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Strategic Environmental Assessment of England's ERDF Operational Programme

Final Report
Prepared by LUC
July 2014



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Non-technical summary

Introduction and background

This is a non-technical summary of the Environmental Report prepared as part of the Strategic Environmental Assessment (SEA) of the England European Regional Development Fund (ERDF) Operational Programme 2014-2020. SEA is a statutory assessment process required under the European SEA Directive¹ and in England by the SEA Regulations² for plans and programmes which are likely to have significant effects (either positive or negative) on the environment. It is a systematic method of assessing the environmental effects of plans and programmes during their preparation, allowing for the mitigation of any negative effects before implementation.

SEA methodology

The ERDF Operational Programme is, by its nature, high-level, describing broad objectives, investment priorities and indicative actions rather than specific projects in specific locations. It is recognised that this is a feature of Operational Programmes in general and that the 2014-2020 programming period, in particular, imposes a limit on the level of detail that can be included. Nevertheless, the result is that it has been difficult to carry out detailed analysis of the effects of the ERDF Operational Programme through the SEA. Consistent with the lack of geographic specificity in the ERDF Operational Programme, the SEA does not provide an assessment at a sub-national geographical level. Instead, a high level, qualitative assessment has been carried out for England as a whole.

The bottom-up manner in which the ERDF Operational Programme was prepared has made the consideration of clear cut and easily described reasonable alternatives difficult. Those alternatives which have been identified by DCLG are high level approaches that were considered at an early stage in the development of the ERDF. They are not, therefore, worked up to the same level of detail that now appears in the ERDF Operational Programme and consequently it has not been possible to appraise those alternatives in the same detail as the final Operation Programme. Since the alternatives were considered before LUC was commissioned to begin the SEA process, this has reduced the likelihood that any changes to the preferred approach would be made in light of the retrospective assessment of them.

The ERDF Operational Programme was informed by the European Structural and Investment Funds (ESIFs) strategies developed by the 39 Local Enterprise Partnerships (LEPs). The Operational Programme will be implemented and managed in accordance with governance arrangements described in the SEA Report. In accordance with Article 5(2) of the SEA Directive, it was not considered appropriate to examine the likely effects at the local LEP level for what is a national Operational Programme. It is recommended that plans and strategies at the LEP level are subject to a second, more detailed, stage of SEA as appropriate. Similarly, The Operational Programme makes reference to improving the accessibility of Cornwall and the Isles of Scilly by enhancing integration with the TEN-T road and rail network. This has been assessed at a high level consistent with the Operational Programme as a whole, but it is recommended that this is subject to more detailed appraisal as part of the planning and consenting process.

Significant changes were introduced to the ERDF Operational Programme very late in the SEA process; this necessitated rapid assessment of these aspects of the Programme. DCLG intends to make further changes to the ERDF Operational Programme after completion of the SEA. It is understood that these will be minor in nature and therefore unlikely to give rise to significant environmental effects although LUC has not been able to confirm this.

The SEA process assesses the likely effects of the proposals for the ERDF Operational Programme.

¹ European Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment

² The Environmental Assessment of Plans and Programmes Regulations 2004, Statutory Instrument No 1633

The first stage of SEA is Scoping which sets out the proposed method and approach to the assessment in a scoping report and is informed by engagement with the statutory consultation authorities, Natural England, English Heritage and the Environment Agency. In December 2013, LUC issued an SEA Scoping Report to statutory consultees; relevant information from that report has been reproduced in the SEA Report and the results of the consultation on the Scoping Report have been taken into account in subsequent stages of the SEA.

The assessment process is based around a set of environmental topics and related criteria (the 'SEA Framework'). This provides the structure for identifying the likely effects on the environment of the proposals within the ERDF Operational Programme, both individually and collectively. The assessment has focused on the environmental effects of the ERDF Operational Programme's specific objectives and investment priorities, taking into account environmental protection policy objectives and current environmental conditions in England. The environmental effects of reasonable alternatives to the approach proposed by the ERDF Operational Programme were also assessed. In June 2014, LUC completed SEA of an emerging draft of the ERDF Operational Programme. The draft SEA Report was published for consultation July 2014 and the results of the results of the consultation on the SEA Report have been taken into account in the final SEA Report.

England's ERDF Operational Programme and screening assessment

European Structural and Investment Funds (ESIFs) are financial tools which implement the regional policy of the European Union. The objective is to reduce regional disparities in terms of income, wealth and opportunities. Europe's poorer regions receive most of the support, but all regions are eligible for funding under the policy's funds and programmes.

Each fund has a separate national programme document which sets out the priorities and activities that the fund will support over 'programming periods'. These documents are known as Operational Programmes and have to be agreed with the European Commission.

One of the ESIFs available to the UK is the ERDF and its Operational Programme for the period 2014-2020 contains eight policy objectives, known as Thematic Objectives as follows:

- Thematic objective 1: Strengthening research, technology development and innovation.
- Thematic objective 2: Enhancing access to and use and quality of ICT.
- Thematic objective 3: Enhancing the competitiveness of Small and Medium Size Enterprises.
- Thematic objective 4: Supporting the shift towards a low carbon economy in all sectors.
- Thematic objective 5: Promoting climate change adaptation, risk prevention and management.
- Thematic objective 6: Preserving and protecting the environment and promoting resource efficiency.
- Thematic objective 7: Promoting sustainable transport and removing bottlenecks in key network infrastructures.
- Thematic objective 9: Promoting social inclusion and combating poverty and any discrimination.

Thematic Objectives 1 (Innovation), 3 (Small and Medium Size Enterprises) and 4 (Low Carbon) are of primary importance and attract a higher share of available funding.

Environmental protection objectives and baseline information

A wide variety of international and national environmental protection objectives apply to England and these have been taken into account in establishing the environmental criteria against which the ERDF Operational Programme has been assessed.

Existing environmental conditions and problems have also been reviewed as these provide the baseline against which the effects of implementing the ERDF Operational Programme are assessed. Key aspects of the environmental baseline in England are described below.

Biodiversity, flora and fauna

Biodiversity is integral to the functioning of ecosystems. It underlines our 'ecosystem services', which include food, flood management, pollination and the provision of clean air and water. Biodiversity is therefore also relevant to other environmental topics including landscape, water, soil and climatic factors. England is rich in biodiversity with a network of protected areas. Although some aspects of biodiversity are in good condition there are a number of threats to biodiversity including habitat loss from growth of urban areas and other land use change, climate change, invasive species, and pollution.

Population

This environmental topic relates to demographics and generic socio-economic issues and is linked to a number of other environmental topics, in particular human health, material assets, biodiversity and climatic factors. For example, the inward investment and access to jobs can be influenced by the quality of the natural environment. Unemployment and low economic activity are an issue in some areas, notably inner city areas, former industrial areas and some coastal towns. Inequalities within individual regions are often greater than those between regions. The environmental economy is a significant contributor to England's economy and green infrastructure can encourage inward investment in urban environments

Human health

Life expectancy in England is higher than in other parts of the UK. Health issues include failure to meet recommended levels of physical activity, particularly in children (only 21% of boys and 16% of girls meet recommendations); approximately one third of people have high blood pressure, and more than 1 in 5 adults are obese. The incidence of inadequate levels of physical activity in children and of obesity is increasing. Inequalities in mortality rates between the least and most-deprived social classes are an issue. Access to nature and green space is a positive contributor to health and wellbeing by providing opportunities for relaxation, quiet enjoyment of nature, and outdoor exercise. Environmental topics linked to human health include population (e.g. employment rates), air (air quality), and climatic factors (flood risk and heat waves).

Soil

This environmental topic is concerned with soil and geology and in particular, agricultural land, important geological sites and the contamination of soils. Approximately 88% of land in England is used for agriculture and about 40% of this is the best and most versatile. Approximately 300,000 hectares of land in England and Wales may be contaminated and regeneration is an important aspect of sustainable soil management through bringing derelict or contaminated land back into productive use rather than developing greenfield sites, especially high quality agricultural land.

Water

This topic relates to water quality, water resources and flood risk. Good water quality, availability of water resources and flood management are important factors for economic development in England. Coastal and river water quality have improved over the past two decades but a large proportion of waters do not have 'good ecological status'. Particular issues for river water quality include high concentrations of nitrate and phosphate, particularly in central and eastern England. Whilst the total amount of fresh water taken from the environment has decreased in recent years, water resources are stressed in some parts of England, particularly the south and east. One in six properties in England is at risk of flooding from rivers or the sea. All issues relating to the water environment are likely to be exacerbated by climate change.

Air

This environmental topic is concerned with the levels of pollutants emitted into the air and the risks that resulting deterioration in air quality poses to the environment and and/or human health. The air topic is linked to other environmental topics, specifically population, human health, climate change and material assets. Energy, industry and transportation development can negatively affect air quality, particularly in urban areas. Air quality in England is generally good although 223 of England's local authorities, including 33 in London, have designated at least one 'Air Quality Management Area' where actions are needed to improve air quality. The major source of air pollution in these areas is transport with the remainder from industry.

Climatic factors

This topic is concerned with assessing the likely effects of the ERDF Operational Programme on greenhouse gas emissions and on England's ability to adapt to the unavoidable effects of climate change. There are links between this topic and biodiversity, air, water (including flood risk) and material assets. Climate change in England is projected to result in warmer wetter winters, hotter drier summers and more extreme weather events and all of these can impact on the natural environment, the economy and transport, and human health and wellbeing. Greenhouse gas emissions from energy generation, transportation and a wide range of other human activities contribute to climate change.

Material Assets

This environmental topic refers to minerals reserves and their extraction and the generation, processing, recycling and disposal of waste. Economic development drives demand for minerals extraction and leads to additional waste generation but can also help to develop ways to use resources more efficiently. Waste production in England has been declining since 2004, linked to policy targets to reduce the amount of waste sent to landfill, particularly biodegradable waste, and because of the economic slowdown. Recycling rates have increased although there are significant differences in these across England. Minerals production varies across England, reflecting the underlying geology and hence the aggregate resources within different areas. Minerals extraction tends to follow the performance of the national economy, and patterns of investment in major development projects. There is an increasing emphasis on the recovery of mineral wastes, including construction and demolition wastes, and this is likely to continue.

Cultural heritage

This topic includes historic landscapes, buildings, monuments, sites and places and their settings. Economic development may threaten heritage assets but can also provide opportunities to bring historic buildings back into appropriate use or to enhance the setting of heritage assets through good design and regeneration. Historic assets in England include many listed buildings, scheduled monuments, registered parks and gardens, historic battlefields, protected wreck sites, conservation areas, ancient woodlands and 18 World Heritage Sites. There were 5,700 sites in England on the Heritage at Risk Register in 2012.

Landscape

This topic includes natural, rural, urban and urban-rural fringe land as well as inland water and marine areas. Visually, all landscapes in England are different. In some areas, such as The Broads of East Anglia and the Meres and Mosses of Shropshire, wetlands remain prominent and give a unique character to both the landscape and wildlife of the area. Semi-natural woodland occurs prominently in the lowlands of England, giving texture and pattern to the countryside and providing interest in what are otherwise often intensively managed areas. These characteristic components of the English countryside are especially significant as very few similar landscapes occur outside Britain. A network of areas designated wholly or partially for their landscape value, notably National Parks and Areas of Outstanding Natural Beauty, helps to protect England's finest landscapes.

Likely significant effects

The ERDF Operational Programmes is strategic in nature, proposing broad objectives and investment priorities. The direct impacts of the ERDF Operational Programme will largely come from the specific businesses, communities, projects and activities which are ultimately supported, although not known at this time. It is therefore not possible to predict the exact location and nature of impacts. The SEA has, however, identified the likely types of broad environmental impacts which could arise from the ERDF Operational Programme.

Wherever physical development is required, environmental effects will be assessed and avoided, reduced or offset through the relevant project-specific assessment processes. Similarly, existing freshwater, marine consents and pollution control regulations provide appropriate safeguards for physical works in other contexts. National and local arrangements for the governance of the ERDF Operational Programme should help to ensure that the environmental objectives and priorities set out within the ERDF Operational Programme, including in the Sustainable

Development Cross-Cutting Principle, are reflected when individual projects are selected for support and during their implementation.

The capacity of the ERDF Operational Programme in isolation to have negative environmental effects is therefore relatively limited as it cannot be implemented without invoking appropriate project-level regulatory and policy frameworks. These mitigating factors help to explain why few significant negative environmental effects have been identified.

The following paragraphs provide a summary of those anticipated environmental effects of individual elements of the ERDF Operational Programme which are expected to be significant.

Thematic Objective TO1: Strengthening research, technological development and innovation

Significant negative effects are predicted on the SEA topic **Climatic Factors** in respect of helping to reduce greenhouse gas emissions since the potential investment in enterprise, hubs, manufacturing facilities etc. and more general economic growth supported by this Thematic Objective are likely to result in increased volumes of business-related travel and increased energy consumption in business premises.

Thematic Objective TO2: Enhancing access to, and use and quality of, ICT

No significant environmental effects identified.

Thematic Objective TO3: Enhancing the competitiveness of SMEs

Significant negative effect predicted on the SEA topic **Climatic Factors** in respect of helping to reduce greenhouse gas emissions. Increased growth of SMEs is likely to result in increased volumes of business-related travel and increased energy consumption in business premises, with the resulting likelihood of increased emissions of greenhouse gases from traffic and from energy generation.

Thematic Objective TO4: Supporting the shift towards a low carbon economy in all sectors

Significant positive effects are predicted on the SEA topic **Climatic Factors** in respect of promoting use of renewable energy sources for which strong support is provided.

Thematic Objective TO5: Promoting climate change adaptation, risk prevention and management

Significant positive effects are predicted on the SEA topic **Water** by support for a variety of actions aimed at reducing flood risk.

Significant positive effects are predicted on the SEA topic **Climatic Factors** in respect of support for adaptation of development to climate change, specifically measures that address increased flood risk expected under climate change.

Thematic Objective TO6: Preserving and protecting the environment and promoting resource efficiency

Significant positive effects are predicted on the SEA topic **Biodiversity, Flora and Fauna** in respect of measures to protect and enhance protected habitats and species and wider biodiversity by protecting and restoring biodiversity, investments in green and blue infrastructure, provision of ecosystem services, and habitat creation that enhances the connectivity and resilience for priority sites and species.

Significant positive effects are predicted on the SEA topic **Human Health** in respect of investments in blue and green infrastructure and their effects on health and quality of life.

Significant positive effects are predicted on the SEA topic **Soil** in respect of remediation of contaminated land by, for example, support for regeneration of sites through soil desealing and decontamination.

Significant positive effects are predicted on the SEA topic **Water** in respect of avoiding pollution to water by promoting innovative technologies to improve environmental protection in the waste and water sectors, investment in sustainable drainage to improve water quality, decontamination of industrial sites and support for green infrastructure.

Significant positive effects are predicted on the SEA topic **Material Assets** as support for uptake by business of innovative resource efficiency measures and business waste reduction and reuse should have positive effects on waste reduction and efficient use of mineral resources.

Thematic Objective TO7: Promoting sustainable transport and removing bottlenecks in key network infrastructures

Significant positive effects are predicted on the SEA topic **Population** in respect of improved access to jobs as investments in transport infrastructure serving employment sites that are currently poorly served by transport networks will improve access and help to support employment opportunities, particularly in more remote and less developed areas such as Cornwall and the Isles of Scilly, where high unemployment and low incomes are more likely to be an issue.

Significant positive effects are predicted on the SEA topic **Air** in respect of reduced emissions to air due to improved efficiency of existing journeys related to economic activity and support for shift to more sustainable modes. **Significant negative** effects are predicted due to the likelihood of an increased volume of travel associated with improvements to transport infrastructure and with indirect support for employment development that these improvements will facilitate.

A mix of **significant positive** and **significant negative** effects is predicted on the SEA topic **Climatic Factors** in respect of changes greenhouse gas emissions from energy generation and transport for the reasons described under the Air topic above.

Thematic Objective TO9: Promoting social inclusion, combating poverty and any discrimination

Significant positive effects are predicted on the SEA topic **Population** since investments under this Thematic Objective will target regeneration in geographic areas which are disadvantaged in terms of in terms of economic growth and employment, facilitating significant positive effects on these aspects.

Support for local and community based initiatives that focus on reducing greenhouse gas emissions and/or facilitate the transition to a low carbon society will have minor positive effects on the SEA topic **Climatic Factors**, in terms of decoupling growth from greenhouse gas emissions. However, infrastructure development supported by this Thematic Objective (e.g. business premises) is likely to result in increased volumes of business-related travel and increased energy consumption in business premises, with the resulting likelihood of increased emissions of greenhouse gases from traffic and from energy generation. The net effect is judged to be a **significant negative** one on reducing greenhouse gas emissions.

Priority Axis 10: Sustainable urban development

Significant negative effects are predicted on the SEA topic **Climatic Factors** in respect of helping to reduce greenhouse gas emissions since the economic growth and growth of SMEs supported by this Priority Axis is likely to result in increased volumes of business-related travel and increased energy consumption in business premises. Whilst measures to increase energy efficiency and implement low carbon technologies provide some mitigation by helping to uncouple greenhouse gas emissions from growth, the overall effect of the growth supported by the Priority Axis is likely to be an increase in total greenhouse gas emissions. **Significant positive** effects are predicted on the SEA topic in respect of promoting use of renewable energy sources for which strong support is provided.

Significant positive effects are predicted on **Biodiversity** in respect of protected habitats and species and wider biodiversity through support for protecting and restoring biodiversity, investments in green and blue infrastructure, provision of ecosystem services, and habitat creation that enhances the connectivity and resilience for priority sites and species.

Significant positive effects are predicted on the SEA topic **Human Health** in respect of improvements to human health and quality of life delivered by investments in blue and green infrastructure.

Significant positive effects are predicted on **Soil** in respect of remediation of contaminated land by, for example, support for regeneration of sites through soil desealing and decontamination.

Significant positive effects are predicted on the SEA topic **Water** in respect of avoiding pollution to water by investment in sustainable drainage to improve water quality, decontamination of industrial sites and support for green infrastructure.

Significant positive effects are predicted on the SEA topic **Material Assets** as support for uptake by business of innovative resource efficiency measures and business waste reduction and reuse should have positive effects on waste reduction and efficient use of mineral resources.

Significant positive effects are predicted on the SEA topic **Population** as investments under this Priority Axis will target regeneration in disadvantaged urban areas with positive effects on social deprivation, access to jobs in areas of high unemployment, improving per capita incomes and providing equality of opportunity.

Conclusions on environmental effects of the ERDF Operational Programme as a whole

In addition to the effects of individual Thematic Objectives / Priority Axes described above, cumulative effects also arise through the action of multiple elements of the ERDF Operational Programme on a single environmental topic. These effects are, in some cases, further mitigated or enhanced by the requirements that the ERDF Operational Programme's 'Horizontal Principles' or 'cross-cutting themes' of Sustainable Development and Equal Opportunities and Non-Discrimination place on projects that may come forward to deliver the Thematic Objectives. All of these factors have been considered to provide the following conclusions on the environmental effects of the Operational Programme as a whole.

Many of the activities in the ERDF Operational Programme are unlikely to have direct effects on the environment, given that they deal with matters such as information technology, research and innovation, training and up-skilling of the workforce. However, as can be seen from the conclusions for each SEA topic above, the ERDF Operational Programme has the potential for some, mainly indirect, negative effects on the environment, largely related to its support for economic growth and the additional built development and transport movements that are likely to result from this. At the same time, its objectives and investment priorities support a variety of actions that should help to decouple greenhouse gas emissions and resource use from growth and mitigate other environmental impacts associated with economic activity.

Many of the identified environmental effects are subject to considerable uncertainty at this stage due to the high level nature of the Operational Programme and lack of information available about the specific projects to be supported or their locations.

Many of the potential negative environmental effects are judged to be minor in scale because of the safeguards that should operate when individual projects are proposed. These safeguards are assumed to be operated by those bodies responsible for governing the ERDF Operational Programme and for selecting projects for funding, in line with the requirements of the Programme's Horizontal Principles of Sustainable Development and Equal Opportunities and Non-Discrimination. In addition, where physical development is supported, environmental effects should be assessed and avoided, reduced or offset through England's applicable project-specific assessment, consenting and regulatory processes.

Suggestions for further mitigation and enhancement

The SEA of the ERDF Operational Programme identified a number of opportunities for mitigation of negative environmental effects or enhancement of positive environmental effects and these are set out in the main SEA Report.

Assessment of alternatives

DCLG has identified four areas in which reasonable alternatives were considered when developing the ERDF Operational Programme. The alternatives considered are high level approaches considered early on in the development of the ERDF Operational Programme rather than detailed alternative objectives or investment priorities. As such, it was only possible to provide a high level commentary on the likely sustainability effects of each alternative approach relative to the chosen approach.

- Geographic scale of (Alternative 1) Operational Programme design and (Alternative 2) Operational Programme financing allocations: The chosen alternative was a single, national scale ERDF Operational Programme for England allocating investment to Local Economic Partnership areas. This is likely to result in a larger number of smaller projects relative to regional, pan-regional or national model; the environmental effects of this aspect of the

alternative are judged to be **negligible**. It is judged **uncertain** whether a local approach will actually deliver more appropriate and effective outcomes than a more centralised one.

- (Alternative 3) Timing of planning period for project development: The chosen alternative was to start planning in advance of programme adoption, earlier than in previous programme periods. The chosen approach is judged to have **minor positive** effects across a range of SEA topics, relative to the alternative considered.
- (Alternative 4) Split of ERDF financial resources between Thematic Objectives: The chosen alternative was for a strong focus on three Thematic Objectives: TO1 Strengthening research, technological development & innovation; TO3 Enhancing the competitiveness of Small and Medium Size Enterprises (SMEs); and TO4 Supporting the shift towards a low carbon economy. This will enhance the effects described for these Thematic Objectives (as summarised above and detailed in the main SEA Report) whilst lessening the relative influence of those associated with the remaining objectives.

Monitoring

Initial suggestions for monitoring the identified significant environmental effects are also provided.

Next steps

The SEA Report will accompany the version of the ERDF Operational Programme submitted to the European Commission; this is expected to occur during the week commencing 14 July 2014.

1 Introduction and background

Context for the study

- 1.1 The Department for Communities and Local Government (DCLG) has commissioned Regeneris Consulting to carry out an ex-ante evaluation of the England European Regional Development Fund (ERDF) Operational Programme 2014-2020. The purpose of the ex-ante evaluation is to test and improve the quality of the design of the Operational Programme. This is a requirement of the European Commission's 2014-2020 Common Provision Regulation and it should:
- Independently appraise and advise on each element of the Operational Programme from the early stages of development to the final report as set out in the European Commission ex-ante evaluation guidance.
 - Appraise the rationale for the intervention so that the programme is focussed on those activities that are likely to have the greatest impact on the desired objective – supporting sustainable economic growth and reducing spatial disparities in economic performance.
 - Appraise and advise on the strategy for ongoing monitoring and evaluation of the impact of the programme, including data needs and establishing baselines.
- 1.2 The ex-ante evaluation consists of eight work streams:
- Work stream 1: Appraisal of the socio-economic analysis.
 - Work stream 2: Assessment of the Programme strategy and priorities.
 - Work stream 3: Contribution to the Europe 2020 Strategy.
 - Work stream 4: Evaluation of financial instruments.
 - Work stream 5: Consistency of financial allocations.
 - Work stream 6: Indicators, monitoring and evaluation.
 - Work stream 7: Strategic Environmental Assessment.
 - Work stream 8: Equality Assessment.
- 1.3 In November 2013, LUC was commissioned by Regeneris to undertake work stream 7: the Strategic Environmental Assessment (SEA) component of the ex-ante evaluation.

SEA

- 1.4 SEA is a statutory assessment process required under the SEA Regulations³ which provide the legislative mechanism for transposing into UK law European Directive 2001/42/European Commission 'on the assessment of the effects of certain plans and programmes on the environment' (the SEA Directive). The SEA Directive and Regulations require SEA of plans and programmes which are likely to have significant effects (either positive or negative) on the environment. The European Commission has published guidance on the use of SEA in the preparation of cohesion policy programmes for 2014-2020, such as the England ERDF Operational Programme⁴, to which LUC has had regard.
- 1.5 SEA should be undertaken iteratively, as the plan or programme is progressed, and involves evaluating the likely significant environmental effects of implementing the plan or programme and

³ The Environmental Assessment of Plans and Programmes Regulations 2004, Statutory Instrument No 1633

⁴ European Commission DG Regional and Urban Policy and DG Employment, Social Affairs and Inclusion (January 2013) *The Programming Period 2014-2020 Monitoring and Evaluation of European Cohesion Policy. Guidance document on ex-ante evaluation.*

of reasonable alternatives to the plan or programme. The aim is that environmental considerations can be integrated into the production of the plan or programme to improve its environmental performance.

- 1.6 The SEA process is described in **Chapter 2**.
- 1.7 In December 2013, LUC completed the first stage of that process, Scoping, and issued an SEA Scoping Report to statutory consultees. Relevant information from the SEA Scoping Report has been reproduced in this SEA Report and the results of the consultation on the Scoping Report have been taken into account, as described in **Appendix 1** and **Chapter 2**.
- 1.8 In June 2014, LUC completed SEA of an emerging draft of the ERDF Operational Programme (version 9.0 dated 2 June 2014). The SEA Report was published for consultation during the period 24 June-9 July 2014 and the results of the consultation on the SEA Report have been taken into account, as described in **Appendix 1** and **Chapter 2**.
- 1.9 This SEA Report describes the findings of the SEA of version 10.0 of the ERDF Operational Programme dated 11 July 2014.

Meeting the requirements of the SEA Directive

- 1.10 This SEA Report meets the required elements of the 'Environmental Report' (the output required by the SEA Directive), which needs to be available alongside formal consultations on the ERDF Operational Programme. **Table 1.1** signposts the relevant sections of the SEA Report that are considered to meet the SEA Directive requirements.

Table 1.1 Meeting the Requirements of the SEA Directive

SEA Directive Requirements	Covered in this Report?
Preparation of an environmental report in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and geographical scope of the plan or programme, are identified, described and evaluated. The information to be given is (Art. 5 and Annex I):	
a) An outline of the contents, main objectives of the plan or programme, and relationship with other relevant plans and programmes;	Chapter 3.
b) The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme;	Chapter 4.
c) The environmental characteristics of areas likely to be significantly affected;	Chapter 4.
d) Any existing environmental problems which are relevant to the plan or programme 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.;	Chapter 4.
e) The environmental protection, objectives, established at international, community or national level, which are relevant to the plan or programme and the way those objectives and any environmental, considerations have been taken into account during its preparation;	Chapter 4.
f) The likely significant effects on the environment, including 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 and the interrelationship between the above factors. (Footnote: These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects);	Chapter 5 and Appendix 2.
g) The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme;	Chapter 5.

SEA Directive Requirements	Covered in this Report?
h) An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information;	Chapters 2 and 6.
i) A description of measures envisaged concerning monitoring in accordance with Art. 10;	Chapter 7.
j) a non-technical summary of the information provided under the above headings	A non-technical summary is provided at the beginning of this SEA Report.
The report shall include the information that may reasonably be required taking into account current knowledge and methods of assessment, the contents and level of detail in the plan or programme, its stage in the decision-making process and the extent to which certain matters are more appropriately assessed at different levels in that process to avoid duplication of the assessment (Art. 5.2)	Addressed throughout this SEA Report.
Consultation:	Chapter 2 and Appendix 1.
<ul style="list-style-type: none"> authorities with environmental responsibility, when deciding on the scope and level of detail of the information which must be included in the environmental report (Art. 5.4) 	
<ul style="list-style-type: none"> authorities with environmental responsibility and the public, shall be given an early and effective opportunity within appropriate time frames to express their opinion on the draft plan or programme and the accompanying environmental report before the adoption of the plan or programme (Art. 6.1, 6.2) 	Consultation arrangements on the ERDF Operational Programme and SEA Report are described in Chapter 2.
<ul style="list-style-type: none"> Other EU Member States, where the implementation of the plan or programme is likely to have significant effects on the environment of that country (Art. 7). 	Not relevant as there will be no effects beyond the UK from England's ERDF Operational Programme.
Taking the environmental report and the results of the consultations into account in decision-making (Art. 8)	
<p>Provision of information on the decision:</p> <p>When the plan or programme is adopted, the public and any countries consulted under Art.7 must be informed and the following made available to those so informed:</p> <ul style="list-style-type: none"> the plan or programme as adopted a statement summarising how environmental considerations have been integrated into the plan or programme and how the environmental report of Article 5, the opinions expressed pursuant to Article 6 and the results of consultations entered into pursuant to Art. 7 have been taken into account in accordance with Art. 8, and the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with; and the measures decided concerning monitoring (Art. 9) 	To be addressed in full after the ERDF Operational Programme is adopted. Initial information provided in Chapters 2, 4 and 7 and Appendix 1.
<p>Monitoring: of the significant environmental effects of the plan's or programme's implementation (Art. 10).</p>	To be addressed in full after the ERDF Operational Programme is adopted. Initial information provided in Chapter 7.
<p>Quality assurance: environmental reports should be of a sufficient standard to meet the requirements of the SEA Directive (Art. 12).</p>	Addressed throughout this SEA Report.

