PRIFYSGOL BANGOR UNIVERSITY

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Research Policy Analysis
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The Environmental Assessment of Plans and Programmes (Wales) Regulations 2004

Wales Rural Development Plan 2014-2020

Strategic Environmental Assessment
Environmental Report - Non Technical Summary

June 2014

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Cronfa Amaethyddol Ewrop ar gyfer Datblygu Gwledig: Ewrop yn Buddsoddi mewn Ardaloedd Gwledig
The European Agricultural Fund for Rural Development: Europe Investing in Rural Areas

Llywodraeth Cymru
Welsh Government

Ex-ante Evaluation and Strategic Environmental Assessment for Wales Rural Development Plan 2014-2020

STRATEGIC ENVIRONMENTAL ASSESSMENT

NON-TECHNICAL SUMMARY

JUNE 2014

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1 INTRODUCTION

1.1 Purpose

1.1.1 This Strategic Environmental Assessment (SEA) report of the Wales Rural Development Plan ('the RDP') has been produced by Bangor University in association with Old Bell 3 Ltd. on behalf of the Welsh European Funding Office (WEFO). **This Non-Technical summary of the SEA provides a brief overview of the SEA Report findings and should be viewed alongside the full SEA and the proposed RDP programme.**

1.1.2 The SEA has been carried out in accordance with the requirements of the European SEA Directive (2001/42/EC) and the implementing regulations for Wales, the Environmental Assessment of Plans and Programmes (Wales) Regulations 2004 (Welsh Instrument 2004 No. 1656 (W.170)). We have also considered the provisions of Statutory Instrument 2007/2933, the Environmental Impact Assessment (Agriculture) (Wales) Regulations 2007.

1.1.3 The SEA has been carried out in conjunction with the development of the RDP and its overall Ex-Ante Evaluation. It aims to ensure that the RDP contributes positively to a high level of environmental protection, as well as supporting the goal of the Welsh Government of working towards sustainable development. It does this:

- by setting out the environmental parameters within which the RDP will operate;
- by identifying, describing and assessing likely significant effects on the environment arising from the RDP's implementation;
- by considering reasonable alternatives.

1.1.4 The SEA sets out to influence strategic changes that might result from the assessment. Changes should have already occurred by the time that the report is finalised, confirming that the right approach has been taken to the SEA process, namely that it has been used to improve the environmental performance of the programme, rather than merely presenting a snapshot of it.[1]

1.2 SEA requirements

[1]"Getting the most from your RDP. Guidelines for the Ex-Ante evaluation of 2014-2020 RDPs." Draft August 2012.European Evaluation Network for Rural Development. DG Agriculture and Rural Development.

1.2.1 The Environmental Report complies with the requirements of the Environmental Assessment of Plans and Programmes (Wales) Regulations 2004 (Welsh Instrument 2004 No. 1656 (W.170)).

Table 1 identifies those sections **within the main Environmental Report** that relate to the specific requirements of Regulation 12 and Schedule 2 of the Regulations.

Table 1: References to the SEA Regulations

Environmental Report - Information to be included	Relevant Section
1. An outline of the contents, main objectives of the plan, and of its relationship with other relevant plans and programmes.	**Section 4, page 88**
2. The environmental characteristics of areas likely to be significantly affected.	**Section 3, page 33**
3. Any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC and 92/43/EEC.	**Section 3.21, page 84**
4. The environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation.	**Appendix 2**
5. The likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects, on issues such as: biodiversity; population; human health; fauna; flora; soil; water; air; climatic factors; material assets; cultural heritage including architectural and archaeological heritage; landscape; the interrelationship between the above factors.	**Section 5, page 101** **Annex 6**
6. The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan.	**Section 7, page 121**

7. An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken.	**Section 6, page 114**
8. A description of measures envisaged concerning monitoring in accordance with Regulation 17.	**Section 8, page 124**
9.. A non-technical summary of the information provided under paragraphs 1 to 9.	**Accompanying document**

1.3 The SEA process and assessment methodology

1.3.1 The SEA was developed in response a number of consultations commencing in December 2012, and has been further amended in parallel with adjustments to the RDP during 2013 and early 2014. It specifically responds to the final proposals contained in the consultation document issued 17 February 2014[2] and to the most recent RDP draft (May 2014).

1.4 The SEA and other EU Directives and Standards

1.4.1 The SEA Directive applies to programmes and plans that may be developed at national or at local levels. Further elaboration on the relevant assessments can be found in sections 1.4.1-1.4.12 of the full report.

[2] Number WG 20644

2 SEA PROCESS AND ASSESSMENT METHODOLOGY

2.1 Approach and overall SEA tasks

2.1.1 The approach that has been adopted is based on a number of advisory documents, chiefly the guidelines of the former Office for the Deputy Prime Minister (ODPM) 2005, and the EC's guidance documents on implementing the SEA Directive and RDP Ex-Ante Evaluation guidance 2012. Note was also taken of guidance provided by the Environment Agency, the Countryside Council for Wales, RSPB, and the Scottish Executive. Relevant citations can be found in the footnotes of the Environmental Report. The following boxes summarise the SEA process and tasks undertaken Table 5 describes the SEA stages and tasks.

2.2 Challenges in undertaking the SEA

2.2.1 The assessment was constrained by two key factors:

- The proposed RDP is not spatial, but provides generic descriptions of the kind of activities likely to be supported. It can therefore be difficult at times to envisage potential significant environmental effects with certainty, and therefore a precautionary approach has been taken to the assessment of effects.

- The plan is defined by the need to prioritise regional economic activity based on available funding and the timescale over which it will operate. Therefore, the identification and discussion of *reasonable* alternatives is limited to the themes or combinations of themes, the timescales and priorities within the Plan. Any discussion of alternative priorities, timescales or themes would be irrelevant.

2.3 Development of SEA objectives

2.3.1 The assessment is based on 12 overarching objectives, underpinned by 46 sub-objectives, as shown in table 4 of the main report, and in section 5.1 below. They were derived from an analysis of a wide range of literature that included:

- European Commission Core Indicators[3]
- EU2020 targets and Lisbon Structural Targets and Indicators[4]

[3]European Commission. Programming period 2014-2020. Monitoring and evaluation of European cohesion policy - European Regional Development Fund and Cohesion Fund. Concepts and Recommendations. Guidance document. November 2011.
(http://ec.europa.eu/regional_policy/information/evaluations/guidance_en.cfm#1)

- EU 6th Environmental Action Plan & Sustainable Development Strategy[5]
- The draft 2014-2020 programme consultation documents and thematic working group papers[6]
- The Welsh Government: Programme for Government[7]
- Wales Environment Strategy[8]
- Wales National Ecosystem Assessment[9]
- 2007-13 Rural Development Plan Strategic Environmental Assessment[10]
- Wales Spatial Plan[11]
- Sustainable Development Indicators for Wales[12]

2.3.3 The management plans of Wales' protected landscapes were reviewed in order to confirm the scope of environmental objectives, and to highlight any new objectives not identified already.

