservation in the US). Other models in Australia, Chile, Brazil, New Zealand, South Africa and Vietnam focus on support for public goods.
47. As part of this submission, we consider four radically different approaches to land management support and the delivery of environmental outcomes:
- 47.1. New Zealand's decision to remove subsidies during the mid-1980s resulted in significant restructuring with a big fall in sheep numbers and an expansion in dairy, wine and venison. Reduced expenditure by farmers had wide ranging social effects. Short term environmental impacts are believed to have been damaging and wide ranging whilst in the longer term there has been positive effects of expansion in native forest and negative impacts on water quality and an increase in greenhouse gas emissions.
- 47.2. Switzerland's agricultural sector is very heavily supported^{16,17} under a Federal constitutional requirements for farming to be both multifunctional and sustainable.¹⁸ Most support is provided via direct payments which are based on 'Proof of ecological performance'. This is equivalent to the EU system of cross compliance with regulatory requirements on water, environment and landscape protection. All recipients of direct payments must allocate between 3.5 and 7% of the utilisable land to "areas for the promotion of biodiversity". These are extensively managed with both fertilisers and pesticides prohibited in most cases. Other management prescriptions are applied under "higher level" biodiversity payments. Despite positive impacts in some areas, biodiversity has continued to decline across Switzerland. Recommended solutions include linking payments to regional biodiversity targets and making greater use of advisory services.¹⁹
- 47.3. The French Action Plan for Agroecology²⁰ aims to facilitate the transition towards more sustainable farming systems which combine environmental

¹⁵ [OECD \(2016\) Agricultural Policy Monitoring and Evaluation](#)

¹⁶ [OECD \(2011\) Switzerland - Agricultural Policy Monitoring and Evaluation](#)

¹⁷ [Producer support estimates \(subsidies\) As a percentage of gross farm receipts](#)

¹⁸ [ENCA Seminar \(2016\) - Greening of CAP Pillar 1 payments - can it be done better and simpler?](#)

¹⁹ [IEEP \(2016\) Greening of CAP Pillar 1 payments – can it be done better and simpler? Summary Report](#)

²⁰ [Lampkin N.H., Pearce B.D., Leake A.R., Creissen H., Gerrard, C.L., Girling R., Lloyd S., Padel, S., Smith J., Smit, L.G., Vieweger A., Wolfe M.S., \(2015\) The role of agroecology in sustainable intensification Report for the Land Use Policy Group. Organic Research Centre, Elm Farm and Game & Wildlife Conservation Trust.](#)

practices, economic performance and collective action at the local level. The French Agriculture Minister has described this as “turning the environment into a competitive asset”. Twelve fundamental objectives cover a diverse range of themes, including new approaches to agricultural education; fostering of collective action; reductions in the use of pesticides and antibiotics; promotion of increases in soil organic matter and financial support for the transition towards agroecology including organic farming and agro-forestry.

47.4. Payment-by-results (PBR) land management schemes have been used in a variety of situations across Europe.²¹ Evidence suggests that such schemes are particularly advantageous where management needs to be tailored to local, or even farm-specific, conditions to produce optimal results for biodiversity. In most situations, PBR schemes operate as a module within broader agri-environment programmes which also include payments for carrying out specific management practices, irrespective of the outcome. Whilst good results have been obtained from PBR schemes in countries such as Germany and Ireland, the cost-effectiveness of such an approach is likely to be compromised without sufficient investment in the underlying evidence base together with adequate targeting, monitoring, selection of evidence-based measures and sufficient training, support, and appropriate advice for both staff and farmers.

48. More information on each of these approaches is available in Annex 4.

49. Two key points arise from consideration of rural policies elsewhere:

- The need for an appropriate transition between one policy framework and another;
- The nature of the agreed destination and the date on which the new policy framework will take effect (see also our response to Question iii).

50. Creating and delivering a new regulatory, incentive and guidance framework capable of supporting all land managers in the delivery of SMNR will take time, as will the development of new external trading regimes.

51. A transition period is needed to ensure that land managers can take account of the new direction of travel. Such a mechanism will help to ensure SMNR is not compromised in the short term as a result of significant short term economic pressures.

52. It will be important to avoid the risk that the transition measures are seen as an endpoint in themselves. Clear signals will be needed to ensure that these are seen as part of the journey towards an agreed destination with timescales established at the outset.

