



Department  
for Environment  
Food & Rural Affairs

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# **Strategic Environmental Assessment of the Draft Rural Development Programme**

## **Environmental Report**

## **Non-Technical Summary**

**February 2014**

# **URS**

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# Introduction and background

URS Infrastructure & Environment Ltd. has been commissioned to undertake an independent Strategic Environmental Assessment (SEA) in support of Defra's Rural Development Programme for England (the 'draft Programme'), 2014-2020.

## Strategic Environmental Assessment explained

Strategic Environmental Assessment (SEA) is a mechanism for considering and communicating the significant effects of a draft plan or programme, and the reasonable alternatives considered as part of its development, on the environment, with a view to avoiding and mitigating adverse impacts and maximising the positives. A SEA of the draft Programme is a legal requirement.

The SEA Regulations<sup>1</sup> require that a Non-Technical Summary (NTS) be published alongside the Environmental Report. The NTS should include a summary of the information provided in paragraphs 1-9 of Schedule 2 of the SEA Regulations.

This NTS therefore reflects the structure of the Environmental Report and is structured as below:

1. Introduction
2. What's the **scope** of the SEA?
3. What has **programme-making / SEA involved** up to this point?
4. What are the **assessment findings** at this current stage?
5. Conclusions and '**what happens next?**'

## Outline of the contents and main objectives of the draft Programme

The Government's objectives for the new Rural Development Programme in England, 2014-2020 are to:

- Improve the environment: this includes helping to ensure that by 2021 the natural environment is improved as set out in the Natural Environment White Paper;
- Increase the productivity and efficiency of farming and forestry businesses, in order to improve their competitiveness and reduce the reliance of farmers and land managers on subsidies; and
- Promote strong rural economic growth.

Rural Development also forms part of a suite of European Strategic and Investment Funds (ESIF), alongside the European Social Fund, European Regional Development Fund and the European Maritime and Fisheries Fund.

The focus of the schemes to be introduced in the draft Programme is as follows:

## Environment

This will consist of:

- A **Priority sites offer (Upper-tier)**: multi annual agreements for farmers and land-owners with a main focus on designated and priority sites
- A **Priority areas offer (Mid-tier)**: multi annual agreements for farmers and land-owners with a focus on delivering change at a landscape scale
- A **Universal small scale grants offer**, either tied to a multi annual agreement or a stand-alone grant with a clear environmental benefit

## Productivity

This will be focused on five main areas:

- **Innovation, technology diffusion and knowledge transfer**: to help translate new technology into practice and provide training and advice.
- **Farm competitiveness and supply chain relationships**: supporting better business practice and improving awareness of supply chains.
- **Woodland Enterprise and Supply Chain**: supporting supply chain activity for woodfuel and venison.
- **Resource efficiency and management**: supporting improved water storage, rainwater harvesting, irrigation, drainage and water recycling and improved slurry use and storage.
- **Animal Health and Welfare**: supporting better awareness of risk management and biosecurity, animal husbandry and training.

## Growth:

Local Enterprise Partnerships will set out their priorities for spend in rural areas based on the following priorities:

- **Funding new and developing micro, small and medium sized rural business**: supporting the creation and development of micro and small sized rural businesses, including new or improved business processes;
- **Funding small scale renewable and broadband investments**: capital grant support for investment in broadband infrastructure in hard to reach locations and help to overcome barriers to getting community energy schemes off the ground;
- **Support for tourism activities in rural areas**: activities which support co-operation at a local level around the destination offer and product development.

## LEADER:

A new National Delivery Framework will set out the main priorities for LEADER groups in the draft Programme. The main priorities for investment through LEADER will be:

- Support for micro and small enterprises and farm diversification
- Support for increasing farm productivity
- Support for rural tourism
- Support for increasing forestry productivity

- Provision of rural services
- Support for cultural and heritage activity

## What’s the draft Programme not seeking to achieve?

The draft Programme does not set out activities and funding under Common Agricultural Policy (CAP) Pillar 1 i.e. direct payments to farmers and market control measures. These areas have therefore not been assessed but have nonetheless been considered in the assessment.

## What is the scope of the SEA?

A Scoping Report<sup>2</sup> was subject to consultation in October 2013 for the required five week period. Responses were received from the statutory consultees (English Heritage, Environment Agency and Natural England) and other interested stakeholders (National British Mountaineering Council, Farmers Union, RSPB and Yara International).

**Table 1** presents the SEA Framework as amended through consultation and the key issues identified in gathering the evidence base. The SEA Framework embodies the policy context, baseline data and environmental issues established through SEA scoping and is the ‘framework’ for the assessment.

**Table 1:** SEA framework

Assessment questions (Will the draft Programme ...?)		Key problems / issues
<b>Topic 1 – Air quality</b>		
<ul style="list-style-type: none"> <li>• Increase / decrease levels of air pollutants (PM<sub>10</sub> and PM<sub>2.5</sub>, ozone, ammonia and NO<sub>x</sub> levels (both concentration and deposition))?</li> </ul>	<ul style="list-style-type: none"> <li>• Whilst PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>2</sub> levels are higher in urban areas, pinch points in market towns</li> </ul>	
<ul style="list-style-type: none"> <li>• Increase / decrease car journeys?</li> </ul>		

<ul style="list-style-type: none"> <li>• Expose new receptors to potential air pollution including odour?</li> </ul>	<p>may be susceptible to higher levels of pollution and smaller settlements may still have pollution issues from being away from the natural gas grid or being close to busy roads.</p> <ul style="list-style-type: none"> <li>• Areas of high intensity livestock rearing can result in odour issues.</li> <li>• The risk of introducing receptors into places where there are existing sources of odour or dust, or where additional strain could be put on a local road network that is already operating under stress should be avoided.</li> <li>• Ammonia emissions have increased slightly in recent years and are projected to fall by only 8% between 2005 and 2020; they are projected to continue to lead to excessive nitrogen deposition at protected ecological sites.</li> </ul>
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**Topic 2 – Biodiversity and nature conservation**

<ul style="list-style-type: none"> <li>• Increase populations of priority (Section 41) species on farmland, including levels of farmland birds?</li> </ul>	<ul style="list-style-type: none"> <li>• Whilst improvements have been made in stabilising or reversing declines in certain specialist bird species and priority habitats over the current programming period, over 40% of</li> </ul>
<ul style="list-style-type: none"> <li>• Improve the condition of SSSIs and priority habitats both within and outside SSSIs on agricultural land?</li> </ul>	
<ul style="list-style-type: none"> <li>• Create a coherent and resilient ecological network, through coordinated landscape scale delivery and targeted habitat re-creation?</li> </ul>	

<ul style="list-style-type: none"> <li>• Reduce air and water pollution through increased resource efficiency?</li> </ul>	<p>priority habitats and 50% of priority species were still declining according to the most recent analysis.<sup>3</sup></p> <ul style="list-style-type: none"> <li>• Significant progress has been made towards achieving favourable or favourable recovering condition on SSSIs on agricultural land as a consequence of targeted agri-environment scheme management.</li> <li>• Agricultural management (intensification and abandonment) together with associated air and water pollution remains the most significant causes of unfavourable condition on SSSIs and on non-designated priority habitat.</li> <li>• Habitats are fragmented and create a barrier for necessary species movement and migration in response to climate change.</li> </ul>
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**Topic 3 – Climate change mitigation**

<ul style="list-style-type: none"> <li>• Reduce the net emissions of greenhouse gases?</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture is responsible <u>for</u> the majority of methane and nitrous oxide emissions and for a relatively small proportion of CO<sub>2</sub> emissions.</li> <li>• Emissions of such gases from agriculture have</li> </ul>
<ul style="list-style-type: none"> <li>• Increase resource efficiency?</li> </ul>	
<ul style="list-style-type: none"> <li>• Employ measures which not only reduce GHG emissions but also support wider environmental targets and adaptation?</li> </ul>	
<ul style="list-style-type: none"> <li>• Increase land-based carbon sequestration, in a manner that also contributes to other environmental objectives including biodiversity conservation?</li> </ul>	



<ul style="list-style-type: none"> <li>• Encourage the use / development of zero / low carbon energy?</li> </ul>	<p>fallen largely because of a reduction in livestock numbers and fertiliser use, but to a more limited extent than the decline from other sources. This trend is likely to continue, in addition to generating other economic and environmental benefits.</p> <ul style="list-style-type: none"> <li>• Energy prices are likely to continue to increase;<sup>4</sup> the potential benefits from promoting energy efficiency in all sectors, including water and fertiliser use, will therefore also increase, resulting in reduced greenhouse gas emissions.</li> <li>• Market trends, rising costs and the introduction of EU Directives on the use of biofuels will widen the market for energy crops.</li> </ul>
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**Topic 4 – Climate change adaptation**

<ul style="list-style-type: none"> <li>• Help reduce the risk of flooding?</li> </ul>	<ul style="list-style-type: none"> <li>• There is clear evidence that temperatures have increased, particularly in recent years, and this will have impacts in</li> </ul>
<ul style="list-style-type: none"> <li>• Address the risk of limited water availability?</li> </ul>	
<ul style="list-style-type: none"> <li>• Help create a rural economy resilient to the effects of climate change?</li> </ul>	