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[4] Communication from the Commission. Europe 2020 - a strategy for smart, sustainable and inclusive growth. (http://eur-lex.europa.eu/LexUriServ/LexUriServ. do?uri= COM: 2010: 2020: FIN:EN:PDF) (see also http://ec.europa.eu/ europe2020/pdf/targets_en.pdf for specific targets). See also http://epp.eurostat.ec.europa.eu/portal/page/portal/structural_indicators/indicators/environment on Lisbon environment indicators

[5]Decision No 1600/2002/EC of the European Parliament and the Council laying down the sixth community environmental action programme. July 2002.(http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:242:0001:0015:EN:PDF)Summary and explanation. (http://europa.eu/legislation _summaries/ agriculture/ environment/l28027_en.htm)

[6]The consultation documents issued 4 March 2013: situation analysis and next steps; water thematic report 14/11/2012; forestry thematic report 25/10/2012; agri-environment-organic report (undated); biodiversity report 26/10/2012

[7] Programme for Government. Welsh Government. 2011 (http://wales.gov.uk/docs/strategies/ 110929fullen.pdf & http://wales.gov.uk/docs/strategies/120528fullen.pdf)

[8]WAG Cardiff. Environment Strategy Action Plan October 2008. (http://wales. gov.uk/ desh/publications/enviroprotect/environmentstrategy/environmentactionplan/esap0811e.pdf;jsessionid=7D4C112D25E2CF42B4AD153E9C57CDA0?lang=en)

[9]National Ecosystems Assessment (2011): Chapter 20: Status and Changes in the UK's Ecosystems and their Services to Society: Wales. World Conservation Monitoring Centre Cambridge.

[10] Agra CEAS Consulting/Collingwood Environmental Planning (2006): Annex to the ex-ante evaluation of the Wales Rural Development Plan: the Strategic Environmental Assessment. Draft Final Report.

[11] Welsh Assembly Government (2008): People, Places, Futures. The Wales Spatial Plan. 2008 update. July 2008. WAG Cardiff.

[12] Welsh Government (2012): Sustainable Development Indicators. WG Cardiff

2.3.4 The range of comments on the SEA of the 2007-2013 RDP proposal were reviewed, including those from NFU Cymru, FUW, CCW and RSPB[13], as well as submissions to the subsequent Glastir Stocktake[14].

2.3.5 Parallel to this process was the development of 52 questions based specifically on the key issues that emerged from the environmental baseline.

2.3.6 It should also be noted that the objectives are not scored or weighted, since they are interdependent and potentially mutually reinforcing. However, it is recognised that *within* some objectives there is a hierarchy of priority concerns. For example the objective to 'protect and enhance biodiversity' implies that in some circumstances, *avoidance* must be the only option (in the case of ancient woodlands, say, or of designated habitats and species), whereas in others, *mitigation* and/or *compensation* might be appropriate. In any case, all mitigation and compensation measures must ensure an *enhancement* of the status quo wherever possible, should relate to any development proposal in terms of scale, and should be local to that proposal.

2.4 Development of SEA indicators

2.4.1 A set of indicators was developed using similar sources of literature, as shown in Appendix 3 of the main report, and linked to the 46 sub-objectives referred to above. The indicators and the objectives to which they relate are shown in table 13 of the main report.

2.5 Assessment methodology

2.5.1 The assessment consists of analysing each of the RDP's key measures against the objectives of the SEA, based on a range of criteria derived from the Directive and supporting guidance. The results are aggregated and set out as a basic compatibility test and can be seen in section 5.1 of the main report. Appendix 6 of the main report provides a fuller account of this assessment.

2.5.2 The criteria for the detailed analysis were developed on the basis of advice given in the ODPM guidance document, which refers to *'...scale and permanence and the nature and sensitivity of the receiving environment.'* (p.32) and the advice given by DG Environment[15]

[13] Appendix 3 to the 2006 SEA.

[14] Glastir Stocktake: A Report on the Findings. June 2012.

[15] "Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment". DG Environment. Undated.

2.6 Links to other programmes, policies and assessments

2.6.1 As well as document which specifically informed the development of objectives and indicators, a number of other European, UK and Wales-level plans, programmes and policies were reviewed, in order to identify further links between the RDP and other plans, policies and programmes, and to provide information on priorities and environmental issues. A summary of that review can be found in Appendix 2 of the full report.

3 ENVIRONMENTAL BASELINE AND ISSUES

3.1 Introduction

3.1.1 The scoping process sought to identify the key environmental issues that will influence the development of the RDP, and to highlight those issues that are relevant to the achievement of its objectives. Section 3 of the main report describes the current state of the environment in Wales, in order to provide a context for understanding the potential for both positive and negative effects that may arise from implementing the RDP.

3.2 Sourcing baseline data

3.2.1 Although the Plan is not spatially defined, certain landscapes and habitats are identified for funding, including upland landscapes including moorland, blanket bog, woodlands and wetland/river systems, a number of which are Natura 2000 sites. The linkages between the wide range of Welsh ecosystems need to be recognised, so that measures related to water conservation in the uplands will have an effect on coastal and marine ecosystems. The baseline is as inclusive as is reasonably possible, since it cannot be assumed that certain environmental elements will not be influenced, directly or indirectly, by the Plan.

3.3 Summary of issues

3.3.1 Key issues that relate to the environmental baseline are summarised in Table 2. These issues have implications for the proposed RDP and are discussed in section 5.2 and in Appendix 6 of the full report.

Table 2: Key environmental issues

Population and human health	Some areas lack easily accessible **open space**. Stress related illnesses from **poor living and working conditions**, as well as **unemployment**; heat and **fuel poverty**; poor diets leading to **obesity**; illnesses and injuries at work; and poor social/private rented **housing standards** are contributory factors in health problems in Wales. In some areas, **poor air quality** may be a contributory factor.
Biodiversity	About **60% of SACs**, and a number of Biodiversity Action Plan species and habitats are in **unfavourable condition**, especially on the coast. Pressures can come from **visitor numbers** on some sites, changes in weather patterns, development, **over- or undergrazing**, pollution, nutrient enrichment and

	eutrophication, sediment deposits, **invasive species,** inappropriate planting, **over abstraction** and overfishing. In some areas **coastal squeeze** resulting in significant saltmarsh and other marginal habitats.
Landscape	Landscapes that are not formally designated may be **vulnerable to inappropriate development** that erodes their character. Agricultural development, forestry and road schemes, as well as buildings in rural areas need to be sensitive to their settings. At the same time, some parts of protected landscapes suffer from **tourism impacts**.
Culture, architecture and archaeology	**Over 25% of Wales' listed buildings are either 'at risk' or 'vulnerable'**. Whilst nearly all of Wales' ancient monuments are stable or improving, climate change and changes in agricultural us may create new challenges. **Historic buildings and their settings, and the wider landscape, are under pressure from development.** The number of people who can speak Welsh has **decreased slightly** since 2001, although the number who can understand but not speak Welsh has increased slightly.
Soil quality and structure	Development, changes in agriculture (especially intensification) and climate change contribute to a **loss in soil carbon and structure**. There have been **changes in hydrology** and **erosion** due to changes in rainfall patterns and agriculture. The need to maintain best quality agricultural land in the face of development pressure may result in losses of less productive land which may be valuable for carbon sequestration.
Water resource	About **23.5% of water supply is lost to leakages**; there has been a **significant increase in abstracted water**, mainly for electricity supply. About **38% of river waters are not reliable for new abstractions** - there may be an increased demand due to population growth.
Water quality	Pollution from flooded mines continues to present a challenge. Diffuse pollution from other sources including agriculture is exacerbated by changing weather patterns with sudden flooding. There is a potential threat to coastal water quality as a result of increases in storm events. Livestock bank poaching reduces water quality. Currently, about 33% of coastal