²¹ [Results Based Agri-Environment Handbook](#)

53. **In the short term** the need for market interventions and targeted support schemes will be dependent on the nature of UK's future international trading relationships, coupled with the level of resources available to the Welsh Government (both financial and administrative). Development of a new policy framework will need to parallel the discussions on the UK's future international trading relationships, with particular reference to the following:

- Payments for land management;
- Support for more sustainable production systems e.g. agroecology;
- Investments;
- Knowledge Exchange;
- Wider Economic & Social Rural Development Programmes;
- Supply Chain Measures;
- Direct Payments.

More information on each of these types of policy measures is available in Annex 5.

54. **In the longer term**, outcome-based policies (payment-by-results) are the most likely to achieve results through appealing to land managers' sense of pride and responsibility. Good land management practice are already guided by standards, such as UKFS for forestry or CoGAP for agriculture, and certification schemes, such as UKWAS²² for woodlands and FAWL²³ for agriculture. Mandatory good practice should be "business as usual" with optional elements as incentives for candidates to achieve higher standards. As more of the optional good practice becomes business as usual – a step change in SMNR delivery should be demonstrated. This has been seen in the approach of the Health and Safety Executive over the years (e.g. current focus on **the action of** risk control and not **the act of** written risk assessment²⁴) and this approach could well improve the SMNR performance of land use and land management sectors.

55. All market interventions and targeted support schemes (short and long term) need to be situated within appropriate timeframes, with verification and control measures relate to the intended outcomes rather than placing undue emphasis on the land management practices undertaken to achieve them.

56. Where the desired results are unlikely to be obtained immediately, the scheme design should include interim performance targets rather than the ultimate outcomes. Such an approach will be particularly important in the early years where natural resources can be slow to respond (e.g. biological recovery of acid sensitive freshwater systems). Wherever possible successful interim delivery should be built upon with a clear line of sight to final outcomes with progressive incentivised

²² [UK Woodland Assurance Standard](#)

²³ [Farm Assured Welsh Livestock](#)

²⁴ [HSE Business Plan 2016/17](#)

delivery through cumulative improvements (e.g. the suite of land use and land management measures required to protect the chemical and biological status of acid sensitive freshwater catchments.) Consistency of incentive over the time period required to realise optimal benefit provision has often been an issue – a particular issue with woodland creation and management.

Question (iii) - To what extent should Wales develop its own agricultural, land management and rural development policies or should it be part of a broader UK-wide policy and financial framework?

57. EU membership ensures that the CAP provides an overarching framework for the development of UK agricultural and rural development policies. For example, each UK administration is obliged to implement the BPS and a Rural Development Programme (RDP) albeit with substantial differences between them e.g. England devotes c70% of its RDP to environmental land management, whilst other administrations allocate far less.
58. Following the UK's departure from the EU, there are likely to be limits on how far devolved policies can be permitted to differ. For example, different approaches to retaining the BPS, could create significant cross-border effects within the UK. In the international context, there might be significant World Trade Organization/trade agreement implications if devolved policies were to diverge too widely.
59. It is difficult to predict future economic impacts due to the uncertainty about currency movements, future trade agreements, land prices and the possible imposition of tariffs and quotas. However, the position of agricultural and timber goods within future trade negotiations is likely to be extremely complex. For example, European tariffs are currently in place on sensitive products such as beef.
60. Non-trade barriers may also limit trade in agricultural goods with such measures proving very difficult to address during negotiations. For example, the use of antimicrobials and hormone-treated beef have proved highly contentious during recent discussions on the Transatlantic Trade and Investment Partnership (TTIP).²⁵ Current UK and Welsh requirements are aligned with European legislation, but non-trade barriers may become more significant following the UK's departure from the EU.
- 61. The nature of the UK's future international trading agreements, coupled with the level of resources available (both financial and administrative) are likely to determine the type of land management and rural policies required.**
62. Welsh and UK agricultural and timber prices have both increased following the EU Referendum and the fall in the value of sterling. Both agricultural products and timber are traded on international markets, with prices fluctuating on a global scale.

²⁵ [ADHB Horizon Market Intelligence - What might Brexit mean for UK trade in agricultural products](#)

The drop in the value of sterling is likely to increase the demand for Welsh and UK products.