<ul style="list-style-type: none"> <li>• Enhance the resilience and quality of semi-natural habitats through appropriate management and appropriate expansion (reducing fragmentation and improving ecological connectivity at the landscape scale)?</li> </ul>	<p>terms of both growing seasons and conditions for wildlife; adaptation will need to consider species migration, both native and non-native and changes in the prevalence of pests and disease.</p> <ul style="list-style-type: none"> <li>• Extreme weather events are likely to occur more often.</li> <li>• Land use management can affect flood risk if it affects the provision of soft and hard infrastructure for storing excess water and slow down peak flows.</li> <li>• There is need to plan for the long term including projects with a long lead in time.</li> <li>• Water availability, exacerbated by climate change, reduction in agricultural efficiency and an increased demand for food through a growing population will increasingly become an issue.</li> </ul>
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**Topic 5 – Landscape and cultural heritage**

<ul style="list-style-type: none"> <li>• Help reduce the erosion of landscape character?</li> </ul>	<ul style="list-style-type: none"> <li>• Protected landscapes and historic assets in rural areas are associated with and influenced by past and present patterns of land management.</li> <li>• Changes in agricultural</li> </ul>
<ul style="list-style-type: none"> <li>• Protect and enhance cultural heritage in rural areas?</li> </ul>	
<ul style="list-style-type: none"> <li>• Minimise the potential for field enclosures and minimise the removal of linear or other characteristic features?</li> </ul>	
<ul style="list-style-type: none"> <li>• Reduce the potential for farm activities to damage archaeological assets?</li> </ul>	

- Retain landscape distinctiveness?

practice, particularly mechanisation, intensification and specialisation in farming, have resulted in larger field sizes and a consequent loss of some distinctive linear and tree landscape features and of distinctive areas of semi-natural habitat.

- There has been conflict between conservation of archaeological sites and farming.
- The combination of these and other factors has resulted in significant changes to the character of landscapes which has reduced their distinctiveness.
- Landscape quality and a distinctive sense of place remain key features attracting people to the countryside and are part of the cultural identity and experience of communities that live there.
- Pressure from changing agricultural practices and farm building conversions can be a threat to cultural heritage.

## Topic 6 – Population and human health

- Help support the health and well-being of rural populations?

- Rural populations are generally older than

<ul style="list-style-type: none"> <li>• Increase levels of economic activity?</li> </ul>	<p>those of England as a whole.</p>
<ul style="list-style-type: none"> <li>• Help support and promote the production of healthy food and drink?</li> </ul>	<ul style="list-style-type: none"> <li>• Quality of life in rural areas is closely related to environmental quality.</li> </ul>
<ul style="list-style-type: none"> <li>• Support a better quality of life for rural populations, including for an increasingly ageing population?</li> </ul>	<ul style="list-style-type: none"> <li>• Migration to rural areas tends to be more pronounced amongst older people.</li> </ul>
<ul style="list-style-type: none"> <li>• Encourage a redistribution of age ranges in rural areas?</li> </ul>	<ul style="list-style-type: none"> <li>• Increasing levels of economic activity help to improve community sustainability by widening opportunity and reducing out-migration of those of working age.</li> <li>• The production of food is, and will remain, the central purpose of the agricultural sector, and this will have an impact on the health of the population in England.</li> <li>• More widely, however, there is increasing recognition of the mental and physical health benefits of exercise and of access to green space and the countryside.</li> </ul>

**Topic 7 – Soil management**

<ul style="list-style-type: none"> <li>• Help maintain the function of agricultural soil?</li> </ul>	<ul style="list-style-type: none"> <li>• Soil erosion is of relatively low but an increasing concern in England.</li> </ul>
<ul style="list-style-type: none"> <li>• Encourage the retention, protection and utilisation of high quality agricultural soil?</li> </ul>	<ul style="list-style-type: none"> <li>• Poor management of soils is closely linked to water pollution, and also to greenhouse gas emissions.</li> </ul>
<ul style="list-style-type: none"> <li>• Increase carbon storage capacity in soils and enhance organic matter content in soil?</li> </ul>	
<ul style="list-style-type: none"> <li>• Facilitate knowledge transfer in soil management techniques?</li> </ul>	

<ul style="list-style-type: none"> <li>• Deliver improvements in the quality of advice given to land managers, so they are better placed to recognise carbon related issues on their holdings and pursue cost-effective soil management?</li> </ul>	<ul style="list-style-type: none"> <li>• Peat soils in the uplands should be appropriately managed.</li> </ul>
<ul style="list-style-type: none"> <li>• Provide support for innovations in soil management e.g. using agro-ecological approaches to farming?</li> </ul>	
<b>Topic 8 - Waste</b>	
<ul style="list-style-type: none"> <li>• Help ensure that rural activities adhere to the waste hierarchy?</li> </ul>	<ul style="list-style-type: none"> <li>• Almost all agricultural waste is re-used on farms. Such wastes have high concentrations of phosphates and nitrates, and so have the potential to exacerbate water pollution if not properly managed.</li> </ul>
<ul style="list-style-type: none"> <li>• Encourage waste minimisation / reuse?</li> </ul>	
<ul style="list-style-type: none"> <li>• Ensure the safe management of agricultural waste?</li> </ul>	
<ul style="list-style-type: none"> <li>• Encourage energy from waste practices?</li> </ul>	<ul style="list-style-type: none"> <li>• Regulation and focus on other solid wastes (plastics, packaging, etc.) is increasing, and the cost of their management is likely to increase accordingly.</li> <li>• Waste costs are rising as a result of increased taxation and the need to meet higher standards, and this may create opportunities for waste minimisation and waste management services in rural areas.</li> </ul>
<b>Topic 9 – Water management</b>	
<ul style="list-style-type: none"> <li>• Ensure adequate water supply and quality to meet environmental and other uses as well as those of agriculture?</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural demand for water is comparable to that of the manufacturing industry; changes in water availability as a result of climate change may bring the issue of agricultural water use</li> </ul>
<ul style="list-style-type: none"> <li>• Create businesses resilient to future water scarcity?</li> </ul>	
<ul style="list-style-type: none"> <li>• Encourage water resource efficiency?</li> </ul>	

<ul style="list-style-type: none"> <li>• Reduce rates of abstraction?</li> </ul>	<p>increasingly to the fore.</p>
<ul style="list-style-type: none"> <li>• Reduce water pollution, in particular diffuse pollution?</li> </ul>	<ul style="list-style-type: none"> <li>• Land drainage needs to be controlled in order to regulate water levels according to the needs of different land uses, to ensure water availability and preventing over abstraction.</li> </ul>
<ul style="list-style-type: none"> <li>• Promote better environmental practice amongst farmers and land managers?</li> </ul>	
<ul style="list-style-type: none"> <li>• Reduce surface water runoff?</li> </ul>	<ul style="list-style-type: none"> <li>• Land drainage also has implications for water quality as drainage</li> </ul>
<ul style="list-style-type: none"> <li>• Support progress towards achievement of favourable condition in aquatic and wetland priority habitats and the species they support?</li> </ul>	

<ul style="list-style-type: none"> <li>Promotes nutrient use efficiency or the use of integrated pest management to reduce the use of Plant Protection Products (PPPs)?</li> </ul>	<p>generally results in bypassing areas of natural nutrient/pollutant mitigation (e.g. in soils or aquifers).</p> <ul style="list-style-type: none"> <li>Water pollution associated with run-off (surface) and subsurface (i.e. in subsurface drains, soils and groundwater) from agricultural fertilisers has reduced in recent years for some substances, whereas others are less well understood. However, wider improvements in the performance of industry and urban wastewater treatment have been more rapid, and agriculture is now one of the main contributors to water pollution with impacts on both drinking water quality and aquatic ecosystems</li> <li>Agricultural practices such as agri-environment schemes also have an influence on the speed with which rainwater enters rivers and contributes to flooding.</li> </ul>
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**Topic 10 – Rural economy**

<ul style="list-style-type: none"> <li>Ensure a vital and vibrant rural economy?</li> </ul>	<ul style="list-style-type: none"> <li>Rural areas have experienced little change in levels of productivity.</li> </ul>
<ul style="list-style-type: none"> <li>Increase rural economic productivity?</li> </ul>	<ul style="list-style-type: none"> <li>Rural areas have</li> </ul>