	waters are not of 'good' ecological quality, and the pattern for terrestrial water bodies is mixed.
Air quality	Radon gas presents a significant health hazard in parts of rural Wales. Under certain weather conditions, ozone can also present a hazard to health locally.
Climate	A number of changes in weather patterns are predicted, including summer water shortages; increases in amounts and intensity of winter rainfall, with milder winters; hotter, drier summers; increases in sudden storms. These will result in rapid build up of river and drainage systems; increases in storm induced coastal erosion and subsidence; ecosystem changes with some species and habitat losses and gains.
Flood risk	28% of the Welsh coastline has sea defence infrastructure; about 1 in 6 properties is at risk from flooding - this will be significantly higher locally - the economic cost of flooding is estimated at more than £200 million per annum. River flows are predicted to reduce overall, but with sudden rapid flows related to turbulent weather. In some areas, natural flood systems have been restored, but in many places such systems have been lost through development or artificial drainage for agriculture. Loss of coastal margins could increase likelihood of flood risk.
Waste	The amount of municipal waste recycled, reused or composted has increased from 18% in 2003/4 to 48% in 2011/12. Having peaked in 2005/6, the total amount of waste generated has decreased since 2000 by about 95,000 tonnes per annum.
Transport	81% of the population travels to work by motor vehicle, and 12% by walking or cycling. There has been a fall of about 5 million bus passengers (2010/11) since 2009/10, and an increase of about 2 million rail passengers in the same period. There are conflicting statistics on transport related emissions.
Energy consumption	Gas accounts for 60% of public sector energy use. About 33% of domestic energy use is for heating and about 33% for lighting/installations. A target has been set by Welsh Government to reduce average per person carbon emissions by 33% by 2020.
Agriculture	Farming introduces 60% of the nitrates, 25% of the phosphorus and 75% of sediments to the

	nation's waters16,17. Livestock bank poaching has a significant impact on water quality, increases erosion and impacts on aquatic ecosystems. Also increases risk of farm to farm diseases, and of downstream flooding and sedimentation. Inadequate slurry storage can increase diffuse pollution and damage the quality of water, driving up remediation costs. Emissions from livestock contribute to increases in GHG levels.
Forestry and woodland management	About 43% of all woodland is coniferous plantation, mainly owned by Welsh Government. There is a significant amount of unmanaged woodland, which has potential biodiversity values, but is currently fragmented. There will be a significant demand for imported biomass fuel and also for good quality building timber. There are opportunities to create woodland corridors. Recent outbreaks of diseases present a serious threat to the forest estate, but may also offer opportunities in terms of rethinking and optimising ecosystem services in areas formerly planted with single species conifers.
Rural based tourism	Unplanned tourism can result in negative impacts on sensitive sites. There is a need to develop new and appropriate forms that reflect the character and quality of destinations.
Ecological footprint	Rural Wales has a higher than average ecological footprint, although this has been reducing largely as a result of the economic downturn. As the economy becomes more buoyant it is possible that Wales' ecological footprint will rise.

[16] Welsh Government (2011) Consultation on the compulsory Good Agricultural Environmental Condition to introduce buffer zones alongside water courses to tackle water pollution from agriculture

[17] Environment Agency Wales (2012) Living Waters for Wales – communicating our approach

4 THE RURAL DEVELOPMENT PLAN

4.1 Introduction

4.1.1 The European Agricultural Fund for Rural Development (EAFRD) does not define the term 'rural', but requires the Managing Authority (in this case the Welsh Government) to define 'rural area' at programme level[18]. In terms of the Organisation for Economic Development (OECD) definition, which classifies local areas as 'rural' where their population density is below 150 inhabitants/km^2, the whole of Wales can be termed rural with the exception of the major population centres of Cardiff, Newport and Swansea. This is supported by work undertaken by the Office of National Statistics[19] (ONS) and means that with the exception of certain densely populated areas Wales is predominantly rural in nature.

4.1.2 The term ‘Rural Wales’ is thus defined as the nine predominantly rural unitary authorities (Isle of Anglesey, Gwynedd, Conwy, Denbighshire, Ceredigion, Pembrokeshire, Carmarthenshire, Powys and Monmouthshire). Despite the undoubted rural character of parts of their areas, Flintshire and the Vale of Glamorgan are not 'rural' in terms of this definition.

4.1.3 Although the RDP applies to the funding of eligible proposals in the rural area, the *effects* of the plan will be felt in areas not defined as rural, such as the South Wales Valleys, urbanised coastal areas and settlements with significant rural hinterlands. The principle of sustainability should therefore consider not only the three interlinking spheres but also interlinking spaces. This is an important aspect of the ecosystem approach, and is an area of interest in this assessment.

4.2 Purpose of the RDP - Regulation 1305/2013

4.2.1 The RDP comes under Pillar II of the European Common Agricultural Policy (CAP). It is subject to its own regulation[20], and will operate under common funding rules operating under a Common Strategic Framework

[18] Regulation 1305/2013 of the European Parliament and of the Council on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) article 50 'Rural area definition'. 20/12/2013

[19] Rural/Urban definition England and Wales. http://www.ons.gov.uk/ons/guide-method/geography/products/area-classifications/rural-urban-definition-and-la/rural-urban-definition--england-and-wales-/index.html (accessed 03/03/2013)

[20] Regulation 1305/2013 of the European Parliament and of the Council on support for rural development by the European Agricultural Fund for Rural Development (EAFRD). EU 20/12/2013

(CSF). The CSF is transposed into national Partnership Contracts. The RDP is designed to complement the provisions of Pillar I of the CAP, as well as those of the other funds operating under the CSF (see Figure 1)[21]. The intention is to ensure harmonisation of funds, to promote administrative efficiency and to minimise the likelihood of double-funding.

4.2.2 The EAFRD's three objectives are:

- to foster the competitiveness of agriculture;
- to ensure the sustainable management of natural resources and climate action;
- to achieve a balanced territorial development of rural economies and communities[22].

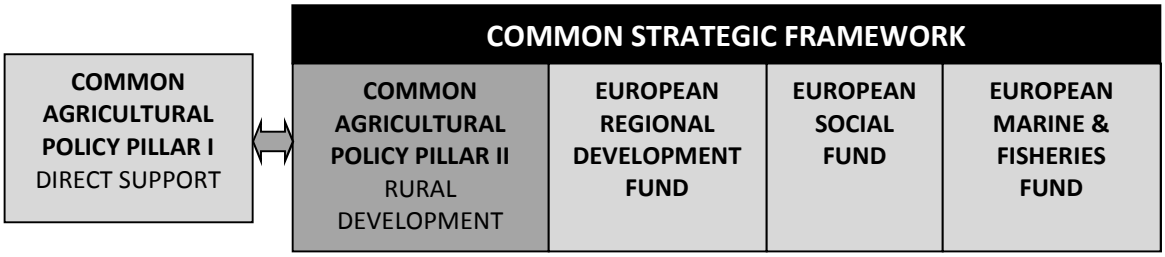

Figure 1: Relationship between pillars I and II within the CSF

4.2.3 These three broad objectives reflect both Pillar I and II of the CAP, and in addressing them the EU is seeking to enhance competitiveness, to improve sustainability, and to seek enhanced effectiveness.

4.2.4 Within these objectives the EAFRD identifies six priority areas, namely:

1. Fostering knowledge transfer and innovation in agriculture, forestry and rural areas;
2. Enhancing farm viability and competitiveness of all types of agriculture in all regions and promoting innovative farm technologies and the sustainable management of forests;
3. Promoting food chain organisation, including processing and marketing of agricultural products, animal welfare and risk management in agriculture;

[21] The regulatory 'suite' comprises Regulation 1307/2013 (direct payments); Regulation 1308/2013 (organisation of markets), Regulation 1305/2013 (rural development); Regulation 1306/2013 (financing); Regulation 1293/2013 (environment and climate action (LIFE)) and Regulation 1310/2013 (transitional provisions)

[22] Regulation 1305/2013 of the European Parliament and of the Council on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) Article 4. EU 20/12/2013.