Aim and structure of the report

- 1.11 This report is the SEA Report (or 'Environmental Report') for the ERDF Operational Programme. Its principal aim is to identify, describe and evaluate the likely significant environmental effects on the environment of the ERDF Operational Programme and its reasonable alternatives.
- 1.12 This chapter provides an introduction to the SEA of the ERDF Operational Programme. The remainder of this report is structured as follows:
- **Chapter 2 – SEA methodology**, describes the stages of the SEA process (including consultation), the approach used for the specific SEA tasks (including the sustainability framework used in the appraisal), and any difficulties encountered.
 - **Chapter 3 - England's ERDF Operational Programme and screening assessment**, summarises the document's main themes and objectives and its relationship with other relevant plans and programmes.
 - **Chapter 4 – Environmental protection objectives and baseline information** describes the environmental protection objectives set at international and national levels which are of relevance to the ERDF Operational Programme and how they have been taken into account in its preparation. It also describes relevant aspects of the current state of the environment, and environmental problems (including their likely future evolution without the programme) which are relevant to the ERDF Operational Programme in England.
 - **Chapter 5 – Likely significant effects**, summarises the findings of the SEA regarding the likely significant effects on the environment of the ERDF Operational Programme. It also identifies opportunities in relation to each SEA topic to mitigate the negative environmental effects of the ERDF Operational Programme or to enhance its benefits.
 - **Chapter 6 – Assessment of alternatives**, describes reasonable alternative approaches and proposals considered during development of the ERDF Operational Programme, the likely significant effects of those alternatives and the reasons for selecting the chosen alternatives.
 - **Chapter 7 – Monitoring**, makes recommendations regarding the approach to monitoring the significant environmental effects of implementing the ERDF Operational Programme.
 - **Chapter 8 – Next steps**, summarises the arrangements for consultation on the ERDF Operational Programme and this SEA Report, as well as the programme for adoption of the ERDF Operational Programme and completion of the SEA process.
 - **Appendix 1 – SEA scoping consultation**, describes how the views of authorities with environmental responsibility have been taken into account when deciding on the scope and level of detail of the SEA Report.
 - **Appendix 2 – Assessment matrices**, provides a table for each relevant component of the ERDF Operational Programme, evaluating and describing its likely effects on each SEA topic and any suggestions for mitigation or enhancement of the effects identified.

2 SEA methodology

Introduction and difficulties encountered

- 2.1 The ERDF Operational Programme is, by its nature, high-level, describing broad objectives, investment priorities and indicative actions rather than specific projects in specific locations. As a result, it has been difficult to carry out detailed analysis of the effects of the ERDF Operational Programme through the SEA.
- 2.2 Although the Programme indicates how funds are likely to be split between Local Enterprise Partnership (LEP) areas it does not provide distinct proposals in respect of these areas. The SEA Directive makes clear that the information to be included in an Environmental report should take into account:

"...the contents and level of detail in the plan or programme, its stage in the decision-making process and the extent to which certain matters are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment".⁵
- 2.3 Consistent with the lack of geographic specificity in the ERDF Operational Programme, the SEA does not therefore provide an assessment at a sub-national geographical level.
- 2.4 A high level, qualitative assessment has therefore been carried out for England as a whole with judgements made on the basis of the Thematic Objectives and investment priorities proposed and the indicative actions to be supported by the ERDF Operational Programme, and taking into account the policy context and the baseline environmental information. This has helped to identify where the ERDF Operational Programme is likely to have positive and negative effects on the environment, and the significance of those effects.
- 2.5 The bottom-up manner in which the ERDF Operational Programme was prepared has made the consideration of clear cut and easily described reasonable alternatives difficult. Those alternatives which have been identified by DCLG are high level approaches that were considered at an early stage in the development of the ERDF. They are not, therefore, worked up to the same level of detail that now appears in the ERDF Operational Programme and consequently it has not been possible to appraise those alternatives in the same detail as the final Operation Programme. Since the alternatives were considered before LUC was commissioned to begin the SEA process, this has reduced the likelihood that any changes to the preferred approach would be made in light of the retrospective assessment of them.
- 2.6 The ERDF Operational Programme was informed by the European Structural and Investment Funds (ESIFs) strategies developed by the 39 LEPs. The Operational Programme will be implemented and managed in accordance with governance arrangements described in **Chapter 5** of this SEA Report. In accordance with Article 5(2) of the SEA Directive, it was not considered appropriate to examine the likely effects at the local LEP level for what is a national Operational Programme. It is recommended that plans and strategies at the LEP level are subject to a second, more detailed, stage of SEA as appropriate. Similarly, The Operational Programme makes reference to improving the accessibility of Cornwall and the Isles of Scilly by enhancing integration with the TEN-T road and rail network. This has been assessed at a high level consistent with the Operational Programme as a whole, but it is recommended that this is subject to more detailed appraisal as part of the planning and consenting process.
- 2.7 Significant changes were introduced to the ERDF Operational Programme very late in the SEA process; this necessitated rapid assessment of these aspects of the Programme, in particular Priority Axis 10: Sustainable Urban Development. DCLG intends to make further changes to the ERDF Operational Programme after completion of the SEA. It is understood that these will be

⁵ Article 5(2) Environmental Report, Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment.

minor in nature and therefore unlikely to give rise to significant environmental effects although LUC has not been able to confirm this.

Assumptions

- 2.8 Assumptions made in assessing the environmental effects of the ERDF Operational Programme are set out in **Chapter 5**.

Main stages in SEA

- 3.1 The SEA process comprises a number of stages as follows:
- Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope.
 - Stage B: Developing and refining options for the ERDF Operational Programme and assessing effects.
 - Stage C: SEA of the ERDF Operational Programme and Preparing the SEA Report.
 - Stage D: Consulting on the ERDF Operational Programme and SEA Report.
 - Stage E: Monitoring the significant effects of implementing the ERDF Operational Programme.

Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope

- 2.9 An SEA Scoping Report was prepared by LUC in 2013 on behalf of Regeneris Consulting for DCLG, drawing heavily upon the useful summaries provided in the SEA Reports prepared by AMEC Environment & Infrastructure UK Limited on behalf of DCLG on revocation of Regional Spatial Strategies.
- 2.10 The Scoping stage of the SEA involved compiling and understanding the environmental baseline for England (the programme area) as well as the environmental policy context and key environmental issues. Specific tasks carried out and outputs produced were as follows:
- In line with SEA Directive requirements, baseline information was collected on the following 'SEA topics': biodiversity, flora and fauna; population and human health; soil; water; air; climatic factors; material assets; cultural heritage and landscape. This baseline information provides the basis for predicting and monitoring the likely effects of the programme and helps to identify alternative ways of dealing with any negative effects identified.
 - Other plans and programmes of relevance to the ERDF Operational Programme were reviewed. This information provides the basis for identifying environmental protection objectives of relevance to the SEA of the ERDF Operational Programme and also for identifying policy initiatives which will influence the future evolution of baseline environmental conditions in the absence of the ERDF Operational Programme.
 - The baseline information and review of other plans and programmes were used to inform judgements on the main key environmental problems present in the Programme area (England), their likely evolution without the ERDF Operational Programme, and the criteria against which effects on each SEA topic will be assessed (the 'SEA Framework').
- 2.11 The review of other plans and programmes and baseline information have been updated as necessary during the stages of the SEA process and the most up to date versions are now included in **Chapter 4** of this SEA Report.

The SEA Framework

- 2.12 The production of an 'SEA Framework' is a recognised 'tool' in SEA which is used to help determine the likely significant effects of a plan or programme, and its reasonable alternatives, on each of the SEA topics. In the light of the low level of detail and specificity associated with Operational Programmes, including the ERDF Operational Programme, and the qualitative nature of the SEA, it is considered appropriate to use a simple SEA Framework, comprising a series of question-based criteria linked to each SEA topic as shown in **Table 2.1**.

Table 2.1 The SEA Framework

SEA Topic	Criteria for determining effects
Biodiversity, flora and fauna	Will it avoid adverse effects on protected habitats and species?
	Will it enhance broader biodiversity, restore and/or create habitats and ecological networks?
Population (to draw on other work streams of the ex-ante evaluation)	Will it improve the skills base of communities exhibiting the greatest social deprivation?
	Will it increase access to jobs in areas of high unemployment?
	Will it improve local per capita incomes in areas of low incomes?
	Will it ensure the achievement of equal opportunities for all sectors of the community?
Human health	Will it enhance human health and quality of life?
	Will it improve the health and environments of communities exhibiting greatest health deprivation?
Soil	Will it avoid adverse effects on best and most versatile land?
	Will it ensure the efficient use of previously developed land and the remediation of contaminated land?
Water	Will it avoid pollution to water?
	Will it reduce water consumption?
	Will it reduce flood risk?
	Will it help to meet the objectives of the Water Framework Directive and River Basin Management Plans (including meeting good ecological status and ensuring no deterioration in status)?
Air	Will it avoid increasing emissions to air?
	Will it improve air quality in AQMAs?
Climatic factors	Will it help to reduce greenhouse gas emissions?
	Will it promote the use of renewable energy sources?
	Will it support appropriate adaptation of future development to climate change?
	Will it avoid development that could hamper the adaptation of the environment to climate change (for example development that reduces flood storage or reduces the resilience of biological networks)?
Material assets	Will it encourage use of resources in accordance with the waste hierarchy?
	Will it promote the efficient use of mineral resources?

SEA Topic	Criteria for determining effects
Cultural heritage	Will it conserve and enhance the historic environment, heritage assets and their settings?
	Will it provide opportunities for heritage-led regeneration?
Landscape	Will it avoid adverse impacts on protected landscapes?
	Will it strengthen landscape character and distinctiveness?
	Will it lead to a reduction in noise and light pollution?

- 2.13 The questions were phrased in such a way that the answer 'yes' indicates a positive effect on the SEA topic and the answer 'no' indicates a negative effect. The symbols used in the SEA to record the effects of the ERDF Operational Programme against the SEA criteria are presented in **Table 2.2**.

Consultation on the SEA Scoping Report

- 2.14 Public and stakeholder participation is an important element of SEA. It helps to ensure that each stage of the SEA process is robust and that due regard is given to all appropriate information that will enhance the ERDF Operational Programme's environmental performance. The SEA Scoping Report was made available to the statutory environmental bodies (Environment Agency, Natural England and English Heritage) in December 2013 for a five week consultation period. Consultee responses and information on how they have been taken into account are summarised in **Appendix 1** of this report. Where responses suggested additions or amendments to the Scoping Report these have been made in the corresponding content of this SEA Report.

Stage B: Developing and refining options for the ERDF Operational Programme and assessing effects

- 2.15 DCLG considered a number of reasonable alternative approaches when developing the ERDF Operational Programme. These alternatives, DCLG's reasons for selecting the chosen alternatives and the likely significant sustainability effects of the alternatives are set out in **Chapter 6**.

Stage C: SEA of the Operational Programme and preparing the SEA Report

Screening of the ERDF Operational Programme

- 2.16 This stage of the SEA comprised screening of the various components of the ERDF Operational Programme to identify those aspects of the document capable of producing significant environmental effects and therefore requiring detailed assessment. The structure and subject matter of the ERDF Operational Programme are described in **Chapter 3** alongside the results of this screening assessment.

Assessment of environmental effects

- 2.17 Each screened-in proposal in the ERDF Operational Programme was assessed against each SEA topic and a judgement made on the likely environmental effect. The assessed effects were recorded using the symbols shown in **Table 2.2**, along with a brief justification of the judgement made. The detailed results of the assessment are set out in **Appendix 2** and summarised in **Chapter 5**. Chapter 5 also includes an assessment of the potential cumulative impacts of all of the proposals within the ERDF Operational Programme by looking across all the SEA topics. The

review of other plans and programmes in **Chapter 4** includes, for each SEA topic, a description of the likely evolution of the environment without the ERDF Operational Programme; this helps to identify the effects of other plans and programmes which the ERDF Operational Programme may act in combination with. The assessment of reasonable alternatives to the ERDF Operational Programme considered by DCLG is set out in **Chapter 6**.

Defining significance

- 2.18 In this SEA, a 'significant' effect is defined as one which is likely to be marked and noticeable, compared to the other influences that are affecting the SEA topic. Where an activity in the ERDF Operational Programme is likely to have an effect that will result in a marked difference occurring with respect to the baseline situation, then this is described as a 'significant positive' or 'significant negative' effect. If an activity could have an effect but it is unlikely that this effect will a marked difference to the baseline situation relative to other factors then the effect is described as 'minor'. Effects of activities which are unlikely to be noticeable, for example because the activity is not relevant to the SEA topic, are described as 'negligible'. If an activity is likely to have a mixture of 'minor' or 'negligible' and 'significant positive' or 'significant negative' effects then all of the relevant symbols are recorded and the effect is described as 'Mixed effect likely'. Where it is unclear what effect an activity in the ERDF Operational Programme could have, the effect is described as 'Likely effect uncertain'. This scoring scheme is summarised in **Table 2.2**.

Table 2.2 Key to symbols used in the SEA

SEA scoring symbol	Meaning
++	Significant positive effect likely
+	Minor positive effect likely
0	Negligible effect likely
-	Minor negative effect likely
--	Significant negative effect likely
+/- (or other combination of relevant scoring symbols)	Mixed effect likely
?	Likely effect uncertain

The SEA Report

- 2.19 The SEA Report (this report) describes the process undertaken to date in carrying out the SEA of the ERDF Operational Programme. It sets out the findings of the appraisal, highlighting any likely significant effects (both positive and negative, and taking into account likely secondary, cumulative, synergistic, short, medium and long-term and permanent and temporary effects), making recommendations for improvements and clarifications that may help to mitigate negative effects and maximise the benefits of the Programme, and outlining proposed monitoring measures.

Stage D: Consulting on the ERDF Operational Programme and SEA Report

- 2.20 DCLG put into place a coordinated and planned consultation plan to support the development of the ERDF Operational Programme. The approach ensured that at all stages of Operational Programme design and development, an inclusive and transparent approach was adopted and implemented, allowing national and local area partners the opportunity to inform, influence and help mould the document as it took shape.

- 2.21 This process commenced in April 2012 with the publication of an informal Government consultation on design principles for the England ERDF Operational Programme alongside the other ESIFs in England. Following this, a series of cross-Government meetings took place to consider ESIF programme options and agree a final model. This was then tested through a series of road shows in local areas in each region. These provided the opportunity for local partners and Government officials to talk through and discuss the proposal for a Local Enterprise Partnership (LEP) area based England ESIF Growth Programme and outline content of the Operational Programme. Discussions and informal meetings continued throughout 2013 as the model was further tested and agreed with the European Commission.
- 2.22 In April and July 2013 Government issued, respectively, outline and then supplementary guidance to LEPs on the commissioning of LEP area ESIF strategies. LEPs consulted extensively in each LEP area as these plans were developed in draft and final form in, respectively, October 2013 and January 2014. Partners from the business, education, voluntary and environmental sectors were engaged in a wide variety of LEP area meetings, workshops and via published and online media. This process formed a vital part of the development of 39 ESIF strategies which in turn have been used by DCLG as key local evidence which, alongside national data and analysis, has informed the UK Partnership Agreement England Chapter and ERDF Operational Programme.
- 2.23 The official consultation on the ERDF Operational Programme was launched on Thursday 1 May 2014. The consultation documents were made available for online viewing on GOV.UK together with a series of questions to guide partner responses. The consultation ran for a four-week period, closing on Wednesday 28 May. To support the consultation, two partner events were held in London at the end of March 2014 where the detailed discussions on key themes and areas contained within the Operational Programme got underway.
- 2.24 As described under Stage A of the SEA methodology, a SEA Scoping Report was made available to the statutory environmental bodies in December 2013 for a five week consultation period and the responses taken into account in preparation of this SEA Report. The comments received and LUC's responses to them are documented in **Appendix 1**.
- 2.25 The feedback provided at the March 2014 partner events, the responses received through the May 2014 consultation on the ERDF Operational Programme consultation document, and the findings of this SEA of the draft ERDF Operational Programme are being used by DCLG to inform the development of the version of the ERDF Operational Programme due to be submitted to the European Commission in July 2014.
- 2.26 In June 2014, LUC completed SEA of an emerging draft of the ERDF Operational Programme (version 9.0 dated 2 June 2014). The SEA Report was published for consultation during the period 24 June to 9 July 2014. The comments received and LUC's responses to them are documented in **Appendix 1**. The comments received on the draft SEA Report and significant changes made to the draft ERDF Operational Programme between version 9.0 (2 June 2014) and version 10.0 (11 July 2014) have been addressed in this revised SEA Report to accompany the version of the ERDF Operational Programme due to be submitted to the European Commission during the week commencing 14 July 2014.

Stage E: Monitoring the significant effects of implementing the ERDF Operational Programme

- 2.27 It is a requirement of the SEA Directive and Regulations that significant effects identified in the SEA, whether positive or negative, are monitored. This is to determine whether implementation of the programme and any mitigation measures are resulting in the effects that were identified at the time of the SEA, allowing remedial action to be taken if required.
- 2.28 This SEA Report makes initial recommendations on monitoring the identified effects of the ERDF Operational Programme in **Chapter 7**. The SEA Adoption Statement to be produced once the ERDF Operational Programme is adopted will include a monitoring framework, comprising suitable indicators to measure the significant environmental effects of the ERDF Operational Programme's implementation. This will be undertaken in liaison with Work Stream 6 of the ex-ante evaluation (Monitoring and Evaluation).

- 2.29 The SEA Adoption Statement will also include information on how opinions expressed during consultation on the draft ERDF Operational Programme and on the SEA were taken into account.

Adoption of the ERDF Operational Programme

- 2.30 Upon adoption of the ERDF Operational Programme, an SEA Adoption Statement will be prepared, which will describe:
- How environmental considerations were integrated into the ERDF Operational Programme.
 - How the SEA Report was taken into account in the preparation of the ERDF Operational Programme.
 - How opinions expressed during consultation on the draft ERDF Operational Programme and accompanying SEA Report were taken into account.
 - The reasons for choosing the ERDF Operational Programme as adopted, in the light of the other reasonable alternatives.
 - The measures that will be taken to monitor the significant environmental effects of implementation of the ERDF Operational Programme.

Habitats Regulations Assessment

- 2.31 Under Regulation 61 of the Habitats Regulations⁶ the competent authority (in this case the Government), is required to carry out an Appropriate Assessment of the implications for a European site⁷ before deciding to undertake, or give any consent, permission or other authorisation, for a plan or project which is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and is not directly connected with, or necessary to, the management of that site.
- 2.32 The need for an assessment under the Habitats Regulations was considered at the SEA Scoping stage. It was concluded that the Habitats Regulations do not apply to the ERDF Operational Programme because:
- It is neither a plan or project, but a programme.
 - The high level nature of the activities likely to be included in the Operational Programme will mean that it will not be appropriate or practicable to identify a pathway by which the Operational Programme could affect the integrity of a European site.
- 2.33 All specific plans and projects put forward for funding under the ERDF Operational Programme will be required to undergo Habitats Regulations Assessment by the relevant competent authority insofar as it is relevant to do so, prior to the plan or project receiving consent, permission or authorisation.
- 2.34 In its representations on the SEA Scoping Report⁸, Natural England endorsed this approach and the advice given in the Scoping Report to those implementing the projects that will derive from the ERDF Operational Programme.

⁶ The Conservation of Habitats and Species Regulations 2010 (SI 2010 No. 490)

⁷ A European site is a site designated under the Habitats Directive (Council Directive 92/43/EEC) or the Birds Directive (Directive 2009/147/EC) because of its international importance for nature conservation

⁸ Email correspondence from Natural England to LUC dated 6 February 2014

3 England's ERDF Operational Programme and screening assessment

Introduction

- 3.1 The ESIFs are financial tools which implement the regional policy of the European Union. The objective is to reduce regional disparities in terms of income, wealth and opportunities. Europe's poorer regions receive most of the support, but all regions are eligible for funding under the policy's funds and programmes.
- 3.2 ESIFs available to the UK comprise the following funds:
- The European Regional Development Fund (ERDF).
 - The European Social Fund (ESF).
 - The European Agricultural Fund for Rural Development (EAFRD).
 - The European Maritime and Fisheries Fund (EMFF - currently called the European Fisheries Fund for the 2007-2013 programme periods).
- 3.3 Each fund has a separate national programme document which sets out the priorities and activities that the fund will support over 'programming periods'. These documents are known as Operational Programmes and have to be agreed with the European Commission.

The ESIF Growth Programme

- 3.4 In October 2011, the European Commission announced their proposals for the 2014–2020 ESIFs. The proposals contain a number of new concepts; for example 11 Thematic Objectives which all ESIFs must choose from and focus on. At present, the European Regulations are aligning the four funds under a 'Common Strategic Framework' for the next period, being 2014-2020. In line with this, the Government announced in March 2013 that in the next programme period it would combine the European Regional Development Fund, the European Social Fund and part of the European Agricultural Fund for Rural Development, into the ESIF Growth Programme for England. This funding will be used to support the new funding programme period, 2014-2020.⁹ The ESIF Growth Programme is designed to support programmes addressing regional development, economic change, enhanced competitiveness and territorial co-operation throughout the European Union (EU). It will provide different funding regimes, depending upon the category of 'region' under consideration. There are three categories:

Less developed regions

- 3.5 These are areas (as defined at NUTs 2 level, which equates approximately to large counties, groups of smaller counties and some cities) with a GDP per capita below 75% of the EU27 average. These areas receive a higher level of structural funds, have more headroom to fund activities outside of the four top priorities for ERDF and ESF, and need to find less matched funding (the structural funds can form up to 80% of eligible costs in the 2014-2020 period). The only area in England expected to fall into this category is Cornwall and the Isles of Scilly.

⁹ Department for Communities and Local Government (2013) *The Development and Delivery of European Structural and Investment Funds Strategies: Supplementary Guidance to Local Enterprise Partnerships*, London.

Transition regions

- 3.6 These are areas with a GDP per capita between 75% and 90% of the EU27 average. Transition regions receive a slightly higher than average intensity of ERDF and ESF but this funding must be more heavily concentrated on selected activities than in less developed regions. Projects can be financed at a maximum rate of 60% for ERDF and ESF (different rules are expected to apply for EAFRD). Places within this category in England are expected to include: Devon, Lincolnshire, East Yorkshire & North Lincolnshire, Shropshire & Staffordshire, South Yorkshire, Merseyside, Lancashire, Tees Valley & Durham and Cumbria.

More developed regions

- 3.7 These are areas with a GDP per capita above 90% of the EU27 average. Most parts of England fall into this category. At least 80% of ERDF will most likely need to be spent on four thematic objectives (innovation, ICT, Small and Medium Sized Enterprises and low carbon) under ERDF and on four investment priorities under ESF. Projects are financed at a maximum rate of 50% under ERDF and ESF (different rules are expected to apply for EAFRD).
- 3.8 Although 'less developed regions' and 'transition regions' are eligible to receive proportionately higher ERDF and ESF funding as a proportion of total costs, all parts of England are eligible for ERDF and ESF funding.

LEP areas

- 3.9 For the 2014-2020 ERDF Operational Programme, the Government has decided that the large majority of funding will be allocated to LEP areas, which have provided an indication of the sources of matched funding. Each LEP area has received a notional allocation of ESIFs for the full seven-year period of the European Growth Programme. The allocation of ERDF to England will be €6.2 billion to 39 LEPs¹⁰.
- 3.10 Each LEP has been working with their partners and DCLG to establish a local ESIF plan, including details of major projects exceeding the threshold of €50m eligible costs for a single project.

England ERDF Operational Programme 2014-2020: Contents, main objectives and scoping assessment

- 3.11 The ERDF Operational Programme sets out key development needs and opportunities and proposes uses for the ERDF in England. The activities that can be supported are set out in accordance with the policy objectives defined by the European Union for the ERDF, as set out in the ESIF UK Partnership Agreement. The administration of the ERDF in England is carried out by DCLG.

Policy objectives

- 3.12 The England ERDF Operational Programme contains eight policy objectives, known as Thematic Objectives as follows:
- Thematic objective 1: Strengthening research, technology development and innovation.
 - Thematic objective 2: Enhancing access to, and use and quality of, ICT.
 - Thematic objective 3: Enhancing the competitiveness of Small and Medium Size Enterprises.
 - Thematic objective 4: Supporting the shift towards a low carbon economy in all sectors.
 - Thematic objective 5: Promoting climate change adaptation, risk prevention and management.

¹⁰ Department for Communities and Local Government (2013) *The Development and Delivery of European Structural and Investment Funds Strategies: Supplementary Guidance to Local Enterprise Partnerships*, London.

- Thematic objective 6: Preserving and protecting the environment and promoting resource efficiency.
 - Thematic objective 7: Promoting sustainable transport and removing bottlenecks in key network infrastructures.
 - Thematic objective 9: Promoting social inclusion and combating poverty and any discrimination.
- 3.13 Thematic Objectives 1 (Innovation), 3 (Small and Medium Size Enterprises) and 4 (Low Carbon) are of primary importance and attract a higher share of available funding. Thematic objectives 8 and 10 for employment and skills will be addressed by the European Social Fund and do not form part of the ERDF Operational Programme.
- 3.14 In addition to these eight Thematic Objectives, Priority Axis 10: Sustainable Urban Development has been established to address challenges facing urban areas of cities with populations over 600,000. In general, this does not introduce new priorities, objectives or actions but describes which of those policy objectives already described earlier in the ERDF Operational Programme are particularly relevant to issues faced by large urban areas. In light of its repetition of investment priorities and specific objectives assessed elsewhere in the SEA and the fact that the text of the Priority Axis was introduced to the ERDF Operational Programme very late in the SEA process, a rapid, high level assessment of the environmental effects of Priority Axis 10 has been included alongside the eight Thematic Objectives.
- 3.15 The detailed investment priorities, specific objectives and indicative priority actions to be supported under each Thematic Objective are described in the SEA matrices in **Appendix 2**. The higher level assessment of Priority Axis 10 focuses on investment priorities and specific objectives and does not make reference to indicative priority actions.

Potential for significant environmental effects

- 3.16 Although many of the Thematic Objectives provide relatively limited support for physical development that has the potential for significant environmental effects, their support for economic growth means that most, if not all, may have indirect environmental effects. The ERDF Operational Programme's Thematic Objectives and associated detailed investment priorities, specific objectives and indicative priority actions are therefore **scoped in** to the detailed SEA in **Chapter 5** and **Appendix 2**. Priority Axis 10 is also scoped in as it encompasses many of the same investment priorities and specific objectives, although focused on addressing urban development issues.

Other components of the ERDF Operational Programme document

- 3.17 None of other components of the ERDF Operational Programme is considered to propose any policy objectives that could give rise to physical development that are additional to those described by the Thematic Objectives. Rather they provide further detail on baseline economic conditions and issues to be addressed by the ERDF, processes by which objectives will be implemented, and the ways in which the ERDF Operational Programme will meet European Commission requirements for administration of the ERDF. These other components of the ERDF Operational Programme are not considered capable of giving rise to significant environmental effects and have been **scoped out** of the detailed SEA.
- 3.18 A brief description of the main contents of the ERDF Operational Programme is provided below.
- Section 1. Strategy for the Operational Programme's contribution to the Union strategy for smart, sustainable and inclusive growth and the achievement of economic, social and territorial cohesion (Article 24 (1) and Article 87(2) (a) CPR)*
- 3.19 This section of the ERDF Operational Programme covers:
- European Commission recommendations for the UK economy.
 - Baseline information: the UK's current economic position and the Government's existing economic growth strategies, including creation of LEPS.