<ul style="list-style-type: none"> <li>• Increase the number of businesses in rural areas, including start-ups?</li> </ul>	
<ul style="list-style-type: none"> <li>• Increase or safeguard the number of jobs?</li> </ul>	
<ul style="list-style-type: none"> <li>• Increase renewable energy production in rural areas?</li> </ul>	<p>worsening levels of enterprise, with declining numbers of businesses and start-ups.</p>
<ul style="list-style-type: none"> <li>• Increase the level of capital investment to rural areas?</li> </ul>	<ul style="list-style-type: none"> <li>• Capital investment in rural areas has declined since 1999 levels, particularly in predominantly rural areas.</li> </ul>
<ul style="list-style-type: none"> <li>• Increase the competitiveness of the farming, food and drink sector?</li> </ul>	
<ul style="list-style-type: none"> <li>• Increase levels of innovation in the farming, food and drink sectors and within rural areas?</li> </ul>	
<p><b>Topic 11 – Tourism and countryside access</b></p>	
<ul style="list-style-type: none"> <li>• Enable increased access to the countryside?</li> </ul>	
<ul style="list-style-type: none"> <li>• Maintain, diversify and increase rural tourism?</li> </ul>	
<ul style="list-style-type: none"> <li>• Increase information available to the public on access routes and open spaces?</li> </ul>	<ul style="list-style-type: none"> <li>• Tourism in rural areas is a more significant generator of employment in rural areas than the agricultural food sector.</li> </ul>
<ul style="list-style-type: none"> <li>• Enable communities to plan and manage their tourism assets?</li> </ul>	<ul style="list-style-type: none"> <li>• Rural tourism is based to a very large extent on the quality of the</li> </ul>



<ul style="list-style-type: none"> <li>• Encourage educational visits to increase knowledge of the countryside and rural issues?</li> </ul>	<p>landscape, and on the availability of activities in the countryside, including tranquillity, scenery, open space, fresh air, and plants and wildlife.</p> <ul style="list-style-type: none"> <li>• Recreational visits to the countryside have been increasing, and this increase is expected to continue.</li> <li>• Visits to cultural attractions are also increasing.</li> <li>• Access to the countryside is often linked to access to a motor vehicle. Therefore increased access to the countryside may have implications with regard to local air quality.</li> </ul>
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**Topic 12 – Woodland**

<ul style="list-style-type: none"> <li>• Promote a significant level of new woodland creation to support the development of a coherent and resilient ecological network targeted to deliver multiple environmental benefits (e.g. flood alleviation, improvement in water and air quality, provision of riparian shade and cooling, extension of habitats to aid species migration and the protection of soil resources)?</li> </ul>	<ul style="list-style-type: none"> <li>• The Government has set an indicative figure to increase woodland cover to 12% of England’s land area by 2060.</li> <li>• The Government has set a target indicative figure to bring around two-thirds of woodland into active management over the next five years, with this figure</li> </ul>
<ul style="list-style-type: none"> <li>• Effectively encourage private woodland owners to increase levels of management?</li> </ul>	
<ul style="list-style-type: none"> <li>• Promote the protection and restoration of ancient and semi-natural woodlands?</li> </ul>	

- Effectively promote woodland access for a greater number of people?

eventually rising to 80% on the assumption that markets for wood products continue to develop.

- Ancient and semi-natural woodlands, which have the greatest value for nature conservation, have historically declined in extent due to losses to agriculture and, to a lesser extent, development and through conversion to plantations of non-native species, particularly conifers. Likewise open habitats, such as heathlands, wetlands and moorlands need to be restored and protected from plantation forestry.
- Only 55% of the population has access to woods larger than 20 ha within 4 km of their home. An improvement in public access to woodlands needs to be achieved to benefit human health and education.<sup>5</sup>

Assessment questions (Will the draft Programme ...?)      Key problems / issues

Topic 1 – Air quality

<ul style="list-style-type: none"> <li>• Increase / decrease levels of air pollutants (PM<sub>10</sub> and PM<sub>2.5</sub>, ozone, ammonia and NO<sub>x</sub> levels (both concentration and deposition)?</li> </ul>	<ul style="list-style-type: none"> <li>• Whilst PM<sub>10</sub>, PM<sub>2.5</sub> and NO<sub>2</sub> levels are higher in urban areas, pinch points in market towns may be susceptible to higher levels of pollution and smaller settlements may still have pollution issues from being away from the natural gas grid or being close to busy roads.</li> </ul>
<ul style="list-style-type: none"> <li>• Increase / decrease car journeys?</li> </ul>	
<ul style="list-style-type: none"> <li>• Expose new receptors to potential air pollution including odour?</li> </ul>	<ul style="list-style-type: none"> <li>• Areas of high intensity livestock rearing can result in odour issues.</li> <li>• The risk of introducing receptors into places where there are existing sources of odour or dust, or where additional strain could be put on a local road network that is already operating under stress should be avoided.</li> <li>• Ammonia emissions have increased slightly in recent years and are projected to fall by only 8% between 2005 and 2020 and are projected to continue to lead to excessive nitrogen deposition at protected ecological sites.</li> </ul>

Topic 2 – Biodiversity and nature conservation

<ul style="list-style-type: none"> <li>• Increase populations of priority (Section 41) species on farmland, including levels of farmland birds?</li> </ul>	<ul style="list-style-type: none"> <li>• Whilst improvements have been made in stabilising or reversing declines in certain specialist bird species</li> </ul>
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<ul style="list-style-type: none"> <li>• Improve the condition of SSSIs and priority habitats both within and outside SSSIs on agricultural land?</li> </ul>	
<ul style="list-style-type: none"> <li>• Create a coherent and resilient ecological network, through coordinated landscape scale delivery and targeted habitat re-creation?</li> </ul>	<p>and priority habitats over the current programming period, over 40% of priority habitats and 50% of priority species were still declining according to the most recent analysis.<sup>1</sup></p>
<ul style="list-style-type: none"> <li>• Reduce air and water pollution through increased resource efficiency?</li> </ul>	<ul style="list-style-type: none"> <li>• Significant progress has been made towards achieving favourable or favourable recovering condition on SSSIs on agricultural land as a consequence of targeted agri-environment scheme management.</li> <li>• Agricultural management (intensification and abandonment) together with associated air and water pollution remains the most significant causes of unfavourable condition on SSSIs and on non-designated priority habitat.</li> <li>• Habitats are fragmented and create a barrier for necessary species movement and migration in response to climate change.</li> </ul>
<p>Topic 3 – Climate change mitigation</p>	

<sup>1</sup> Defra (2013) Biodiversity 2020: a strategy for England's wildlife and ecosystem services Indicators 2013 Available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/253546/England\\_full\\_FINAL.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/253546/England_full_FINAL.pdf). Accessed 23/02/2014

<ul style="list-style-type: none"> <li>• Reduce the <b>net</b> emissions of greenhouse gases?</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture is responsible <b>largely for</b> methane and nitrous oxide emissions and for a relatively small proportion of CO<sub>2</sub> emissions.</li> <li>• Emissions of such gases from agriculture have fallen largely because of a reduction in livestock numbers and fertiliser use, but to a more limited extent than the decline from other sources. This trend is likely to continue, <b>in addition to generating other economic and environmental benefits.</b></li> <li>• Energy prices are likely to continue to increase;<sup>2</sup> the potential benefits from promoting energy efficiency in all sectors, including <b>water and fertiliser use</b>, will therefore also increase, <b>resulting in reduced GHG emissions.</b></li> <li>• Market trends, rising costs and the introduction of EU Directives on the use of biofuels will widen the market for energy crops.</li> </ul>
<ul style="list-style-type: none"> <li>• Increase resource efficiency?</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Employ measures which not only reduce GHG emissions but also support wider environmental targets and adaptation?</b></li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Increase land-based carbon sequestration, in a manner that also contributes to other environmental objectives including biodiversity conservation?</b></li> </ul>	
<ul style="list-style-type: none"> <li>• Encourage the use / development of zero / low carbon energy?</li> </ul>	
<p>Topic 4 – Climate change adaptation</p>	

<sup>2</sup> DECC (2013) Valuation of energy use and greenhouse gas emissions for appraisal (Tables 4-8). Available at: <https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal> Accessed 23/02/2014

<ul style="list-style-type: none"> <li>• Help reduce the risk of flooding?</li> </ul>	
<ul style="list-style-type: none"> <li>• Address the risk of limited water availability?</li> </ul>	
<ul style="list-style-type: none"> <li>• Help create a rural economy resilient to the effects of climate change?</li> </ul>	
<ul style="list-style-type: none"> <li>• Enhance the resilience and quality of semi-natural habitats through appropriate management and appropriate expansion (reducing fragmentation and improving ecological connectivity at the landscape scale)?</li> </ul>	<ul style="list-style-type: none"> <li>• There is clear evidence that temperatures have increased, particularly in recent years, and this will have impacts in terms of both growing seasons and conditions for wildlife; adaptation will need to consider species migration, both native and non-native and changes in the prevalence of pests and disease.</li> <li>• Extreme weather events are likely to occur more often.</li> <li>• Land use management can affect flood risk due to the lack of soft and hard infrastructure to store excess water and slow down peak flows.</li> <li>• There is need to plan for the long term including projects with a long lead in time.</li> <li>• Water availability, exacerbated by climate change, reduction in agricultural efficiency and an increased demand for food through a growing population will increasingly become an issue.</li> </ul>
<p>Topic 5 – Landscape and cultural heritage</p>	
<ul style="list-style-type: none"> <li>• Help reduce the erosion of landscape character?</li> </ul>	<ul style="list-style-type: none"> <li>• Protected landscapes and historic assets in</li> </ul>