63. Timber as a component of rural development and green growth in Wales is highly dependent on UK scale supply and demand (especially for construction grade materials and biomass). Timber and other forest products can be responsive to regional or local supply and demand chains (e.g. firewood, fencing materials). Wales produces approximately 80% of its own fencing materials, although around 80% of construction timber is imported. There is significant potential to develop markets and supply chains for Welsh timber and wood products. This is particularly the case in sustainable construction, where timber can be used as a substitute for high carbon material. Increased demand could also promote greater use of hardwoods, thereby incentivising the utilisation of those broadleaved woodlands in Wales that are currently undermanaged as well as leading to the generation of value added products. Confor²⁶ has cited five areas for action including:

- New planting and restocking of forests;
- Rural policy and funding;
- Environmental legislation;
- Timber standards, trade regulations and migrant labour;
- Plant health.

64. Welsh food and drink exports to the EU were worth £274.2 million in 2014. Exports from the sector increased 132% between 1999 and 2013 and involve 10% of businesses within the sector. Some Welsh produce also qualifies for protection under EU system of quality marks such as 'Protected Designated Origin' and 'Protected Geographical Indication' e.g. Welsh lamb. The most significant risk is that the UK's future global trading relationships leave Welsh farmers exposed to cheaper imports produced with fewer environmental and welfare safeguards (or imports produced by EU farmers who are financially supported in maintaining basic environmental standards). This could result in a "race to the bottom" in which unsustainable land management becomes the norm as Welsh businesses struggle to survive.

65. In order to counteract this risk, NRW believes that Wales should pursue a "high quality" route – with produce marketed on the basis of a proven sustainable production model, taking into account animal welfare, plant health, workers health and safety, sustainable timber production as well as the sustainable management of natural resources.

66. Whilst it is possible to offer incentives and provide support to encourage collaborative behaviour to achieve the sustainable management of natural resources, it is important that a regulatory baseline is established at an appropriate

²⁶ [Confor \(October 2016\) 'A thriving forestry and timber industry in a post-Brexit world'](#).

level. The combination of regulatory regimes and inter-operability of sectoral approaches to regulation should 'add up to the whole' *i.e.* the achievement of land management to SMNR principles and provision of well-being benefits. This should provide a level playing field for all land managers and those supporting rural development so that we are able to more smoothly achieve the outcomes we seek through collaborative behaviour.

67. If this baseline is set too high, there is a danger of creating an "additionality trap" which would leave land managers struggling to achieve compliance whilst preventing both public bodies and the private sector from structuring incentives to achieve the desired outcomes. At present it is unclear within agricultural and rural policies the deviation in regulation that would be required to disadvantage Welsh businesses, landscapes and SMNR.

68. Consideration should be given to the development of a broadly similar regulatory baseline across the UK. Significant differences in relation to standards could create perverse incentives for businesses to relocate to other jurisdictions.

69. Beyond the regulatory baseline, it would be entirely appropriate for Wales to offer bespoke policies that encourage additional outcomes

70. The transition from the European Union provides the opportunity to include multifunctional activities into the delivery of primary production in Wales. This will provide an opportunity to develop more innovative forms of interventions which are spatially embedded, creative and which are directly linked to supply and demand in the agri-food sector.²⁷

71. Embedding the principles of SMNR into the agri-food sector could assist the development of more supply chains within which the desired forms of land management are rewarded in the form of market premiums.²⁸ Addressing market failure in this way would reduce the need for Government intervention.

72. Wales is now in a unique position within the UK. The sustainable management of natural resources, as driven by the new Environment and Well-Being of Future Generations Acts, provides a perfect 'story' for the further development of the Welsh brand. Provided the brand can be properly evidence-based and audited, it can be used to underpin quality outputs from the agri-food, timber, tourism and environmental sectors, whilst providing a range of cross cutting and multiple benefits.

²⁷ [Marsden, T & Sonnino R. \(2008\) Rural Development and the Regional state: Denying multifunctional agriculture in the UK, Journal of Rural Studies, Vol 24 p422-431:](#)

²⁸ [Van Dijk, WFA, Lokhorst AM, Berendse F and de Snoo GR \(2016\) Factors underlying farmers intentions to perform unsubsidised agri-environmental measures. Land Use Policy Vol 59, p207-216](#)