4. Restoring, preserving and enhancing ecosystems related to agriculture and forestry;
5. Promoting resource efficiency and supporting the shift towards a low carbon and climate resilient economy in agriculture, forestry and food sectors;
6. Promoting social inclusion, poverty reduction and economic development in rural areas[23].

4.2.5 These priorities have been disaggregated within the EAFRD regulation into eighteen focus areas. In the case of the Wales RDP, eleven measures have been selected which, between them, will aim to address the eighteen focus areas (see table 2).

4.2.6 Innovation and Climate Change Mitigation are cross-cutting Objectives across all the funds within the CSF (ERDF, ESF, EAFRD and EFF), which require all the funds to work in a complementary fashion to address them.

Table 3: Priority and Focus Areas and Key Measures

PRIORITY AREA	FOCUS AREA	MEASURE
1 Fostering knowledge transfer and innovation in agriculture, forestry and rural areas	1a. Fostering innovation, cooperation, and the development of the knowledge base in rural areas	*M01 - Knowledge transfer and information action* *M02 - Advisory services, farm management and farm relief services* *M16 - Co-operation*
	1b. Strengthening the links between agriculture, food production and forestry and research and innovation, including for the purpose of improved environmental management and performance	*M16 - Co-operation*
	1c. Fostering lifelong learning and vocational training in the agricultural and forestry sectors	*M01 - Knowledge transfer and information action*

[23] *ibid.* Article 5. It is worth noting that there is no indication that these are prioritised or weighted and the assumption is that equal consideration is given to all the interventions.

2 Enhancing farm viability and competitiveness of all types of agriculture in all regions and promoting innovative farm technologies and the sustainable management of forests	2a. Improving the economic performance of all farms and facilitating farm restructuring and modernisation, notably with a view to increasing market participation and orientation as well as agricultural diversification	*M01 - Knowledge transfer and information action* *M02 - Advisory services, farm management and farm relief services* *M04 - Investments in physical assets* *M16 - Co-operation*
	2b. Facilitating the entry of adequately skilled farmers into the agricultural sector and, in particular, generational renewal	*M01 - Knowledge transfer and information action* *M02 - Advisory services, farm management and farm relief services* *M06 - Farm and business development* *M16 - Co-operation*

3 Promoting food chain organisation, including processing and marketing of agricultural products, animal welfare and risk management in agriculture	3a. Improving competitiveness of primary producers by better integrating them into the agri-food chain through quality schemes, adding value to agricultural products, promotion in local markets and short supply circuits, producer groups and inter-branch organisations	*M01 - Knowledge transfer and information action* *M02 - Advisory services, farm management and farm relief services* *M04 - Investments in physical assets* *M16 - Co-operation*
	3b. Supporting farm risk prevention and management	*M01 - Knowledge transfer and information action* *M02 - Advisory services, farm management and farm relief services* *M16 - Co-operation*

4 Restoring, preserving and enhancing	4a. Restoring, preserving and enhancing	*M01 - Knowledge transfer and information action*

ecosystems related to agriculture and forestry	biodiversity, including in Natura 2000 areas and in areas facing natural or other specific constraints, and high nature value farming, as well as the state of European landscapes	*M02 - Advisory services, farm management and farm relief services* *M04 - Investments in physical assets* *M08 - Investments in forest area development and improvement of the viability of forests* *M10 - Agri-environment-climate* *M11 - Organic farming* *M15 - Forest environmental and climate services and forest conservation* *M16 - Co-operation*
	4b. Improving water management, including fertiliser and pesticide management	*M01 - Knowledge transfer and information action* *M02 - Advisory services, farm management and farm relief services* *M04 - Investments in physical assets* *M08 - Investments in forest area development and improvement of the viability of forests* *M10 - Agri-environment-climate* *M11 - Organic farming* *M15 - Forest environmental and climate services and forest conservation* *M16 - Co-operation*
	4c. Preventing soil erosion and improving soil management	*M01 - Knowledge transfer and information action* *M02 - Advisory services, farm management and farm relief services* *M04 - Investments in physical assets*

		M08 - Investments in forest area development and improvement of the viability of forests *M10 - Agri-environment-climate* *M11 - Organic farming* *M15 - Forest environmental and climate services and forest conservation* *M16 - Co-operation*

5 Promoting resource efficiency and supporting the shift towards a low carbon and climate resilient economy in agriculture, food and forestry sectors	5a. Increasing efficiency in water use by agriculture	*M01 - Knowledge transfer and information action* *M02 - Advisory services, farm management and farm relief services* *M04 - Investments in physical assets* *M16 - Co-operation*
	5b. Increasing efficiency in energy use in agriculture and food processing	*M01 - Knowledge transfer and information action* *M02 - Advisory services, farm management and farm relief services* *M04 - Investments in physical assets* *M16 - Co-operation*
	5c. Facilitating the supply and use of renewable sources of energy, of by-products, wastes, residues and of other non food raw material for purposes of the bio-economy	*M01 - Knowledge transfer and information action* *M02 - Advisory services, farm management and farm relief services* *M04 - Investments in physical assets* *M08 - Investments in forest area development and improvement of the viability of forests* *M16 - Co-operation*
	5d. Reducing green house gas and ammonia	*M01 - Knowledge transfer and information action*

	emissions from agriculture	*M02 - Advisory services, farm management and farm relief services* *M04 - Investments in physical assets* *M16 - Co-operation*
	5e. Fostering carbon conservation and sequestration in agriculture and forestry	*M01 - Knowledge transfer and information action* *M02 - Advisory services, farm management and farm relief services* *M04 - Investments in physical assets* *M08 - Investments in forest area development and improvement of the viability of forests* *M16 - Co-operation*

6 Promoting social inclusion, poverty reduction and economic development in rural areas	6a. Facilitating diversification, creation and development of small enterprises, as well as job creation	*M01 - Knowledge transfer and information action* *M02 - Advisory services, farm management and farm relief services* *M06 - Farm and business development* *M08 - Investments in forest area development and improvement of the viability of forests* *M16 - Co-operation*
	6b. Fostering local development in rural areas	*M01 - Knowledge transfer and information action* *M02 - Advisory services, farm management and farm relief services* *M07 - Basic services and village renewal in rural areas* *M16 - Co-operation* *M19 - Support for LEADER*
	6c. Enhancing	*M01 - Knowledge transfer*

	accessibility , use and quality of information and communication technologies (ICT) in rural areas	*and information action* *M02 - Advisory services, farm management and farm relief services* *M07 - Basic services and village renewal in rural areas* *M16 - Co-operation*

5 ASSESSMENT OF THE RDP INTERVENTIONS

5.1 Testing the compatibility of the SEA objectives and the RDP measures

5.1.1 The purpose of this section is to analyse each measure and to consider the likelihood of environmental effects, and the significance of those effects as far as possible. Table 4 provides an overall assessment of the measures, whilst table 5 summarises the logic behind each score.