- A reasoned justification for the selection of particular Thematic Objectives and corresponding investment priorities in the ERDF Operational Programme and for provisional allocations of ERDF and ESF to LEP area and Thematic Objectives.

Section 2. Description of the Priority Axes

3.20 This section of the ERDF Operational Programme covers:

- A reasoned justification for the selection of particular Thematic Objectives and corresponding investment priorities (repeated from Section1).
- A detailed description of each Thematic Objective, corresponding investment priorities and specific objectives, and indicative actions to be supported by the ERDF under each. Some Thematic Objectives are grouped together under 'Priority Axes'. These are the policy objectives described above which have been scoped in to the SEA.
- The 'Sustainable Urban Development' Priority Axis (see above).
- Indicators to be used to monitor results against each ERDF Thematic Objective.
- Planned use of financial instruments – the various financial vehicles to be used to deliver the policy objectives of the ERDF Operational Programme.
- Categories of intervention – an analysis of previously described policy objectives using a nomenclature adopted by the European Commission.
- The 'Technical Assistance' Priority Axis. This describes governance objectives for the Operational Programme, as required by the European Commission.

Section 3. The financing plan of the Operational Programme (Article 87 (2) (d))

3.21 Tables providing various analyses of the intended split of ERDF monies e.g. by Priority Axis and Thematic Objective. As stated earlier, Thematic Objectives 1 (Innovation), 3 (Small and Medium size Enterprises) and 4 (Low Carbon) are of primary importance and attract a higher share of available funding.

Section 4. Integrated approach to territorial development (Article 87(3) CPR)

3.22 A description of the approach to territorial development, showing how it contributes to the accomplishment of the Operational Programme objectives. This mainly covers the previously described:

- LEP area approach to planning and implementing projects under the ERDF Operational Programme.
- Support for Sustainable Urban Development.

Section 5. The specific needs of geographical areas most affected by poverty or target groups at highest risk of discrimination or social exclusion, with special regard to marginalised communities, and persons with disabilities (Article 87 (4) (A) CPR)

3.23 Not appropriate for England ERDF OP which is not using thematic objectives 8, 9 or 10 except for community led local development for which the arrangements are set out elsewhere.

Section 6. Specific needs of geographical areas which suffer from severe and permanent natural or demographic handicaps

3.24 Generic description of governance arrangements.

Section 7. Authorities and bodies responsible for management, control and audit and the role of relevant partners (Article 87 (5) CPR)

3.25 A description of the roles of partner organisations in the preparation, implementation, monitoring and evaluation of the ERDF Operational Programme.

Section 8. Coordination between the Funds, the EAFRD, the EMFF and other Union and national funding instruments, and with the EIB (Article 87(6) (a) CPR)

3.26 A description of the mechanisms that ensure coordination between the ESIFs listed in the introduction to this chapter of the SEA Report and other European Union and national funding instruments, and with the European Investment Bank.

Section 9. Ex-ante conditionalities (Article 87(6) (B) CPR)

- 3.27 An assessment of whether applicable ex-ante conditionalities have been fulfilled at the date of submission of the Partnership Agreement and Operational Programme, and where ex-ante conditionalities are not fulfilled, a description of the actions to fulfil them, the responsible bodies and a timetable for such actions.

Section 10. Reduction of the administrative burden for beneficiaries (Article 87 (6) (C) CPR)

- 3.28 Measures taken to reduce the administrative burden on organisations that will benefit from ERDF support.

Section 11. Horizontal principles (Article 87(7) CPR)

- 3.29 This section provides broad criteria that projects put forward for ERDF support must meet in respect of the following two principles:
- Sustainable development - a description of specific actions to take into account environmental protection requirements, resource efficiency, climate change mitigation and adaptation, disaster resilience and risk prevention and management, in the selection of operations.
 - Equal opportunities and non-discrimination - a description of the specific actions to promote equal opportunities and prevent any discrimination based on sex, racial or ethnic origin, religion or belief, disability, age or sexual orientation during the preparation, design and implementation of the operational programme.
- 3.30 The ERDF Operational Programme seeks to embed these principles in the previously described Thematic Objectives, investment priorities and specific objectives. The SEA has therefore, where relevant, made reference to these principles in assessing the Thematic Objectives and in making recommendations for enhancement.

Section 12. Separate elements - presented as annexes in printed document version

- 3.31 Information on:
- Any Major Projects planned in England – none are described.
 - The performance framework of the ERDF Operational Programme.
 - A list of partners involved in the preparation of the ERDF Operational Programme.
 - The annexes to be submitted separately, namely the draft report of the ex-ante evaluation, documentation on conditionalities (as appropriate), information from national equality bodies (as appropriate), and a citizens' summary of the Operational Programme (as appropriate).

4 Environmental protection objectives and baseline information

Introduction

- 4.1 Annex 1 of the SEA Directive requires that the environmental report includes information on:
- (e) "the environmental protection objectives established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation"*
- 4.2 Annex 1 of the SEA Directive also requires that the environmental report covers:
- (b) "The relevant aspects of the current state of the environment and the likely evolution thereof without the plan or programme"*
- (c) "The environmental characteristics of the areas likely to be significantly affected"*
- (d) Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC [i.e. Special Protection Areas designated under the Birds Directive] and 92/43/EEC [Special Areas of Conservation designated under the Habitats Directive]"*
- 4.3 This section of the SEA Report seeks to achieve these requirements. However, as already noted in the 'Difficulties Encountered' section of **Chapter 2**, the ERDF Operational Programme is high level and structured by thematic objectives, rather than being geographically specific and it is appropriate for the information included within Environmental Report to reflect this. Notwithstanding the availability of some sub-national baseline information in the ERDF Operational Programme and in the Partnership Agreement, the collection of information to meet the regulatory requirements above reflects the national scale of the ERDF Operational Programme's proposals and of the environmental assessment in **Chapter 5**.
- 4.4 The review of environmental protection objectives has drawn heavily on the useful summaries provided in the SEA Reports prepared by AMEC Environment & Infrastructure UK Limited on behalf of DCLG on the revocation of Regional Spatial Strategies.¹¹

Biodiversity, flora and fauna

- 4.5 Biodiversity is integral to the functioning of ecosystems. It underlines our 'ecosystem services', which include food, flood management, pollination and the provision of clean air and water. The baseline data for biodiversity is therefore also relevant to other SEA themes including landscape, water, soil and climatic factors.

Summary of environmental protection objectives

International

- 4.6 The UK is a signatory (along with 189 other parties) to the **Convention on Biological Diversity**, Nagoya, Japan, 2010 which sets out a conservation plan to protect global biodiversity, and an international treaty to establish a fair and equitable system to enable nations to co-operate in accessing and sharing the benefits of genetic resources. The new global vision is:

¹¹ The primary source was: AMEC Environment & Infrastructure UK Limited, (2012), Appendix E – SEA of the Revocation of the South West Regional Strategy, Department of Communities and Local Government, London.

'By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.'

4.7 The parties also agreed a shorter-term ambition to:

'Take effective and urgent action to halt the loss of biodiversity, [so] that by 2020 ecosystems are resilient and continue to provide essential services, thereby securing the planet's variety of life, and contributing to human well-being, and poverty.'

4.8 In March 2010, the European Union (EU) agreed to a **2050 EU vision and 2020 headline target for Biodiversity**:

'By 2050, European Union biodiversity and the ecosystem services it provides – its natural capital – are protected, valued and appropriately restored for biodiversity's intrinsic value and for their essential contribution to human wellbeing and economic prosperity, and so that catastrophic changes caused by the loss of biodiversity are avoided.'

'Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss.'

4.9 The European Commission adopted an **EU Biodiversity Strategy to 2020** to help meet this goal. The strategy provides a framework for action over 2011-2020 and covers the following key areas:

- Conserving and restoring nature.
- Maintaining and enhancing ecosystems and their services.
- Ensuring the sustainability of agriculture, forestry and fisheries.
- Combating invasive alien species.
- Addressing the global biodiversity crisis.

4.10 There are a number of EU Directives focusing on various types of wildlife and habitat that provide a framework for national action and international co-operation for conservation on land and in the sea. In particular the **Habitats Directive** and **Birds Directive** include measures to maintain or restore important natural habitats and species, including through the designation of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). These Directives are transposed into British law through a number of Regulations and planning policy documents. The **Freshwater Fish Directive** includes measure on the quality of fresh waters needing protection or improvement in order to support fish life.

4.11 The **Marine Strategy Framework Directive 2008/56/European Commission** requires EU Member States to develop a marine strategy, including determining Good Environmental Status (GES) for their marine waters, and designing and implementing programmes of measures aimed at achieving it by 2020, using an ecosystem approach to marine management. It takes account both of socioeconomic factors and the cost of taking action in relation to the scale of the risk to the marine environment.

4.12 Under the **Ramsar Convention**, wetlands of international importance are designated as Ramsar Sites. As a matter of policy, Ramsar sites in England are protected as European sites. The vast majority are also classified as SPAs and all terrestrial Ramsar sites in England are notified as Sites of Special Scientific Interest (SSSIs)

National

4.13 The **National Parks and Access to the Countryside Act 1949** aims to conserve and protect countryside and National Parks through legislation.

4.14 **The Wildlife and Countryside Act 1981** is the main UK legislation relating to the protection of named animal and plant species includes legislation relating to the UK network of nationally protected wildlife areas: Site of Special Scientific Interest (SSSIs). Under this Act, Natural England has responsibility for identifying and protecting the SSSIs in England.

4.15 The **Environmental Protection Act 1990** sets out key statutory requirements for the UK regarding environmental protection (including waste and nature conservation).

- 4.16 The **UK Biodiversity Action Plan 1994** was the UK Government's response to signing the Convention on Biological Diversity (CBD) at the 1992 Rio Earth Summit. The CBD called for the development and enforcement of national strategies and associated action plans to identify, conserve and protect existing biological diversity, and to enhance it wherever possible. The UK Biodiversity Action Plan was then established to conserve and enhance biodiversity in the UK through the use of Habitats and Species Action Plans to help the most threatened species and habitats to recover and to contribute to the conservation of global biodiversity.
- 4.17 The **Countryside and Rights of Way Act 2000** (CROW) strengthens the powers of Natural England to protect and manage Sites of Special Scientific Interest. The CROW Act improves the legislation for protecting and managing SSSIs so that:
- Natural England can change existing SSSIs to take account of natural changes or new information.
 - All public bodies have a duty to further the conservation and enhancement of SSSIs.
 - Neglected or mismanaged sites can be brought into favourable management.
 - New offences and heavier penalties now apply to people who illegally damage SSSIs.
- 4.18 **The Natural Environment and Rural Communities (NERC) Act 2006** establishes Natural England as the main body responsible for conserving, enhancing and managing England's natural environment. It also covers biodiversity, pesticides harmful to wildlife and the protection of birds.
- 4.19 **Conserving Biodiversity – The UK Approach (2007)** set out an approach to halt UK biodiversity loss by 2010 using an integrated framework of an Ecosystem Approach. Key targets include:
- For 95% of SSSIs to be in favourable or recovering condition by 2010.
 - To halt the loss of biodiversity by 2010.
 - To reverse the long-term decline in the number of farmland birds by 2020.
- 4.20 The **Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007** apply in the 'offshore area' beyond 12 nautical miles from the UK coast. They provide protection for a variety of marine species and wild birds through a number of offences that aim to prevent damaging activities affecting protected species and habitats.
- 4.21 The **Marine and Coastal Access Act 2009** sets out a number of measures including the establishment of Marine Conservation Zones (MCZs) and Marine Spatial Plans.
- 4.22 The **Conservation of Habitats and Species Regulations 2010** require that sites of importance to habitats or species are to be designated and any impact on such sites or species must be considered in regards to planning permission applications.
- 4.23 The **Natural Environment White Paper (2011)** recognises that nationally, the fragmentation of natural environments is driving continuing threats to biodiversity. It sets out the Government's policy intent to:
- Improve the quality of the natural environment across England.
 - Move to a net gain in the value of nature.
 - Arrest the decline in habitats and species and the degradation of landscapes.
 - Protect priority habitats.
 - Safeguard vulnerable non-renewable resources for future generations.
 - Support natural systems to function more effectively in town, in the country and at sea.
 - Create an ecological network which is resilient to changing pressures.
- 4.24 By 2020, the Government wants to achieve an overall improvement in the status of the UK's wildlife including no net loss of priority habitat and an increase of at least 200,000 hectares in the overall extent of priority habitats. Under the White Paper, the Government has also put in place a clear institutional framework to support nature restoration which includes Local Nature Partnerships creating new Nature Improvement Areas (NIAs).

- 4.25 **Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem (2011)** is a biodiversity strategy for England that builds on the Natural Environment White Paper and provides a comprehensive picture of how the Government is implementing the international and EU commitments. It sets out the strategic direction for biodiversity policy for the following decade on land (including rivers and lakes) and at sea.
- 4.26 The **National Planning Policy Framework (NPPF) (2012)** replaces the majority of previous English planning policy, including Planning Policy Statement 9 on Biodiversity and Geological Conservation. The NPPF includes key policies to ensure that the planning system contributes to and enhances the natural and local environment by:
- Protecting and enhancing valued landscapes, geological conservation interests and soils.
 - Recognising the wider benefits of ecosystem services.
 - Minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.
 - Preventing both new and existing development from contributing to or being put at unacceptable risk from, or being negatively affected by unacceptable levels of soil, air, water or noise pollution or land instability.
 - Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Overview of the baseline data

- 4.27 England is one of the most densely populated and urbanised territories on earth, with urban land cover projected to rise from 10.6% in 1991 to 11.9% in 2016. The growth of urban areas is considered a threat to biodiversity. However, urban habitats also support wildlife and may act as the only direct link between people and wildlife whilst domestic gardens make up a significant proportion of urban green space¹².
- 4.28 Approximately two-thirds of England's countryside is arable, horticultural or improved grassland, these land uses being concentrated in the lowlands. The remaining one-third contains the majority of habitats of biodiversity interest.
- 4.29 Sites of Special Scientific Interest (SSSIs) are designations which represent England's very best wildlife and geological sites. There are over 4,100 SSSIs in England, covering 1,076,986 ha (including open water and coastal habitats). In terms of land area, approximately 8% of England is designated as SSSI¹³. More than 70% of these sites (by area) are internationally important for wildlife and are designated as Special Areas of Conservation (SACs), Special Protection Areas (SPAs) or Ramsar sites¹⁴. In England there are 242 SACs, 81 SPAs and 67 Ramsar sites with an additional two proposed Ramsar sites¹⁵.
- 4.30 There has been an increase in the area of England protected for its biodiversity, however there is concern that the existing protected site network is insufficient to protect biodiversity in England as a whole and that some species and habitats will be confined to these protected areas and therefore more vulnerable to pressures and threats, including climate change¹⁶.
- 4.31 In May 2012 the overall condition of SSSIs in England was assessed by Natural England to be:
- 37.25% area favourable.
 - 59.4% area unfavourable recovering.

¹² Natural England, (2008) *State of the Environment Reports*, Natural England, Peterborough.

¹³ Natural England, (2013), *Sites of Special Scientific Interest*, <http://www.naturalengland.org.uk/ourwork/conservation/designations/sssi/default.aspx>. [Accessed November 2013].

¹⁴ Joint Nature Conservation Committee, (2013) *Classified and Potential Special Protection Areas (SPAs) in the UK*, <http://jncc.defra.gov.uk/page-1399>. [Accessed November 2013]

¹⁵ Joint Nature Conservation Committee, (2013), *UK Ramsar Sites*.

¹⁶ AMEC Environment & Infrastructure UK Limited, (2012), *Appendix E – SEA of the Revocation of the South West Regional Strategy*, Department of Communities and Local Government, London.

- 2.21% area unfavourable no change.
- 1.11% area unfavourable declining.
- 0.03% area destroyed/part destroyed.

4.32 Despite these relatively positive statistics, some species remain under pressure, for example populations of breeding wading birds on unprotected lowland wetland grasslands are in major decline.

4.33 In October 2013, Defra published its findings on the condition of England’s wildlife and ecosystems¹⁷. There were 26 assessment themes covered in the publication, as shown in **Table 4.1**. Of these themes, 12 showed an improvement when using both the long and short term indicators, while 10 themes deteriorated in both the long and the short term¹⁸:

Table 4.1 Condition of England’s wildlife and ecosystems¹⁹

Themes showing improvement in the long term and short term; or improvement in the short term and long term assessment could not be made	Themes that have deteriorated in the long term but improved or remained stable in the short term	Themes that have improved in the long term but are deteriorating in the short term	Themes that have deteriorated in both the long and the short term
Extent of protected areas at sea Local sites under positive management Percentage of UK species of European importance in favourable or improving conservation status Plant diversity on enclosed farmland Genetic diversity of native cattle breeds Plant genetic resources – enrichment index Air pollution impacts on sensitive habitats: sulphur (acidity) Marine pollution: heavy metals Area of farmland under targeted agri-environment schemes Area of farmland under entry-level agri-environment schemes Uptake of priority ELS options for biodiversity and resource protection Fish stocks harvested within safe limit	Woodland birds Marine ecosystem integrity (size of fish in the North Sea)	Time spent in environmental volunteering Expenditure on biodiversity in England	Change in status of priority species Breeding farmland birds Butterflies of the wider countryside on farmland Plant diversity in neutral grassland and boundary habitats Historical pipistrelle bat populations Butterflies of the wider countryside in woodland Breeding water and wetland birds Pressure on biodiversity from invasive species in freshwater environments Pressure on biodiversity from invasive species in terrestrial environments Pressure on biodiversity from invasive species in marine environments

Likely evolution without the Operational Programme

4.34 It can be seen that there is a large number of policy documents, strategies and initiatives that have been designed to ensure that biodiversity objectives are achieved. These are achieving

¹⁷ Department of Environment Food and Rural Affairs, (2013) *Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services: Indicators 2013*, Defra, London, 2013, pp.4-7.

¹⁸ Except historical pipistrelle bats, which show a significant long term decline, but for which a comparable short term assessment was not possible

¹⁹ Department of Environment Food and Rural Affairs, (2013) *Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services: Indicators 2013*, Defra, London, 2013, pp.4-7.

mixed results, with some aspects such as protected areas and mechanisms for protecting and enhancing biodiversity showing positive results, but with on-going declines with respect to the wider biodiversity interest (such as indicator birds, butterflies and bat species). These trends are likely to continue without the ERDF Operational Programme.

Population

- 4.35 Due to limited guidance on the content of the 'population' SEA topic, it is interpreted here as relating to demographics and generic socio-economic issues. This is also consistent with recent SEA methodological approaches²⁰.
- 4.36 Many of the aspects of population will be covered by other work streams in the ex-ante evaluation, including:
- Work stream 1: Appraisal of the socio-economic analysis.
 - Work stream 2: Assessment of the Programme strategy and priorities.
 - Work stream 3: Contribution to the Europe 2020 Strategy.
 - Work stream 8: Equality Assessment.
- 4.37 There are links between this topic and a number of other SEA topics, in particular human health, material assets, biodiversity and climatic factors.

Summary of environmental protection objectives

International

- 4.38 The United Nation's **Aarhus Convention (2001)** grants the public rights and imposes on Parties and public authority's obligations regarding access to information, public participation and access to justice. It contains three broad themes or 'pillars':
- Access to information.
 - Public participation.
 - Access to justice.
- 4.39 The **European Employment Strategy** seeks full employment, quality of work and increased productivity as well as inclusion by addressing disparities in access to labour markets. These overarching aims are further espoused in the **Integrated Guideline for Growth and Jobs 2008-11** and later documents relating policy objectives into broad actions for the member states (**A Shared Commitment for Employment**, 2009; and, **Implementation of the Lisbon Strategy Structural Reforms in the context of the European Economic Recovery Plan**, 2009).

National

- 4.40 The Government's **Housing White Paper 'Laying the Foundations'** sets out the Government's policies to support the housing market, especially house building. The Government believes that a well-functioning housing market is vital to competitiveness and attractiveness to business. Housing is also seen as crucial to social mobility, health and wellbeing - with quality and choice having an impact on social mobility and wellbeing from an early age. The Government is putting in place incentives for housing growth through the New Homes Bonus, Community Infrastructure Levy and proposals for local retention of business rates.
- 4.41 The **Local Growth White Paper (October 2010)** sets out the Government overarching goal is to promote strong, sustainable and balanced growth. It restates the Government's role in providing the framework for conditions for sustainable growth by:

²⁰ AMEC Environment & Infrastructure UK Limited, (2012), *Appendix E – SEA of the Revocation of the South West Regional Strategy*, Department of Communities and Local Government, London.

- Creating macroeconomic stability, so that interest rates stay low and businesses have the certainty they need to plan ahead.
- Helping markets work more effectively, to encourage innovation and the efficient allocation of resources.
- Ensuring that the Government is efficient and focused in its own activities, prioritising high-value spending and reducing tax and regulatory burdens.
- Ensuring that everyone in the UK has access to opportunities that enable them to fulfil their potential.

4.42 The White Paper focuses on the approach to local growth proposing measures to shift power away from central government to local communities, citizens and independent providers. It introduced Local Enterprise Partnerships (LEPs) to provide a vision and leadership for sustainable local economic growth. The number of LEPs has increased to 39 from the 24 originally announced. Across England the LEP's are at different stages of establishment and are subject to further development and consultation. LEPs are expected to fund their own day-to-day running costs but have been able to submit bids to the **Regional Growth Fund (RGF)**. The RGF is a discretionary £1.4bn Fund operating for three years between 2011 and 2014 to stimulate enterprise by providing support for projects and programmes with significant potential for creating long term private sector led economic growth and employment and, in particular, help those areas and communities that are currently dependent on the public sector make the transition to sustainable private sector-led growth and prosperity.

4.43 There are a number of policies within the **National Planning Policy Framework (NPPF) (2012)** that set out how local planning authorities should plan for the supply of housing. The policies explain that to boost significantly the supply of housing, local planning authorities should:

- Use their evidence base to ensure that their local plan meets the full, objectively assessed housing needs.
- Identify and update annually a supply of specific deliverable sites sufficient to provide five years' worth of housing.
- Identify a supply of specific, developable sites or broad locations for growth, for years 6-10 and, where possible, for years 11-15.
- Provide a housing trajectory and set out a housing implementation strategy for the full range of housing.
- Set out their own approach to housing density to reflect local circumstances.

4.44 The NPPF outlines measures that local planning authorities should adopt to deliver a wide choice of high quality homes, widen opportunities for home ownership and create sustainable, inclusive and mixed communities. It states that local planning authorities should identify and bring back into residential use empty housing and buildings in line with local housing and empty homes strategies.

Overview of the Baseline data

4.45 The mid-2012 population in the UK was 63.7 million people of which 53.5 million were residing in England²¹. The headline indicators from the labour force survey showed that 69.9% of the population was of working age (age 16-64), with 75.2% of the male population and 64.7% of the female population in this age bracket. The working age population was broken down as follows:

- 78% economically active.
- 71.8% in employment.
- 7.7% unemployed.

²¹ Nomis, (2013) *Official Labour Market Statistics*, <http://www.nomisweb.co.uk/census/2011/KS101EW/view/2092957699?cols=measures>

- 2% economically inactive.²²
- 4.46 In 2011, England had a total of, 26,859,000 jobs. In June 2013 and August 2013, England had an unemployment rate of 7.7% (all people of working age). This compares June 2012 and August 2012 when the unemployment rate was 7.8%²³.
- 4.47 According the Department for Business Innovation and Skills, unemployment and inactivity is highest in inner city areas, former industrial areas and some coastal towns. The highest levels of unemployment are in Inner London and the North of England. For example Tees Valley and Durham has an unemployment rate of 11.8%, South Yorkshire 10.8% and the West Midlands Metropolitan 11.3%.
- 4.48 The differences between local authority areas within NUTS2 areas are often greater than the difference with other NUTS2 areas. For example, East Yorkshire and Northern Lincolnshire includes Hull with an unemployment rate of 15% and East Riding, with 6%, at less than half that rate. Similarly Inner London includes Newham with an unemployment rate of 15% and Kensington & Chelsea at 7%.²⁴
- 4.49 Using data from the 2012 Annual Population Survey, the breakdown of qualifications of the working age population was as follows:
- 34.2% had NVQ4 and above.
 - 17.3% had NVQ3 and above.
 - 16.9% had NVQ2 and above.
 - 12.4% had NVQ1 and above.
 - 9.9% had other qualifications (combined recording 'apprenticeship' and 'other' qualifications).
 - 9.5% have no qualifications.²⁵
- 4.50 In 2011, England's per capita Gross Value Added (GVA) was £22,369, up from 20,974 in 2010.²⁶ In 2012 the median full-time gross hourly pay in England was £12.99 (males' median being £13.59 and the female median being £12.12). This compares to £12.85 in 2011 and represents growth of 1.09% in nominal hourly total full time pay over the previous year²⁷.
- 4.51 There is insufficient data on the levels of social exclusion as measured by the indicator 'people at risk of poverty or severe material deprivation' throughout the UK. One proxy that can be used is economic activity. This shows that in 2011 the highest economic inactivity rates were found in the West Midland's metropolitan areas (29.6%), and Merseyside (28.5%). The lowest levels were in South and East of England, with the notable exception of London.
- 4.52 The environmental economy (agriculture, forestry, fishing, mineral extraction, tourism, recreation, leisure, environmental governance and technology initiatives) is a significant contributor to England's economy as a whole. Improvements to green infrastructure can encourage inward investment in urban environments as they attract businesses wanting to be located in places where they can be profitable and offer a good living environment for their employees. The added benefit of such locations is that the improved quality of life makes for happier, more effective staff, and a reduced number of absences due to sickness.²⁸

²² Nomis Official (2013) Labour Market Statistics, *Labour Market Profile: England*, <http://www.nomisweb.co.uk/reports/lmp/gor/2092957699/report.aspx>

²³ Nomis Official (2013) *Labour Market Profile: England*, <http://www.nomisweb.co.uk/reports/lmp/gor/2092957699/report.aspx>

²⁴ Department for Business Innovation and Skills, (2013), *Development and Delivery of the European Structural and Investment Funds Strategies: Supplementary Guidance to Local Enterprise Partnerships*, London

²⁵ Nomis Official Labour Market Statistics, (2013) *Labour Market Profile: England*, <http://www.nomisweb.co.uk/reports/lmp/gor/2092957699/report.aspx>

²⁶ Office of National Statistics, (2013), *Regional Gross Value Added (Income Approach), December 2012*, Office of National Statistics, London.

²⁷ Nomis, (2012), *Hourly Pay: All Full Time Workers, England*, Office of National Statistics, London.

²⁸ United Nations Environment Programme on behalf of the (2014) UK NEAFO Partners UK National Ecosystem Assessment: *Follow-on: Synthesis of the Key Findings*

Likely evolution without the Operational Programme

- 4.53 Some of the trends with respect to population, such as economic activity rates and unemployment, are heavily influenced by the global economy as well as national and local economic performance. The provision of housing, both market and affordable housing, is strongly influenced by private housing developers. Deprivation is influenced by access to jobs and decent homes.
- 4.54 However, Government policy interventions, such as through the planning system (e.g. to encourage the development of new homes), financial instruments (e.g. 'The Right to Buy') and, though education policy with respect to education and skills, can have a significant influence on both performance and how the markets operate.

Human health

- 4.55 There are links between human health and other SEA topics, especially climatic factors and air.

Summary of environmental protection objectives

International

- 4.56 The World Health Authority (WHO) **Children's Environment and Health Action Plan for Europe (CEHAPE) (2004)** was launched in June 2004 and signed by all 53 Member States of the WHO European Region, including the UK. The aim of the CEHAPE is to protect the health of children and young people from environmental hazards.
- 4.57 The European Union has a Programme for Community action in the field of Health (2008-2013) and, on the 23/4th October 2007 the Commission adopted a new overarching Health Strategy '**Together for Health - A Strategic Approach for the EU 2008-2013**'. Community Action focuses on tackling health determinants which are categorized as: personal behaviour and lifestyles; influences within communities which can sustain or damage health; living and working conditions and access to health services; and general socio-economic, cultural and environmental conditions.