Annex 1

Some benefits provided by the natural resources of Wales

- The Gross Value Added (GVA) for Welsh agriculture as a whole is £385 million. This underpins the £6.1 billion annual turnover and £1.55 billion GVA attributed to the on-farm production and food manufacturing sector;
- 951 million litres of drinking water per day;
- 1.5 million green tonnes of timber a year;
- The Welsh woodland resource contributes a Gross Value Added (GVA) of £499.3M per annum to the Welsh economy;
- 14 million tonnes of aggregates a year;
- 8,919 gigawatt hours of energy from renewable sources and rising (2014 figures).
- 1,500 businesses were engaged in producing renewable energy in Wales, with sales of £958 million, and employing 2,000 people on a full time equivalent (FTE) basis (2014 figures);
- 38% of all jobs in Welsh National Parks are linked to the environment (UK Census 2011).
- Welsh soils store 410 million tonnes of carbon, as well as underpinning all of our agricultural production;
- At a UK level, the annual value of pollination services to agriculture and horticulture is £690m;
- 10 million overnight trips and 90 million day visits from GB visitors, with a further 932,000 international visits, generate a total expenditure of £2.87 billion in Wales (2014 figures);
- Over a quarter of the adult population in Wales meet the recommended level of physical activity through participation in outdoor pursuits;
- Evaluation of the Wales Coast Path found that the economic value derived from the health benefits of walking on the path was £18.2million.
- The Welsh historic environment sector supports 30,000 jobs and contributes £840m to national GVA.
- 12 million people visit the three Welsh National Parks which results in more than £1 billion pounds worth of spending in the Welsh economy (2013 figures).

Annex 2

Contribution of Natural Resources to the Well-being Goals

- **A Resilient Wales** – Biodiversity, mountains, moorlands and heaths, semi-natural grasslands, woodlands, urban greenspaces, rivers, streams, lakes and wetlands, coastline and marine ecosystems all contribute to supporting Wales' ability to adapt to climate change. They are fundamental in supporting all of the well-being goals.
- **A Prosperous Wales** – Natural resources provide significant opportunities for employment and economic activity in Wales. Many of our key industries, such as agriculture, fisheries, forestry, energy and tourism are dependent on natural resources.
- **A Healthier Wales** – Natural resources make a significant contribution to the physical health and mental well-being of people in Wales. For example: trees help to absorb pollutants and improve air quality; access to nature and greenspace has positive impacts on physical and mental health.
- **An Equal Wales** – Equal access to ecosystems that provide cultural services would contribute to equality in Wales. At present, access is not equally distributed. (For example, not everyone lives in close proximity to accessible greenspace.)
- **A Wales of Cohesive Communities** – Involving communities in the management of their local parks and woodlands has been shown to improve community cohesion and reduce antisocial behaviour.
- **A Wales of Vibrant Culture and Thriving Welsh Language** – Landscapes have played a significant role in the development of distinct cultural practices, such as local building techniques relying on local materials, or locally specific art and literature.
- **A Globally Responsible Wales** – The environment supplies all our material resources, so we must better understand the impacts of our activities globally in terms of both imports and exports.

Annex 3

Examples of underachievement in Welsh land management policy

- Although 86% of bird features and 86% of mammal features on Special Areas of Conservation (SAC) and Special Protection Area (SPA) are in favourable condition, the majority of species features (55%) remain unfavourable²⁹.
- Some key habitats of conservation importance, such as lowland semi-natural grasslands, are scarce, small in extent and remain highly vulnerable³⁰.
- Some 75% of the habitats on SAC and SPA (the Natura 2000 series) are in unfavourable condition³¹.
- The condition and extent of more than 50% of Biodiversity Action Plan (BAP) habitats is declining across Wales³².
- The total length of hedgerows in Wales has been estimated at 106,000 km, but 78% of this is in unfavourable condition³³.
- Diffuse and point source pollution continue to impact on water quality and aquatic biodiversity with, 63% of all freshwater water bodies defined by the Water Framework Directive failing to achieve good or better overall status in 2015³⁴.
- Soil quality has deteriorated across all habitats apart from woodlands where there has been some improvement³⁵.
- Although a significant decline in soil phosphorus levels has taken place on improved farmland³⁶ they were above the optimum in 44% of agricultural fields sampled as part of Glastir Advanced Water Quality Programme³⁷.
- At least 203,000 ha of woodland in Wales is managed to the UK Forestry Standard³⁸. This is an increase of 65% from 2001³⁹. However, around 40% of Welsh woodlands have little or no management which reduces their resilience and ability to provide well-being benefits.
- The total area of woodland in Wales has changed little in the past 20 years. The total amount of new planting between 2009 and 2015 was 3,392 ha. The rates of new woodland creation are low, of small average size and highly dependent on public funding. New planting is mainly of native broadleaves which impact both on

²⁹ NRW. 2015. *Current data on SAC and SPA Annex I habitats and Annex II species*. Internal data source. Natural Resources Wales.