Table 4: Presentation of compatibility matrices

	Improve physical & mental health and reduce health inequalities	Protect & enhance biodiversity	Protect places, landscapes & buildings of historic, cultural & archaeological value	Protect soil quality & quantity	Protect the water resource & ensure its sustainable use	Protect & improve water quality	Protect & improve air quality	Limit & adapt to climate change	Minimise waste increase re-use, recycling & recovery rates	Minimise the need to travel; provide alternatives to car use	Maintain & enhance animal welfare standards	Optimise opportunities for rural tourism whilst minimising negative impacts
M01	O	✓	?✓	✓	✓✓	✓✓	?✓	✓✓	✓	O	✓✓	✓
M02	O	✓	O	✓	✓✓	✓✓	O✓	✓✓	✓	O	✓	✓
M04	O	?✓	?	?✓	✓	✓✓	✓	✓✓	O	O	✓✓	?
M06	O	O	O	O	O	O	O	O	O	O	O	O✓
M07	✓✓	O✓	✓	O	O✓	O✓	O	O✓	O✓	✓	O	✓
M08	O	✓✓	O✓	✓✓	✓✓	✓	✓	✓✓	O	O	O	✓
M010	O✓	✓✓	✓	✓✓	✓✓	✓✓	O✓	O✓	O	O	?✓	?✓
M011	O✓	✓	O✓	✓	O✓	✓✓	O✓	✓✓	✓	O✓	✓✓	O✓
M015	O	✓✓	O	O	✓	✓✓	O	O	O	O	O	O
M016	✓	✓✓	✓	✓	✓✓	✓✓	✓	✓✓	O✓	O	✓	✓
M019	✓✓	?✓	?✓	O	O	O	O	?✓	O✓	✓	O	O✓

Table 5: Comments on the basis for scoring

M01 Knowledge transfer and information action		
Improve physical and mental health and reduce health inequalities	**O**	Improving communication and advice may have a small positive effect in terms of building confidence, but probably not significant effect on physical and mental health.
Protect and enhance biodiversity	✓	Directing innovation towards environmental performance will have a positive effect: plant health, appropriate diversification, climate change and water management will be positive.
Protect places, landscapes and buildings of historic, cultural and archaeological value	**?**✓	Potential to protect and enhance important landscapes; cultural/historic heritage less specific.
Protect soil quality and quantity	✓	Promoting ecosystem approach to land management is likely to have a positive effect.
Protect the water resource and ensure its sustainable use	✓✓	As above. Depends on positive promotion, beyond basic mandatory requirements. Addressing WFD is a key element.
Protect and improve water quality	✓✓	As above.
Protect and improve air quality	**?**✓	Potential to protect air quality linked to sharing knowledge of optimal stock and farm infrastructure management.
Limit and adapt to climate change	✓✓	An important priority. Skill transfer on energy conservation, woodland, upland and wetland management etc is likely to have some positive outcomes.
Minimise waste increase re-use, recycling and recovery rates	✓	Skill sharing on waste management should be integral to farm management. Some small positive beyond the regulatory requirement.
Minimise the need to travel; provide alternatives to car/lorry use	**O**	Not likely to have a significant effect, though reduced chains and localising community-based services will help.
Maintain and enhance animal welfare standards	✓✓	This is a priority linked to business planning/risk analysis.
Optimise opportunities for rural tourism whilst minimising negative impacts	✓	Where relevant, farm tourism is an optional business opportunity that might be promoted alongside quality brand.

M02 Farm advisory services, farm management and farm relief services		
Improve physical and mental health and reduce health inequalities	**O**	No obvious significant effect likely, though could help build confidence where not seen as burdensome.
Protect and enhance biodiversity	✓	A number of elements in the RDP will promote biodiversity protection/ enhancement.
Protect places, landscapes and buildings of historic, cultural and archaeological value	**O**	Not likely to be significant.
Protect soil quality and quantity	✓	Habitat management, water containment, increased tree planting, will have positive effects.
Protect the water resource and ensure its sustainable use	✓✓	A key element of the proposed plan. Likely to have significant positive effect.
Protect and improve water quality	✓✓	As above.
Protect and improve air quality	**O**✓	Advice on diet and stocking systems to reduce emissions, but increased stocking rates?
Limit and adapt to climate change	✓✓	A key objective, but potential for increased stocking rates to increase emissions.
Minimise waste increase re-use, recycling and recovery rates	✓	Advice likely to focus on production efficiencies. Likely to be promoted as part of cross compliance, and relatively easily observable.
Minimise the need to travel; provide alternatives to car/lorry use	**O**	Not likely to have a significant effect.
Maintain and enhance animal welfare standards	✓	Animal welfare likely to be a focus of advice and support. Depends on the productivity balance & potential for intensive systems in some areas.
Optimise opportunities for rural tourism whilst minimising negative impacts	✓	Tourism has potential to be significant. Depends on extent of the supporting measures.

M04 Investments in physical assets		
Improve physical and mental health and reduce health inequalities	O	Not likely to have a significant effect.
Protect and enhance biodiversity	?✓	The focus is on farm efficiency and economic performance. Some minor benefits from e.g. invasive eradication. Will need other measures to support farm birds. Agri-environment measures will be positive.
Protect places, landscapes and buildings of historic, cultural and archaeological value	?	There may be some local landscape impacts, and impacts on important vernacular buildings. Will require careful design considerations.
Protect soil quality and quantity	?✓	Likely to have a positive effect depending on the nature of animal/plant health measures. Efficiencies in water management likely to reduce erosion. Soil management is an element of the measure.
Protect the water resource and ensure its sustainable use	✓	Efficiencies in water use are specific to this measure. Capital investment may include water storage facilities as well as measures to reduce water loss through leakages.
Protect and improve water quality	✓✓	Measures to reduce nutrients and to manage soils are likely to have a string positive effect on water quality.
Protect and improve air quality	✓	Potential to reduce/capture ammonia and methane emissions.
Limit and adapt to climate change	✓✓	Potential to reduce/capture ammonia and methane emissions. Ammonia is linked to nitrous oxide, a greenhouse gas. Renewables element will contribute.
Minimise waste increase re-use, recycling and recovery rates	O	Not likely to have a significant effect.
Minimise the need to travel; provide alternatives to car/lorry use	O	Not likely to have a significant effect.
Maintain and enhance animal welfare standards	✓✓	This is an explicit aspect of this measure.
Optimise opportunities for rural tourism whilst minimising negative impacts	?	On its own this measure does not target the tourist market, but may promote non-farm activities that will enhance landscape.

M06 Farm and business development		
Improve physical and mental health and reduce health inequalities	**O**	Might benefit socially isolated young farmers, build confidence.
Protect and enhance biodiversity	**O**	Would not necessarily promote this objective without parallel measures such as advice, training and funding.
Protect places, landscapes and buildings of historic, cultural and archaeological	**O**	As above.
Protect soil quality and quantity	**O**	As above.
Protect the water resource and ensure its sustainable use	**O**	As above.
Protect and improve water quality	**O**	As above.
Protect and improve air quality	**O**	As above.
Limit and adapt to climate change	**O**	As above.
Minimise waste increase re-use, recycling and recovery rates	**O**	As above.
Minimise the need to travel; provide alternatives to car/lorry use	**O**	No obvious significant effect.
Maintain and enhance animal welfare standards	**O**	Would not necessarily promote this objective without parallel measures such as advice, training and funding. Legal requirements as minimum.
Optimise opportunities for rural tourism whilst minimising negative impacts	**O✓**	Potential slight effect from diversification - new entrants likely to be receptive to diversification and new opportunities - less risk averse?

M07 Basic services and village renewal in rural areas		
Improve physical and mental health and reduce health inequalities	✓✓	Access to services. Local enterprise will develop skills. Opportunities to volunteer for community projects. Job opportunities.
Protect and enhance biodiversity	O✓	Some potential for positive local effects from community biodiversity initiatives.
Protect places, landscapes and buildings of historic, cultural and archaeological value	✓	Potential to reinforce local distinctiveness and maintain sense of place and cohesion. Re-using redundant buildings will maintain their fabric. Opportunity for communities to market places of heritage interest.
Protect soil quality and quantity	O	No obvious significant effect. Re-using redundant buildings/brown field land will reduce need for green field development.
Protect the water resource and ensure its sustainable use	O✓	Community/public buildings should ensure high quality water management systems.
Protect and improve water quality	O✓	Community/public buildings should ensure SUDS as part of improvement schemes.
Protect and improve air quality	O	No obvious significant effect.
Limit and adapt to climate change	O✓	Community/public buildings should ensure use of renewables, energy efficiency and sustainable buildings. Link to ERDF?
Minimise waste increase re-use, recycling and recovery rates	O✓	Community/public enterprises should ensure water and waste recycling.
Minimise the need to travel; provide alternatives to car/lorry use	✓	Improving access to services locally will reduce the need to travel. Community transport could reduce the need to use cars?
Maintain and enhance animal welfare standards	O	No obvious significant effect.
Optimise opportunities for rural tourism whilst minimising negative impacts	✓	Community based enterprises such as shops, crafts, refreshments, accommodation could contribute significantly. Access to doctors, dentists etc important.