<ul style="list-style-type: none"> <li>• Protect and enhance cultural heritage in rural areas?</li> </ul>	<p>rural areas are associated with and influenced by past and present patterns of land management.</p>
<ul style="list-style-type: none"> <li>• Minimise the potential for field enclosures and removal of linear or other characteristic features?</li> </ul>	<ul style="list-style-type: none"> <li>• Changes in agricultural practice, particularly mechanisation, intensification and specialisation in farming, have resulted in larger field sizes and a consequent loss of</li> </ul>
<ul style="list-style-type: none"> <li>• Reduce the potential for farm activities to damage archaeological assets?</li> </ul>	

<ul style="list-style-type: none"> <li>• Retain landscape distinctiveness?</li> </ul>	<p>some distinctive linear and tree landscape features and of distinctive areas of semi-natural habitat.</p> <ul style="list-style-type: none"> <li>• There has been conflict between conservation of archaeological sites and farming.</li> <li>• The combination of these and other factors has resulted in significant changes to the character of landscapes which has reduced their distinctiveness.</li> <li>• Landscape quality and a distinctive sense of place remain key features attracting people to the countryside and are part of the cultural identity and experience of communities that live there.</li> <li>• Pressure from changing agricultural practices and farm building conversions can be a threat to cultural heritage.</li> </ul>
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**Topic 6 – Population and human health**

<ul style="list-style-type: none"> <li>• Help support the health and well-being of rural populations?</li> </ul>	<ul style="list-style-type: none"> <li>• Rural populations are generally older than those of England as a whole.</li> </ul>
<ul style="list-style-type: none"> <li>• Increase levels of economic activity?</li> </ul>	<ul style="list-style-type: none"> <li>• Quality of life in rural</li> </ul>



<ul style="list-style-type: none"> <li>• Help support and promote the production of healthy food and drink?</li> </ul>	<p>areas is closely related to environmental quality.</p>
<ul style="list-style-type: none"> <li>• Support a better quality of life for rural populations, including for an increasingly ageing population?</li> </ul>	<ul style="list-style-type: none"> <li>• Migration to rural areas tends to be more pronounced amongst older people.</li> </ul>
<ul style="list-style-type: none"> <li>• Encourage a redistribution of age ranges in rural areas?</li> </ul>	<ul style="list-style-type: none"> <li>• Increasing levels of economic activity help to improve community sustainability by widening opportunity and reducing out-migration of those of working age.</li> <li>• The production of food is, and will remain, the central purpose of the agricultural sector, and this will have an impact on the health of the population in England.</li> <li>• More widely, however, there is increasing recognition of the mental and physical health benefits of exercise and of access to green space and the countryside.</li> </ul>

**Topic 7 – Soil management**

<ul style="list-style-type: none"> <li>• Help maintain the function of agricultural soil?</li> </ul>	<ul style="list-style-type: none"> <li>• Soil erosion is of relatively low but an increasing concern in England.</li> </ul>
<ul style="list-style-type: none"> <li>• Encourage the retention, protection and utilisation of high quality agricultural soil?</li> </ul>	<ul style="list-style-type: none"> <li>• Poor management of soils is closely linked to water pollution, and also to greenhouse gas emissions.</li> </ul>
<ul style="list-style-type: none"> <li>• Increase carbon storage capacity in soils and enhance organic matter content in soil?</li> </ul>	<ul style="list-style-type: none"> <li>• Peat soils in the uplands should be appropriately</li> </ul>

<ul style="list-style-type: none"> <li>Facilitate knowledge transfer in soil management techniques?</li> </ul>	<p>managed.</p>
<ul style="list-style-type: none"> <li>Deliver improvements in the quality of advice given to land managers, so they are better placed to recognise carbon related issues on their holdings and pursue cost-effective soil management?</li> </ul>	
<ul style="list-style-type: none"> <li>Provide support for innovations in soil management e.g. using agro-ecological approaches to farming?</li> </ul>	
<p>Topic 8 - Waste</p>	
<ul style="list-style-type: none"> <li>Help ensure that rural activities adhere to the waste hierarchy?</li> </ul>	<ul style="list-style-type: none"> <li>Almost all agricultural waste is re-used on farms. Such wastes have high concentrations of phosphates and nitrates, and so have the potential to exacerbate water</li> </ul>
<ul style="list-style-type: none"> <li>Encourage waste minimisation / reuse?</li> </ul>	
<ul style="list-style-type: none"> <li>Ensure the safe management of agricultural waste?</li> </ul>	

<ul style="list-style-type: none"> <li>• Encourage energy from waste practices?</li> </ul>	<p>pollution if not properly managed.</p> <ul style="list-style-type: none"> <li>• Regulation and focus on other solid wastes (plastics, packaging, etc.) is increasing, and the cost of their management is likely to increase accordingly.</li> <li>• Waste costs are rising as a result of increased taxation and the need to meet higher standards, and this may create opportunities for waste minimisation and waste management services in rural areas.</li> </ul>
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Topic 9 – Water management

<ul style="list-style-type: none"> <li>• Ensure adequate water supply and quality to meet environmental and other uses as well as those of agriculture?</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural demand for water is comparable to that of the manufacturing industry; changes in water availability as a result of climate change may bring the issue of agricultural water use increasingly to the fore.</li> <li>• Land drainage needs to be controlled in order to regulate water levels according to the needs of different land uses, to ensure available water, preventing over abstraction.</li> <li>• Land drainage also has implications for water quality as drainage</li> </ul>
<ul style="list-style-type: none"> <li>• Create businesses resilient to future water scarcity?</li> </ul>	
<ul style="list-style-type: none"> <li>• Encourage water resource efficiency?</li> </ul>	
<ul style="list-style-type: none"> <li>• Reduce rates of abstraction?</li> </ul>	
<ul style="list-style-type: none"> <li>• Reduce water pollution, in particular diffuse pollution?</li> </ul>	
<ul style="list-style-type: none"> <li>• Promote better environmental practice amongst farmers and land managers?</li> </ul>	

<ul style="list-style-type: none"> <li>• Reduce surface water runoff?</li> </ul>	<p>generally results in bypassing areas of natural nutrient/pollutant mitigation (e.g. in soils or aquifers).</p>
<ul style="list-style-type: none"> <li>• Support progress towards achievement of favourable condition in aquatic and wetland priority habitats and the species they support?</li> </ul>	<ul style="list-style-type: none"> <li>• Water pollution associated with run-off (surface) and subsurface (i.e. in subsurface drains, soils and groundwater) from agricultural fertilisers has reduced in recent years for some substances, whereas others are less well understood. However, wider improvements in the performance of industry and urban wastewater treatment have been more rapid, and agriculture is now one of the main contributors to water pollution with impacts on both drinking water quality and aquatic ecosystems</li> </ul>
<ul style="list-style-type: none"> <li>• Promotes nutrient use efficiency or the use of integrated pest management to reduce the use of Plant Protection Products (PPPs)?</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural practices such as agri-environment schemes also have an influence on the speed with which rainwater enters rivers and contributes to flooding.</li> </ul>
<p>Topic 10 – Rural economy</p>	
<ul style="list-style-type: none"> <li>• Ensure a vital and vibrant rural economy?</li> </ul>	<ul style="list-style-type: none"> <li>• Rural areas have experienced little change in levels of productivity.</li> </ul>
<ul style="list-style-type: none"> <li>• Increase rural economic productivity?</li> </ul>	

<ul style="list-style-type: none"> <li>• Increase the number of businesses in rural areas, including start-ups?</li> </ul>	<ul style="list-style-type: none"> <li>• Rural areas have worsening levels of enterprise, with declining numbers of businesses and start-ups.</li> <li>• Capital investment in rural areas has declined since 1999 levels, particularly in predominantly rural areas.</li> </ul>
<ul style="list-style-type: none"> <li>• Increase or safeguard the number of jobs?</li> </ul>	
<ul style="list-style-type: none"> <li>• Increase renewable energy production in rural areas?</li> </ul>	
<ul style="list-style-type: none"> <li>• Increase the level of capital investment to rural areas?</li> </ul>	
<ul style="list-style-type: none"> <li>• Increase the competitiveness of the farming, food and drink sector?</li> </ul>	
<ul style="list-style-type: none"> <li>• Increase levels of innovation in the farming, food and drink sectors and within rural areas?</li> </ul>	

Topic 11 – Tourism and countryside access

<ul style="list-style-type: none"> <li>• Enable increased access to the countryside?</li> </ul>	<ul style="list-style-type: none"> <li>• Tourism in rural areas is a more significant generator of employment in rural areas than the agricultural food sector.</li> <li>• Rural tourism is based to a very large extent on the quality of the landscape, and on the availability of activities in the countryside, including tranquillity,</li> </ul>
<ul style="list-style-type: none"> <li>• Maintain, diversify and increase rural tourism?</li> </ul>	
<ul style="list-style-type: none"> <li>• Increase information available to the public on access routes and open spaces?</li> </ul>	
<ul style="list-style-type: none"> <li>• Enable communities to plan and manage their tourism assets?</li> </ul>	