National

- 4.58 Many of the national level policies and strategies regarding health are aimed at understanding the trends and nature of health issues within the country, understanding the links between health issues and other related factors (such as economic status, etc.), and, primarily, at reducing the inequalities in health outlooks that are evident between different parts of the country and different sections of the population. Whilst some applicable policies/strategies are contained within adopted strategies, many of the Government's objectives and intended actions are contained within White Papers and guidance papers.
- 4.59 The Health Protection Agency's **Children's Environment and Health Action Plan, a summary of current activities which address children's environment and health issues in the UK (2007)** applies the objectives of CEHAPE (2004) to the UK context and **A Children's Environment and Health Strategy for the United Kingdom (2009)** provides recommendations from the Health Protection Agency to the UK Government as to how it best can meet its commitment to the CEHAPE.
- 4.60 In England, the Department of Health is the Government department responsible for public health issues. Its work includes setting national standards, shaping the direction of health and social care services and promoting healthier living.
- 4.61 The NHS White Paper, **Equity and excellence: Liberating the NHS (2010)** sets out the Government's long-term vision for the future of the NHS and consists of three mutually-reinforcing parts:
- Putting patients at the heart of the NHS.
 - Focusing on improving outcomes.
 - Empowering local organisations and professionals.

- 4.62 **Liberating the NHS: Legislative Framework and Next Steps (2010)** is the Government's response to the consultation on the implementation of the White Paper and three further consultations: **Commissioning for patients (2010)**, **Local Democratic Legitimacy in Health (2010)** and **Regulating Healthcare Providers (2010)**. This document reaffirms the Government's commitment to the White Paper reforms and describes in detail how developments in light of the consultation will be put into practice across the three parts identified in the White Paper above.
- 4.63 The **Health and Social Care Act 2012** enacts the proposals set out in the White Paper and the subsequent rounds of consultation. The changes are designed to make the NHS more responsive, efficient and accountable, and capable of responding to future challenges. Key elements of the Act include: clinically led commissioning, service innovation, giving greater voice for patients, providing a new focus for public health, ensuring greater accountability and streamlining arm's length bodies.
- 4.64 The Government's White Paper, **Healthy Lives, Healthy People: Our Strategy for Public Health in England (2010)** recognises that the quality of the environment, including the availability of green space and the influence of poor air quality and noise, affects people's health and wellbeing. It details plans for a shift of power to local communities, including new duties and powers for local authorities to improve the health of local people. From April 2013, Directors of Public Health will be employed within upper tier and unitary local authorities. They will be able to influence local services, for example joining up activity on rights of way, countryside access and green space management to improve public health by connecting people with nature.

Overview of the Baseline data

- 4.65 Life expectancy across the UK varies but it has reached the highest levels on record for both males and females. In 2008-2010 England had the highest life expectancy at birth in the whole of the UK. It was 78.4 years for males and 82.4 years for females. Life expectancy at age 65 was also higher in England than for the other countries of the UK.²⁹
- 4.66 In 2006-2008, 44% males and 41% of females in England rated their health as good while 38% of males and 39% of females rated their health as very good. In 2006-2008 England had the highest values of any UK country for Healthy Life Expectancy (the number of years of life spent in 'very good' or 'good' health) and Disability Free Life Expectancy (the number of years lived free from a limiting chronic illness or disability).³⁰
- 4.67 The Health Survey for England, published in 2013³¹, includes the following key findings for 2012:
- Physical activity: 66% of men and 55% of women met recommendations for physical activity and these proportions have remained roughly unchanged since 2008. Only 21% of boys and 16% of girls met recommendations; both of these figures have decreased since 2008.
 - Blood pressure: The prevalence of high blood pressure was 31% in men and 27% in women, remaining at a similar level over the last few years.
 - Obesity: Obesity in men and women has increased between 1993 and 2012. The percentage of adults that were obese went up from 13% to 24% in men and from 16% to 25% in women.
 - Diabetes: The prevalence of doctor-diagnosed diabetes increased between 1994 and 2012 from 2.9% to 6.7% among men and from 1.9% to 4.9% among women.
- 4.68 Between 2001-03 and 2008-10, there were significant decreases in all-cause mortality rates for men across all socio-economic classes in England (and Wales). For females, the changes in mortality rates across social economic groups were minor over the last decade.
- 4.69 Across England, the North West had the highest mortality rates in almost all classes for both sexes for the majority of the 2001-03 to 2008-10 periods. Conversely, the South East and East regions had the lowest mortality rates in most of the classes for both sexes for the majority of the period.

²⁹ Office of National Statistics, (2011), *UK Interim Life Tables, 1980-82 to 2008-10*, <http://www.ons.gov.uk/ons/rel/lifetables/interim-life-tables/2008-2010/sum-ilt-2008-10.html>

³⁰ National Office of Statistics, (2010), *United Kingdom Health Statistics 2010: Edition No: 4*, London.

³¹ Health Survey for England – 2012 Trends Tables published December 2013

- 4.70 Compared with 2001–03, male mortality rates in 2008–10 were lower in most socio-economic classes across the English regions and Wales; only the Intermediate class in the East region remained constant. Amongst women, mortality decreased between 2001–03 and 2008–10 in all classes in only London and the South West.
- 4.71 The absolute inequality in mortality rates between the most and least advantaged men generally decreased across most English regions between 2001-03 and 2008-10. For women, the inequality decreased in some regions but showed an increase in others. Inequality remained significant in both groups.³²
- 4.72 Access to nature and green space is a positive contributor to health and wellbeing by providing opportunities for relaxation, quiet enjoyment of nature, and outdoor exercise. There is a relative abundance of open access land in northern England; good access to woodland in the South East England, but relatively little woodland in the Midlands and parts of North East England; a concentration of accessible country parks in London, North West and South West England; good access to nature reserves in southern England, but poor access to nature reserves in the English Midlands; and a scarcity of designated sites in the English Midlands. The Monitor of Engagement with the National Environment (MENE) survey shows that beaches are considered most beneficial for well-being enhancing (35%), with woodlands or forests (21%), and private gardens (19%) also considered significant.³³

Likely evolution without the Operational Programme

- 4.73 The trends in human health of the population of England are closely linked to the issues described under the SEA topic 'Population' above. Individuals living in communities with high rates of employment, good access to jobs, that are more skilled and educated, tend to have better health than those that are not.
- 4.74 Therefore, access to jobs (particularly skilled work), and access to high quality education, tend to be important influences. Government policy interventions have a major role to play, in helping to create the conditions that lead to job creation and improved education, plus raising of awareness of health issues, and providing advice and health facilities and services that respond to health issues. Whilst the ERDF Operational Programme may not have a direct link with human health, its intervention could therefore have quite significant indirect effects for those communities and individuals likely to benefit.

Soil

- 4.75 This SEA topic is concerned with soil and geology and in particular, agricultural land, important geological sites and the contamination of soils.

Summary of Plans and programmes

International

- 4.76 The European Thematic Strategy on Soil Protection (2006) sets out the European Commission's strategy on soils and includes a proposal for an EU wide **Soils Directive**. The overall objective of the strategy is the protection and sustainable use of soil, based on the following guiding principles:
- Preventing further soil degradation and preserving its functions.
 - When soil is used and its functions are exploited, action has to be taken on soil use and management patterns.

³² Office for National Statistics (2013) *Trends in All-cause Mortality by NS-SEC for English Regions and Wales, 2001–03 to 2008–10*, Office for National Statistics, London.

³³ United Nations Environment Programme on behalf of the (2014) UK NEAFO Partners UK National Ecosystem Assessment: *Follow-on: Synthesis of the Key Findings*

- When soil acts as a sink/receptor of the effects of human activities or environmental phenomena, action has to be taken at source.
 - Restoring degraded soils to a level of functionality consistent at least with current and intended use, thus also considering the cost implications of the restoration of soil.
- 4.77 The **EU Waste Incineration Directive 2000/76/European Commission** aims to introduce measures to prevent or reduce as far as possible air, water and soil pollution caused by the incineration of waste, as well as the resulting risk to human health.
- 4.78 The **EU Integrated Pollution, Prevention and Control (IPPC) Directive 2008/1/European Commission** defines the obligations to which industrial (including waste management) and agricultural activities with a high pollution potential must comply, through a single permitting process. It sets minimum requirements to be included in all permits, particularly in terms of pollutants released. The aim of the Directive is to prevent or reduce pollution being released to the atmosphere, water and soil, as well as reducing the quantities of waste arising from industry and agriculture. In order to gain an IPPC permit, operators must demonstrate that they have systematically developed proposals to apply the 'Best Available Techniques' (BAT) to pollution prevention and control and that they address other requirements relevant to local factors.
- 4.79 A number of other European Directives contribute indirectly to soil protection including on **Habitats 92/43/EEC, Air 2008/50/European Commission, Water 2000/60/European Commission** and **Nitrates 91/676/EEC**.
- 4.80 The **World Summit on Sustainable Development (2002)** in Johannesburg proposed broad-scale principles which should underlie sustainable development and growth. Included within an objective on greater resource efficiency was re-use of previously developed land.
- 4.81 The conservation of resources is one of the underlying objectives of the **European Spatial Development Perspective (ESDP) (1999)**, the framework for policy guidance to improve cooperation among community sectoral policies. There also exists a range of legislation in relation to resources.

National

- 4.82 The **Environmental Protection Act 1990** defines the legal framework for duty of care for waste, contaminated land and statutory nuisance within England, Scotland and Wales.
- 4.83 The **Environment Act 1995** seeks to protect and preserve the environment and guard against pollution to air, land or water. The Act adopts an integrated approach to environmental protection and outlines where authorisation is required from relevant authorities to carry out certain procedures as well as outlining the responsibilities of the relevant authorities. The Act also amends the Environmental Protection Act 1990 with regard to compulsory remediation of contaminated land. The Environmental Protection Act 1990 was also modified in 2006 to cover radioactivity, and then a further modification was made in 2007 to cover land contaminated with radioactivity originating from nuclear installations.
- 4.84 The **Wildlife and Countryside Act 1981** allows the designation of SSSIs for sites with geological importance.
- 4.85 The **Contaminated Land (England) Regulations 2006** set out provisions relating to the identification and remediation of contaminated land. They identify sites requiring regulation as 'special sites' and include land contaminated by radioactive substances to this classification.
- 4.86 In June 2011, the Government outlined its vision for England's soils in the **Natural Environment White Paper (NEWP)**. This set a clear target that by 2030 all of England's soils will be managed sustainably and degradation threats tackled successfully, in order to improve the quality of soil and to safeguard its ability to provide essential ecosystem services and functions for future generations. As part of this vision, the Government committed to undertaking further research to explore how soil degradation can affect the soil's ability to support vital ecosystem services; and how best to manage lowland peatlands in a way that supports efforts to tackle climate change. This will inform future policies and the direction of future action towards 2030.
- 4.87 In April 2012, the Government reviewed the contaminated land regime in England for the first time since its introduction in 2000. Following the review of the contaminated land regime including public consultation, revised **Statutory Guidance was issued under Part 2A of the**

Environmental Protection Act 1990. This revised Statutory Guidance, while still taking a precautionary approach, allows regulators to make quicker decisions about whether or not land is contaminated under Part 2A, preventing costly remediation operations being undertaken unnecessarily. It also offers better protection against potential health impacts by concentrating on the sites where action is actually needed.

- 4.88 The **National Planning Policy Framework** (NPPF) states that the planning system should contribute to and enhance the natural and local environment by:
- Protecting and enhancing valued landscapes, geological conservation interests and soils.
 - Preventing both new and existing development from contributing to or being put at unacceptable risk from, or being negatively affected by unacceptable levels of soil pollution or land instability.
 - Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.
- 4.89 Local planning authorities are required to take into account the economic and other benefits of the best and most versatile agricultural land, and where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of a higher quality.
- 4.90 The NPPF also states that planning policies should encourage the effective use of land by reusing land that has been previously developed, provided that it is not of high environmental value, and it reaffirms the Government's commitment to maintaining Green Belts.

Overview of the Baseline data

- 4.91 The UK covers an area of 2,472,900 ha (242,514 km²) with England having the largest land area of its constituent countries. The population density of England is 407 people per km².³⁴
- 4.92 The majority of land in England is used for agriculture (87.7%), with the remaining classified as non-agriculture (5%) and urban (7.3%).³⁵ The lowland and valley areas of England offer the most versatile agricultural land in England. England has some of the best and most versatile land grades (grade 1, 2 and 3a land as classified under the Agricultural Land Classification System) in the British Isles. An estimated 21% of all farmland in England is Grade 1 and 2 agricultural land, with a similar percentage graded as sub-grade 3a land.³⁶
- 4.93 Geological SSSIs provide examples of the UK's best geology. Geological SSSIs are chosen because of their past, current and future contributions to the science of geology and include coastal and upland areas, quarries, pits, mines, cuttings, and active landforms. There are about 4,000 Earth science SSSIs in Great Britain, 2,300 of these are in England.³⁷ There are no formal international designations for geodiversity sites equivalent to the SPA and SAC. However, the Dorset and East Devon Coast is recognised as a World Heritage Site (the 'Jurassic Coast').
- 4.94 It is estimated that in 2005 there were 300,000 hectares of land affected by industrial activity in England and Wales which may be contaminated. In 2007, 659 sites were determined as 'contaminated land' in England by the end of March 2007.³⁸

Likely evolution without the Operational Programme

- 4.95 Despite Government policy encouraging development on previously developed land, there will be continued pressure to develop on greenfield land due to backlogs in meeting historic demand, population growth and because greenfield sites tend to be cheaper and easier to develop than

³⁴ Office for National Statistics, (2012), *2011 Census - Population and Household Estimates for England and Wales*, March 2011, Office for National Statistics, London.

³⁵ Natural England, (2013), *Agricultural land classification (ALC) Statistics from the digital 1:250,000 scale Provisional ALC Map*, www.magic.gov.uk

³⁶ AMEC Environment & Infrastructure UK Limited, (2012), *Appendix E – SEA of the Revocation of the South West Regional Strategy*, Department of Communities and Local Government, London.

³⁷ Goeconservation.com, (2013) *Sites of Special Scientific Interest (SSSIs)*, <http://www.geoconservation.com/sites/sssi.htm>

³⁸ The Environment Agency, (2009), *Reporting the Evidence: Dealing with Contaminated Land in England and Wales, A review of progress from 2000-2007 with Part 2A of the Environmental Protection Act*, The Environment Agency, Bristol.

previously developed ones. In some locations, greenfield sites will include best and most versatile agricultural land and land in Green Belts.

- 4.96 With respect to the wider soils resource, the main influence will continue to be agricultural management and practices.
- 4.97 It is likely that geological SSSIs and World Heritage Sites will continue to be protected, and that where possible sites containing contaminated land will continue to be brought back into productive use or restored.

Water

- 4.98 Within SEA, the topic of 'water' is usually divided into two components: water quality; and water resources. For this SEA, water is also considered to include flood risk.
- 4.99 There are links between this topic and a number of SEA topics, in particular biodiversity, population and human health.³⁹

Summary of environmental protection objectives

International

- 4.100 The **Water Framework Directive (WFD)** is the most substantial piece of European Commission water legislation to date and replaced a number of preceding Directives including the Surface Water Abstraction Directive. It establishes a framework for the protection of inland surface waters, transitional waters, coastal water and groundwater and is designed to improve and integrate the way water bodies are managed, including encouraging the sustainable use of water resources. The key objectives at European level are general protection of aquatic ecology, specific protection of unique and valuable habitats, protection of drinking water resources, and protection of bathing water.
- 4.101 In accordance with Article 4(1), the Directive objectives for surface water, groundwater, transitional and coastal water bodies are to:
- Prevent deterioration.
 - Reduce pollution.
 - Protect, enhance and restore condition.
 - Achieve 'good status' by 2015, or an alternative objective where allowed.
 - Comply with requirements for protected areas.
- 4.102 The WFD adopts the 'polluters pays principle' in seeking to ensure that the costs and benefits of discharging pollutants to the water environment are appropriately allocated, and that implementation of the Directive is achieved in a fair and proportionate way across all sectors.
- 4.103 The aim of the **Marine Strategy Framework Directive 2008** is to more effectively protect the marine environment across Europe. It aims to achieve good environmental status of the EU's marine waters by 2021 and to protect the resource base upon which marine-related economic and social activities depend.
- 4.104 With specific regard to coastal water quality, the **Bathing Waters Directive 2006/7/European Commission** sets standards for the quality of bathing waters in terms of:
- The physical, chemical and microbiological parameters.
 - The mandatory limit values and indicative values for such parameters.
 - The minimum sampling frequency and method of analysis or inspection of such water.

³⁹ AMEC Environment & Infrastructure UK Limited, (2012), *Appendix E – SEA of the Revocation of the South West Regional Strategy*, Department of Communities and Local Government, London.

- 4.105 The **Floods Directive 2007/60/European Commission** aims to provide a consistent approach to managing flood risk across Europe. The approach is based on a six year cycle of planning which includes the publication of Preliminary Flood Risk Assessments, hazard and risk maps and flood risk management plans. The Directive is transposed into English law by the Flood Risk Regulations 2009.
- 4.106 The **Urban Waste Water Treatment Directive 91/271/EEC** has the objective of protecting the environment from the negative effects of untreated 'urban waste water' ('sewage'). The directive establishes minimum requirements for the treatment of significant sewage discharges. An important aspect of the Directive is the protection of the water environment from nutrients, (specifically compounds of nitrogen and phosphorus), and/or nitrates present in waste water where these substances have negative impacts on the ecology of the water environment or abstraction source waters. It was transposed into English law through the Urban Waste Water Treatment (England and Wales) Regulations 1994 (as amended).
- 4.107 In addition, the following European Directives have relevance to the protection of the water environment and resources:
- Dangerous Substances Directive 76/464/EEC.
 - Quality of Shellfish Waters Directive 79/923/EEC.
 - Directive on Priority Substances 2008/105/European Commission.
 - Groundwater Directive 80 /68/EEC.
 - Waste Framework Directive 2008/98/European Commission.
 - Industrial Emissions Directive 2010/75/EU.
 - Drinking Water Directive 98/83/European Commission.

National

- 4.108 The **Flood and Water Management Act 2010** makes provisions about water, including those related to water resources, including:
- To widen the list of uses of water that water companies can control during periods of water shortage, and enable Government to add to and remove uses from the list.
 - To encourage the uptake of sustainable drainage systems (SuDS) by removing the automatic right to connect to sewers and providing for unitary and county councils to adopt SuDS for new developments and redevelopments.
 - To reduce 'bad debt' in the water industry by amending the Water Industry Act 1991 to provide a named customer and clarify who is responsible for paying the water bill.
 - To make it easier for water and sewerage companies to develop and implement social tariffs where companies consider there is a good cause to do so, and in light of guidance that will be issued by the Secretary of State following a full public consultation.
- 4.109 The **Marine and Coastal Access Act 2009** sets out a number of measures including the establishment of Marine Conservation Zones (MCZs) and Marine Spatial Plans. The main objectives of the **Marine Policy Statement (2011)** are to enable an appropriate and consistent approach to marine planning across UK waters, and to ensure the sustainable use of marine resources and strategic management of marine activities from renewable energy to nature conservation, fishing, recreation and tourism.
- 4.110 In England, the implementation work related to the Water Framework Directive is undertaken by the Environment Agency, working in partnership with key partners.
- 4.111 There are 11 River Basin Districts in England and Wales which each require (under the Water Framework Directive) a **River Basin Management Plan (RBMP)** including objectives for surface water, groundwater, transitional and coastal water bodies. The RBMPs are produced on six-year planning cycles. The first series of RBMPs run from 2009-2015, with the next series due to run from 2015-2021.

- 4.112 The Government's 2011 White Paper '**Water for Life**' sets out the Government's vision for future water management in which the water sector is resilient and which water is valued as a precious resource. The key reforms set out in the White Paper are:
- The introduction of a reformed water abstraction regime, as signalled in the Natural Environment White Paper, to deal with the legacy of over-abstraction of our rivers.
 - A new catchment approach to dealing with water quality and wider environmental issues.
 - With the Environment Agency and Ofwat, to provide clearer guidance to water companies on planning for the long-term, and keeping demand down.
 - Consultation on the introduction of national standards and a new planning approval system for sustainable drainage.
 - Collaboration with water companies, regulators and customers to raise awareness of the connection between how we use water and the quality of our rivers.
- 4.113 **Water for people and the environment - Water resources strategy for England and Wales (2009)** published by Environment Agency, includes the following objectives:
- Enable habitats and species to adapt better to climate change.
 - Allow protection for the water environment to adjust flexibly to a changing climate.
 - Reduce pressure on the environment caused by water taken for human use.
 - Encourage options resilient to climate change to be chosen in the face of uncertainty.
 - Better protect vital water supply infrastructure.
 - Reduce greenhouse gas emissions from people using water, considering the whole lifecycle of use.
 - Improve understanding of the risks and uncertainties of climate change.
- 4.114 Other relevant strategies include the Environment Agency's **Catchment Abstraction Management Strategies (CAMS)** which have identified a number of catchments in England and Wales which are designated as Over-Licensed or Over-Abstracted. That is, the current level of licensed abstraction could result in an unacceptable stress on the catchment's ecology (designated over-licensed) or possibly is resulting in an unacceptable effect (designated over-abstracted).
- 4.115 **National Policy Statements (2011 and 2012)** bring together national Government policy for nationally significant infrastructure projects (NSIPs) for energy, wastewater and ports infrastructure. The National Policy Statements set out the policy framework for decisions on major infrastructure projects that meet the NSIPs thresholds established in the Planning Act 2008.
- 4.116 The **National Planning Policy Framework (NPPF) (2012)** expects the planning system to contribute to conserving and enhancing the natural environment and reducing pollution, and take full account of flood risk:
- Local planning authorities are expected to set out the strategic priorities for their area in the local plan including strategic policies to deliver the provision of infrastructure for water supply, wastewater, flood risk and coastal change management.
 - The NPPF expects inappropriate development in areas of flood risk to be avoided and sets out how this should be achieved through the preparation of local plans and in determining planning applications.
 - Local plans are expected to take account of climate change over the longer term including factors such as flood risk, coastal change and water supply.

Overview of the baseline data

- 4.117 Coastal water quality has improved over the last two decades. However, current Water Framework Directives Draft classification results indicate that there are a large proportion of coastal waters in England (and Wales) that are classified as being of 'moderate ecological status'

i.e. are failing to meet 'Good Ecological Status' (GES) on the basis of a number of physiochemical and biological standards and are therefore in need of measures to achieve GES⁴⁰.

- 4.118 According to the Environment Agency, river water quality in the UK has improved in the last two decades. In 2008, 51% of English rivers had high concentrations of phosphate compared with 69% in 1990. High concentrations of nitrate were found in 32% of English rivers in 2008 compared with 36% in 1995. High levels of phosphorus can result in increased algal growth in freshwater and high levels of nitrate are of concern in relation to drinking water abstractions. Central and eastern English rivers have the highest concentrations of phosphate and nitrate reflecting the geology, agricultural inputs and higher population density.⁴¹
- 4.119 In 2009, 26% of surface waters in England achieved 'good' WFD status or higher. This decreased slightly to 25 % in 2012.
- 4.120 England has a number of important lake types which the European Commission Habitats Directive recognises as a broad river habitat type, characterised by a high abundance of submerged vegetation.⁴²
- 4.121 There has been a decline in the total amount of fresh water taken from the environment. Between 2000 and 2009, it fell by more than a quarter. This is mainly due to industry using less water. The high density of human population places stress on water resources in some parts of the country, particularly in the south and east of England as well as parts of the Midlands. The amount of water available per person in south east England is less than in some Mediterranean countries.⁴³
- 4.122 2.5 million (1 in 6) properties in England are at risk of flooding from rivers or the sea. In addition an estimated 3.8 million properties at risk of surface water flooding. This includes around one million that are also at risk of flooding from rivers or the sea.⁴⁴ The English coastline is 4,500 km long, of which 1,800 km are at risk of coastal erosion (about 340 km of which is currently defended). Approximately 700 properties are vulnerable to coastal erosion over the next 20 years and a further 2,000 may become vulnerable over the next 50 years.⁴⁵

Likely evolution without the Operational Programme

- 4.123 As can be seen from the legislative and policy framework above, the water environment is already highly regulated, and the Environment Agency plays a key role in ensuring that water resources and water quality are properly maintained, and that the risk of flooding to people and property is appropriately managed.
- 4.124 Inevitably, given population and development pressures, and intensive agriculture practices in England, there will be on-going challenges in managing the water environment. Similarly, flood management can be expensive, which means that resources have to be prioritised towards areas with greatest risk and where the benefits of action compared to the costs are highest.
- 4.125 All issues relating to the water environment are likely to be exacerbated by climate change.

Air

- 4.126 The air quality SEA topic is concerned with the levels of pollutants emitted into the air and the risks that they pose to the environment and and/or human health. Matters relating to carbon

⁴⁰ AMEC Environment & Infrastructure UK Limited, (2012), *Appendix E – SEA of the Revocation of the South West Regional Strategy*, Department of Communities and Local Government, London.

⁴¹ The Environment Agency, (2013), *Water Quality*, The Environment Agency, <http://www.environment-agency.gov.uk/research/planning/34383.aspx>

⁴² Natural England, (2008) *State of the Environment Reports*, Natural England, Peterborough.

⁴³ The Environment Agency, (2013) *Water for life and livelihoods - Managing Water for People, Business, Agriculture and the Environment*, The Environment Agency, Bristol.

⁴⁴ Catchment Flood Management Plans Annual Report 2012

⁴⁵ The Environment Agency, (2013) *Water for life and livelihoods - Managing Water for People, Business, Agriculture and the Environment*, The Environment Agency, Bristol.

dioxide, climate change and other greenhouse gas emissions are excluded from the air SEA topic and addressed under the climatic factors SEA topic.⁴⁶

- 4.127 The air quality SEA topic is linked to other SEA topics, specifically population, human health, climate change and material assets.

Summary of environmental protection objectives

International

- 4.128 The **Air Quality Framework Directive** 96/62/European Commission and its Daughter Directives set a framework for monitoring and reporting levels of air pollutants across EU member states, setting limits or reductions for certain air pollutants.
- 4.129 The **Ambient Air Quality and Cleaner Air for Europe Directive** 2008/50/European Commission consolidated earlier air quality Directives and defines and establishes objectives and targets for ambient air quality to avoid, prevent or reduce harmful effects on human health and the environment as a whole. It sets legally binding limits for concentrations in outdoor air of major air pollutants that impact on public health such as particulate matter (PM₁₀ and PM_{2.5}) and nitrogen dioxide (NO₂). The 2008 Directive replaced nearly all the previous EU air quality legislation and was transposed into English law by the **Air Quality Standards Regulations 2010**, which also incorporate the 4th air quality daughter directive 2004/107/European Commission that sets targets for levels in outdoor air of certain toxic heavy metals and polycyclic aromatic hydrocarbons.
- 4.130 The UK monitors and models air quality to assess compliance with the air quality limit and target values set out in the EU legislation above. The results of the assessment are reported to the commission on an annual basis. Air quality monitoring is also carried out by local authorities to meet local air quality management objectives.
- 4.131 The **EU Thematic Strategy on Air Quality (2005)** identifies that despite significant improvements in air quality across the EU, a number of serious air quality issues still persist. The strategy promotes an approach, which focuses upon the most serious pollutants, and that more is done to integrate environmental concerns into other policies and programmes. The objective of the strategy is to attain levels of air quality that do not give rise to significant negative impacts on and risks to human health and the environment. The strategy emphasises the need for a shift towards less polluting modes of transport and the better use of natural resources to help reduce harmful emissions.
- 4.132 The **Industrial Emissions Directive (IED) 2010/75/EU** combines seven existing air pollution directives, including the Large Combustion Plant Directive and the Integrated Pollution Prevention and Control (IPPC) Directive. As with previous directives aimed at minimising emission release, part of the benefit of the Industrial Emissions Directive is that it includes several new industrial processes, sets new minimum emission limit values (ELVs) for large combustion plant and addresses some of the implementation issues of the IPPC.
- 4.133 The **National Emissions Ceilings Directive 2001/81/European Commission** came into force in 2001 and was transposed into English law by the **National Emission Ceilings Regulations 2002**. This Directive sets 'ceilings' (maximum values to be achieved by 2010) for total national emissions of four pollutants: sulphur dioxide; oxides of nitrogen; volatile organic compounds; and ammonia. These four pollutants contribute to acidification, eutrophication, and formation of ground level ozone.