M08 Investments in forest area development and improvement in the viability of forests		
Improve physical and mental health and reduce health inequalities	O	No obvious significant effect.
Protect and enhance biodiversity	✓✓	Measures prioritise N2K woodland associated sites. Potential to develop buffers/ corridors. Improved habitat.
Protect places, landscapes and buildings of historic, cultural and archaeological value	O✓	Measures to enhance woodland quality and appropriate planting will reinforce landscape character. Need to protect archaeological sites.
Protect soil quality and quantity	✓✓	An explicit aspect of the measure is to protect soil quality and minimise erosion risk.
Protect the water resource and ensure its sustainable use	✓✓	A key element of the measure is to optimise the management of water to reduce flood risk.
Protect and improve water quality	✓	The measure aims to ensure water quality by reducing erosion/nutrients - need for other measures (see M015) to reduce acidification of water courses.
Protect and improve air quality	✓	Air quality likely to be maintained/improved as a result of the measures.
Limit and adapt to climate change	✓✓	Carbon sequestration is a key objective of the measure, by increasing the amount of woodland in intermediate agricultural land - needs careful consideration/woodland management plans/EIA as appropriate.
Minimise waste increase re-use, recycling and recovery rates	O	No likely significant effects.
Minimise the need to travel; provide alternatives to car/lorry use	O	No likely significant effects.
Maintain and enhance animal welfare standards	O	No likely significant effects.
Optimise opportunities for rural tourism whilst minimising negative impacts	✓	Likely to result in attractive accessible woodlands.

M010 Agri-environment climate		
Improve physical and mental health and reduce health inequalities	O✓	Not likely to be significant, but moves towards co-operative working may build confidence.
Protect and enhance biodiversity	✓✓	Farm habitat networks, woodland & upland resilience schemes & targeted delivery of ecosystem services is likely to be positive.
Protect places, landscapes and buildings of historic, cultural and archaeological value	✓	Glastir should help to reinforce landscape character including historic & cultural values.
Protect soil quality and quantity	✓✓	Significant benefit to soil conservation from interventions to promote ecosystem services.
Protect the water resource and ensure its sustainable use	✓✓	Significant positive likely, especially from upland schemes & proposed farm habitat networks
Protect and improve water quality	✓✓	As above.
Protect and improve air quality	O✓	Under organics regime, management of fertilisers (including animal wastes) and pesticides could improve local air quality.
Limit and adapt to climate change	O✓	Enhancement of moorland and upland resilience will contribute. Could be significant over time.
Minimise waste increase re-use, recycling and recovery rates	O	No obvious significant effect.
Minimise the need to travel; provide alternatives to car/lorry use	O	No obvious significant effect.
Maintain and enhance animal welfare standards	?✓	Improved soil condition and a reduction in chemicals could have a positive effect on animal welfare.
Optimise opportunities for rural tourism whilst minimising negative impacts	?✓	General condition of the rural environment is a factor on people's willingness to visit. A less industrialised rural landscape is more attractive.

M011 Organic farming		
Improve physical and mental health and reduce health inequalities	O✓	Not likely to be significant. Satisfaction factor?
Protect and enhance biodiversity	✓	Strong evidence of benefit, but depends on the type of organic regime.
Protect places, landscapes and buildings of historic, cultural and archaeological value	O✓	Potential to reinforce landscape character and to protect traditional farm infrastructure, e.g walls, hedges, barns etc.
Protect soil quality and quantity	✓	Organic farming aims to use natural systems to fertilise soils and to maintain their structure. There is string evidence of positive effects.
Protect the water resource and ensure its sustainable use	O✓	Where mulching is used extensively, this may help to conserve water on land. Mixed systems and rotation will reduce run-off.
Protect and improve water quality	✓✓	Removal of artificial fertilisers and pesticides will reduce diffuse pollution of water courses.
Protect and improve air quality	O✓	Locally, air quality may improve as a result of a reduction in industrial land management, depending on the scale and type of enterprise.
Limit and adapt to climate change	✓✓	The removal of industrial processes, including the production, transportation and dispersal of chemical fertilisers and pesticides will have a significant effect.
Minimise waste increase re-use, recycling and recovery rates	✓	A key element of organic farming is the recycling of crop and animals wastes.
Minimise the need to travel; provide alternatives to car/lorry use	O✓	Reductions in transportation of fertilisers/ pesticides?
Maintain and enhance animal welfare standards	✓✓	Animal welfare is a central element of organic farming - feeding, living conditions.
Optimise opportunities for rural tourism whilst minimising negative impacts	O✓	Organic farming provides an attractive marketing brand that is popular with some tourists. Supports the promotion of places as tourism destinations.

M015 Forest environmental and climate services and forest conservation		
Improve physical and mental health and reduce health inequalities	**O**	No obvious significant effect.
Protect and enhance biodiversity	✓✓	Measures will aim to maximise environmental value including biodiversity in cleared sites. Subject to appropriate plan. May need appropriate assessment.
Protect places, landscapes and buildings of historic, cultural and archaeological value	**O**	No obvious significant effect.
Protect soil quality and quantity	**O**	Does not explicitly address this - potential for temporary damage to soil as a result of woodland clearance operations?
Protect the water resource and ensure its sustainable use	✓	A key element of the measure is to optimise the management of water to reduce flood risk by extending peatland where viable.
Protect and improve water quality	✓✓	The measure aims to ensure water quality by reducing the scavenging of pollutants by woodlands.
Protect and improve air quality	**O**	No likely significant effects.
Limit and adapt to climate change	**O**	No likely significant effects.
Minimise waste increase re-use, recycling and recovery rates	**O**	No likely significant effects.
Minimise the need to travel; provide alternatives to car/lorry use	**O**	No likely significant effects.
Maintain and enhance animal welfare standards	**O**	No likely significant effects.
Optimise opportunities for rural tourism whilst minimising negative impacts	**O**	No likely significant effects.

M016 Co-operation		
Improve physical and mental health and reduce health inequalities	✓	Should provide some opportunities for improving skills and confidence, and reducing isolation, depending on levels of funding.
Protect and enhance biodiversity	✓✓	The potential to deliver ecosystem services will be enhanced where this is done collaboratively.
Protect places, landscapes and buildings of historic, cultural and archaeological value	✓	As above.
Protect soil quality and quantity	✓	As above.
Protect the water resource and ensure its sustainable use	✓✓	Co-operative approaches are critical to addressing this objective. Significant potential positive.
Protect and improve water quality	✓✓	As above.
Protect and improve air quality	✓	Potential for significant positive local effects where promoted in adjoining farm systems.
Limit and adapt to climate change	✓✓	Significant increase potential to address climate change where interventions are carried out co-operatively.
Minimise waste increase re-use, recycling and recovery rates	O✓	Co-operative approach to waste management will increase efficiency and should reduce costs.
Minimise the need to travel; provide alternatives to car/lorry use	O	May have a local effect, but not significant.
Maintain and enhance animal welfare standards	✓	Animal welfare minimum standards are regulated. A key element.
Optimise opportunities for rural tourism whilst minimising negative impacts	✓	Potential to promote farm-based tourism. Potential to exploit enhanced biodiversity and landscape.