³⁰ Stevens DP, Smith SLN, Blackstock TH, Bosanquet SDS, Stevens JP. 2010. *Grasslands of Wales. A survey of lowland species-rich grasslands, 1987–2004*. Cardiff: University of Wales Press.

³¹ NRW (2016). *Current data on SAC and SPA Annex I habitats and Annex II species*. Internal data source. Natural Resources Wales.

³² [Welsh Government, Statistics for Wales. 2012. State of the Environment 2012 report.](#)

³³ [Countryside Survey. 2007. Countryside Survey 2007: Results for Wales \[online\].](#)

³⁴ [NRW. 2015. Water Watch Wales. Water Framework Directive reporting. Natural Resources Wales. NRW. 2015. River Basin Management Plans, Published 2015-2021.](#)

³⁵ UK NEA. 2011. *The UK National Ecosystem Assessment - Technical Report. Chapter 20: Status and changes in ecosystems and their services to society: Wales*. Cambridge: UNEP-WCMC.

³⁶ Glastir Monitoring & Evaluation Programme. Second Year Annual Report to Welsh Government (Contract reference: C147/2010/11). NERC/Centre for Ecology & Hydrology (CEH Project: NEC04780).

³⁷ NRW report to Welsh Government. Glastir Advanced Water Quality: Results from 2013-2014 visits. Report Number REWA000333. November 2014.

³⁸ The standard for sustainable forest management in the UK and a proxy measure of woodland condition in those woodlands that are managed.

³⁹ [Welsh Government \(Official Statistics\). 2015. Woodlands for Wales Indicators 2014-15. December 2015.](#)

Welsh woodland's capacity in the medium and long term for softwood timber production and its potential for overall carbon abatement.

Annex 4

Land management policies elsewhere

New Zealand

In the context of the financial resources that may be available to support agricultural and rural policy following the UK's departure from the EU, the removal of agricultural subsidies within New Zealand (NZ) is frequently mentioned. Much has been written on NZ experience, although many of the relevant and most easily accessible papers are now over a decade old^{40,41,42}.

The removal of subsidies during the mid-1980s were particularly significant for an economy which depended heavily on the export of primary products and traded heavily on its 'clean green' image. The changes were driven by a wider economic crisis and were accompanied by a substantial devaluation of the NZ dollar.

The national sheep flock sharply reduced from 70 million (1983/84) to 40 million (2004/05) with the number of sheep and beef farms fell by 31%. At the same time both lambing percentages and carcass weights increased by 25%. The change in dairying was no less profound. The number of dairy herds fell by 17% over the same period whilst the national herd grew from 2.3 million to 5.3 million, average herd sizes has increased from 150 to 270 animals and the volume of dairy production increased by 75%. There was no deer industry in NZ in 1984, but by 2004/05 the national deer population was around 2 million and export earnings exceeded US\$100 million. Wine has also been a growth industry; exports were worth less than US\$10 million in 1984/85, but rose to \$125 million in 2004/05.

Following the removal of subsidies, the reduction in farmer expenditure on all non-essential repairs and maintenance, new land development, fertilizer applications, and capital expenditure on new plant and equipment had wide ranging social effects. Many small rural firms went out of business as farmers did more of their own work. Only 1% of farmers left the industry, although there were some suicides and some producers had to rely on social welfare assistance. Many small rural towns experienced population declines as farmers stopped spending, people left for jobs elsewhere and public services such as schools and local hospitals contracted. Despite this, the rural population actually rose slightly between 1981 and 2001.

The environmental impacts of the shift in policy are largely thought to have been positive. Subsidies for land development and increases in livestock numbers throughout the 1970s/early1980s encouraged farmers to clear native forests and increase the pasture area for stock. Subsequently, it became less economic to bring new land into production. Amendments to the Forestry legislation also assisted in this

⁴⁰ [Life after Subsidies: The New Zealand Farming Experience -20 Years Later](#)

⁴¹ [New Zealand Removal of agricultural and fisheries subsidies](#)

⁴² [Farming subsidy reform dividends](#)

process, including a requirement that any native trees that are to be milled into timber must come from sustainably managed forests.

The expansion of dairy farming in the late 1980s had a damaging impact on water quality due to increased contamination by effluent and a rise in the number of campylobacter infections. Greenhouse gas emissions have also continued to rise with an increase of 15% between 1990 and 2014, although much of this is attributed to increases in production, with improved efficiencies significantly offsetting what could have been a much larger increase⁴³.