<ul style="list-style-type: none"> <li>• Encourage educational visits to increase knowledge of the countryside and rural issues?</li> </ul>	<p>scenery, open space, fresh air, and plants and wildlife.</p> <ul style="list-style-type: none"> <li>• Recreational visits to the countryside have been increasing, and this increase is expected to continue.</li> <li>• Visits to cultural attractions are also increasing.</li> <li>• Access to the countryside is often linked to access to a motor vehicle. Therefore increased access to the countryside may have implications with regard to local air quality.</li> </ul>
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Topic 12 – Woodland

<ul style="list-style-type: none"> <li>• Promote a significant level of new woodland creation to support the development of a coherent and resilient ecological network targeted to deliver multiple environmental benefits (e.g. through flood alleviation, improvement in water and air quality, provision of riparian shade and cooling, extension of habitats to aid species migration and the protection of soil resources)?</li> </ul>	<ul style="list-style-type: none"> <li>• The Government has set an indicative figure to increase woodland cover to 12% of England's land area by 2060.</li> <li>• The Government has set a target indicative figure to bring around two-thirds of woodland into active management over the next five years, with this figure eventually rising to 80% on the assumption that markets for wood products continue to</li> </ul>
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<ul style="list-style-type: none"> <li>Effectively encourage private woodland owners to increase levels of management?</li> </ul>	<p>develop.</p> <ul style="list-style-type: none"> <li>Ancient and semi-natural woodlands, which have the greatest value for nature conservation, have <b>historically</b> declined in extent due to losses to agriculture and, to a lesser extent, development and through conversion to plantations of non-native species, particularly conifers. Likewise open habitats, such as heathlands, wetlands and moorlands need to be restored and protected from plantation forestry.</li> <li>Only 55% of the population has access to woods larger than 20 ha within 4 km of their home. Improvement to public access to woodlands needs to be achieved to benefit human health and education.<sup>3</sup></li> </ul>
<ul style="list-style-type: none"> <li>Promote the restoration of ancient and semi-natural woodlands?</li> </ul>	
<ul style="list-style-type: none"> <li>Effectively promote woodland access for a greater number of people?</li> </ul>	

## How was the SEA carried out?

### Establishing the ‘baseline’

Establishing an appropriate ‘baseline’ is a key step in the SEA process. It involves providing a ‘snapshot’ of both the current state of the environment and a description of how it might change in future in the absence of the plan or programme, in this case the

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<sup>3</sup> Quine, C. Cahalan, C., Hester, A., Humphrey, J., Kirby, K., Moffat, A. and Valatin, G. (2011). Woodlands In: The UK National Ecosystem Assessment Technical Report. UK National Ecosystem Assessment, UNEP-WCMC, Cambridge.

draft Programme. In the case of the draft Programme, establishing the 'likely evolution' of the environment without the draft Programme involved anticipating changes to the environment associated with the absolute minimum that might be programmed. The absolute minimum represents running down the extant RDP over the life of the new round of CAP, as on-going contractual commitments from the current Programme diminish each year.

Added to this is the proposed Pillar 1 'Greening'. From 2015, the Basic Payment made to farmers under Pillar 1 will, for the first time, include an element (30%) conditional upon the meeting of three Greening requirements. The **environmental benefits of the Greening measures are expected to be relatively low**, but widespread, and **Greening will now provide the baseline of environmental practice on farms**. Whilst Pillar 1 Greening ostensibly provides the future baseline, the uncertainty over delivery makes it impossible to accurately take it into account over the lifetime of the draft Programme.

In order to provide further context for the SEA, an assessment against the extant RDP has also been undertaken. This assumes that the 'extant RDP' is simply rolled forward with the same level of funding and the same schemes in place. In order to assess the performance of the new RDP versus the old RDP, evidence has been drawn from the published Impact Assessment of the new RDP as well as a series of evaluations of extant RDP schemes which highlight lessons learnt, areas for improvement etc.

## Budgetary comparison<sup>6</sup>

As part of the SEA process it is useful to consider the effect of reducing the overall budget is reduced by about 10% in real terms. It should be noted that even if there is a difference in spend between the two programmes, this does not necessarily correlate with any environmental benefit or cost as the government has stated that the draft Programme has been developed in a way that is more targeted with the aim of achieving greater value for money.

## Assessment

The assessment is structured under the 12 topics identified in the Scoping Report. For each topic a range of assessment questions were identified. Taken together, the topics and questions provide a methodological 'framework' for assessing the likely significant effects of the draft Programme on the environment.

Using this framework, the assessment takes into account two things in reaching conclusions as to the likely significant effects of the draft programme:

1. the 'do minimum' baseline described above; and
2. where possible, the performance of the extant RDP



Effects have been predicted taking into account the criteria presented within Schedule 2 of the SEA Regulations. So, for example, account is taken of the **probability, duration, frequency and reversibility** of effects as far as possible. **Cumulative effects** are also considered (i.e. where the effects of the programme may combine with the effects of other planned or on-going activity that is beyond the remit of the draft Programme). These effect 'characteristics' are **described within the assessment as appropriate**.

## Rural proofing

Rural proofing is a process that enables policy-makers to take into account the needs and interests of rural people, communities and businesses in England in the development and implementation of policies, plans and programmes. For central government, rural proofing means assessing policy options to ensure these provide fair solutions for rural areas. The government's rural proofing guidelines sets out eight 'What?' questions which have been implicitly addressed in this SEA.<sup>7</sup>

## Ecosystem services

An ecosystem approach to decision-making is seen as increasingly important. According to the Ecosystems Knowledge Network, *"An ecosystems approach helps to ensure that the range of services provided by nature is considered more fully in decisions made at all levels and by all sectors and professional groups"*.<sup>8</sup> One of the means to assist in implementing the ecosystem approach is to use the 'ecosystems cascade' to consider the links between ecosystem functions, ecosystem services, the benefits people derive from these services and the values they attach to them.

# What has programme-making / SEA involved up to this point?

## Development of the draft Programme to date

### Summary of the Impact Assessment and development of scenarios

The consultation stage Impact Assessment (IA)<sup>9</sup> published by Defra alongside the consultation document in November 2013 analysed a baseline and eight potential scenarios in relation to the draft Programme. The eight budget scenarios were premised on different levels of funding transferred from Pillar 1 to Pillar 2 of the CAP. The scenarios and the focus of spending under each one are outlined below. Defra concluded that a 15% transfer from Pillar 1 to Pillar 2 would generate greater economic benefits than a 9% transfer.

The scenarios consisted of four different uses of the budgets that would result from transfers of funding from Pillar 1 to Pillar 2 of 9% (the rate used in the current CAP) and 15% (the maximum allowed under the reformed CAP). The scenarios were:

- 9% and 15% transfer :
  - **Balance as now (scenarios 1 and 5).** The balance of spend would remain in the same proportions as for the current programme: 83% environmental land management; 5% farm and forestry productivity; 8% general rural growth; and 4% LEADER.
  - **More environmental focus (scenarios 2 and 6).** This increases the balance of spend on new environmental land management schemes: 88% environmental land management; 3% farm and forestry productivity; 5% general rural growth; and 4% LEADER.
  - **More rural growth focus (scenarios 3 and 7).** This increases the balance of spend on rural growth: 78% environmental land management; 3% farm and forestry productivity; 15% general rural growth; and 4% LEADER.
  - **More farm and forestry productivity focus (scenarios 4 and 8).** This increases the balance of spend on farm and forestry productivity: 80% environmental land management; 8% farm and forestry productivity; 8% general rural growth; and 4% LEADER.

### Preferred option

The preferred option that was announced in the consultation response was to **transfer 12% of the CAP budget from Direct Payments to farmers (Pillar 1) to Rural Development (Pillar 2) with an increased environment focus.** A review will be held in 2016 into the demand for agri-environment schemes and the competitiveness of English agriculture with the intention of moving to a 15% transfer rate in 2018 and 2019, the final

two years of the CAP period. This follows the decision already taken to transfer 9% of Direct Payments in 2013 to the Rural Development budget in 2014 as part of transition to the new CAP. The preferred option will also allocate spending as per **Table 2** below.

**Table 2:** Allocation of nominal spending for 12% transfer from Pillar 1 to Pillar 2 with increased environment focus

Preferred Option: 12% transfer environment focus	Nominal Spending (£m)	% of total budget
Existing commitments on agri-environment and forestry	2,155	61
New Environmental Land Management Scheme (NELMS)	925	26
LEADER	138	4
Farming and forestry productivity	141	4
Growth programme	177	5
Total	3,536	100

## Why was this option chosen?

The consultation on CAP implementation provided a strong endorsement by many consultation respondents that rural development spending should be used to deliver the environmental and public goods that Pillar 1 'Direct Payments' cannot and that the draft Programme can deliver worthwhile and valuable outcomes for society and contribute to rural economic growth and enhance the environment.

However, as Defra will be introducing a range of new schemes through the draft Programme in 2015, they want to assess the effectiveness, demand and take up of the schemes once they are in operation. Defra will also not be spending money on new schemes immediately. The first payments to farmers under NELMS will not be made until 2016.