National

- 4.134 The **Air Quality Standards Regulations 2010** transpose into UK law Directive 2008/50/European Commission on ambient air quality and cleaner air for Europe and Directive 2004/107/European Commission relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air. The objective of the Regulations is to improve air quality by reducing the impact of air pollution on human health and ecosystems. The standards set out

⁴⁶ AMEC Environment & Infrastructure UK Limited, (2012), *Appendix E – SEA of the Revocation of the South West Regional Strategy*, Department of Communities and Local Government, London.

air quality objectives, limit values and target values for pollutants, namely benzene, 1,3 butadiene, carbon monoxide, lead, nitrogen dioxide, PM₁₀, sulphur dioxide and PM₂₅.

- 4.135 The **Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007)** sets out a way forward for work and planning on air quality issues.
- 4.136 The **Environment Act 1995** was enacted to protect and preserve the environment and guard against pollution to air, land or water. It requires local authorities to undertake local air quality management (LAQM) assessments against the standards and objectives prescribed in Regulations. Where any of these objectives are not being achieved, local authorities must designate air quality management areas and prepare and implement remedial action plans to tackle the problem.
- 4.137 The **Ozone-Depleting Substances (Qualifications) Regulations 2009** introduce controls on the production, use and emissions from equipment of a large number of 'controlled substances' that deplete the ozone layer.
- 4.138 The **National Planning Policy Framework (NPPF) (2012)** expects the planning system to prevent new development from contributing to unacceptable levels of air pollution. Planning policies and decisions are therefore expected to ensure that new development is appropriate for its location and takes into account *"The effects (including cumulative effects) of pollution on health, the natural environment or general amenity, and the potential sensitivity of the area or proposed development to adverse effects from pollution"*.
- 4.139 The NPPF expects planning policies to *"sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with the local air quality action plan."*

Overview of the baseline data

- 4.140 Air quality in the UK is generally good, but with concentrations of poorer air quality either spatially or during specific climatic conditions.
- 4.141 Air Quality Management Areas (AQMAS) are designated where assessments of air quality identify the need for action plans to improve the quality of air. AQMAS are designated by local authorities where the levels of nitrogen dioxide (NO₂) and particulates (PM₁₀) reduce the quality of the air. As of July 2013, 223 local authorities had established AQMAS in England, 33 of which were in London. In 2009, 83.7% were designated because of the high levels of NO₂ pollution while 31.5% were a result of PM₁₀ pollution. The major source of pollution was from transport (94%), while the remainder (4.4%) arose from industrial pollution
- 4.142 Compared to the rest of the UK, England had higher concentrations of arsenic particularly the north eastern part of England including the north east, Yorkshire and Humberside. This reflects natural sources of airborne arsenic, particularly wind-blown dust especially in areas where agricultural practices give rise to wind-blown dust or where the natural arsenic content of the soil is relatively high.
- 4.143 The late spring and summer usually give rise to ozone air pollution episodes. In 2012 for example, there were two episodes; the first was between 22nd and 28th May and the second between 22nd and 26th July. During these episodes 'moderate' and 'high' ozone was recorded across the UK, but the highest ozone concentrations were found in southern English towns and cities such as north London, Brighton, Northampton, Bournemouth and Charlton and Somerset.
- 4.144 In 2012 there were several periods of elevated particulate pollution recorded by Automatic Urban and Rural Network monitoring sites across the UK. These occurred between January and May 2012. In March 2012, London, the south-east of England and the Midlands experienced 'moderate' and 'high' particulate pollution.
- 4.145 In 2010 the regional mortality due to anthropogenic particulate air pollution, was 5.6%.⁴⁷

⁴⁷ Department for the Environment, Food and Rural Affairs, (2013), *Air Pollution in the UK 2012*, Department for the Environment, Food and Rural Affairs, London.

Likely evolution without the Operational Programme

- 4.146 Although emissions from industrial processes are highly regulated, diffuse pollution, such as from traffic can be difficult to control and manage. The setting up of AQMA and the need for local authorities to develop AQMA action plans should have some positive effects, as should the ongoing EU regulatory pressure to move to ever more efficient and cleaner vehicle engines and fuels.

Climatic factors

- 4.147 The climatic factors SEA topic is concerned with assessing the likely effects of the ERDF Operational Programme on greenhouse gas emissions and on adaptation to climate change.
- 4.148 There are links between this SEA topic and other topics in the SEA, specifically biodiversity, air, water (under which flood risk is considered), and material assets.

Summary of environmental protection objectives

International

- 4.149 The **United Nations Framework Convention on Climate Change (UNFCCC)** sets an overall framework for international action to tackle the challenges posed by climate change. The Convention sets an ultimate objective of stabilising greenhouse gas concentrations "*at a level that would prevent dangerous anthropogenic (human induced) interference with the climate system.*" The Convention requires the development and regular update of greenhouse gas emissions inventories from industrialised countries, with developing countries also being encouraged to carry out inventories. The countries who have ratified the Treaty, known as the Parties to the Convention, agree to take climate change into account in such matters as agriculture, industry, energy, natural resources and where activities involve coastal regions. The Parties also agree to develop national programmes to slow climate change.
- 4.150 The **Kyoto Protocol**, adopted in 1997, is the key international mechanism agreed to reduce emissions of greenhouse gases. The Kyoto Protocol sets binding targets for 37 industrialised countries and the European Community for reducing greenhouse gas emissions. These targets equate to an average of 5% reductions relative to 1990 levels over the five-year period 2008-2012. The key distinction between this and the UNFCCC is that the Convention encourages nations to stabilise greenhouse gas concentrations while the Kyoto Protocol commits them to doing so by reducing greenhouse gas emissions. Countries must meet their targets primarily through national measures however the Kyoto Protocol offers them an additional means of meeting their targets by way of three market-based mechanisms: emissions trading, the clean development mechanism (CDM) and Joint Implementation (JI).
- 4.151 The Protocol's first commitment period ran from 2008 to 2012. At the Durban conference in December 2011, governments decided that the Kyoto Protocol would move into a second commitment period in 2013, in a seamless transition from the end of the second commitment period in 2012. Governments of Parties to the Kyoto Protocol also made a few amendments to the Protocol, including the range of greenhouse gases covered. A major outcome was the establishment of the **Durban Platform for Enhanced Action**, which spelt out a path to negotiate a new legal and universal emission reduction agreement by 2015, to be adopted by 2020.
- 4.152 In March 2007 the EU's leaders endorsed an integrated approach to climate and energy policy that aims to combat climate change and increase the EU's energy security while strengthening its competitiveness. They committed Europe to transforming itself into a highly energy-efficient, low carbon economy. It set a series of demanding climate and energy targets to be met by 2020, known as the '20-20-20' targets. These are:
- A reduction in EU greenhouse gas emissions of at least 20% below 1990 levels.
 - 20% of EU energy consumption to come from renewable resources.

- A 20% reduction in primary energy use compared with projected levels, to be achieved by improving energy efficiency.

- 4.153 To secure a reduction in EU greenhouse gases, the **EU Emissions Trading Scheme (EU ETS)**, a Europe wide scheme was introduced in 2005. EU ETS puts a price on carbon that businesses use and creates a market for carbon. It allows countries that have emission units to spare (emissions permitted to them but not 'used') to sell this excess capacity to countries which are likely to exceed their own targets. Since carbon dioxide (CO₂) is the principal greenhouse gas, this is often described as a carbon market or trading in carbon; the total amount of carbon emissions within the trading scheme being limited, and reduced over time. The **Integrated Climate and Energy Package** included a revision and strengthening of the Emissions Trading System (ETS). A single EU-wide cap on emission allowances applies from 2013 and will be cut annually, reducing the number of allowances available to businesses to 21% below the 2005 level in 2020. The free allocation of allowances will be progressively replaced by auctioning, and the sectors and gases covered by the system will be somewhat expanded.
- 4.154 The **Renewable Energy Directive 2009/28/European Commission** mandates levels of renewable energy use within the European Union. The Directive requires EU member states to produce a pre-agreed proportion of energy consumption from renewable sources such that the EU as a whole shall obtain at least 20% of total energy consumption from renewables by 2020. This is then apportioned across member states. The UK's target is for 15% of energy consumption in 2020 to be from renewable sources. Under Article 4 of the Directive each Member State is also required to complete a National Renewable Energy Action Plan that will set out the trajectory and measures that will enable the target to be met.
- 4.155 The **EU Sixth Environmental Action Plan (EAP) (2002-2012)** reviews the significant environmental challenges and provides a framework for European environmental policy up to 2012, and identifies climate change as one of four priority areas. The European Commission has recently consulted on the EU environment policy priorities for 2020: Towards a 7th EU Environment Action Programme. This looks to further integrating climate and environment into other policies and instruments.

National

- 4.156 In the UK, the **Climate Change Act 2008** introduces legislative targets for reducing the UK's impacts on climate change and the need to prepare for its now inevitable impacts. The Act sets binding targets for a reduction in CO₂ emissions of 80% by 2050, compared to a 1990 baseline. Interim targets and five-year carbon budget periods will be used to ensure progress towards the 2050 target. The Climate Change Act 2008 also requires the Government, on a regular basis, to assess the risks to the UK from the impact of climate change and report to Parliament.
- 4.157 The **Carbon Plan: Delivering our low carbon future (2011)** sets out how the UK will achieve decarbonisation within the framework of energy policy to make the transition to a low carbon economy while maintaining energy security, and minimising costs to consumers, particularly those in poorer households. It includes proposals for energy efficiency, heating, transport and industry.
- 4.158 The **Energy Act 2011** provides for some of the key elements of the Government's energy programme and including a step change in the provision of energy efficiency measures to homes and businesses. It also makes improvements to the framework for enabling and securing low carbon energy supplies and fair competition in the energy markets.
- 4.159 The **National Planning Policy Framework (2012)** provides a set of core land use planning principles that should underpin both plan-making and decision-taking. These include requiring local planning authorities to support "*the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, and encourage the use of renewable resources (for example, by the development of renewable energy)*".
- 4.160 The NPPF underlines that planning's role in tackling climate change is central to the economic, social and environmental dimensions of sustainable development. Local planning authorities are therefore expected to adopt proactive strategies to mitigate and adapt to climate change (in line with the objectives and provisions of the Climate Change Act 2008), taking full account of flood risk, coastal change and water supply and demand considerations.

4.161 To support the move to a low carbon future, local planning authorities are expected to plan for new development in locations and ways which reduce greenhouse gas emissions, actively support energy efficiency improvements to existing buildings, and have a positive strategy to promote energy from renewable and low carbon sources. Local plans are also expected to take account of climate change over the longer term, including factors such as flood risk, coastal change, water supply and changes to biodiversity and landscape. New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change.

Overview of the baseline data

- 4.162 In 2011 England's net emissions of CO₂ (by end user) were estimated to be 354 million tonnes, equivalent to approximately 6.7 tonnes of CO₂ emissions per capita.⁴⁸ In 2008, 29% of CO₂ emissions were from the energy supply sector, 20.3% from road transport, 31.1% from business and 24.1% from residential fossil fuel use.⁴⁹
- 4.163 Annual rainfall in England has not changed significantly since records began in 1766. Seasonal rainfall remains highly variable, but it has decreased in the summer and increased in the winter.⁵⁰ Compared with the whole of the UK, changes in the mean temperatures in the summer are greatest in parts of southern England (up to 4.2°C).⁵¹
- 4.164 In 2009, the UK Climate Impacts Programme predicted how the impact of climate change would affect the UK. The key headline data affecting England were:
- Summer rainfall in south-east England could decrease by one-fifth by the 2050s.
 - Average mean temperatures were likely to rise by more than 2°C across the UK.
 - If carbon emissions continue to rise, there is a 10% chance that temperatures in the south-east could rise by 8°C or more by the 2080s.⁵²
- 4.165 In 2012, England had the capacity to generate 8,000 MW of renewable energy. The East of England had the greatest capacity to generate renewable energy followed by the South East and the North West. In terms of regional generation and capacity, in the:
- East of England, 48% of capacity is from wind (mostly from offshore wind farms) and 36% from other bioenergy, 20% of the UK's landfill gas capacity and 13% of the UK's sewage gas capacity
 - South East, 52% of capacity is from wind and 18% from other bioenergy, 16% of the UK's landfill gas capacity
 - North West, 70% of capacity is from wind and 11% from landfill gas.⁵³
- 4.166 As of December 2011, England had a total of 190,327 sites generating electricity from renewable energy sources. The majority of these sites were solar PV (187,835) which generated 831.5 MW of energy followed by wind and wave (1,600) which generated 2,475.5 MW; landfill gas (378) which generated 881.3 MW; hydro (198) which generated 30.9 MW; sewage gas (162) which generated 177.2 MW and other bioenergy (154) which generated 1,700.4 MW.^{54 55}

⁴⁸ The Department for Energy and Climate Change, (2013) *Local Authority CO2 emissions estimates 2011: Statistical Summary and UK Maps*, The Department for Energy and Climate Change, London.

⁴⁹ AMEC Environment & Infrastructure UK Limited, (2012), *Appendix E – SEA of the Revocation of the South West Regional Strategy*, Department of Communities and Local Government, London.

⁵⁰ Department of Environment, Food and Rural Affairs, (2013) *UK Climate Projections: Observed Trends Report 1.4*, UK Climate Projections, <http://ukclimateprojections.defra.gov.uk/22862>.

⁵¹ Department for the Environment, Food and Rural Affairs, (2013), *Online Climate Change Projections Report Examples of Projected Changes*, UK Climate Projections, <http://ukclimateprojections.defra.gov.uk/22770>

⁵² UK Climate Impacts Programme (2009) *Climate Impacts: UK Impacts, Key Findings*, <http://www.ukcip.org.uk/essentials/uk-impacts/key-findings/>

⁵³ Department for Energy and Climate Change (2013) *Regional Renewable Statistics*, Department for Energy and Climate Change, London.

⁵⁴ Department of Energy and Climate Change, (2012), *Renewable Electricity in Scotland, Wales, Northern Ireland and the Regions of England in 2011*, Department of Energy and Climate Change, London.

⁵⁵ Department of Energy and Climate Change, (2012), *Regional Renewable Statistics: Historic Regional Statistics*, RESTATS Statistics 2011, London

Likely evolution without the Operational Programme

- 4.167 England's greenhouse gas emissions are influenced by a range of factors. One of the most significant is the state of the economy. At times of rapid economic growth, greenhouse gas emissions tend to increase more than at times of recession. Greenhouse gas emissions also tend to increase during cold winters, as more homes use carbon-based fuels to keep warm.
- 4.168 Longer term, there are strong international obligations to reduce greenhouse emissions, although there can be tensions between these obligations and the need to remain competitive in international markets. Initiatives to promote the use of renewable energies are susceptible to changes in Government policy and funding regimes.

Material assets

- 4.169 In this SEA material assets have been interpreted as referring to minerals and waste, in particular waste processing, recycling and disposal of multiple waste types. This includes municipal, commercial, industrial, construction, excavation, demolition and hazardous wastes.

Summary of plans and programmes

International

- 4.170 The **Basel Convention** came into force in 1992 and is a global agreement, ratified by several member countries and the European Union, for addressing the problems and challenges posed by hazardous waste. The key objectives of the Basel Convention are:
- To minimise the generation of hazardous wastes in terms of quantity and level of hazard.
 - To dispose of them as close to the source of generation as possible.
 - To reduce the movement of hazardous wastes.
- 4.171 The **Waste Framework Directive** 75/442/EEC as amended by 91/156/EEC, 91/92/EEC and 2008/98/European Commission provides the overarching framework for waste management at the EU level. It relates to waste disposal and the protection of the environment from harmful effects caused by the collection, transport, treatment, storage and tipping of waste. In particular, it aims to encourage the recovery and use of waste in order to conserve natural resources. The key principles of the Directive include the 'Waste Management Hierarchy' which stipulates the following waste management options in order of decreasing desirability: prevention; preparing for re-use; recycling; other recovery, e.g. energy recovery; and disposal. Key objectives are to reduce the negative impacts of the generation of waste and the overall impacts of resource use. This should be done through a variety of mechanisms, including:
- By 2020 requiring member states to recycle 50% of their household waste and 70% of their non-hazardous construction and demolition waste.
 - Applying the waste hierarchy - promoting waste minimisation followed by reuse and recycling, other recovery (such as energy recovery) and disposal - as a priority order in waste prevention and management legislation and policy.
 - Ensuring that four specified materials (paper, metal, plastics and glass) are collected separately by 2015.
 - Taking measures as appropriate to promote the re-use of products and preparing for re-use activities.
 - Extending the self-sufficiency and proximity principles to apply to installations for recovery of mixed municipal waste from households.
- 4.172 The Directive was transposed into English legislation through the Waste (England and Wales) Regulations 2011 (SI2011 No.988).
- 4.173 A compromise agreement was reached between the Council of Environment Ministers and the European Parliament in June 2008 on revisions to the Waste Framework Directive. The main changes include EU wide targets for reuse and recycling 50% of household waste by 2020, and for

reuse, recycling and recovery of 70% of construction and demolition waste by 2020. In this context, the **Landfill Directive** (European Commission, 1999) focuses on waste minimisation and increasing levels of recycling and recovery. The overall aim of the Directive is to prevent or reduce as far as possible negative effects on the environment, in particular the pollution of surface water, groundwater, soil and air and on the global environment, including the greenhouse effect as well as any resulting risk to human health from the landfilling of waste, during the whole lifecycle of the landfill. The Directive sets the target of reducing biodegradable municipal waste landfilled to 35% of that produced in 1995 by 2020.

- 4.174 There are a number of **Producer Responsibility Directives** relating specifically to consumer products. Their purpose is to require businesses to reuse recover and recycle waste which comes from products they produce, and each Directive sets national targets for recovery and recycling of these wastes.
- 4.175 The **EU Thematic Strategy on the Prevention and Recycling of Waste (2002-2012)** is a long-term strategy aims to help Europe become a recycling society that seeks to avoid waste and uses waste as a resource.

National

- 4.176 The **Environmental Permitting (England and Wales) Regulations 2010 SI 675** provide a system for environmental permits and exemptions for industrial activities, mobile plant, waste operations, mining waste operations, water discharge activities, groundwater activities and radioactive substances activities. They also set out the powers, functions and duties of the regulators.
- 4.177 The **Waste Strategy (2007)** translates the principles of the previous EU Waste Framework Directive into UK policy. Its key objectives include:
- Decoupling waste growth (in all sectors) from economic growth and putting more emphasis on waste prevention and re-use.
 - Meeting and exceeding the Landfill Directive diversion targets for biodegradable municipal waste in 2010, 2013 and 2020.
 - Increasing diversion from landfill of non-municipal waste and securing better integration of treatment for municipal and non-municipal waste.
 - Securing the investment in infrastructure needed to divert waste from landfill and for the management of hazardous waste.
 - Getting the most environmental benefit from that investment, through increased recycling of resources and recovery of energy from residual waste using a mix of technologies.
- 4.178 The Strategy sets national targets for:
- Reducing the amount of household waste that is not re-used, recycled or composted.
 - Recycling and composting of household waste – at least 40% by 2010, 45% by 2015 and 50% by 2020.
 - Recovery of municipal waste – 53% by 2010, 67% by 2015 and 75% by 2020.
- 4.179 The Coalition Government carried out a **National Review of Waste Policy in England (2011)**, looking at the most effective ways of reducing waste, maximising the money to be made from waste and recycling and considering how waste policies affect local communities and individual households. The report set out a number of 'Principal Commitments' which aim to achieve a more sustainable approach to the use of materials, deliver environmental benefits and support economic growth. These include:
- Promoting resource efficient product design and manufacture and targeting those waste streams with high carbon impacts, both in terms of embedded carbon (food, metals, plastics, textiles) and direct emissions from landfill (food, paper and card, textiles, wood).
 - Promoting the use of life cycle thinking in all waste policy and waste management decisions and waste management reporting in carbon terms, as an alternative to weight-based measures.

- Developing a comprehensive Waste Prevention Programme and in the meantime working with businesses and other organisations across supply chains on a range of measures designed to drive waste reduction and re-use as part of a broader resource efficiency programme.
- Continuing to help local communities develop fit for purpose local solutions for collecting and dealing with household waste and working with councils to meet households' reasonable expectations for weekly collections, particularly of smelly waste.

4.180 Defra's **Strategy for Hazardous Waste Management in England (2010)** sets out the following principles for hazardous waste management:

- Waste hierarchy.
- Infrastructure provision.
- Reduce our reliance on landfill.
- No mixing or dilution.
- Treatment of hazardous organic wastes.
- End reliance on the use of Landfill Directive waste acceptance criteria derogations.

4.181 **PPS10: Planning for Sustainable Waste Management (2011)** sets out the national planning framework in relation to waste. It states that planning has a key role in delivering sustainable waste management through both the development of appropriate strategies for growth, regeneration and the prudent use of resources and by providing sufficient opportunities for the development of new waste management facilities. PPS10 states that all planning authorities should prepare planning strategies that:

- Help deliver sustainable development through driving waste management up the waste hierarchy, addressing waste as a resource and looking to disposal as the last option, but one which must be adequately catered for.
- Provide a framework in which communities take more responsibility for their own waste, and enable sufficient and timely provision of waste management facilities to meet the needs of their communities.
- Help implement the national waste strategy, and supporting targets, are consistent with obligations required under European legislation and support and complement other guidance and legal controls such as those set out in the Waste Management Licensing Regulations 1994.
- Help secure the recovery or disposal of waste without endangering human health and without harming the environment, and enable waste to be disposed of in one of the nearest appropriate installations.
- Reflect the concerns and interests of communities, the needs of waste collection authorities, waste disposal authorities and business, and encourage competitiveness.
- Protect green belts but recognise the particular locational needs of some types of waste management facilities when defining detailed green belt boundaries and, in determining planning applications, that these locational needs, together with the wider environmental and economic benefits of sustainable waste management, are material considerations that should be given significant weight in determining whether proposals should be given planning permission.
- Ensure the design and layout of new development supports sustainable waste management.

4.182 The **Natural Environment White Paper (2011)** sets out the ambition that the use of peat will be reduced to zero in England by 2030. This will contribute to the protection of important lowland peat habitats (both here and overseas) and significant carbon stores, and will promote a shift towards the greater use of waste-derived and by-product materials. It also sets ambitious targets for reducing use within individual sectors, to drive action and provide clarity about the long-term direction of policy.

4.183 The **Resource Security Action Plan (2012)** provides a framework for business action to address risks about the availability of some non-renewable raw materials (including minerals),

and sets out high level actions to build on the developing partnership between Government and businesses to address resource concerns. This Action Plan emphasises the need to make best use of resources currently in use, reducing as far as practicable the quantity of material used and waste generated, and using as much recycled and secondary material as possible, before securing the remainder of material needed through new primary extraction.

- 4.184 The **National Planning Policy Framework (2012)** sets the planning policy framework for minerals planning. The NPPF expects local planning authorities to set out the strategic priorities for the area in the local plan and include strategic policies to deliver the provision of minerals. Minerals planning authorities are expected to develop and maintain an understanding of the mineral resource in their areas and assess the projected demand for their use, taking full account of opportunities to use materials from secondary and other sources which could provide suitable alternatives to primary materials.
- 4.185 In order to facilitate the sustainable use of minerals, the NPPF sets out a number of expectations relating to specific minerals for local authority plan-making and decisions on planning applications. In doing so the Framework includes safeguards to ensure that permitted operations do not have unacceptable negative impacts on the natural and historic environment or human health.
- 4.186 The **Waste Management Plan for England (2013)** provides an analysis of the current waste management situation in England, and evaluates how it will support implementation of the objectives and provisions of the revised Waste Framework Directive. In the same year, DCLG published a consultation version of the **Updated National Waste Planning Policy: Planning for Sustainable Waste Management (2013)**, which maintains the core principles of the 'plan led' approach, with a continued focus of moving waste up the waste hierarchy by moving away from traditional landfill towards more sustainable options for waste management.

Overview of the baseline data

- 4.187 In 2008 UK waste production was 288.6 million tonnes of which the total waste generated in England was 228.0 million tonnes; this was down from 307.1 million tonnes in 2006. The largest contributing sector in 2008 was construction and demolition (81.4 million tonnes), followed by mining and quarrying (62.9.0 million tonnes), commercial and industrial (56.0 million tonnes) household (25.9 million tonnes) and the combined total of other sectors was 1.7 million tonnes.
- 4.188 The composition of total generated waste in England in 2008 consisted of:
- Mineral waste (151.2 million tonnes, 66%).
 - General and mixed waste (48.0 million tonnes, 21%).
 - Paper & card (10.4 million tonnes, 5%).
 - Animal & vegetable wastes (9.8 million tonnes, 4%).
 - Metal & scrap (5.2 million tonnes, 2%).
 - Chemical & other (3.4 million tonnes, also 2%).
- 4.189 Waste production in England has been declining since 2004. In 2008, 46% of waste was recovered and 43% went into landfill. The implementation of the Landfill Directive, the increase year on year of diversion targets for biodegradable municipal waste to landfill and the slowdown in economic growth in 2010 are all contributing factors to the decrease in waste generation in the UK and England.
- 4.190 Based on UK regional data, the highest (45.7%) recycling, composting and reuse rate was found in the East of England while London had the lowest rate at 27.4%.⁵⁶
- 4.191 In 2009/10, local authority collected waste was 26.5 million tonnes, a decline from 27.3million tonnes in 2008/09. Of this total 38.6% was recycled. This represents a rise of 36.8% in 2008/09. Between 2008/09 and 2009/10 the amount of local authority collected waste being sent to landfill also declined by 9.4%, from 13.8 million tonnes (50.3% of the total) to 12.5 million

⁵⁶ Department for Environment Food and Rural Affairs, (2011), *Waste Data Overview*, Defra, London.

tonnes (46.9% of the total). In 2008 the West Midlands (28.5%) had the lowest proportion of local authority collected waste in the whole of the UK.⁵⁷

- 4.192 The production of hazardous waste in England (and Wales) decreased by 31% since 2007, totalling 4.41 million tonnes in 2009. The total hazardous waste produced in England alone in 2009 was 4,095,477 tonnes.⁵⁸
- 4.193 Based on sales by region and country of origin, and by the major types of primary aggregate (i.e. land-won/marine sand and gravel and crushed rock), in 2009 the East Midlands was the largest producing region at 26.9 Mt equivalent to 23% of total primary land-won aggregate sales in England (and Wales). The second largest was the South West (20.8 Mt), while the smallest producing region was in North East (4.6 Mt). The East Midlands accounted for the largest volume of crushed rock aggregate sales (30%) and the South East for the highest proportion of sand and gravel (including marine-dredged) sales (23%), only slightly higher than the East of England (21%). The South West was the largest producer of limestone for aggregate use at 15.2 Mt followed by the East Midlands with 10.7 Mt.⁵⁹
- 4.194 The differences between sand and gravel, and crushed rock production across England reflect the underlying geology and hence the aggregate resources within these areas.

Likely evolution without the Operational Programme

- 4.195 The production and management of waste is likely to continue to be influenced by various EU Directives, and national initiatives. It is likely that England will see a continuation of the trend towards the higher end of the waste hierarchy, with increasing proportions of waste re-used and recycled, and reduced waste at source.
- 4.196 Minerals extraction tends to follow the performance of the national economy, and patterns of investment in major development projects. At times of high economic growth, and when there is considerable development activity going on, demand for minerals tends to increase. There is an increasing emphasis on the recovery of mineral wastes, including construction and demolition wastes, and this is likely to continue.