Whilst some significant political economy messages emerged from the NZ experience, not least the need for transparency and an agreed timetable, the current situation in Wales is significantly different. Firstly, the NZ subsidy system was not decoupled from production and the overall level of state support for agriculture may well have been higher. Secondly, NZ farmers were operating in a highly protected market where the Government would intervene to purchase surplus production. Thirdly, the shift into diversified forms of production took place within a very different climate and physical environment. Finally, NZ agriculture is less intimately connected with the management of particular habitats - and both the positive and the negative impacts of removing subsidies may well have varied across different spatial scales.

Switzerland

By contrast with New Zealand, Swiss agriculture is very heavily supported^{44, 45}. Despite this, there are some interesting features within the Swiss approach, not least the greening of direct payments, an approach which predated the adoption of a similar policy within the last round of CAP reform.

The Swiss approach to greening began some 25 years ago with the introduction of a Federal constitutional requirement for farming to be both multifunctional and sustainable⁴⁶. Since 1999, all direct payments (DP's) have been based on 'Proof of ecological performance' (PEP). This is compulsory for all farmers and is equivalent to the EU system of cross compliance with regulatory requirements on water, environment and landscape protection.

The system of DP's is based on the five themed objectives established under the Federal Constitution (ensuring food supplies, conserving natural resources, taking care of the landscape, encouraging decentralised settlement and animal welfare). The following categories of DP's were introduced in 2014:

- Payments for ensuring supplies;
- Biodiversity payments;
- Payments for landscape quality;
- Payments for production systems;

⁴³ [New Zealand Agriculture Green House Gas Research Centre \(2015\) Reducing New Zealand agricultural emissions: What are we doing \[Edition 2\]](#)

⁴⁴ [OECD \(2011\) Switzerland – Agricultural Policy Monitoring and Evaluation](#)

⁴⁵ [OECD \(2013\) Agriculture and Food 1. Producer Support Estimates \(Subsidies\) As a percentage of gross farm receipts.](#)

⁴⁶ [ENCA \(2016 Seminar\) – Greening of CAP Pillar 1 Payments – can it be done better and simpler](#)

- Payments for efficient use of resources;
- Transitional payments.

'Proof of ecological performance' is still the basic requirement of the system and every farmer who wants to receive direct payments still needs to meet the requirements, including the creation of "areas for the promotion of biodiversity" (APB). At the minimum level, 7% of the utilisable area of each farm must be devoted to APB's, although this drops to 3.5% in the case of permanent crops such as orchards, vines and horticulture. APB are extensive areas, where utilisation of fertilisers and pesticides is forbidden in most cases and other management prescriptions (such as the first date on which meadows can be mown) are also applied under Level 1 of the Biodiversity Payment.

New policy tools were created in 2001 to incentivise the ecological enhancement of APB. For example, under Level 2 of the Biodiversity Payment, farmers can commit for an eight-year period to more demanding requirements based on botanical criteria and vegetation structure. Another incentive tool, included in the 'conserving natural resources' themed objective are ecological networking projects aiming at linking together individual APB's. This project also helps to enhance farmers' awareness and understanding of ways to protect key and characteristic species.

Despite the introduction of these measures and positive impacts in some areas, overall biodiversity has continued to decline across Switzerland. The following recommendations are intended to reverse this trend:

- Improving the implementation and quality of the outcomes arising from APB, in particular by linking these to the biodiversity targets set for the different agricultural zones across Switzerland (in some places increasing the coverage of certain habitats by a factor of three).
- Improving both the reach and the quality of the advisory services available to farmers. The provision of advice on biodiversity-related topics has the potential to increase ecological performance, but without impacting on yields and farmer income. Face-to-face advice can incentivise farmers to carry out environmental management as it improves understanding of why certain actions are needed. At the same time advisors need to be able to provide guidance on how best to achieve multiple objectives within a single location.

France⁴⁷

Alongside the concept of *sustainable intensification*⁴⁸, the concept of *agroecology* is now being promoted on a global scale. The two concepts are by no means incompatible, with agroecological approaches contributing to increased food

⁴⁷ The text in this section has been abstracted from a draft report to the inter-agency Land Use Policy Group (LUPG) by the Institute for European Environmental Policy (IEEP) on "*The promotion of agroecological approaches: lessons from other countries*"

⁴⁸ [Elliott J., Firbank L.G., Drake B., Cao Y. and Gooday R., \(2013\) Exploring the Concept of Sustainable Intensification ADAS/Firbank, LUPG Commissioned Report](#)

production, although the emphasis is on using natural processes and principles. In addition, the knowledge and skills of farmers are more important than capital intensive inputs based on new technology⁴⁹.