M019 Support for LEADER local development (CLLD - Community-led local development		
Improve physical and mental health and reduce health inequalities	✓✓	LEADER's purpose is to support community resilience. The option to provide non-statutory local services would be positive.
Protect and enhance biodiversity	?✓	Potential, but depends on choice of option.
Protect places, landscapes and buildings of historic, cultural and archaeological value	?✓	Potential for local visual impact from terrestrial wind turbines. Potential for landscape enhancement through planting for biomass, biodiversity etc. Potential to promote cultural distinctiveness/historic values.
Protect soil quality and quantity	O	No obvious significant effect.
Protect the water resource and ensure its sustainable use	O	No obvious significant effect.
Protect and improve water quality	O	No obvious significant effect.
Protect and improve air quality	O	No obvious significant effect.
Limit and adapt to climate change	?✓	Depends on the options chosen by the LAG. Option to promote renewables will contribute, as will energy efficient developments.
Minimise waste increase re-use, recycling and recovery rates	O✓	Potential small benefit linked to standards for project management/developments.
Minimise the need to travel; provide alternatives to car/lorry use	✓	Provision of local non-statutory services could have a significant positive effect locally, as could short supply chains & access to ICT.
Maintain and enhance animal welfare standards	O	No obvious significant effect.
Optimise opportunities for rural tourism whilst minimising negative impacts	O✓	Local opportunities likely to arise from adding value to local identity & natural/cultural resources.

5.2 Comparing the this SEA with the 2013 draft SEA

5.2.1 The March 2013 assessment indicated some reservations, stating that *'there are more question marks than would be the case if there was a set of objectives and if the interventions were more specific. A key issue is whether the advice and support provided, and the training and restructuring are prioritised towards soil, air, water and biodiversity conservation beyond cross compliance, alongside the development of*

skills, or whether they are prioritised towards land improvement and productivity.'

5.2.2 These concerns have been largely addressed. There now appear to be no likely significant negative effects, compared to the eight identified in the previous assessment. This still depends on ensuring that the measures are rigorously applied to ensure cross compliance, that the funding is targeted to optimise environmental benefit whilst addressing other priorities, and that activities are regularly monitored to ensure compliance with environmental standards.

6 ALTERNATIVES

6.1 Selection and discussion of alternatives to the proposed programme

6.1.1 In discussing alternatives, it might be possible in theory to consider a variety of high level policy scenarios, such as an 'economic growth first' scenario or, say, an 'environment first' or a 'food security first' scenario, as is common in many policy forecasting studies, but that would be inappropriate, since the EU and the Welsh Government have both indicated that the scenario they seek is a 'sustainable development' scenario in which social, environmental and economic priorities are balanced as a matter of principle. There is thus no definitive 'first', since it is not the intention to seek 'trade-offs' at a policy level.

6.1.2 The purpose of analysing alternatives is to determine whether the proposals offer the optimal option in terms of *'the likely evolution of the current state of the environment'* in the context of sustainable development[24]. Although it is beyond such an analysis to consider the economic or social dimensions in detail, the reality is that these dimensions have a significant influence on the state of the environment, because its condition relies on the support of economically and socially viable communities.

6.1.3 Within the constraints of time, funding, deployment of funds, and policy, this discussion considers the effects of focusing interventions in different ways.

6.1.4 **Option 1 - productivity:** focus on building capacity to compete on market share might emphasise marketing, productivity, efficiency, food security, animal welfare alongside support to enterprises by way of advice and training. This might shift production towards the most productive, cost efficient areas.

6.1.5 **Option 2 - social capacity:** focus on promoting social cohesion, promoting services and public transport, with an emphasis on community based enterprises and access to ICT. Interventions would be targeted thematically and spatially to ensure maximum effectiveness and

[24] The EU's position on sustainable development is presented in its 2009 review of the EU Sustainable Development Strategy, which makes the following points: "A number of unsustainable trends require urgent action. Significant additional efforts are needed to curb and adapt to climate change, to decrease high energy consumption in the transport sector and to reverse the current loss of biodiversity and natural resources... It is crucial that measures to support the real economy and reduce the social impact of the current crisis are compatible with long-term sustainability goals."

efficiency in terms of accessing facilities and opportunities for training. This option might target local supply chains in line with option 1.

6.1.6 **Option 3 - environmental resilience:** focus on optimising opportunities for environmental benefit, subject to alternative environmental priorities. **Option 3a** would seek to support the climate change agenda as much as possible within available funds, entailing support for carbon soil management; for addressing farm based emissions through bio-digestion; promoting appropriate habitat (woodland, scrub, semi-natural grassland) restoration and management for sequestration; promoting public transport, alternatives to long-distance haulage, reducing production to consumption chains. **Option 3b** would seek to gain maximum benefits for biodiversity and for ecology, by promoting co-operative approaches to managing land at a 'landscape scale' e.g. commons, watercourses, catchments; by supporting alternative land uses and management to develop buffer zones, corridors, hedgerow, scrub and woodland planting, setting aside land, winter feeding crops; bankside management; pesticide, herbicide and fertiliser management.

6.1.7 Whilst none of these is exclusive, different focuses entail different funding strategies. Some elements will require significant financial support, e.g. training costs and farm improvement schemes in option 1, local transport and infrastructure or set-up costs in option 2, interventions such as anaerobic digestion and transport in option 3a, which would inevitably divert funds away from other interventions.

6.1.8 The effect of focusing too strongly on **option 1** might be over intensification in productive areas, with impacts on already fragmented adjacent conservation sites. There could be a reluctance to use buffer zones or build ecological corridors on productive land. The selection of productive grasses may increase soil compaction and reduce water and soil carbon, potentially increasing carbon and methane emissions, and the use of herbicides will reduce plant, bird and invertebrate diversity. Climate factors may exacerbate the likelihood of flooding events on land that has been drained and which offers few buffers and water containment measures. Conversely, such land is likely to be more susceptible to drought conditions, with impacts on crop and stock resilience. Diverting funds towards productivity will also have a negative impact on marginal areas which will not be able to sustain agri-environment systems in ways to sufficiently address biodiversity losses.

6.1.9 The effect of overemphasising **option 2** might be a commitment of funds to social and community programmes that might be met from other resources, or that might be incapable of being sustained without continuing funding support. This may divert funds from important and

ultimately self-sustaining environmental projects that might in the future be able to support social programmes through income generation. Some social and community programmes might focus on enhancing ecosystem services through the development of collaborative initiatives. The promotion of access to high speed ICT may reduce the need to travel, but this may not affect significant numbers of people to impact on car use.

6.1.10 Whilst options 3a and 3b are seen as complementary, it is likely that **option 3a** is more costly, since it will require support to develop a considerable number of anaerobic digesters, farm-scale renewables, and supporting public transport and local product delivery systems through re-establishing more local-level abattoirs for example. Whilst **option 3b** may be less costly in terms of 'hard' interventions such as those in option 3a, there will be costs in terms of training, developing collaborative management systems, monitoring and regulating, as well as the costs of appropriate plant for land management. The benefit of focusing on ecosystem and biodiversity protection and enhancement is the development of a resilient environment that will be responsive to climate change, and will offer economic opportunities in the future, providing that appropriate value systems for ecosystem services are established. On the other hand, there is a danger of over-regulation and community resentment that cannot be sustained. In some cases there may be a loss of production systems that benefit some species over others.