Cultural heritage

- 4.197 The definition of cultural heritage adopted for the purposes of this assessment concurs with the definitions set out within the NPPF, whereby cultural heritage includes:
- Historic landscapes, architectural and archaeological heritage, and their settings. It comprises below-ground and upstanding evidence of past human activity and encompasses artefacts, buried and underwater archaeological sites, earthworks, buildings, battlefields, historic gardens, historic landscapes, wrecks, hedgerows, ancient woodland and undeveloped coastline.
 - Heritage assets, that is a building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, whether this is a designated heritage asset or those identified by the local planning authority (including local listing).
 - Heritage defined by its value to this and future generations. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.

⁵⁷ Department for the Environment Food and Rural Affairs, (2011), *Government Review of Waste Policy in England 2011*, Defra, London.

⁵⁸ AMEC Environment & Infrastructure UK Limited, (2012), *Appendix E – SEA of the Revocation of the South West Regional Strategy*, Department of Communities and Local Government, London.

⁵⁹ Department of Communities and Local Government, The British Geological Survey, Natural Environment Research Council and The Welsh Assembly Government (2011), *Collation of Results of the 2009 Aggregate Minerals Survey for England and Wales*, London.

Summary of environmental protection objectives

International

- 4.198 The **UNESCO World Heritage Convention (1972)** aims to promote co-operation amongst nations to protect heritage that is of such outstanding value that its conservation is important for current and future generations and established a register of World Heritage Sites. It is intended that properties on the World Heritage List will be conserved for all time. Member states commit themselves to the identification, protection, conservation, and presentation of World Heritage properties.
- 4.199 The **UNESCO Convention for the Protection of the Archaeological Heritage of Europe (revised)** is a Europe-wide international treaty which establishes the basic principles to be applied in national archaeological heritage policies. It supplements the general provisions of the UNESCO World Heritage Convention and aims to protect archaeological heritage as a source of the European collective memory and as an instrument for historical and scientific study. It sets out a framework which requires member states to:
- Maintain an inventory of archaeological heritage and designated protected monuments and areas.
 - Create archaeological reserves.
 - Ensure that finders of any element of archaeological heritage report it and make it available to the competent authority.
- 4.200 The **European Convention on the Protection of the Archaeological Heritage (1992)** made a number of important agreements including setting the definition of archaeological heritage as *"all remains and objects and any other traces of mankind from past epochs...shall include structures, constructions, groups of buildings, developed sites, moveable objects, monuments of other kinds as well as their context, whether situated on land or under water"*.

National

- 4.201 The **Ancient Monuments and Archaeological Areas Act 1979** provides for the scheduling of ancient monuments and offers the only legal protection specifically for archaeological sites.
- 4.202 The **Planning (Listed Buildings and Conservation Areas) Act 1990** outlines the level of protection received by listed buildings, scheduled monuments, conservation areas, and buildings within Conservation Areas.
- 4.203 The Government does not intend to proceed with the **Heritage Protection Bill** or proposals in the 2007 White Paper. Instead as part of implementation of the **Penfold Review of Non-planning consents** and the Government's objective of making the planning system work more efficiently and effectively, the **Enterprise and Regulatory Reform Act 2013** has introduced changes that streamline the Listed Building Consent process. The main changes include the introduction of Heritage Partnership Agreements for local planning authorities and building owners, new powers for the Secretary of State and local planning authorities to create local listed building consent orders and the creation of a certificate of lawfulness for building owners which will confirm that the alteration or extensions (but not demolition) do not require listed building consent.⁶⁰
- 4.204 There are a number of other Acts which afford protection to cultural and historical assets, including the **Protection of Wrecks Act 1973**, which provides protection for shipwrecks of historical, archaeological or artistic value; the **Protection of Military Remains Act 1986**, which provides protection for the wreckage of military aircraft and designated military vessels; and the **Treasure Act 1996**, which sets out procedures for dealing with finds of treasure, its ownership and rewards, in England, Wales and Northern Ireland.
- 4.205 Conservation areas were introduced by the **Civic Amenities Act 1967** and are designated for their special architectural and historic interest. Most conservation areas are designated by the

⁶⁰ National Planning Practice Guidance: Conserving and enhancing the historic environment
<http://planningguidance.planningportal.gov.uk/blog/guidance/conserving-and-enhancing-the-historic-environment/is-an-application-for-planning-permission-required-to-carry-out-works-to-a-listed-building/>

local planning authority. English Heritage can designate conservation areas in London, where they have to consult the relevant London Borough Council and obtain the consent of the Secretary of State for National Heritage. The Secretary of State can also designate in exceptional circumstances - usually where the area is of more than local interest.

- 4.206 At a national level, the Draft **Heritage Protection Bill** contains provisions to unify the designation and consent regimes for terrestrial heritage assets, and transfer responsibility for designation of these assets. It also contains provisions to reform the marine heritage protection regime in England and Wales by broadening the range of marine historic assets that can be protected. The Draft Bill is based on the proposals set out in the White Paper, *Heritage Protection for the 21st Century (2007)*, and is one element of a wider programme of on-going heritage protection reforms. There are however, no current plans to enact the Bill and it is not known whether its provisions will become statute.
- 4.207 The Department for Culture, Media and Sport White Paper **Heritage Protection for the 21st Century (2007)** sets out a strategy for protecting the historic environment, based on three core principles: developing a unified approach to the historic environment; maximising opportunities for inclusion and involvement; and supporting sustainable communities by putting the historic environment at the heart of an effective planning system.
- 4.208 **The National Planning Policy Framework (NPPF) (2012)** sets out most of its historic environment requirements within paragraphs 126-141 and 169-170. The NPPF expects local planning authorities to set out in their local plan a positive strategy for the conservation and enjoyment of the historic environment and in doing so recognise that heritage assets are an irreplaceable resource. The Framework sets out the core land use planning principles that should underpin both plan-making and decision-taking and in doing so expects planning to "*conserve heritage assets in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of this and future generations*".
- 4.209 When considering the impact of a proposed development on the significance of a designated heritage asset, the NPPF expects great weight to be given to the asset's conservation. The more important the asset, the greater the weight should be. The NPPF explains that significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, the NPPF expects any harm or loss to require clear and convincing justification. Where a proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, "*local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss*".
- 4.210 **English Heritage**, the Government's statutory adviser on the historic environment in England, has published a number of guidance documents for the protection of the historic environment, including **Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment (2008)**; **The Setting of Heritage Assets (2011)**; **Enabling Development (2009)** and the publication series on Understanding Buildings and Understanding Place. In addition **Wind Energy and the Historic Environment (2005)**; **Biomass Energy and the Historic Environment (2005)**; **Climate Change and the Historic Environment (2005)** are currently being reviewed in light of the NPPF. At present there is no information on their proposed republication.
- 4.211 There is also policy and guidance from the **National Planning Practice Guidance** to support the NPPF and forthcoming guidance that **English Heritage are producing with the Historic Environment Forum** to underpin these policy and guidance documents.

Overview of the baseline data

- 4.212 In April 2013, there were 375,725 listed buildings, 19,792 scheduled monuments, 1,624 registered parks and gardens, 43 historic battlefields, 46 protected wreck sites, 9,824 conservation areas, 354,000 hectares of ancient woodland and 18 World Heritage Sites in England. The number of heritage sites has increased with the vast majority of entries recorded as

listed buildings, which increased by 4,993 since 2002. There were 5,700 sites in England on the Heritage at Risk Register in 2012.⁶¹

- 4.213 In 2013 English Heritage identified the following proportions of heritage sites as at risk within England:
- 2.9% of grade I and II listed buildings.
 - 6.2% of conservation areas.
 - 16.5% of scheduled monuments.
 - 6.2% of registered parks and gardens.
 - 14% of registered battlefields.
 - 8.7% of protected wreck sites.⁶²
- 4.214 The English territorial sea has one the highest densities of shipwrecks in the world. This is due to the historically high volumes of shipping traffic and a long history of seafaring along a hazardous coastline.
- 4.215 Investment in the historic environment comes from a variety of sectors. In 2009/10, Arts and Business, one of the leading global experts in developing private and public sector partnerships with the arts, estimated that £209 m worth of private investment went into the heritage sector, down slightly from £225 m in 2008/09. Other major investors in 2011/12 include the Heritage Lottery Fund which awarded £286 m, English Heritage, £121.2 m, The Listed Places of Worship, £7.6 m and £68 m by The National Trust.
- 4.216 Data from the 2011/12 English Heritage Taking Part survey show that 74.3% of adults in England visited at least one heritage site in the last 12 months which is an increase of 3.6% on last year. Five socio-demographic groups which experienced a notable increase between 2005/6 and 2011/12 were:
- Black and ethnic minority groups (up 10.7 percentage points to 61.4%).
 - Social rented sectors (up 9.2 percentage points to 55.6%).
 - Lower socio-economic groups (up 6.1 percentage points to 63.2%).
 - Those aged 75+ (an increase of 6.1 percentage points to 58.2%).
 - People with limiting illness or disability (an increase of 3.1 percentage points to 67%).
- 4.217 Between 2005/06 and 2011/12, heritage attendance increased significantly in six of the nine English regions:
- Yorkshire and The Humber (up 6.6 percentage points to 74.8%).
 - North East (up 6.3 percentage points to 75.4%).
 - West Midlands (up 5.9 percentage points to 71.7%).
 - East of England (up 5.6 percentage points to 78.1%).
 - London (up 4.9 percentage points to 68.6%).
 - South East (up 4.1 percentage points to 80.3%)⁶³.

Likely evolution without the Operational Programme

- 4.218 The trends in cultural heritage are likely to continue irrespective of the ERDF Operational Programme, through operation of protection measures, funding regimes (such as the Heritage Lottery Fund), and the planning system.

⁶¹ Heritage at Risk 2013 Statistics, (2013), <http://www.english-heritage.org.uk/caring/heritage-at-risk/findings/>

⁶² English Heritage, (2013), *Heritage Counts England*, English Heritage, London.

⁶³ AMEC Environment & Infrastructure UK Limited, (2012), *Appendix E – SEA of the Revocation of the South West Regional Strategy*, Department of Communities and Local Government, London.

Landscape

4.219 The European Landscape Convention definition of the landscape covers natural, rural, urban and urban-rural fringe land as well as inland water and marine areas.

Summary of environmental protection objectives

International

4.220 The **European Landscape Convention** emphasises the importance of landscape as a cultural as well as an aesthetic asset. It commits signatories to promoting the protection, management and enhancement of landscapes across the member state, and integrating landscape considerations into all relevant policies. The Convention's definition of landscape reflects the idea that landscapes evolve through time, as a result of being acted upon by natural forces and human beings. It also underlines that the natural and cultural components of a landscape form a whole and should both be considered together. The convention also calls for improved public involvement in landscape matters. The UK became a signatory to the European Landscape Convention in 2006.

National

4.221 In the UK, there are numerous Acts governing the protection of the countryside, landscape and natural environment. The **National Parks and Access to the Countryside Act 1949** makes provision for National Parks, confers powers for the establishment and maintenance of nature reserves, makes provision for the recording, creation, maintenance and improvement of public paths and for securing access to open country and confers further powers for preserving and enhancing natural beauty.

4.222 National Parks are areas of relatively undeveloped and scenic landscape. Land designated as a National Park may include substantial settlements and human land uses which are often integral parts of the landscape. Land within England's National Parks remains largely in private ownership. There are currently nine National Parks in England. Each park is operated by its own National Park Authority, in line with two 'statutory purposes':

- To conserve and enhance the natural beauty, wildlife and cultural heritage of the area.
- To promote opportunities for the understanding and enjoyment of the parks.

4.223 In addition, the Norfolk Broads and Suffolk Broads has the same status as the National Parks in England and Wales.

4.224 Areas of Outstanding Natural Beauty (AONBs) are areas of high scenic quality that have statutory protection in order to conserve and enhance the natural beauty of their landscapes. AONB landscapes range from rugged coastline to water meadows to gentle lowland and upland moors. Natural England has a statutory power to designate land as AONB.

4.225 The **Countryside and Rights of Way Act 2000** increased the duty of provision of public access to the countryside and strengthened legislation relating to Sites of Special Scientific Interest (SSSIs). In particular, it requires public bodies to further the conservation and enhancement of SSSIs both in carrying out their operations, and in exercising their decision making functions.

4.226 The **Marine and Coastal Access Act 2009** seeks to ensure clean healthy, safe, productive and biologically diverse oceans and seas, by putting in place better systems for delivering sustainable development of marine and coastal environment.

4.227 Other relevant Acts include:

- The **1967 Forestry Act (as amended 1999)** restricts and regulates the felling of trees. The **1968 Countryside Act** enlarges the function of the Agency established under the National Parks and Access to the Countryside Act 1949, to confer new powers on local authorities and other bodies for the conservation and enhancement of natural beauty and for the benefit of those resorting to the countryside.

- The **1986 Agriculture Act (with numerous revisions)** covers the provision of agricultural services and goods, agricultural marketing compensation to tenants for milk quotas, conservation and farm grants.
 - The **Commons Act 2006**, which protects common land and promotes sustainable farming, public access to the countryside and the interests of wildlife.
- 4.228 The **Natural Environment and Rural Communities (NERC) Act 2006** implements key elements of the Government's Rural Strategy published in July 2004. The NERC Act is designed to help achieve a rich and diverse natural environment and thriving rural communities through modernised and simplified arrangements for delivering Government policy. The NERC Act established a new independent body - Natural England - responsible for conserving, enhancing, and managing England's natural environment for the benefit of current and future generations. The Act made amendments to both the Wildlife and Countryside Act 1981 and the Countryside and Rights of Way Act 2000, which further enhance provisions on biodiversity generally and SSSIs in particular.
- 4.229 The **National Planning Policy Framework (2012)** includes strong protections for valued landscapes and townscape as well as recognising the intrinsic character and beauty of the countryside. The importance of planning positively for high quality design is underlined and local and neighbourhood plans are expected to "*develop robust and comprehensive policies that set out the quality of development that will be expected for the area*". Planning policies and decisions are expected to respond to local character and history, and reflect the identity of local surroundings and materials, while not preventing or discouraging appropriate innovation.
- 4.230 The NPPF has a number of specific requirements relating to planning and landscape including a clear expectation that the planning system should contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes. Local planning authorities are expected to set criteria based policies against which proposals for any development on or affecting protected landscape areas will be judged. In doing so, distinctions should be made between the hierarchy of international, national and locally designated sites and "*great weight*" should be given to "*conserving landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty*".
- 4.231 Local planning authorities in their plan-making are expected to take account of climate change and changes to landscape and set out a clear strategy for enhancing the natural, built and historic environment. Where appropriate, "*landscape character assessments should also be prepared, integrated with assessment of historic landscape character and for areas where there are major expansion options assessments of landscape sensitivity*".
- 4.232 Historic Landscape Characterisation (HLC) is a method of analysing and recording the way in which historical human interaction with the land has produced the landscape we experience today. It is a means for understanding the entire landscape rather than the individual elements (like monuments or historic buildings) that have traditionally been the focus of archaeological research. HLC is used in landscape management and strategic planning, environmental stewardship, habitat restoration and community planning. English Heritage consultation comments confirm that '*now East Berkshire HLC is being carried out, all of England is covered*' by HLC.⁶⁴

Overview of the baseline data

- 4.233 The 'Character of England Landscape, Wildlife and Cultural Features Map' subdivides England into 159 areas with similar landscape character called National Character Areas (NCA). Based on a combination of landscape, biodiversity, geo-diversity and cultural and economic activity, their boundaries follow natural lines in the landscape rather than administrative boundaries.⁶⁵
- 4.234 There are 17 World Heritage Sites in England, the most recent of these to be recognised as such by UNESCO is the Cornwall and West Devon mining landscape in 2006.
- 4.235 Other statutory sites designated (wholly or partially) for their landscape value include National Parks, AONBs, Country Parks, Registered Historic Parks and Gardens, Historic Gardens and

⁶⁴ English Heritage (2014) English Heritage Response To England ERDF SEA Scoping

⁶⁵ Natural England, (2013), *National Character Areas- Defining England's Natural Boundaries*, Natural England, <http://www.naturalengland.org.uk/publications/nca/default.aspx#stories>

Designed Landscapes, National Scenic Areas (NSAs), Regional Parks and World Heritage Sites. Other important (non-statutory) sites include Areas of Great Landscape Value (AGLV), Heritage Coasts and National Trust properties.⁶⁶

- 4.236 In England there are nine National Parks which, together with The Broads (which has similar protection to a National Park), cover 9.3% of the land area of England. England also has 34 Areas of Outstanding Natural Beauty (AONB) one of which straddles England and Wales. AONBs account for 15% of the land area of England.
- 4.237 Most Heritage Coasts are within National Parks or AONBs, while some like Lundy stand alone. Heritage Coasts are not statutorily designated, but are areas defined for their beauty and undeveloped nature. They represent 33% (1,057 km) of England's coastline and are managed to conserve their natural beauty and, where appropriate, improve accessibility for visitors.
- 4.238 The 43 statutory historic battlefields and other non-statutory designations which include 1,450 Registered Historic Parks and Gardens are maintained by English Heritage.⁶⁷
- 4.239 Visually all landscapes in England are different. In some areas, such as The Broads of East Anglia and the Meres and Mosses of Shropshire, wetlands remain prominent and give a unique character to both the landscape and wildlife of the area. Semi-natural woodland occurs prominently in the lowlands of England, giving texture and pattern to the countryside and providing interest in what are otherwise often intensively managed areas. These characteristic components of the English countryside are especially significant as very few similar landscapes occur outside Britain.
- 4.240 In the north, a particularly distinctive landscape feature is the limestone pavements of Cumbria and North Yorkshire, which provide a unique habitat for plants. Apart from the mountainous scenery of The Lake District, and the high limestone fells of the Yorkshire Dales, most of the English upland landscapes are moorlands with gently undulating plateaux cut by steep-sided valleys. In the wettest parts of the uplands, such as the Pennines, there are blanket bogs, forming large areas of peat landscapes.⁶⁸

Likely evolution without the Operational Programme

- 4.241 The landscapes of England are constantly changing, reflecting the interaction of climate with geology, and human activity with land use, over time.
- 4.242 There is intense pressure for development to meet the country's housing, economic and infrastructure needs, and this will impact on landscapes, notwithstanding the protection that many are afforded. These impacts can be direct, through development, and indirect through the generation of noise and light pollution, traffic, and supporting infrastructure (e.g. energy, water and telecommunications).
- 4.243 The design quality as well as the location of development can have a major influence on the significance of any effects.

Environmental considerations in preparation of the ERDF Operational Programme

- 4.244 In deciding which Thematic Objectives should be the focus of the ERDF Operational Programme, DCLG began with the EU 2020 policy menu, EU regulations as regards thematic concentration, UK Country Specific Recommendations, National Reform Plan priorities and LEP area ESIF Strategies. Combined, these pointed to a strong expenditure focus on three Thematic Objectives: TO1 Strengthening research, technological development & innovation; TO3 Enhancing the Competitiveness of SMEs and; TO4 Supporting the shift towards a low carbon economy.

⁶⁶ AMEC Environment & Infrastructure UK Limited, (2012), *Appendix E – SEA of the Revocation of the South West Regional Strategy*, Department of Communities and Local Government, London.

⁶⁷ Joint Nature Conservation Committee, (2013) *Protected Sites Designation Directory*, Joint Nature Conservation Committee, <http://jncc.defra.gov.uk/page-1527>. [Accessed November 2013].

⁶⁸ Natural England, (2008), *State of the Environment Reports*, Natural England, Peterborough.

- 4.245 In making these choices, DCLG opted not to target significant investment in Thematic Objectives that were less central to priority growth and jobs needs across England and which were more linked to substantial infrastructure investments. Where DCLG opted to allocate ERDF to Thematic Objectives that do have a stronger focus on infrastructure outcomes – such as transport schemes under TO7 – DCLG introduced a higher evidence bar and made this explicit in guidance to LEPs.
- 4.246 The result is that Thematic Objective choices have been carefully managed with over 90% of ERDF financial resources allocated to Thematic Objectives 1, 3 and 4. It is DCLG's view that because these will generally involve less built development and therefore tend to have smaller environmental impacts than Thematic Objectives 2, 5, 6 and 7. Where investment is planned in this latter group of Thematic Objectives, DCLG consider that environmental impacts will be mitigated by the development of appropriate project selection criteria, the involvement of statutory environmental agencies as appropriate, the tendency for a LEP area management model to give rise to smaller projects than a regional or pan-regional model, and the fact that the 2014-2020 Operational Programme period was begun early to allow additional time for effective project planning, including embedding of sustainable development principles at project design phase and mitigation of environmental impacts. These approaches are described more fully and critically assessed in **Chapter 6** Assessment of Alternatives.
- 4.247 In addition, some of the investment priorities and actions to be supported by the selected Thematic Objectives are likely to result in environmental enhancements that are consistent with some of the environmental policy objectives outlined in this chapter. For example, Thematic Objective 4 Supporting the shift towards a low carbon economy in all sectors is closely aligned with international and national objectives on climate change mitigation. These positive environmental effects are identified in the assessment of the ERDF Operational Programme in **Chapter 5** and **Appendix 2**. It should also be noted that the requirements of the ERDF Operational Programme's 'Horizontal Principles' or 'cross-cutting themes' of Sustainable Development and Equal Opportunities and Non-Discrimination will help to ensure that environmental issues are considered as the Programme is implemented. This is explored further in **Chapter 5**.

5 Likely significant effects

Introduction

- 5.1 This Chapter summarises the likely significant effects on the environment of the ERDF Operational Programme that have been identified by the SEA. The effects of individual Thematic Objectives are summarised in **Table 5.1**. The following text then highlights any of these effects which are judged to be significant in scale, including significant effects identified from the high level assessment of Priority Axis 10. Following this, conclusions are drawn on the effects of the ERDF Operational Programme as a whole, taking into account the potential for cumulative or synergistic effects between its different elements, as well as the effects of the Horizontal Principles to be applied when projects are selected for support. Finally, suggestions are made for further mitigation or enhancement of environmental effects.

Assumptions

- 5.2 In assessing the environmental effects of the ERDF Operational programme, LUC has had regard to the fact that whilst the ERDF Operational Programme sets the framework for decision-making with regard to Thematic Objectives and investment priorities, it has relatively little influence on the nature, scale or location of individual projects to be funded and related physical works that have the potential for negative environmental effects.
- 5.3 Wherever physical development is required, environmental effects will be assessed and avoided, reduced or offset through Local Plan preparation and assessment process, and relevant project-specific processes such as Environmental Impact Assessment, Habitats Regulations Assessment and the planning consenting process. Similarly, existing freshwater, marine consents and pollution control regulations provide appropriate safeguards for physical works in other contexts.
- 5.4 The governance arrangements described by the ERDF Operational Programme include a Programme Monitoring Committee (PMC) chaired by DCLG whose remit is to oversee the Programme. The Managing Authority (DCLG) will manage the Programme in partnership with various partners, including environmental bodies throughout its preparation, implementation, monitoring and evaluation. The ERDF Operational Programme states that the PMC *“will in due course approve criteria for selection of projects that the Managing Authority will apply to the assessment and appraisal of all applications”* and a number of recommendations have been made by the SEA as to the content of these criteria. The PMC will be supported by a number of sub-committees, including a national one for sustainability. The PMC will also be supported by 39 Local Sub-Committees whose responsibilities include agreeing the selection of operations with the Managing Authority. Together, these arrangements should help to ensure that the environmental objectives and priorities set out within the ERDF Operational Programme, including in the Sustainable Development Cross-Cutting Principle, are reflected when individual projects are selected for support and during their implementation.
- 5.5 The capacity of the ERDF Operational Programme in isolation to have negative environmental effects is therefore relatively limited as it cannot be implemented without invoking appropriate project-level regulatory and policy frameworks.

Summary of all environmental effects of Thematic Objectives

- 5.6 **Table 5.1** summarises the environmental effects of the Thematic Objectives of the ERDF Operational Programme for each of environmental topics identified by the SEA Directive and Regulations, whether significant, minor or negligible. The detailed assessment matrices are

provided in **Appendix 2**. The higher level assessment of Priority Axis 10 is set out in **Appendix 2** with significant effects summarised later in **Chapter 5**. Unless stated otherwise, all effects are considered to be permanent and will arise during the course of the ERDF Operational Programme 2014-2020. Any temporary or short-term effects have been identified as such.

Table 5.1 Summary of environmental effects of Thematic Objectives identified by SEA

SEA Topic	Criteria for determining effects	Thematic Objective of ERDF Operational Programme							
		TO1	TO2	TO3	TO4	TO5	TO6	TO7	TO9
BIODIVERSITY, FLORA AND FAUNA	Will it avoid adverse effects on protected habitats and species?	-?	-?	-?	0	0	++	-?	-?
	Will it enhance broader biodiversity, restore and/or create habitats and ecological networks?	-?	-?	-?	+	+	++	-?	-?
POPULATION	Will it improve the skills base of communities exhibiting the greatest social deprivation?	0	+	+	0	0	0	0	++
	Will it increase access to jobs in areas of high unemployment?	+	+	+	+	+	0	++	++
	Will it improve local per capita incomes in areas of low incomes?	0	+	+	+	0	0	+	++
	Will it ensure the achievement of equal opportunities for all sectors of the community?	0	+	+	+	0	0	+	++
HUMAN HEALTH	Will it enhance human health and quality of life?	0	+	+	+	+	++	+	+
	Will it improve the health and environments of communities exhibiting greatest health deprivation?	0	+	+	+	0	+	+	+
SOIL	Will it avoid adverse effects on best and most versatile land?	-?	0/-?	-?	0	0	0	-?	-?
	Will it ensure the efficient use of previously developed land and the remediation of contaminated land?	0	0	0	0	+	++	0	0
WATER	Will it avoid pollution to water?	-?	-?	-?	0	+	++	-?	-?
	Will it reduce water consumption?	-	-	-	0	0	+	-	-
	Will it reduce flood risk?	-?	-?	-?	+	++	0	-?	-?
	Will it help to meet the objectives of the	-?	-?	-?	+	+	+	-?	-?

SEA Topic	Criteria for determining effects	Thematic Objective of ERDF Operational Programme							
	Water Framework Directive and River Basin Management Plans (including meeting good ecological status and ensuring no deterioration in status)?								
AIR	Will it avoid increasing emissions to air?	-	+/-	-	+	0	+	++/--	-
	Will it improve air quality in AQMAS?	-?	+?/-?	-?	+	0	0	+?/-?	-?
CLIMATIC FACTORS	Will it help to reduce greenhouse gas emissions?	--	+/-	--	+	0	+	++/--	--
	Will it promote the use of renewable energy sources?	0	0	0	++	0	0	0	0
	Will it support appropriate adaptation of future development to climate change?	0	0	0	0	++	0	0	0
	Will it avoid development that could hamper the adaptation of the environment to climate change (for example development that reduces flood storage or reduces the resilience of biological networks)?	-?	-?	-?	0	?	0	-?	-?
MATERIAL ASSETS	Will it encourage use of resources in accordance with the waste hierarchy?	0	0	0	+	0	++	0	0
	Will it promote the efficient use of mineral resources?	0	0	0	0	0	++	0	0
CULTURAL HERITAGE	Will it conserve and enhance the historic environment, heritage assets and their settings?	?	?	?	0	0	0	?	?
	Will it provide opportunities for heritage-led regeneration?	0	0	0	0	0	0	0	0
LANDSCAPE	Will it avoid adverse impacts on protected landscapes?	?	-/?	?	+/-	0	0	-?	?
	Will it strengthen landscape character and distinctiveness?	?	-/?	?	+/-	0	0	+/-	?
	Will it lead to a reduction in noise and light pollution?	-	-	-	+?	0	0	-	-

Significant environmental effects of individual ERDF Operational Programme elements

- 5.7 This section describes those effects of the ERDF Operational Programme (as detailed in **Appendix 2**) which are judged to be significant according to the significance criteria set out in **Chapter 2**.