For this reason Defra concluded that the 'preferred option' allowed Defra to move towards a full 15% transfer only after effectiveness, demand and take-up have been evaluated. This is the reason why the preferred option was chosen over the four alternative 15% scenarios.

With this rate of transfer Defra would spend over £3.5 bn on rural development from 2014 to 2020. This would rise to around £3.65 bn with an increased transfer rate of 15% from 2018. Defra will be spending nearly £3.1 bn on the environment over this period. This would rise to nearly £3.2 bn if the transfer rate rises to 15% in the last 2 years.

Defra considers that this represents the best balance between using Rural Development money to deliver public goods and meeting obligations. It allows Defra to assess demand for the draft Programme as it is delivered and enables farmers to make a smooth transition to the new Direct Payment budget. It also provides funding to help the farming industry become more productive and competitive and should generate jobs and growth.

## Why choose a greater focus on the environment?

Defra considers that the ability to deliver environmental and public goods and the wider evidence of need for supporting a greater focus on the environment is very strong. The Defra Impact Assessment identified that the scenario with **the highest central estimate of the benefit to cost ratio was Scenario 6**, the Environmental focus scenario with a 15% Pillar 1 to Pillar 2 transfer. This is because the agri-environment schemes have the highest quantified benefit to cost ratios.<sup>10</sup>

While progress towards the Biodiversity 2020<sup>11</sup> outcomes continues to be made, the assessment of cost of fully delivering them could reach in the region of £500m per year by 2020. It has also been estimated that fully addressing diffuse pollution from agriculture through the Rural Development Programme might cost around £460m per annum. In addition, more than £80m per annum would be required from the Programme to avoid deterioration in water quality from diffuse agricultural pollution.<sup>12</sup>

It is clear that the amount required to deliver Biodiversity 2020 and ‘good status’<sup>13</sup> for the Water Framework Directive (WFD) is likely to exceed the funds available and that in any event other sorts of measures will be needed in combination with the draft Programme to meet environmental obligations under this and other Directives.

It is Defra’s view that an increased focus on the environment and more targeted land management to secure multiple outcomes will help support meeting their obligations. Funding to support the sector can deliver worthwhile and valuable outcomes for society and contribute to rural economic growth and enhance the environment. Defra argue that at the same time, there remains a need to continue to **reduce farmers’ reliance on subsidy and help the sector become more productive and market orientated**. Re-focussing LEADER spend to directly support economic growth and rural jobs, alongside growth activity delivered through Local Enterprise Partnerships allows for 13% of the programme funding to be focussed on the rural economy, targeted at specific local need.

## Assessment of reasonable alternatives and is the Preferred Option in line with SEA findings?

The development of the draft Programme included an SEA of the eight scenarios. **Table 3** summarises the performance of the eight ‘reasonable alternatives’ and Defra’s ‘Preferred Scenario’ by ranking their relative performance 1-9 (1 being the best performer and 9 being the worst) in relation to each SEA topic. Overall, it can be concluded that the scenarios with the 15% transfer option (5-8) would lead to an overall improvement in positive effects and decrease in negative effects. As the preferred option transfers less

funding from Pillar 1 to Pillar 2 than scenarios 5-8, it does not perform quite so well as the 15% transfer option. However, it performs better than the 9% transfer option (scenarios 1-4) for almost all of the SEA topics with the exception of population and human health, and rural economy. It should be noted that **all** the scenarios assessed would perform well against the do-minimum baseline given that they all go beyond the legal minimum described in the baseline.

**Table 3:** Summary of the assessment of reasonable alternatives

SEA Topic	Scenario								
	9%				15%				12%
	1	2	3	4	5	6	7	8	9
Air quality	7	6	9	8	2	1	5	3	4
Biodiversity and nature conservation	7	6	9	8	2	1	5	3	4
Climate change mitigation <sup>14</sup>	7	6	9	8	2	1	5	3	4
Climate change adaptation	7	6	9	8	2	1	5	2	4
Landscape and cultural heritage	7	6	9	8	2	1	5	3	4
Population and human health	5	9	2	5	3	7	1	3	8
Soil management	7	6	9	8	2	1	5	3	4
Waste	8	9	6	7	3	5	1	2	4
Water Management	7	6	9	8	2	1	5	3	4
Rural economy <sup>15</sup>	5	9	2	5	3	7	1	3	8
Tourism and countryside access	7	6	9	8	2	1	5	3	4
Woodland	7	6	9	8	2	1	5	3	4

## What are the appraisal findings for the RDP?

The following section presents a summary of the effects identified as part of the SEA and proposed monitoring measures where applicable. For a full discussion of the effects please refer to the Environmental Report.

Topic	Effects identified
<p><b>Air Quality</b></p> <p><b>Monitoring:</b> PM and NO<sub>2</sub> monitoring in rural towns / villages.</p> <p>Identification of potential 'pinch points'.</p>	<p>Compared against the do minimum scenario, it is expected that the draft Programme would have <b>significant positive effects</b> with regard to reducing ammonia emissions. There is the potential for <b>negative effects</b> for NO<sub>2</sub>.</p> <p>Against the business as usual scenario, there are expected to be <b>positive effects</b> relative to the extant RDP due to the measures identified that can reduce ammonia emissions. There is the potential for <b>negative effects</b> for NO<sub>2</sub>.</p> <p>All effects are likely to be <b>long-term</b> and <b>temporary</b> i.e. trees can be removed and the rural economy may expand or contract over time. There are potential <b>positive interactions</b> within the draft Programme with the effects of the Woodlands and Biodiversity topics and in line with the overarching multifunctional approach of the draft Programme.</p>
<p><b>What is the likely evolution without the draft Programme?</b></p> <p>Air quality is likely to continue its current trajectory as it is not considered that the existing programme has a significant effect on air pollution. Ammonia emissions might conceivably increase if appropriate incentives for good farming practice are not provided.</p>	
<p><b>Biodiversity flora and fauna</b></p> <p><b>Recommendation:</b> Investigate the effect of Pillar 1 Greening on the natural environment (e.g. what overall effect will it have on the natural environment and how does it compare with the Entry Level Environmental Stewardship)</p>	<p>Relative to the the do-minimum scenario, there should be <b>positive effects</b> across all the assessment questions given the lower starting point. It is expected that these effects would be significant.</p> <p>Against the business as usual scenario, the picture is less clear, what can be said it that the effects identified are not considered 'significant' at this stage, in large part due to the <b>uncertainty</b></p>

Topic	Effects identified
<p><b>Monitoring:</b> Monitor the effect of woodland creation and management elements of the draft Programme to establish the relationship to woodland bird populations.</p>	<p>surrounding the development of future schemes and levels of take-up and effectiveness of delivery on the ground. The effects identified are likely to be <b>medium to long-term</b> (although effects accruing through the extant RDP would continue). If the draft Programme was to be removed (and nothing took its place) it is likely that <b>positive effects</b> would be lost - the effects identified are therefore <b>temporary</b> and <b>reversible</b>.</p> <p>Protecting biodiversity will reinforce efforts to promote wider environmental objectives such as improved air quality, landscape and water quality</p>
<p><b>What is the likely evolution without the draft Programme?</b></p> <p>Sites of biodiversity importance are likely to come under increasing pressure from agricultural intensification and long-term declines in habitats and species are likely to continue. Farmland bird populations may continue to fall and progress in improving SSSIs on agricultural land may stall or go backwards. Overall, without the support of the Rural Development Programme, declines in habitats and species might accelerate.</p> <p>Rising population and associated housing and infrastructure development may also put pressure on remaining semi-natural habitat. A failure to better ‘connect’ existing parcels of semi-natural habitats through wildlife or green corridors may lead to further declines in biodiversity as species populations become increasingly unviable or unable to move in response to the effects of climate change.</p> <p>The UK Climate Change Risk Assessment also notes that risks to biodiversity from climate change will result from lower water levels and reduced river flows and so exposing freshwater habitats to increased concentrations of pollutants from agriculture, sewage and air pollution.<sup>16</sup></p>	
<p><b>Climate change mitigation</b></p>	<p>Relative to the do minimum scenario, it is likely that there would be <b>significant positive effects</b> across the board.</p> <p>Against the business as usual scenario, whilst there is more uncertainty, the draft Programme should still result in <b>positive effects</b>.</p> <p>All effects are potentially temporary over the long term i.e. land use changes over time and wind turbines have finite lifetimes.</p>
<p><b>What is the likely evolution without the draft Programme?</b></p> <p>Climate change mitigation is likely to increase in prominence as an ‘issue’ as the impacts</p>	