In 2012, the French Minister for Agriculture, Stéphane Le Foll, announced his ambition to foster a different sort of agriculture with the slogan “*Agriculture – Producing Differently*”. This set the tone for the development of an “Agroecological Project for France”, in turn informing the 2014 reform of the French national law for the future of agriculture, food and forestry, within which the promotion of agroecology is enshrined. In the same year, the Ministry of Agriculture formalised the Agroecological Project for France with the adoption of an Action Plan for Agroecology.

The Agroecological Project for France involves harmonising and coordinating the actions of a number of existing thematic programmes, but also introduces more cross-cutting national initiatives – notably in relation agricultural education.

For the French Ministry of Agriculture, agroecology is “*a way to design production systems that rely on ecosystem functions. Agroecology seeks to amplify those functions while reducing pressure on the environment (e.g. reducing greenhouse gas emissions or pesticide use) and preserving natural resources. Agroecology is about using nature as a production factor to its maximum potential within the limits of its renewal capacity.*” Agroecology is seen as involving using a set of techniques which make sense on the farm as a whole (a systemic approach) while thinking strategically at the territorial level. Agroecology aims to reintroduce diversity into agricultural production systems, as well as landscapes, through putting agronomic knowledge at the heart of decision-making, whilst also considering the socio-economic context and farmers’ own situation and future ambitions during the transition period. The French concept involves going beyond standard efficiency gains with the intention of rethinking and redesigning production systems and aligning them with agroecological principles.

The Agroecological Project aims to facilitate and accelerate the transition towards more sustainable farming systems which combine environmental practices, economic performance and collective dynamism at the local level (in ‘territories’). Le Foll describes the project as being the way “*to turn the environment into a competitive asset*”. Twelve fundamental objectives were developed on the basis of recommendations made by a consortium of research institutions and universities commissioned by the government in September 2012. The consortium was asked to identify “*good agricultural practices and knowledge available, in France and abroad, on innovative production systems that enable a better management of natural resources*” in order to prepare for the 2014 reform of agricultural legislation.

The twelve objectives of the Agroecological Project are as follows:

- Revision of agricultural educational curricula;

⁴⁹ [Lampkin N.H., Pearce B.D., Leake A.R., Creissen H., Gerrard, C.L., Girling R., Lloyd S., Padel, S., Smith J., Smit, L.G., Vieweger A., Wolfe M.S., \(2015\) The role of agroecology in sustainable intensification Report for the Land Use Policy Group. Organic Research Centre, Elm Farm and Game & Wildlife Conservation Trust.](#)

- Fostering collective initiatives through creating ‘economic and environmental’ groups or GIEE;
- Reductions in the use of pesticides;
- Better training of farmers e.g. creation of an agro-ecological diagnostic tool;
- Provide financial support for the transition to agro-ecology;
- Support for organic agriculture;
- Engagement and creation of synergies amongst local stakeholders within a territory,
- Reductions in the use of antibiotics;
- Promotion of seed selection:
- Promotion of increases in soil organic matter, notably through the 4 per 1000 initiative⁵⁰;
- Support for beekeeping;
- Promotion of agro-forestry.

All of these objectives are addressed by the Action Plan for Agroecology which establishes a set of cross cutting actions needed to achieve them. These range from steering and managing the Agroecological Project itself (e.g. steering group, evaluation indicators and the regional implementation of the Project) to engaging the research and development sector to work alongside and train farmers; providing financial support to emerging agroecological initiatives through the CAP; fostering innovation, and promoting agroecology in overseas territories and internationally.

The Action Plan brings together eight rather diverse and detailed programmes, the majority of which pre-dated the Agroecological Project (as adopted in July 2014) although some have since been revised, while others were created as a result of the Project. They deal with various aspects of agricultural practices and agriculture-related sectors and the adaptation of farming to strengthening environmental requirements as well as more innovative approaches.

England

Reversing the decline of farmland biodiversity has proved to be more complex than anticipated when the first agri-environment schemes were launched in late 1980’/early 1990’s. From an agricultural perspective, even where farmers have been offered payments to undertake specified management over a number of years, the results have not always met expectations, particularly in the shorter term⁵¹. While in some parts of Europe there have been improvements in the population of target species, in other areas there have been disappointments. Criticisms of the results of conventional agri-environment schemes (which are designed so as to incentivise particular sets of management practices) have become more widespread. These criticisms have been

⁵⁰ Launched in the aftermath of the COP21 conference on climate in Paris in 2015, the 4 per 1000 initiative argues that a 4‰ annual growth of the carbon stock stored in agricultural and forest soils worldwide would curb the current increase in CO₂ emissions. The objective of the initiative is to demonstrate that soils have a crucial role to play in climate change mitigation.