Thematic Objective TO1: Strengthening research, technological development and innovation

Priority axis	1. Research and innovation	
Investment priorities	Specific objectives corresponding to the investment priorities	
Strengthening research, technological development and innovation by: promoting business investment in R&I; developing links and synergies between enterprises, research and development centres and the Higher Education sector; promoting investment in product and service development, technology transfer, social innovation, eco-innovation, public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation; and supporting technological and applied research, pilot lines, early product validation actions, advance manufacturing capabilities and first production, in particular in key enabling technologies and diffusion of general purpose technologies.	<p>SO 1: Increase the number of SMEs innovating to bring new products and processes brought to the market.</p> <p>SO 2: Increase collaborative research and innovation between large enterprises, research institutions and public institutions to improve SME commercialisation.</p>	

- 5.8 **Significant negative** effects are predicted on the SEA topic **Climatic Factors** in respect of helping to reduce greenhouse gas emissions since the potential investment in enterprise, hubs, manufacturing facilities etc. and more general economic growth supported by this Thematic Objective are likely to result in increased volumes of business-related travel and increased energy consumption in business premises.

Thematic Objective TO2: Enhancing access to, and use and quality of, ICT

Priority axis	2. Enhancing access to, and use and quality of, ICT	
Investment priorities	Specific objectives corresponding to the investment priorities	
Extending broadband deployment and the roll-out of high-speed networks and supporting the adoption of emerging technologies and networks for the digital economy.	SO1: Increase the coverage and take up of superfast and ultrafast Broadband in areas where the market is failing, particularly where this is creating a barrier to SME growth.	
Developing ICT products and services, e-commerce, and enhancing demand for ICT.	SO2: Increase the number of SMEs using and having access to digital technologies including trading on line.	

- 5.9 No significant environmental effects identified.

Thematic Objective TO3: Enhancing the competitiveness of SMEs

Priority axis	3. Enhancing the competitiveness of SMEs	
Investment priorities	Specific objectives corresponding to the investment priorities	
Supporting the creation and the extension of advanced capacities for products, services and development.	SO1: Increase growth capacity of SMEs.	
Supporting the capacity of SMEs to grow in regional, national and international markets, and to engage in innovation processes.	SO2: Increase growth capability of SMEs.	
Promoting entrepreneurship, in particular by facilitating the economic exploitation of new ideas and fostering the creation of new firms, including through business incubators.	SO3: Increase entrepreneurship, particularly in areas with low levels of enterprise activity and amongst under-represented groups.	

- 5.10 **Significant negative** effect predicted on the SEA topic **Climatic Factors** in respect of helping to reduce greenhouse gas emissions. Increased growth of SMEs is likely to result in increased volumes of business-related travel and increased energy consumption in business premises, with the resulting likelihood of increased emissions of greenhouse gases from traffic and from energy generation.

Thematic Objective T04: Supporting the shift towards a low carbon economy in all sectors

Priority axis	4. Supporting the shift towards a low carbon economy in all sectors	
Investment priorities	Specific objectives corresponding to the investment priorities	
Promoting research and innovation in, and adoption of, low-carbon technologies.	SO1: Increase innovation in, and adoption of, low carbon technologies.	
Promoting the production and distribution of energy derived from renewable sources. Promoting low-carbon strategies for all types of territories, in particular for urban areas, including the promotion of sustainable multimodal urban mobility and mitigation-relevant adaptation measures.	SO2: Increase implementation of whole place low carbon solutions and decentralised energy measures.	
Promoting energy efficiency and renewable energy use in enterprises.	SO3: Increase energy efficiency and implementation of low carbon technologies in all types of enterprise.	
Supporting energy efficiency, smart energy management and renewable energy use in public infrastructure, including in public buildings, and in the housing sector.	SO3: Increase energy efficiency and implementation of low carbon technologies.	

- 5.11 **Significant positive** effects are predicted on the SEA topic **Climatic Factors** in respect of promoting use of renewable energy sources for which strong support is provided.

Thematic Objective T05: Promoting climate change adaptation, risk prevention and management

Priority axis	5. Promoting climate change adaptation, risk prevention and management	
Investment priorities	Specific objectives corresponding to the investment priorities	
Enabling and protecting economic development potential through investment in flood and coastal flooding management where there is demonstrable market failure.	SO1: Enabling and protecting economic development potential through investment in flood and coastal flooding management where there is demonstrable market failure.	

- 5.12 **Significant positive** effects are predicted on the SEA topic **Water** by support for a variety of actions aimed at reducing flood risk.

- 5.13 **Significant positive** effects are predicted on the SEA topic **Climatic Factors** in respect of support for adaptation of development to climate change, specifically measures that address increased flood risk expected under climate change.

Thematic Objective T06: Preserving and protecting the environment and promoting resource efficiency

Priority axis	6. Preserving and protecting the environment and promoting resource efficiency	
Investment priorities	Specific objectives corresponding to the investment priorities	
Protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000, and green infrastructure.	SO1: Investments in Green and Blue infrastructure and actions that support the provision of ecosystem services on which businesses and communities depend to increase local natural capital and support sustainable economic growth.	
Promoting innovative technologies to improve environmental protection and resource efficiency in the waste sector, water sector and with regard to soil, or to	SO2: Investment in the uptake of innovative technologies and resource efficiency measures to increase environmental protection,	

reduce air pollution.	resilience and performance of businesses and communities.
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- 5.14 **Significant positive** effects are predicted on the SEA topic **Biodiversity, Flora and Fauna** in respect of measures to protect and enhance protected habitats and species and wider biodiversity by protecting and restoring biodiversity, investments in green and blue infrastructure, provision of ecosystem services, and habitat creation that enhances the connectivity and resilience for priority sites and species.
- 5.15 **Significant positive** effects are predicted on the SEA topic **Human Health** in respect of investments in blue and green infrastructure and their effects on health and quality of life.
- 5.16 **Significant positive** effects are predicted on the SEA topic **Soil** in respect of remediation of contaminated land by, for example, support for regeneration of sites through soil descaling and decontamination.
- 5.17 **Significant positive** effects are predicted on the SEA topic **Water** in respect of avoiding pollution to water by promoting innovative technologies to improve environmental protection in the waste and water sectors, investment in sustainable drainage to improve water quality, decontamination of industrial sites and support for green infrastructure.
- 5.18 **Significant positive** effects are predicted on the SEA topic **Material Assets** as support for uptake by business of innovative resource efficiency measures and business waste reduction and reuse should have positive effects on waste reduction and efficient use of mineral resources.

Thematic Objective TO7: Promoting sustainable transport and removing bottlenecks in key network infrastructures

Priority axes	7. Sustainable transport in Cornwall and the Isles of Scilly 8. Sustainable transport	
Investment priorities	Specific objectives corresponding to the investment priorities	
Priority axis 7		
Supporting a multimodal Single European Transport Area by investing in the trans-European transport network (TEN-T).	SO1: Improving the accessibility of Cornwall and the Isles of Scilly by enhancing integration with the TEN-T road and rail network.	
Developing and improving environmentally-friendly (including low-noise) and low-carbon transport systems, including inland waterways and maritime transport, ports, multimodal links and airport infrastructure, in order to promote sustainable regional and local mobility	SO2: Improve accessibility and connectivity within Cornwall and the Isles of Scilly through developing sustainable means of transport.	
Priority axis 8		
Enhancing regional mobility by connecting secondary and tertiary nodes to TEN-T infrastructure, including multimodal nodes.	SO1: Improving regional mobility and the economic viability of areas by linking them to the TENS-T network with transport infrastructure	
Developing and improving environmentally-friendly (including low-noise) and low-carbon transport systems, including inland waterways and maritime transport, ports, multimodal links and airport infrastructure, in order to promote sustainable regional and local mobility.	SO2: To remove pressure from road network by promoting other forms of transport that support sustainable development, jobs and growth.	

- 5.19 **Significant positive** effects are predicted on the SEA topic **Population** in respect of improved access to jobs as investments in transport infrastructure serving employment sites that are currently poorly served by transport networks will improve access and help to support employment opportunities, particularly in more remote and less developed areas such as Cornwall and the Isles of Scilly, where high unemployment and low incomes are more likely to be an issue.
- 5.20 **Significant positive** effects are predicted on the SEA topic **Air** in respect of reduced emissions to air due to improved efficiency of existing journeys related to economic activity and support for shift to more sustainable modes. **Significant negative** effects are predicted due to the likelihood of an increased volume of travel associated with improvements to transport infrastructure and with indirect support for employment development that these improvements will facilitate.

- 5.21 A mix of **significant positive** and **significant negative** effects is predicted on the SEA topic **Climatic Factors** in respect of changes greenhouse gas emissions from energy generation and transport for the reasons described under the Air topic above.

Thematic Objective T09: Promoting social inclusion, combating poverty and any discrimination

Priority axis	9. Promoting social inclusion, combating poverty and any discrimination
Investment priorities	Specific objectives corresponding to the investment priorities
Undertaking investment in the context of community led local development strategies.	SO 1: To build capacity and mobilise resources at community level that overcomes persistent barriers to growth and employment in lagging areas or deprived communities. SO 2: Reduced risk of poverty and social exclusion through improved access to economic growth and development opportunities.

- 5.22 **Significant positive** effects are predicted on the SEA topic **Population** since investments under this Thematic Objective will target regeneration in geographic areas which are disadvantaged in terms of in terms of economic growth and employment, facilitating significant positive effects on these aspects.
- 5.23 Support for local and community based initiatives that focus on reducing greenhouse gas emissions and/or facilitate the transition to a low carbon society will have minor positive effects on the SEA topic **Climatic Factors**, in terms of decoupling growth from greenhouse gas emissions. However, infrastructure development supported by this Thematic Objective (e.g. business premises) is likely to result in increased volumes of business-related travel and increased energy consumption in business premises, with the resulting likelihood of increased emissions of greenhouse gases from traffic and from energy generation. The net effect is judged to be a **significant negative** one on reducing greenhouse gas emissions.

Priority axis 10: Sustainable urban development

Priority axis	10. Sustainable urban development
Investment priorities	Specific objectives corresponding to the investment priorities
Strengthening research, technological development and innovation by: promoting business investment in R&I; developing links and synergies between enterprises, research and development centres and the Higher Education sector; promoting investment in product and service development, technology transfer, social innovation, eco-innovation, public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation; and supporting technological and applied research, pilot lines, early product validation actions, advance manufacturing capabilities and first production, in particular in key enabling technologies and diffusion of general purpose technologies.	SO1: Increase the number of SMEs innovating to bring new products and processes to the market. SO2: Increase collaborative research and innovation between large enterprises, research institutions and public institutions to improve SME commercialisation.
Extending broadband deployment and the roll-out of high-speed networks and supporting the adoption of emerging technologies and networks for the digital economy	SO3: Increase the coverage and take up of superfast and ultrafast Broadband in areas where the market is failing, particularly where this is creating a barrier to SME growth
Developing ICT products and services, e-commerce, and enhancing demand for ICT	SO4: Increase the number of SMEs using and having access to digital technologies including trading on line.
Supporting the capacity of small and medium sized enterprises to grow in regional, national and international markets and to engage in innovation	SO5: Increase growth capability of SMEs.

processes	
Promoting entrepreneurship, in particular by facilitating the economic exploitation of new ideas and fostering the creation of new firms, including through business incubators.	SO6: Increase entrepreneurship, particularly in areas with low levels of enterprise activity and amongst under-represented groups
Promoting research and innovation in, and adoption of, low-carbon technologies	SO7: Increase innovation in, and adoption of, low carbon technologies.
Promoting the production and distribution of energy derived from renewable sources	SO8: Increase implementation of whole place low carbon solutions and decentralised energy measures.
Promoting low-carbon strategies for all types of territories, in particular for urban areas, including the promotion of sustainable multimodal urban mobility and mitigation-relevant adaptation measures	
Promoting energy efficiency and renewable energy use in enterprises	SO9: Increase energy efficiency and implementation of low carbon technologies in all types of enterprise
Supporting energy efficiency, smart energy management and renewable energy use in public infrastructure, including in public buildings, and in the housing sector	SO10: Increase energy efficiency and implementation of low carbon technologies
Protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000, and green infrastructure	SO11: Investments in Green and Blue infrastructure and actions that support the provision of ecosystem services on which businesses and communities depend to increase local natural capital and support sustainable economic growth
Promoting innovative technologies to improve environmental protection and resource efficiency in the waste sector, water sector and with regard to soil, or to reduce air pollution	SO12: Investment in the uptake of innovative technologies and resource efficiency measures to increase environmental protection, resilience and performance of businesses and communities.
Providing support for physical, economic and social regeneration of deprived communities in urban and rural areas.	SO13: Unlocking growth potential in disadvantaged urban areas and increasing urban cohesion. Increase growth capacity of SMEs.

- 5.24 **Significant negative** effects are predicted on the SEA topic **Climatic Factors** in respect of helping to reduce greenhouse gas emissions since the economic growth and growth of SMEs supported by this Priority Axis is likely to result in increased volumes of business-related travel and increased energy consumption in business premises. Whilst measures to increase energy efficiency and implement low carbon technologies provide some mitigation by helping to uncouple greenhouse gas emissions from growth, the overall effect of the growth supported by the Priority Axis is likely to be an increase in total greenhouse gas emissions. **Significant positive** effects are predicted on the SEA topic in respect of promoting use of renewable energy sources for which strong support is provided.
- 5.25 **Significant positive** effects are predicted on **Biodiversity** in respect of protected habitats and species and wider biodiversity through support for protecting and restoring biodiversity, investments in green and blue infrastructure, provision of ecosystem services, and habitat creation that enhances the connectivity and resilience for priority sites and species.
- 5.26 **Significant positive** effects are predicted on the SEA topic **Human Health** in respect of improvements to human health and quality of life delivered by investments in blue and green infrastructure.
- 5.27 **Significant positive** effects are predicted on **Soil** in respect of remediation of contaminated land by, for example, support for regeneration of sites through soil desealing and decontamination.
- 5.28 **Significant positive** effects are predicted on the SEA topic **Water** in respect of avoiding pollution to water by investment in sustainable drainage to improve water quality, decontamination of industrial sites and support for green infrastructure.

- 5.29 **Significant positive** effects are predicted on the SEA topic **Material Assets** as support for uptake by business of innovative resource efficiency measures and business waste reduction and reuse should have positive effects on waste reduction and efficient use of mineral resources.
- 5.30 **Significant positive** effects are predicted on the SEA topic **Population** as investments under this Priority Axis will target regeneration in disadvantaged urban areas with positive effects on social deprivation, access to jobs in areas of high unemployment, improving per capita incomes and providing equality of opportunity.

Conclusions on environmental effects of the ERDF Operational Programme as a whole

- 5.31 The preceding section described the environmental effects of individual Thematic Objectives and Priority Axis 10 within the Operational Programme. Cumulative or synergistic effects may also arise through the action of multiple Thematic Objectives / Priority Axes on a single SEA topic. These effects may be further mitigated or enhanced by the requirements that the ERDF Operational Programme's 'Horizontal Principles' or 'cross-cutting themes' of Sustainable Development and Equal Opportunities and Non-Discrimination place on projects that may come forward to deliver the Thematic Objectives. These interactions are drawn together below in order to provide conclusions on the environmental effects of the Operational Programme as a whole.

Biodiversity, flora and fauna

- 5.32 A number of Thematic Objectives will support development of employment premises and related infrastructure which may, in turn, result in loss of or damage to wildlife habitats and the species which depend on them. The indirect negative effects related to individual Thematic Objectives are judged to be uncertain and minor in scale, particularly in light of the assumed mitigation described above. Their cumulative negative effect could, however, be significant.
- 5.33 In addition to the mitigation assumed in assessing the environmental effects of individual Thematic Objectives, further mitigation is available from the Sustainable Development Horizontal Principle. This stipulates that all funded capital proposals must identify how they support green infrastructure and contribute to the EU commitment to halting biodiversity loss and degradation of ecosystem services. In addition, measures supported under Thematic Objective 6 are predicted to have significant positive effects on biodiversity and these will help to offset the potential negative effects of infrastructure development projects and to ensure that significant negative effects do not arise.

Population

- 5.34 Many of the Thematic Objectives are expected to have minor positive effects on access to jobs, improving low incomes and providing equal opportunities through support for growth of SMEs, the low carbon economy and so on, although a number of these effects are uncertain. Significant positive effects are predicted on access to jobs from investment in transport networks under Thematic Objective 7 and on access to jobs, low incomes and equal opportunities from support for community led initiatives under Thematic Objective 9.
- 5.35 The cumulative positive effects on the Population topic should be further enhanced by the Equal Opportunities and Non-discrimination Horizontal Principle. The broad equality principles of the Programme are that: no beneficiaries are excluded from participation in the Programme on the grounds of their protected characteristics; the needs of all potential beneficiaries are considered at project design stage; all physical regeneration meets minimum accessibility requirements; services are responsive to the needs of all communities and under-represented groups; support is targeted towards under-represented communities where relevant; and responsiveness to, and inclusiveness of, under-represented groups in delivery and management.

Human health

- 5.36 Many of the Thematic Objectives are expected to have minor positive effects on enhancing human health and quality of life and improving the health and environments of communities with the

greatest health deprivation, although a number of these effects are uncertain. This is both as a result of the indirect, positive effects on health and wellbeing of improvements to incomes, access to jobs and equality of opportunity described under the Population topic above and the effects of support for improvements in green and blue infrastructure. Significant positive effects on human health and quality of life are predicted due to its support for green and blue infrastructure.

- 5.37 The cumulative positive effects on the Human Health topic are not predicted to be greatly affected by the ERDF Operational Programme's Horizontal Principles. It is recommended that the Equal Opportunities and Non-Discrimination principle be expanded to include a requirement for supported projects to demonstrate how they have considered the health and environments of communities exhibiting the greatest health deprivation.

Soil

- 5.38 The potential exists for cumulative negative effects from the ERDF Operational Programme as a whole on best and most versatile agricultural land as a number of Thematic objectives are judged to have uncertain, minor negative effects due to increased demand for greenfield land to accommodate employment and infrastructure development. Cumulative positive effects on soil can also be expected via, for example, support for regeneration of sites through soil descaling and decontamination.
- 5.39 The Sustainable Development Horizontal Principle provides no specific mitigation of potential negative effects of employment development on soils but stipulates that proposals demonstrate how environmental protection will be enhanced. The Horizontal Principle also requires that projects reflect the 'polluter pays' principle, noting that this is a feature of existing UK environmental law. The UK regulatory regime has already been taken into account in assessing environmental effects, as described in the Assumptions section of the SEA Report. It is recommended that the Sustainable Development Horizontal Principle be expanded to include a specific requirement for supported projects involving built development to demonstrate how they have considered the protection and enhancement of soils by the efficient use of previously developed land, remediation of contaminated land or avoidance of the best and most versatile agricultural land.

Water

- 5.40 The cumulative effects of the ERDF Operational Programme are judged to be mixed and uncertain in relation to water pollution and meeting the objectives of the Water Framework Directive. Whilst support for employment and infrastructure development increases the potential for water pollution, positive effects are likely from promoting innovative technologies to improve environmental protection in the waste and water sectors, investment in sustainable drainage to improve water quality, decontamination of industrial sites and support for green infrastructure. Cumulative effects on water consumption are judged to be negative as economic development will generally increase the demand for abstracted water. Cumulative effects in relation to reducing flood risk are judged to be mixed and uncertain. The increased demand for employment land may make it harder to avoid development of sites with a high flood risk but this effect is uncertain as it will depend on factors such as levels of flood risk in locations to be developed and opportunities to avoid increased risk via flood resilient design. Conversely, support for a variety of flood risk and surface water management measures under Thematic Objective 5 will have significant positive effects.
- 5.41 Specific mitigation is provided by the Sustainable Development Horizontal Principle which requires that investments demonstrate a proactive approach to minimising water consumption and drainage off site and that capital proposals for new or refurbished buildings achieve high sustainability ratings in the BREEAM and CEEQUAL schemes.

Air

- 5.42 The cumulative effect of the ERDF Operational Programme's proposals on air quality is judged to be mixed. Whilst positive effects can, for example, be expected from support for renewable technologies, improved efficiency of travel related to economic activity and support for shift to more sustainable transport modes, negative effects are likely from increased volumes of travel associated with increased economic activity and from improvements to transport networks.

- 5.43 The Sustainable Development Horizontal Principle provides no specific mitigation of the potential negative effects of supported projects on air quality but stipulates that proposals demonstrate how environmental protection will be enhanced. Positive effects may indirectly be enhanced by the principle's stipulations that proposals demonstrate support for a low carbon economy and resource efficiency. It is recommended that the Sustainable Development Horizontal Principle be expanded to include a specific requirement that supported projects consider how they will minimise polluting emissions to air.

Climatic factors

- 5.44 The cumulative effect of the ERDF Operational Programme's proposals on climatic factors is judged to be negative. Positive effects, including some significant ones, can be expected from support for projects that will reduce greenhouse gas emissions (for example promoting energy efficiency in enterprises, smart energy management, development of renewable energy sources, low carbon transport) or help to adapt to the unavoidable effects of climate change (notably flood risk and surface water management). However, the ERDF Operational Programme is fundamentally about economic growth. Whilst the positive measures outlined above will help to decouple greenhouse gas emissions associated with energy generation and transport from growth, the effect of the ERDF Operational Programme as a whole is likely to be an increase in total greenhouse gas emissions. Employment development and associated infrastructure may also indirectly hamper climate change adaptation by reducing the resilience of wildlife networks, reducing the area of land available for flood storage and so on, although these potential minor negative effects are uncertain.
- 5.45 The Sustainable Development Horizontal Principle will help to enhance the ERDF Operational Programme's positive effects on reducing carbon emissions and climate change adaptation and help to offset the additional emissions likely to be associated with economic growth. This is through a variety of requirements for supported projects including showing how they: support moving towards a low carbon economy; integrate adaptation and local resilience to a changing climate; support green infrastructure; attain recognised sustainable building standards; and demonstrate a proactive approach to energy efficiency, minimising water consumption and off-site drainage.

Material assets

- 5.46 Most of the ERDF Operational Programme's Thematic Objectives are expected to have a negligible effect on this SEA topic. The notable exception is Thematic Objective 6 through its support for business waste reduction and reuse activities, with resulting significant positive effects on waste generation and minerals resource use. Minor positive effects are also expected from actions supported by Thematic Objective 4 in relation to designing out waste in industrial processes and waste to energy projects.
- 5.47 The Sustainable Development Horizontal Principle will help to enhance the ERDF Operational Programme's positive effects on this topic by requiring funding applicants to demonstrate how resource efficiency is embedded into the business support offer.

Cultural heritage

- 5.48 Overall, the ERDF Operational Programme is judged to have uncertain effects on heritage assets and their settings since inappropriately sited or poorly designed employment and infrastructure development has the potential for negative effects but development also has the potential for positive effects by providing opportunities to improve settings through regeneration and good design or to bring at-risk historic buildings back into appropriate use.
- 5.49 Neither of the ERDF Operational Programme's Horizontal Principles is judged to have any effect on this SEA topic. It is recommended that the Sustainable Development Horizontal Principle be expanded to include a specific requirement for supported projects to demonstrate how they will consider conservation and enhancement of the historic environment, heritage assets and their settings and provide opportunities for heritage-led regeneration.

Landscape

- 5.50 Overall, the ERDF Operational Programme is judged to have uncertain, mixed effects on landscape. Inappropriately sited or poorly designed employment and infrastructure development has the potential for negative effects but development also has the potential for positive effects by providing opportunities to improve landscapes through regeneration of poor quality buildings or degraded sites and through good design in new development.
- 5.51 Neither of the ERDF Operational Programme's Horizontal Principles is judged to have any effect on this SEA topic. It is recommended that the Sustainable Development Horizontal Principle be expanded to include a specific requirement for supported projects to demonstrate how they will consider avoidance of negative impacts on protected landscapes, the strengthening of landscape distinctiveness and reduction of noise and light pollution.

Overarching conclusion on environmental effects of the ERDF Operational Programme

- 5.52 Many of the activities in the ERDF Operational Programme are unlikely to have direct effects on the environment, given that they deal with matters such as information technology, research and innovation, training and up-skilling of the workforce. However, as can be seen from the conclusions for each SEA topic above, the ERDF Operational Programme has the potential for some, mainly indirect, negative effects on the environment, largely related to its support for economic growth and the additional built development and transport movements that are likely to result from this. At the same time, its objectives and investment priorities support a variety of actions that should help to decouple greenhouse gas emissions and resource use from growth and mitigate other environmental impacts associated with economic activity.
- 5.53 Many of the identified environmental effects are subject to considerable uncertainty at this stage due to the high level nature of the Operational Programme and lack of information available about the specific projects to be supported or their locations.
- 5.54 Many of the potential negative environmental effects are judged to be minor in scale because of the safeguards that should operate when individual projects are proposed. These safeguards are assumed to be operated by those bodies responsible for governing the ERDF Operational Programme and for selecting projects for funding, in line with the requirements of the Programme's Horizontal Principles of Sustainable Development and Equal Opportunities and Non-Discrimination. In addition, where physical development is supported, environmental effects should be assessed and avoided, reduced or offset through England's applicable project-specific assessment, consenting and regulatory processes.

Suggestions for further mitigation and enhancement

- 5.55 The SEA of the ERDF Operational Programme identified a number of opportunities for mitigation or enhancement of the effects of individual Thematic Objectives and Horizontal Principles, as detailed above and in **Appendix 2**. Other suggestions have been made at various points in the SEA report. For ease of reference, all of these suggestions are brought together in **Table 5.2**.

Table 5.2 Suggestions for mitigation and enhancement

Assessed component of ERDF Operational Programme	Suggested mitigation or enhancement
Overall approach	For good practice and in line with Natural England representations on the draft SEA Report we suggest that each of the LEP's ESIF strategies be subject to SEA in its own right to ensure that environmental issues specific to particular geographies and projects are assessed at an appropriate level in the decision-making process.
Thematic Objective TO1: Strengthening research, technological development and	CROSS-CUTTING: In order to help embed the 'Sustainable Development' cross-cutting theme (Section 11 of ERDF Operational Programme) in this Thematic Objective it is suggested that the ERDF Operational Programme project selection criteria be expanded to reflect the suggested deliverable for

Assessed component of ERDF Operational Programme	Suggested mitigation or enhancement
innovation	TO1 described in Section 11.1 of the ERDF Operational Programme i.e. capital investment in new buildings should achieve a BREEAM rating of Excellent; refurbishments should achieve Very Good.
Thematic Objective TO2: Enhancing access to, and use and quality of, ICT	<p>POPULATION: Consider targeting measures designed to support growth of SMEs in areas that have high levels of social deprivation or unemployment or low incomes per capita, for example by measures to develop ICT provision and skills amongst low income or high unemployment groups.</p> <p>AIR; CLIMATIC FACTORS: It is suggested that the Sustainable Development horizontal principle be expanded to state that project selection criteria should take account of the potential for supported projects in unsustainable locations to increase demand for employment land or to increase business-related travel.</p>
Thematic Objective TO3: Enhancing the competitiveness of small and medium enterprises	CROSS-CUTTING: In order to help embed the 'Sustainable Development' cross-cutting theme (Section 11 of ERDF Operational Programme) in this Thematic Objective it is suggested that the ERDF Operational Programme project selection criteria be expanded to reflect the suggested deliverable for SME competitiveness described in Section 11.1 of the ERDF Operational Programme i.e. embedding high levels of resource efficiency in investments that support SMEs.
Thematic Objective TO4: Supporting the shift towards a low carbon economy in all sectors	<p>CLIMATIC FACTORS:</p> <p>In order to help embed the 'Sustainable Development' cross-cutting theme (Section 11 of ERDF Operational Programme) in this Thematic Objective it is suggested that the ERDF Operational Programme project selection criteria be expanded to reflect suggested deliverables (3) and (4) described in Section 11.1 of the ERDF Operational Programme i.e. ensuring that the greenhouse gas reduction benefits of supported greenhouse gas reduction projects and the carbon saving benefits of green infrastructure enhancement projects are auditable/measurable.</p> <p>In line with Environment Agency representations⁶⁹, it is suggested that this Thematic Objective makes specific reference to energy efficiency and low carbon innovation with regards to water management, for example via actions to develop or implement innovative water and wastewater treatment technologies.</p>
Thematic Objective TO5: Promoting Climate Change Adaptation, Risk Prevention and Management	<p>BIODIVERSITY, FLORA AND FAUNA; WATER: State that green infrastructure will be prioritised over hard infrastructure to address flood risk and surface water management. As with all green infrastructure, it should be well planned to deliver a wide range of benefits.</p> <p>CLIMATIC FACTORS: State explicitly that development of flood risk and surface water management measures that could hamper climate change adaptation by reducing flood storage will be not be supported where they increase flood risk in areas with a high probability of flooding.</p>
Thematic Objective TO6: Preserving and protecting the environment and promoting resource efficiency	None identified.
Thematic Objective TO7: Promoting sustainable transport and removing bottlenecks in key network infrastructures	CLIMATIC FACTORS: In order to help embed the 'adaptation and local resilience to a changing climate' aspect of the 'Sustainable Development' cross-cutting theme (Section 11 of ERDF Operational Programme) in this Thematic Objective and in line with Environment Agency representations ⁷² , it is suggested that this Thematic Objective be expanded to state that transport related proposals must identify how they have integrated adaptation and local resilience to climate change.