Topic	Effects identified
	<p>of a changing climate are increasingly felt. The 2009 UK Climate Change Projections predict that (by 2080) there will be warmer winters, hotter summers, increased winter rainfall, decreased summer rainfall and a potential increase in the frequency of extreme weather events over time, such as heat waves, storms and flooding.</p>
<p><b>Climate change adaption</b></p>	<p>Compared to the do-minimum scenario it is likely that the draft Programme would <b>have significant positive effects</b>.</p> <p>Comparing against the business as usual scenario, the effects are more uncertain but generally speaking, <b>positive</b>.</p> <p>The effects of the draft Programme will be <b>short – long term</b>. These effects will need to be <b>permanent</b> to ensure long-term resilience to climate change. The interface with Pillar 1 activities such as field management will need to be considered in order not to generate <b>negative cumulative effects</b>.</p>
<p><b>What is the likely evolution without the draft Programme?</b></p> <p>In future, changes in land use and intensification of agricultural production are likely to continue to be a source of flood risk in rural areas. The implications of these changes may become more serious as a result of climate change.</p> <p>The impact on growing seasons and crops is uncertain. There may be increased incidents of crop damage; opportunities for growing new crops or securing more harvest cycles if growing seasons are lengthened; and worsening water availability and soil degradation continue.</p> <p>Farms and rural business may not be as resilient to changes in climate and extreme weather events.</p>	
<p><b>Landscape and cultural heritage</b></p> <p><b>Monitoring:</b> Evaluate the effect on Natural Character Areas of the implementation of the draft Programme.</p> <p>Evaluate the effect changes in landscape character have on rural tourism.</p> <p>Evaluate the effects of the draft Programme on cultural heritage assets.</p>	<p>Relative to the do-minimum scenario, there would largely be <b>significant positive effects</b> compared to the legal minimum. This would be delivered through NELMS funding for the historic environment and LEADER schemes.</p> <p>Comparing against the business-as-usual scenario there is some uncertainty. Mid-Tier Environmental Stewardship may provide some <b>positive effects</b>. However, the effect of funding on cultural heritage, given the uncertainty, should be investigated further.</p> <p>Proposed interventions will have <b>direct</b> impacts on local character and distinctiveness, however the</p>



Topic	Effects identified
	<p>direction of the effect is uncertain. Depending on the types of measures targeted these may be <b>temporary</b> or <b>permanent</b>.</p>
<p><b>What is the likely evolution without the draft Programme?</b></p> <p>Agricultural practices will continue drive future changes in the landscape. This pressure is combined with other drivers for change including climate change mitigation (provision of renewables such as wind energy), a changing climate (precipitation and temperature changes) and transport and urban development. Without the Rural Development Programme, changes in farming practices, notably those associated with intensification of management may result in a degradation of landscape character.</p> <p>The cultural heritage of rural areas is likely to face increased pressure in future years due to the effects of a growing population, intensification in farming practices and the conversion of farm buildings to non-agricultural uses.</p>	
<p><b>Population and human health</b></p>	<p>Under the do-minimum scenario, the draft Programme is predicted to have a number of <b>significant positive effects</b>, mainly through the Growth and Productivity schemes. These are all likely to be significant against the legal minimum baseline.</p>
<p><b>Recommendation:</b> Investigate the link between young farmers undertaking training and the proportion that stay in farming.</p>	<p>Under the business as usual scenario, the effects are less clear. Growth and Productivity are likely to have <b>positive effects</b> but the significance of these cannot be determined due to high levels of uncertainty with regard to deliver and up-take.</p> <p>Impacts of interventions on health and wellbeing are likely to be both <b>direct</b> and <b>indirect</b> and are highly contingent on wider factors such as the performance of the national economy and a wide range of other factors.</p>
<p><b>What is the likely evolution without the draft Programme?</b></p> <p>The age profile of rural populations will increase, with in-migration to rural areas also likely</p>	

Topic	Effects identified
	<p>to be a contributory factor. This will place an increasing strain on health infrastructure and potentially reduce economic potential as the proportion of the working age population decreases. This will be exacerbated by the fact that life expectancy is higher (and indeed general health indicators are better) in rural areas.</p> <p>It is unlikely that the new Rural Development Programme will have any direct influence on human health and population.</p>
<p><b>Soil management</b></p>	<p>Against the do-minimum scenario the draft programme should result in significant <b>positive effects</b> for soil management through NELMS and Productivity schemes.</p> <p>Relative to the business-as-usual scenario the picture is uncertain due to the unknown details in relation to evaluations of the extant RDP.</p> <p>Investments in improved soil management may lead to significant <b>medium – long-term</b> impacts if farmers integrate this into their forward planning.</p>
<p><b>What is the likely evolution without the draft Programme?</b></p> <p>Whilst soil loss is generally low in the UK, some areas are at risk. Without the new Programme, intensification of land use or inappropriate agricultural practices may exacerbate this risk. Changing land use to arable production can release soil carbon stocks and, conversely, changing from arable use can increase soil carbon stocks. Any increases in arable land use as a result of the new RDP would increase this release.</p>	
<p><b>Waste</b></p>	<p>Compared to the do-minimum scenario, there are likely to be significant positive effects through resource efficiency measures and a focus on Anaerobic Digestion.</p> <p>Relative to the business as usual scenario, the situation is less clear. Generally speaking there are likely to be <b>positive effects</b> (at least relative to ‘do minimum’) on waste management practices. These could be secured over the relatively short-term with significant impacts on energy from waste taking longer due to the need to secure finance, infrastructure and training, and operationalize Anaerobic Digestion on multiple farms.</p>
<p><b>What is the likely evolution without the draft Programme?</b></p> <p>The amount of waste sent to landfill has decreased since 2008 as the landfill tax escalator increases the cost of waste disposal in landfills. It is therefore likely that this trend will</p>	

Topic	Effects identified
	<p>continue with or without the new RDP. There is potential for AD to increase and for increased energy from waste to be generated.</p>
<p><b>Water Management</b></p>	<p>Compared the do-minimum scenario there are likely to be <b>significant positive effects</b> against the legal minimum through their implementation of NELMS and Catchment Sensitive Farming (CSF) (particularly through prioritisation of water within NELMS).</p> <p>Relative to the business as usual scenario, <b>positive effects</b> are projected compared to the extant RDP through the continuation of CSF and the prioritisation of water within NELMS.</p> <p>The effects predicted are in the main direct and long-term (there is a “time-lag” effect - the speed of groundwater flow can be so slow that it can take several decades to see an overall improvement in groundwater quality or in the quality of groundwater dominated streams or lakes). They are also likely to be reversible, although this is unlikely. There are likely to be <b>positive</b> cumulative effects through the inter-relationships with other SEA topics including Biodiversity, Woodlands, Population and human health and Soil Management.</p>
<p><b>What is the likely evolution without the draft Programme?</b></p>	
<p>Whilst water abstraction from agriculture accounts for a relatively small proportion of England’s total abstraction, it is nonetheless an important element. Levels of abstraction and agricultural activity are closely linked to climate change as all factors contribute to water scarcity. The availability of water for agriculture is likely to come into conflict with the availability of water for domestic use as the population and the number of households increases. This is likely to be exacerbated by any increase in the demand for food, particularly that grown in England. With or without the draft Programme, this is likely to lead to increasingly unsustainable demand for water (although changes to the abstraction regime could help mitigate this).</p> <p>Similarly, the demand for food and agricultural produce, combined with soil degradation may lead to increased application of fertilisers and a corresponding increase in pollution through run-off and a consequent reduction in water quality.</p>	
<p><b>Rural economy</b></p>	<p>Compared to the do-minimum scenario it is likely that there will be <b>significant positive effects</b> on the local economy through Growth and Productivity schemes, in addition to the influence of LEADER.</p>

Topic	Effects identified
	Relative to the business-as-usual scenario, the picture is <b>uncertain</b> and highly dependent on wider social and economic dynamics.
<p><b>What is the likely evolution without the draft Programme?</b></p>	
<p>It is likely that rural areas will continue to experience little change in productivity. Rural areas may continue their recent trend of decline in terms of the number of businesses (measured in terms of the number of businesses per 10,000 population) and it is unlikely that urban areas would pick up the slack. It is also likely that business start-ups will remain lower in rural than in urban areas, reflecting a more recent trend.</p>	
<p><b>Tourism and countryside access</b></p>	<p>Compared to the do-minimum scenario there are likely to be <b>significant positive effects</b> across the SEA questions in this topic, particularly in regard to education access.</p>
<p><b>Recommendation:</b> Extend the accessibility of access to under-represented groups.</p> <p>In order to address the lack of specific access options in NELMS it is recommended that NELMS be developed in a way that rewards those who offer new or upgraded access for no payment, particularly where that access enhances access for the six groups identified by Active England.</p>	<p>Relative to the business as usual scenario there is a significant degree of <b>uncertainty</b>. There is the added complication of the removal of access options from HLS from 2010 (so the baseline does not include these). Either way, there is an identified opportunity to increase access to those identified by Active England (and arguably to those covered by the nine protected characteristics set out in the Equality Act 2010.<sup>4</sup></p> <p>Trips to the countryside are not static but have increased year on year since 2010. It is likely that the proposed measures will further support rural tourism in the <b>long-term</b> relative to do minimum. Impacts relative to business as usual and for access are more uncertain. However the removal of permissive access agreements in HLS since 2010 in combination with no specific public access provision in the draft RDP might create long-term accessibility issues.</p>
<p><b>What is the likely evolution without the draft Programme?</b></p>	
<p>Trips to the countryside appear to be on an upwards trend. This could in part be due to the current economic climate and the rise of ‘staycation’ tourism or through advertising and other publicity in relation to the English countryside. Either way, it can reasonably be assumed that there will be an increase in demand for tourism in rural areas and therefore</p>	

<sup>4</sup> age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion or belief; sex; sexual orientation.