<http://4p1000.org/understand>

⁵¹ [IEEP \(2015\) Results-Based Agri-Environment Schemes: New Report and Guidance Handbook Available e](#)

voiced by the scientific community and administrative authorities, as well as by farmers.

Questions about the effectiveness and cost-benefits of conventional management-based payment schemes have helped to stimulate further interest in alternatives, whether these are based on payments to farmers, or other approaches such as working with consumers and retailers on promoting labelled foods linked to improved biodiversity impacts. A common theme of new approaches to incentives is the need to improve the targeting and tailoring of management at the farm or landscape scale. This is needed to address the specific conservation requirements - and to allow farmers to have a greater say in identifying the kinds of management that will work best in a given situation.

One way of achieving this is by tightening the link between the payment offered and the provision of measurable benefits for the species, habitats or broader ecosystems that are being targeted. There are many examples of results-based approaches to agri-environment schemes across Europe, but the collaboration between the Yorkshire Dales National Park (YDNP) and Natural England (NE) is the only project within the United Kingdom.

In 2013 the Northern Upland Chain Local Nature Partnership (NUCLNP) worked with four groups of upland farmers to try to identify ways to secure a more robust economic future for the low-intensity, upland farming systems that are particularly valuable for wildlife, the environment and people⁵². In light of this work, the YDNPA and NE submitted a three-year project proposal to the European Commission to develop and test 'results-based agri-environment schemes' in the UK. DG-Env issued a € 500,000 contract for the project in January 2016.

⁵² [North Upland Chain – Local Nature Partnership Themes and Projects](#)

Annex 5

Short Term Land Management Policy Measures

Payments for land management such as those under existing agri-environment and climate schemes, forestry grants and protected site measures such as management agreements. Much has been learned from existing schemes and payment-by-results models could play a much greater role in securing natural resource management (especially for biodiversity) in the longer term. In the event that existing agricultural production is seen as no longer viable in some locations, additional payments for a managed transition to alternative land uses (diversification into new agricultural products, forestry or re-wilding) are likely to achieve far better results in the short to medium term than simply allowing land to be abandoned.

Support for more sustainable production systems. Such an approach would involve deriving environmental outcomes from the production systems themselves (e.g. via the promotion of agroecological techniques and systems) rather than paying for specific environmental measures to be undertaken. For example, support for mixed farming could possibly be seen as a surrogate for a more heavily prescribed set of prescriptions such as CAP Greening, although in practice the definition of what constituted mixed farming might have to be tightly defined to avoid perverse outcomes.

Investments to provide support for more sustainable production practices. Conditions would be needed to guard against the subsequent adoption of unsustainable land management practices/ inappropriate land use change by the recipients of investment support. In the event of large scale land abandonment, some role may exist for supporting land purchase by third-sector organisations where there would be significant public benefits.

Knowledge Exchange should continue to be used to drive greater sustainability and improved farm incomes. A transition to more sustainable systems would reduce environmental impacts, but increases in profitability would be dependent on building supply chains capable of rewarding high quality production whilst eliminating market failure.

Wider Economic & Social Rural Development Programmes. A territorial approach contributes to a “sense of place” through integrating all aspects of the local economy including abattoirs, processing plants, value-added activities, rural tourism and recreation as well non-agricultural community-based projects and support for small scale employment ventures including renewable energy.

Supply Chain Measures should be used to add value to the sustainable production of premium products.

Direct Payments (DP's). It is argued that DP's push up the costs of both land and other inputs (making entry into the industry more difficult for new farmers and inhibiting a shift into other land uses such as forestry or rewilding) but it still accounts for a substantial proportion of income on many holdings. Subject to budgetary considerations, some form of DP may still be necessary as part of a transitional approach, to retain critical mass in certain sectors such as red meat. In relation to the latter, it will be necessary to consider the role of lowland livestock and mixed farms as

well as those in the uplands. Other forms of Direct Support such as a Welsh approach to greening may be more suited to a post-CAP situation. Further questions then arise about the nature of any cross compliance conditions and the regulatory baseline and whether support should be limited to those farms which are delivering public goods?