6.1.11 Any plan or project should seek to optimise benefits across environmental, economic and social interests, and minimise disbenefits. For this reason, the options discussed above are not exclusive. However, it is critical that environmental limits are respected, and wherever possible made more robust, and therefore **the funding emphasis in Pillar II is rightly on the agri-environmental aspect.** It is indicated that fifty nine per cent of the funding will be directed towards this[25].

6.1.12 If 'do nothing' literally implies the withdrawal of any rural development programme, the obvious implication is that there will be insufficient funds to address environmental priorities, including the need to protect sites of European conservation interest. The environmental implications might include (not exhaustive):

- loss of small extensive units and abandonment of some important upland areas;

[25] Common Agricultural Policy Reform: Wales Rural Development Programme 2014-2020 Final Proposals. Consultation Document. Welsh Government February 2014. WG20644. p18

- intensification of potentially productive areas in the lowlands, with a loss of fragmented adjacent habitats, resulting in species losses, and CO_2 releases;
- degradation of peat and organic soils with increased CO_2 emissions;
- increases in chemical use with resultant impacts on water bodies;
- reduced ability to manage risk in relation to animal welfare and disease;
- loss of potential for woodland creation and restoration, resulting in a lost opportunity to sequester carbon, manage water and provide a natural resource;
- loss of support to key rural services, with the likelihood of a spiral of social decline, the abandonment of property to second homes, the loss of vibrant culture, and increases in car use;
- lack of capacity to protect, restore and enhance important heritage sites and vernacular buildings

6.1.13 None of the above takes into account external factors such as global food markets, retail sector attitudes, policy on, for example, the environmental costs of transportation, support to production, other consumer costs affecting their choice of product or climate change. Furthermore, natural systems are neither stable nor static. Key future considerations include the need to:

- ensure resilience by protecting and enhancing the environmental resource;
- ensure that messages are clear and that there are sufficient resources to monitor and to enforce high environmental standards;
- allow for some flexibility to be able to respond to changes in economic and environmental circumstances.

6.1.14 In conclusion, the proposed interventions aim to address a range of circumstances not envisaged in 2006, and therefore it is anticipated that they will be more 'fit for purpose' than, say, a continuation of the 2007-2013 programme without change. The proposed plan appears to offer an optimal combination of measures.

7 ASSESSMENT OF THE PROPOSED PROGRAMME

7.1 Summary of findings

7.1.1 The overarching aim of the RDP for 2014-2020 is *"...to support the rural economy, and in particular agriculture...to be sustainable in the long term[26]."*

The objectives are:

- To increase the productivity, diversity and efficiency of farming and forestry businesses, improving their competitiveness and resilience, reducing their reliance on subsidies
- To improve the environment, encouraging sustainable land practices, the sustainable management of natural resources and climate action
- To promote strong, sustainable rural economic growth and encourage community-led local development[27]

7.1.2 This is in line with the Ministerial programme articulated in *'Shaping a More Prosperous Future'*, which states that:

"Overall, emphasis is on support to make farming and land management more resilient for the long term, to promote a viable food production sector, to maintain rural communities and to ensure that natural resources are used sustainably with action to mitigate and adapt to climate change[28]."

7.1.3 In January 2014 the Welsh Government issued a consultation document on proposals for Glastir[29], which presented a powerful case for focusing on the extensive range of ecosystem services that nature provides, and ensuring that this is accounted for in the way farming and forestry is managed. Since Glastir is a central element of the RDP, its provisions are a key to the delivery of this Plan. Apart from the streamlining of delivery mechanisms, two important themes are discussed: the move towards co-operative approaches to delivering ecosystem services (p9), and towards a market-based system of payments for such services (p10). These proposals have been taken into account in this assessment.

[26] Common Agricultural Policy Reform: Wales Rural Development Programme 2014-2020 Final Proposals. Consultation Document. Welsh Government February 2014. WG20644. p26

[27] Welsh Government. Wales RDP draft 2014UK06RDRP004. 6 June 2014

[28] Welsh Government Natural Resources Policy Statement. *'Shaping a More Prosperous and Resilient Future'.* October 2013

[29] Welsh Government Proposals for the Glastir Scheme. Consultation Document. January 2014

7.1.4 The following points have emerged from the assessment (in no particular order):

- As the RDP develops, it should seek opportunities to co-ordinate with the ERDF and ESF to deliver environmental benefits by harmonising funding and by supporting projects that the RDP cannot deliver alone.

- Some aspects of the current Glastir scheme, such as the Common Land Element, have been well received, largely because of the work of the support officers[30]. The development of a single common land scheme, with enhanced roles for development officers, will be beneficial.

- It is essential to provide adequate training for staff delivering the Farm Advisory Service and agri-environment schemes to ensure that environmental priorities are highlighted. The service should work closely with the statutory environmental bodies and the NGOs to provide high quality advice.

- Some effects may not become immediately apparent. Monitoring is therefore critical. There is a need to fund follow up monitoring, to train individuals and to co-ordinate results, some of which are not easily accessible.

- The previous SEA highlighted the need to ensure adequate funding for the protection and enhancement of Natura 2000 sites, and to meet the obligations of the Water Framework Directive. It is reassuring to note that the area-based measures refer specifically to these concerns. ERDF funding may provide further opportunities.

7.1.5 The RDP clearly has the potential to protect and enhance ecosystem services and biodiversity values, culture and heritage and climate issues. The decision to vire the maximum 15per cent from Pillar I to the RDP in particular will provide additional opportunities to meet future challenges to the rural environment.

7.1.6 Without the RDP it is arguable that significant and urgent interventions would not take place, and some of these aim to address the Welsh Government's targets to reduce carbon emissions, to improve air quality and to reduce Wales' ecological footprint.

[30] Glastir Stocktake. 2012

8 MONITORING

8.1.1 The SEA Guidance defines significant effects as positive, adverse, foreseen and unforeseen. The methods and scope for gathering information either directly or indirectly are not defined. There is no requirement, for instance, to aggregate or collate potentially relevant data from other monitoring sources under other laws or programmes[31].

8.1.2 There are three key challenges related to monitoring the environmental effects of the RDP. Firstly, the data is dispersed across a number of statutory and non-statutory bodies. The bringing together of three statutory bodies into Natural Resources Wales should help to bring together a significant amount of environmental data related to the plan's implementation. Nonetheless, it would be helpful for Welsh Government to ensure some co-ordination between collating the data needed to address the RDP objectives and that needed to address the environmental objectives in this report.

8.1.3 The second issue is that it in some cases environmental effects may be impossible to attribute directly to the RDP. The Welsh Government has a legal duty to promote sustainable development, and its Programme for Government is based on sustainable development principles. A wide range of parallel actions are likely to deliver on these objectives were the funding to be available. It is impossible at this level to determine the synergies and tensions between the RDP, the ERDF and other interventions that might determine particular environmental outcomes.

8.1.4 For example, whilst it is possible to calculate an output, such as biodiversity increases from a particular project, the overall *outcome* in terms of overall biodiversity gains in a particular area is likely to be influenced by other factors, not least climate-related phenological changes. This makes it difficult to report genuine environmental gains (or losses) in a way that can be confidently attributed solely to the RDP.

8.1.5 The third challenge is a logistical one. Different measures are needed for different environmental targets, and they often require different timescales incorporating different skills in capturing and analysing data. The costs entailed are significant, and therefore adequate monitoring may be influenced by economic constraints. Some degree of self reporting might be possible, but this would still require sampling for ground truthing purposes.

[31] (COWI/AS Denmark 2009 p133).

8.1.6 Monitoring, and especially programme evaluation, should therefore be approached with these challenges in mind. Tables 12 and 13 in the main report should form the basis for an environmental monitoring programme of the RDP.