Topic	Effects identified
increased pressure on the natural environment.	
<p data-bbox="150 315 309 349"><b>Woodland</b></p> <p data-bbox="150 365 660 524"><b>Recommendation:</b> Further research into the non-RDP drivers required to meet the 12% woodland cover target.</p>	<p data-bbox="692 293 1422 622"><b>Assessment comments:</b> Comparing against the do-minimum scenario there are likely to be <b>significant positive effects</b> across all the SEA questions in this topic. It is still unlikely that the government would reach the 12% indicative target for woodland; however it has always been maintained that this could not be delivered through the RDP alone.</p> <p data-bbox="692 645 1414 929">Relative to the business as usual scenario, it is likely that there would be <b>positive effects</b> on woodland creation and management, however the magnitude is uncertain and the full benefits would only be realised in the <b>medium to long term</b>. Effects could be temporary e.g. woodlands can be clear felled in some circumstances.</p>
<p data-bbox="150 981 1034 1014"><b>What is the likely evolution without the draft Programme?</b></p> <p data-bbox="150 1055 1437 1346">In the absence of intervention through the draft Programme, rates of woodland creation and woodland management are unlikely to increase in line with the government’s aspirations. For example, new woodland planting has averaged 2,600 ha per year over the last few years and 2,600 in 2010/11<sup>17</sup> whereas the government estimates that an average planting rate of 5,000 hectares a year will be necessary to achieve 12% woodland cover by 2060.<sup>18</sup> With respect to woodland management, just over half of English woodlands are in active management (54%)<sup>19</sup> against a government ambition of 80%.<sup>20</sup></p>	
<p data-bbox="150 1395 507 1429"><b>Transboundary effects:</b></p> <p data-bbox="150 1469 1430 1630"><b>Air Quality</b> –The assessment concluded that for ammonia, it is likely that the draft programme will have a <b>positive effect</b> i.e. reductions in ammonia. Further, the other pollutants (PM and NO<sub>2</sub>) are considered to be locally relevant but not regionally or international relevant. We are not of the view that any trans-boundary effects would occur.</p> <p data-bbox="150 1671 1374 1832"><b>Biodiversity flora and fauna</b> –The provision of mid-tier support including addressing fragmentation and landscape scale interventions should provide a robust support for protected nature conservation sites. Whilst not significant, it could be supportive to the entire network.</p> <p data-bbox="150 1872 1437 1989">Climate change is a truly trans-boundary issue. The draft programme is estimated to result in 10.2 – 11 million tonnes of carbon savings and is considered to have a <b>positive trans-boundary effect</b> i.e. it is reducing carbon emitted.</p>	

## Conclusions and next steps

Overall, the draft Programme is likely to result in a range of **significant positive effects** against the do-minimum scenario. This is to be expected given that the do-minimum scenario sets a 'low' baseline. Even so, there is the potential for a small number of **negative effects** relating to air quality and landscape and cultural heritage.

The effects of the draft Programme when assessed against the business-as-usual scenario are not so clear. In this aspect of the assessment, the draft Programme is likely to have **minor positive effects** on the environment. There are again, two areas of potential **negative effects**: air quality and landscape. There are a range of unknown effects identified and there are a number of areas for further investigation or monitoring that have been suggested. Monitoring actions should also be undertaken to understand the links between actual spend and subsequent effects on the environment.

From 2015, the Basic Payment made to farmers under Pillar 1 will, for the first time, include an element (30%) conditional upon meeting three Greening requirements (Pillar 1 'Greening'). The environmental benefits of the Greening measures are expected to be **relatively low, but widespread**, and Greening will now provide the baseline in terms of anticipated environmental practice on farms. In the future, Defra's approach to the natural environment will be a combination of the compulsory Greening measures and a more targeted RDP, together with any voluntary measures which farmers may take to fill the space in between.

## Next steps

This document, the Environmental Report and the draft Programme will be subject to consultation for a period of four weeks. Subsequent to this, the draft Programme and the Environmental Report will be updated to take into account consultation comments. They will then be submitted to the European Commission for formal 'adoption' procedures.

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<sup>1</sup> European Commission (2001) Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment

<sup>2</sup> [https://consult.defra.gov.uk/communications/strategic-environmental-assessment/supporting\\_documents/RDP%20SEA%20Scoping%20Report.pdf](https://consult.defra.gov.uk/communications/strategic-environmental-assessment/supporting_documents/RDP%20SEA%20Scoping%20Report.pdf)

<sup>3</sup> Defra (2013) Biodiversity 2020: a strategy for England's wildlife and ecosystem services Indicators 2013 Available at:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/253546/England\\_full\\_FINAL.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/253546/England_full_FINAL.pdf). Accessed 23/02/2014

<sup>4</sup> DECC (2013) Valuation of energy use and greenhouse gas emissions for appraisal (Tables 4-8). Available at:

<https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal> Accessed 23/02/2014

<sup>5</sup> Quine, C. Cahalan, C., Hester, A., Humphrey, J., Kirby, K., Moffat, A. and Valatin, G. (2011). Woodlands In: The UK National Ecosystem Assessment Technical Report. UK National Ecosystem Assessment, UNEP-WCMC, Cambridge.

<sup>6</sup> Note that throughout the document budget figures are generally provided in nominal terms unless otherwise stated.

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- <sup>7</sup> Defra (2013) National Rural Proofing Guidelines July 2013. Available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/200093/rural-proofing-pamphlet.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/200093/rural-proofing-pamphlet.pdf) . Accessed 23/02/2014
- <sup>8</sup> See Ecosystems Knowledge Network (2013) *Applying the Approach* [online] available at: <http://ekn.defra.gov.uk/apply/> (accessed 23/08/2013)
- <sup>9</sup> Defra (2013) Impact Assessment for the Rural Development Programme for England, 2014 to 2020. Available at: [https://consult.defra.gov.uk/agricultural-policy/cap-consultation/supporting\\_documents/131022%20%20RDP%20Impact%20Assessment%20%20final.pdf](https://consult.defra.gov.uk/agricultural-policy/cap-consultation/supporting_documents/131022%20%20RDP%20Impact%20Assessment%20%20final.pdf) Accessed 23/02/2014
- <sup>10</sup> [https://consult.defra.gov.uk/agricultural-policy/cap-consultation/supporting\\_documents/131022%20%20RDP%20Impact%20Assessment%20%20final.pdf](https://consult.defra.gov.uk/agricultural-policy/cap-consultation/supporting_documents/131022%20%20RDP%20Impact%20Assessment%20%20final.pdf)
- <sup>11</sup> Defra (2011) Biodiversity 2020: A strategy for England's wildlife and ecosystem services. Available online: <https://www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services>. Accessed 27/02/2014
- <sup>12</sup> Defra (2013) Implementation of CAP Reform in England Consultation Document. Available online: <file:///C:/Users/alewhi1/Downloads/131022%20CAP%20reform%20consultation%20full%20doc%20-%20Final.pdf>. Accessed 27/02/2014
- <sup>13</sup> Annex V of the WFD
- <sup>14</sup> Based on maximum savings
- <sup>15</sup> Based on jobs created
- <sup>16</sup> Defra (2012) UK Climate Change Risk Assessment: Government Report [online] available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69487/pb13698-climate-risk-assessment.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69487/pb13698-climate-risk-assessment.pdf). Accessed 03/03/2014
- <sup>17</sup> Smith, S., Crabtree, R., Glynn, M., Quick, T., Quine, C and Rowcroft, P. (2012) Evidence on Woodland Economy, Woodland Creation and Woodland Management in England. Final Report to the Independent Panel on Forestry. URS, London.
- <sup>18</sup> Defra (2013) Government Forestry and Woodlands Policy Statement, Incorporating the Government's Response to the Independent Panel on Forestry's Final Report. Available online: [www.gov.uk/government/publications/government-forestry-policy-statement](http://www.gov.uk/government/publications/government-forestry-policy-statement). Accessed 20/2/2014.
- <sup>19</sup> Forestry Commission England (2013). Corporate Plan Performance Indicators: Headline Performance Update 31 December [online] available at: [http://www.forestry.gov.uk/pdf/FCE\\_HEADLINE\\_PERFORMANCE\\_INDICATORS\\_31DEC13.pdf/\\$FILE/FCE\\_HEADLINE\\_PERFORMANCE\\_INDICATORS\\_31DEC13.pdf](http://www.forestry.gov.uk/pdf/FCE_HEADLINE_PERFORMANCE_INDICATORS_31DEC13.pdf/$FILE/FCE_HEADLINE_PERFORMANCE_INDICATORS_31DEC13.pdf)
- <sup>20</sup> Defra (2013) Government Forestry and Woodlands Policy Statement, Incorporating the Government's Response to the Independent Panel on Forestry's Final Report. Available online: [www.gov.uk/government/publications/government-forestry-policy-statement](http://www.gov.uk/government/publications/government-forestry-policy-statement). Accessed 20/2/2014.