⁶⁹ 2014 to 2020 European Structural and Investment Funds Growth Programme in England: Consultation on European Regional Development Fund Operation Programmes, Environment Agency Consultation Response Form 28th May 2014

⁷² 2014 to 2020 European Structural and Investment Funds Growth Programme in England: Consultation on European Regional Development Fund Operation Programmes, Environment Agency Consultation Response Form 28th May 2014

Assessed component of ERDF Operational Programme	Suggested mitigation or enhancement
	The SEA has covered Priority Axis 7: Sustainable Transport in Cornwall and the Isle of Scilly as part of Thematic Objective 7. Commensurate with approach to the rest of the SEA of the Operational Programme as a whole, this assessment is at a high level. We recommend that a separate, sub-national SEA (and where appropriate EIA) is undertaken of this particular component of the ERDF Operational Programme in light of the geographically specific issues that may need to be considered.
Thematic Objective TO9: Promoting social inclusion, combating poverty and any discrimination	CLIMATIC FACTORS: In line with Environment Agency representations ⁷⁴ , it is suggested that this Thematic Objective explicitly recognises the correlation that often exists between poor and economically deprived areas and local vulnerability to climate change, notably flood risk, by considering investment in adaptation in such areas.
Priority Axis 10: Sustainable urban development	None identified.
Horizontal Principle: Equal Opportunities and Non-Discrimination	HUMAN HEALTH: Include a requirement for supported projects to demonstrate how they have considered the health and environments of communities exhibiting the greatest health deprivation.
Horizontal Principle: Sustainable Development	SOIL: Include a requirement for supported projects involving built development to demonstrate how they have considered the protection and enhancement of soils by the efficient use of previously developed land, remediation of contaminated land or avoidance of the best and most versatile agricultural land.
Horizontal Principle: Sustainable Development	AIR: Include a specific requirement for supported projects to demonstrate how they will consider minimisation of polluting emissions to air.
Horizontal Principle: Sustainable Development	CULTURAL HERITAGE: Include a specific requirement for supported projects to demonstrate how they will consider conservation and enhancement of the historic environment, heritage assets and their settings and provide opportunities for heritage-led regeneration.
Horizontal Principle: Sustainable Development	LANDSCAPE: Include a specific requirement for supported projects to demonstrate how they will consider the avoidance of negative impacts on protected landscapes, the strengthening of landscape distinctiveness and the reduction of noise and light pollution.

⁷⁴ 2014 to 2020 European Structural and Investment Funds Growth Programme in England: Consultation on European Regional Development Fund Operation Programmes, Environment Agency Consultation Response Form 28th May 2014

6 Assessment of alternatives

- 6.1 DCLG has identified four areas in which reasonable alternatives were considered when developing the ERDF Operational Programme. The alternatives considered are high level approaches considered early on in the development of the ERDF Operational Programme rather than detailed alternative objectives or investment priorities. As such, it has only been possible to provide a high level commentary on the likely sustainability effects of each alternative approach relative to the chosen approach.

Relative environmental performance of alternatives

- 6.2 **Table 6.1** sets out the alternative approaches considered, DCLG's reasons for selecting the chosen alternatives and the likely significant sustainability effects of the alternatives.

Table 6.1 Alternative approaches to the ERDF Operational Programme and their relative sustainability performance

Alternative considered	DCLG reasons for selecting chosen alternative	Sustainability of chosen approach relative to the alternative
<p>1. Geographic scale of Operational Programme design</p> <p>In designing the ERDF Operational Programme, Government considered a number of alternative scales ranging from regional (NUTS1 statistical area), groupings of several NUTS1 areas and national.</p> <p><i>Chosen alternative:</i> A single, national scale ERDF Operational Programme for England allocating investment to LEP areas based on localised 'ESI Funds Strategies' drawn up by LEPs and other local partners.</p>	<p>Regionally-based Operational Programmes in England have tended to result in a number of large-scale infrastructure projects, particularly in Midland and Northern regions, with consequential environmental impacts. These projects have included significant investment in capital business and employment sites and transport infrastructure. By extension, it was considered that pan-regional Operational Programmes would also have this bias, albeit at an even greater scale. These spatial models were ruled out on this basis and also because they were considered to be insufficiently sensitive to the functional economic realities of urban, rural and coastal areas and the Government's localism agenda.</p> <p>The model of economic development adopted from 2010, of LEPs, was therefore used as the platform for Operational Programme design in England since it provided the most effective means of localising investments in tune with real functional economies and mitigating the bias towards large infrastructure projects; DCLG's assessment is that a LEP area-based model will tend to result in smaller and more targeted projects with higher relevance value and smaller-scale capital investments.</p>	<p>The chosen design for the ERDF Operational Programme is likely to result in a larger number of smaller projects relative to regional, pan-regional or national model for identifying and implementing development projects. It is considered that whilst the spatial distribution of project effects is likely to be more diffuse, the aggregate effect of the larger number of smaller projects that are a feature of the chosen alternative is likely to be broadly similar to that of a smaller number of larger ones. The effects of this aspect of the alternative are judged to be negligible.</p> <p>Stated reasons for choosing this programme design include that funded projects will more accurately target the particular development needs of the localities they serve and will be subject to better oversight. Whilst there is some logic to this, it could equally be argued that a more centralised approach would benefit from economies of scale, better access to the expertise required for strong oversight and so on. It is therefore considered uncertain whether a local approach</p>

Alternative considered	DCLG reasons for selecting chosen alternative	Sustainability of chosen approach relative to the alternative
	<p>In addition, the creation of 39 Programme Monitoring Committee (PMC) LEP area sub-committees will ensure close local scrutiny of projects and oversight of environmental impacts. DCLG considered that this partner model would be better able to maintain appropriate scrutiny of project investments – including capital builds – than a more remote regional/pan-regional arrangement. It therefore rejected that latter model. As a result, the decision was taken to proceed with a national Operational Programme as the most appropriate spatial programming option within which to manage a localised, LEP area model.</p>	<p>will actually deliver more appropriate and effective outcomes than a more centralised one.</p>
<p>2. Geographic scale of Operational Programme financing allocations</p> <p>DCLG considered a range of geographic scales for allocating funds from the ERDF Operational Programme in England to decision-making bodies from pan-regional through regional to local.</p> <p><i>Chosen alternative:</i> Allocate 95% of ERDF Operational Programme funding to LEP areas.</p>	<p>Regional or pan-regional Operational Programme funding allocations were ruled out on the same basis as alternative (1) above; Government considered that they would likely result in centralised project decision-making remote from economic needs and opportunities in local areas. They would also tend to favour larger, capital builds with greater environmental impacts. Similarly, national co-financing through public sector bodies was considered and rejected in the same terms. The innovative option to allocate down to LEP areas over 95% of the ERDF in England was therefore taken as the best way of ensuring project spending decisions were local, proportionate in scale and of lower environmental impact.</p>	<p>The sustainability effects of this alternative are judged to be the same as those described for alternative (1) above.</p>
<p>3. Timing of planning period for project development</p> <p>DCLG considered whether to begin project planning once Operational Programmes were adopted by the Commission and iteratively in each programme year thereafter (as in previous and current ERDF programme periods) or to start planning in advance of programme adoption.</p> <p><i>Chosen alternative:</i> For</p>	<p>For the 2014-2020 programme period DCLG decided that early, long-term planning would be a more effective approach than that adopted in current and earlier programme periods since it would enable more considered development and scope for mitigation of risks, including negative environmental impacts, over an extended timeframe. DCLG therefore introduced a new phase of localised planning with the commissioning of 39 LEP area ERSIF strategies in April 2013. Combined, these local plans are intended to provide a new, effective tool for forward planning project development, improved embedding of sustainable development principles at project design phase and mitigation of environmental</p>	<p>Earlier project planning is judged likely to result in better designed projects that can therefore be expected to deliver their intended benefits more effectively, as well as better mitigating their potential negative effects. The chosen approach is therefore judged to have minor positive effects across a range of SEA topics, relative to the alternative considered.</p>

Alternative considered	DCLG reasons for selecting chosen alternative	Sustainability of chosen approach relative to the alternative
the 2014-2020 programme period, DCLG to start planning in advance of programme adoption.	impacts.	
<p>4. Split of ERDF financial resources between Thematic Objectives</p> <p>The policy objectives, known as Thematic Objectives, that can be supported by the ERDF in England are prescribed by European regulations. DCLG considered alternative apportionments of available ERDF funds between these Thematic Objectives.</p> <p><i>Chosen alternative:</i> The allocation of ERDF by Thematic Objective is set out in Appendix B and Table 2 of the ERDF Operational Programme. In summary, there is a strong focus on three Thematic Objectives: TO1 Strengthening research, technological development & innovation; TO3 Enhancing the Competitiveness of SMEs and; TO4 Supporting the shift towards a low carbon economy.</p>	<p>In deciding which Thematic Objectives should be the focus of the ERDF Operational Programme, DCLG began with the EU 2020 policy menu, EU regulations as regards thematic concentration, UK Country Specific Recommendations, National Reform Plan priorities and LEP area ESIF Strategies. Combined, these pointed to a strong focus on three Thematic Objectives: TO1 Strengthening research, technological development & innovation; TO3 Enhancing the Competitiveness of SMEs and; TO4 Supporting the shift towards a low carbon economy.</p> <p>In making these choices DCLG opted not to target significant investment in TOs that were less central to priority growth and jobs needs across England and which were more linked to substantial capital investments. Where DCLG opted to allocate ERDF to Thematic Objectives that do have a stronger focus on infrastructure outcomes – such as transport schemes under TO7 – it has introduced a higher evidence bar and made this explicit in guidance to LEPs. The result is that Thematic Objective choices have been carefully managed with over 90% of ERDF financial resources allocated to TOs 1, 3 and 4 which will generally have lower environmental impacts than TOs 2, 5, 6 and 7. Where investment is planned in this latter group of Thematic Objectives, environmental impacts will be further mitigated by the development of appropriate project selection criteria, the involvement of statutory environmental agencies as appropriate and the smaller scale and longer project design and development lead in period described under Alternative 1 above.</p>	<p>The predicted sustainability effects of allocating funding to each Thematic Objective are set out in Chapter 5. Focussing financial resources on Thematic Objectives 1, 3 and 4 will enhance the effects described for those Thematic Objectives (as summarised in Table 5.1) whilst lessening the relative influence of those associated with the remaining objectives.</p>

Conclusions

- 6.3 In relation to alternatives 1 and 2, the geographic scale of the ERDF Operational Programme design and its financing allocations, there is no clear evidence whether the chosen alternative of a LEP area model performs better in environmental terms than a more centralised model. In

relation to alternative 3, it seems clear that the approach adopted of a longer planning period adopted should be capable of delivering better environmental outcomes; whether it succeeds in doing so is difficult to assess until specific projects come forward from the LEP areas. Finally, the ERDF Operational Programme has chosen to direct most of the available funding to Thematic Objectives 1, 3 and 4.

- 6.4 As Described in Chapter 5, none of the environmental effects identified for Thematic Objectives 1 or 3 were judged to be significant in scale and Thematic Objective 4 was judged to have significant positive effects on Climatic Factors. The significant environmental effects of the other Thematic Objectives which will receive less funding are also judged to be positive, although in relation to a variety of environmental topics. Thematic Objective 7 is also judged to have significant negative effects in relation to Air and Climatic Factors.
- 6.5 It is not possible to conclude whether alternative distributions of funding between the Thematic Objectives would perform better overall in environmental terms than the chosen alternative; they would rather result in different environmental effects, as described in **Chapter 5**.

7 Monitoring

Monitoring

- 7.1 The SEA Directive and Regulations require that after the Operational Programme is adopted, information be provided on how the significant environmental effects identified in the SEA will be monitored. This is intended to inform future review of the Programme. This requirement will be met in full in an SEA Adoption Statement after the ERDF Operational Programme is adopted but initial suggestions are provided below.
- 7.2 It is most efficient to meet SEA monitoring requirements via existing monitoring frameworks as far as possible. The monitoring procedures for the ERDF Operational Programme have not yet been finalised; when this is done the need to monitor the significant environmental effects identified in this SEA should be borne in mind.
- 7.3 **Table 7.1** summarises the SEA topics for which significant effects (either positive or negative) were identified and provides some initial suggestions for potential indicators. However, monitoring arrangements will also need to address the challenge that it may be very difficult to attribute changes in environmental indicators to the ERDF Operational Programme because of the wide range of other influences on the relevant aspects of the environment. It may therefore be necessary to monitor inputs to and activities completed by individual, supported projects rather than changes in the environment as a whole. For example, in relation to a project expected to reduce travel by unsustainable modes it is likely to be necessary to monitor miles of car journey avoided and implied avoidance of air pollution and carbon emissions rather than absolute changes in levels of atmospheric pollution or greenhouse gases. These types of measures should be specified for individual projects at the time of project approval.

Table 7.1 Potential indicators for monitoring significant environmental effects identified by the SEA

SEA Topic	Criteria for which significant effects identified	Thematic Objectives for which significant effects identified	Potential indicators
BIODIVERSITY, FLORA AND FAUNA	<p>Will it avoid adverse effects on protected habitats and species?</p> <p>Will it enhance broader biodiversity, restore and/or create habitats and ecological networks?</p>	TO6, Priority Axis 10	<p>Condition of BAP habitats and species.</p> <p>Condition of SSSIs.</p> <p>Condition of Natura 2000 sites.</p> <p>Results of Habitats Regulations Assessments, where required, for individual supported projects.</p> <p>Area of BAP Priority Habitat created or enhanced.</p>
POPULATION	<p>Will it improve the skills base of communities exhibiting the greatest social deprivation?</p> <p>Will it increase access to jobs in areas of high unemployment?</p> <p>Will it improve local per capita incomes in areas of low incomes?</p> <p>Will it ensure the achievement of equal</p>	TO7,9, Priority Axis 10	<p>16-18 year old students entered for Level 3 qualification (equivalent to at least one A Level).</p> <p>% of persons holding an apprenticeship or higher level of qualification.</p> <p>Economic activity rate.</p> <p>Employment rate.</p> <p>Unemployment rate.</p> <p>Jobseeker's Allowance claimant rate.</p>

SEA Topic	Criteria for which significant effects identified	Thematic Objectives for which significant effects identified	Potential indicators
	opportunities for all sectors of the community?		Income Support claimant rate. Housing Benefit and Council tax claimant rate. Distance travelled to work. Business starts and business closures. Industry of employment. English indices of deprivation, especially for: income; employment; education, skills and training.
HUMAN HEALTH	Will it enhance human health and quality of life?	TO6, Priority Axis 10	% of persons in 'very good' or 'good' health. % of adults physically active at recommended levels. % of obese adults. % of adults visiting the outdoors for leisure or recreation at least once a week. % of adults with depression and anxiety. % of adults with cardiovascular disease, hypertension or diabetes. Total area of publicly accessible greenspace and area created/enhanced. English indices of deprivation, especially for: health deprivation and disability; living environment.
SOIL	Will it ensure the efficient use of previously developed land and the remediation of contaminated land?	TO6, Priority Axis 10	Area of development on previously developed land. Area of development on 'best and most versatile' agricultural land. Area of contaminated land remediated.
WATER	Will it avoid pollution to water? Will it reduce flood risk?	TO5,6, Priority Axis 10	Data sets on river water quality collected by the Environment Agency under the Harmonised Monitoring Scheme. Bathing water quality statistics. Area and % of employment development not located in Flood Zone 1 (low probability of flooding). Area of employment land for which flood risk reduced. Number and value of flood mitigation projects supported.
AIR	Will it avoid increasing emissions to air?	TO7	Number of AQMAs declared. Local Air Quality Monitoring (LAQM) statistics. Number of vehicle charging locations and hydrogen fuelling station. Number of businesses supported in which energy efficiency was improved. Miles of cycle path or walking route improved. Number of journeys taken by public

SEA Topic	Criteria for which significant effects identified	Thematic Objectives for which significant effects identified	Potential indicators
			transport. Distance travelled to work.
CLIMATIC FACTORS	<p>Will it help to reduce greenhouse gas emissions?</p> <p>Will it promote the use of renewable energy sources?</p> <p>Will it support appropriate adaptation of future development to climate change?</p>	TO1,3,4,5,7, Priority Axis 10	<p>MW of renewable energy generating capacity installed.</p> <p>Number of vehicle charging locations and hydrogen fuelling station.</p> <p>Number of businesses supported in which energy efficiency was improved.</p> <p>Miles of cycle path or walking route improved.</p> <p>Number of journeys taken by public transport.</p> <p>Distance travelled to work.</p>
MATERIAL ASSETS	<p>Will it encourage use of resources in accordance with the waste hierarchy?</p> <p>Will it promote the efficient use of mineral resources?</p>	TO6, Priority Axis 10	<p>Total area of publicly accessible greenspace and area created/enhanced.</p> <p>Area of contaminated land remediated.</p> <p>Total commercial and industrial (C&I) waste generation.</p> <p>% of C&I waste recycled, re-used, sent to landfill.</p> <p>Total construction, demolition and excavation (C,D&E) waste generation.</p> <p>% of C,D&E waste converted to aggregate/recycled soil, sent to landfill.</p>

8 Next steps

- 8.1 The SEA Report will accompany the version of the ERDF Operational Programme submitted to the European Commission; this is expected to occur during the week commencing 14 July 2014.

Appendix 1

SEA consultation

Introduction

The SEA Scoping Report was made available to the statutory environmental bodies (Environment Agency, Natural England and English Heritage) in December 2013 for a five week consultation period. The first table in this Appendix summarises consultee responses and how they have been taken into account.

A draft of the ERDF Operational programme dated 2nd June 2014 was subject to SEA and then published for consultation alongside the draft SEA Report for the period 24th June-9th July 2014. The second table in this Appendix summarises consultee responses from that consultation and how they have been taken into account.

SEA scoping consultation

Respondent	Section of SEA Scoping Report	Comment (N.B. Chapter and paragraph references relate to text in the SEA Scoping Report)	Response to comments
Natural England	Proposed Approach to Appraisal	Thank you for consulting Natural England on the SEA scoping report for the European Regional Development Fund Programme for 2014-20, on behalf of DCLG. We have reviewed the scoping assessment, and support the general approach being taken, but due to the broad diversity of the programme and non-specific nature of the impacts we have no detailed comments to make at this stage.	Noted. No action required
Natural England	The application of the Habitats Regulations	In regard to the specific question posed to Natural England on the approach to Habitats Regulations Assessment: <i>"Do you agree that the Operational Programme does not require Habitats Regulations Assessment? This is a question specifically to Natural England, whose advice would be welcomed."</i> Natural England does not provide legal advice on the application of the Habitats Regulations, however we welcome the assessment provided within the scoping report and would suggest that this constitutes an assessment of Likely Significant Effects in regard to the regulations. The identified rationale for not undertaking appropriate assessment at this stage appears to be rational and proportionate, given the non-specific nature of any effects on the Natura 2000 network. We would therefore endorse the approach taken and the advice given to those implementing the projects that will derive from this programme.	Noted. No further action required.
English Heritage	Chapter 4	Have all the relevant environmental protection objectives been identified? In Cultural Heritage: 4.214 covers all aspects of the historic environment (and accords with the definitions in the NPPF). Note the use now of terms such as heritage assets and significance.	The definition of cultural heritage in Chapter 4 has been amended so that it accords with all definitions used within the NPPF.
English Heritage	Chapter 4	4.220 should go on to say that conservation areas are now covered by the Planning (Listed Buildings and Conservation Areas) Act 1990.	The cultural heritage section of Chapter 4 has been amended to incorporate this.

Respondent	Section of SEA Scoping Report	Comment (N.B. Chapter and paragraph references relate to text in the SEA Scoping Report)	Response to comments
English Heritage	Chapter 4	4.221-2 are out of date as the present Government does not intend to proceed with the Heritage Protection Bill or proposals in the 2007 White Paper. Instead as part of implementation of the Penfold Review of Non-planning consents and the Government's Policy Making the planning system work more efficiently and effectively, the Enterprise and Regulatory Reform Act 2013 has introduced changes that streamline the Listed Building Consent process	The cultural heritage section of Chapter 4 has been amended to describe the status of the Heritage Protection Bill and the Enterprise and Regulatory Reform Act 2013.
English Heritage	Chapter 4	4.223-4 are rather brief for the NPPF and it would be useful to say most HE policies are in paras 126-141 and 169-170	The cultural heritage section of Chapter 4 has been amended to incorporate this.
English Heritage	Chapter 4	4.225 The list of EH guidance is out of date: the first three documents are being reviewed at present in the light of the NPPF. Conservation Principles is still key but add to that The Setting of Heritage Assets (2011) and Enabling Development (2009) and documents on Understanding Buildings and Understanding Place series of publication. There is of course the NPPG supporting the NPPF and a forthcoming guidance that we are producing with the Historic Environment Forum to underpin those policy and guidance documents.	The cultural heritage section of Chapter 4 has been amended to incorporate these comments relating to the list of relevant guidance documents for the protection of the historic environment. An additional paragraph has been inserted relating to the NPPG and EH and the Historic Environment Forum publication.
English Heritage	Chapter 4	Does the summary baseline information provided identify the environmental issues that are likely to be relevant to the Operational Programme In Cultural heritage the overview of baseline data should be updated to the 2013 Heritage at Risk data, see http://www.english-heritage.org.uk/caring/heritage-at-risk/ and Heritage Counts 2013 see http://www.english-heritage.org.uk/professional/research/social-and-economic-research/heritage-counts/	The cultural heritage section of Chapter 4 has been updated with data from the Heritage at Risk 2013 statistics and the English Heritage, (2013), <i>Heritage Counts</i> publications.
English Heritage	Chapter 4	In Landscape under 4.246, it would be helpful to explain historic landscape characterisation, and note that now East Berkshire HLC is being carried out, all of England is covered.	Additional text added to cultural heritage section of Chapter 4 to explain what HLC is and national progress in carrying it out.
English Heritage	Chapter 4	4.252 although historic parks and gardens are covered, battlefields are not and should be included.	The cultural heritage section of Chapter 4 now includes historic battlefields.
English Heritage	Proposed Approach to Appraisal	Does the approach to be taken to the SEA appear robust and proportionate to the likely content of the Operational programme? Yes, provided the amendments suggested are included	Where changes have been suggested, these have been incorporated into the amendments made to the document.
English Heritage	SEA Framework	Is the SEA Framework fit for purpose?	Where changes have been suggested, these have been

Respondent	Section of SEA Scoping Report	Comment (N.B. Chapter and paragraph references relate to text in the SEA Scoping Report)	Response to comments
		Yes, provided the amendments suggested are included.	incorporated into the amendments made to the document.
English Heritage	The application of the Habitats Regulations	Do you agree that the Operational Programme does not require Habitats Regulations Assessment? We cannot answer this question	Noted – this was a question to Natural England only. No action required.
Environment Agency	SEA scoping approach	The Environment Agency welcomes the opportunity to comment on the Strategic Environmental Assessment (SEA) Scoping Report consultation for England's ERDF Operational Programme. We are commenting as a statutory consultation body under the Environmental Assessment of Plans and Programmes Regulations 2004 (SI 1633) on issues within our remit. Overall, we support the SEA scoping approach.	Noted. No action required.
Environment Agency	SEA scoping approach	We are generally satisfied that the SEA approach is proportionate, based on the information on the Operational Programme provided in the Scoping Report, and that the scope and level of detail is appropriate, but have suggested some changes to the baseline.	Where changes have been suggested, we have responded with comments and /or made amendments to the document.
Environment Agency	SEA Framework	The SEA Framework is generally fit for purpose; however, we have made some suggestions in relation to strengthening the SEA Framework criteria, the assessment of cumulative effects and measures for mitigating any significant effects.	Where changes have been suggested, we have incorporated these as far as possible, within the limitations of uncertainty surrounding the outcome of negotiations between partners (including LEPs) and DCLG.
Environment Agency	SEA scoping approach	Have all the relevant environmental protection objectives been identified? We are satisfied that the policy, plan and programme review to identify environmental protection objectives is comprehensive.	Noted. No action required.
Environment Agency		Does the summary baseline information provided identify the environmental issues that are likely to be relevant to the Operational Programme? We generally consider the level of baseline information provided to be appropriate and are satisfied that it covers the range of topics likely to be affected. However, information on the key issues for/potential effects of the ERDF Operation Programme is currently recorded under the heading 'Likely evolution without the Operational Programme' for each SEA topic. We suggest that this information is recorded separately to make it clear what issues are likely to be relevant.	The information on the potential effects of the ERDF Operational Programme has been removed from the section on the 'Likely evolution without the Operational Programme'; a full assessment is provided in Chapter 5 and Appendix 2 .
Environment Agency	Chapter 4	We welcome the attempt to predict the likely evolution of baseline without the Operational Programme as required by the SEA Directive.	Noted. No action required.
Environment Agency	Chapter 4	We suggest the Environment Agency's Catchment Flood Risk Management Plans and Shoreline Management Plans are used to inform the baseline information provided on flood risk in the water section of Chapter 4, as information on this topic is currently limited. This information will be important to inform the assessment of activities, in particular those falling under Thematic Objective	There are currently six Catchment FRMP areas which contain 66 individual plans, in addition there are 22 shoreline management

Respondent	Section of SEA Scoping Report	Comment (N.B. Chapter and paragraph references relate to text in the SEA Scoping Report)	Response to comments
		5: Promoting climate change adaptation, risk prevention and management.	plans. Given the high level nature of the ERDF Operational Programme and the extent of data for each individual area, it was not considered practical or necessary to assess and produce a summary of each document. As such the data presented is drawn from the summarised version of the FRMP. Unfortunately there was no summary of the 22 Shoreline Management Plans, which could be used to inform the baseline data presented in section 4 on Water but given the high level nature of the ERDF Operational Programme it was considered that it was unnecessary to include such geographically specific information in the SEA.
Environment Agency	Chapter 4	We note that River Basin Management Plans are referenced, however, we would like to emphasise the importance of the next round of RBMPs for the activities proposed as part of the ERDF Operational Programme. The new RBMPs will cover the period 2015-2021, similar to the ERDF funding period, and will be the basis for environmental planning in England. We therefore suggest that the likely impacts of the ERDF Operational Programme on the actions in the RBMPs, and vice versa, are considered.	The relevant text in the Water section of Chapter 4 has been amended to note the emergence of new RBMPs for the period 2015-2021. Criteria for determining effects on the water environment in Table 2.1 amended to include reference to RBMPs.
Environment Agency	Proposed Approach to Appraisal	Does the approach to be taken to the SEA appear robust and proportionate to the likely content of the Operational Programme? Based on the level of detail provided in Chapter 2 of the Scoping Report which sets out the ERDF Operational Programme thematic objectives, we are satisfied that the SEA approach is proportionate.	Noted. No action required.
Environment Agency	Chapter 5	Is the SEA Framework fit for purpose? Defining significance We welcome the attempt to define significance in paragraph 5.5 but suggest clarification is provided for the terms used, for example 'major' effect, in relation to the symbols set out in Table 5.2 which only mentions 'significant' effect.	Text on 'Defining significance' in Chapter 2 has been amended to cover all definitions used within Table 2.2 . 'Significant positive' and 'significant negative' have been used to explain the meaning of a 'major significance'.

Respondent	Section of SEA Scoping Report	Comment (N.B. Chapter and paragraph references relate to text in the SEA Scoping Report)	Response to comments
Environment Agency	Chapter 5	<p>Proposed SEA Framework</p> <p>The SEA topics and associated question-based criteria set out in Table 5.1 generally cover the key issues within our remit which are likely to be affected by the Operational Programme.</p> <p>However, we have the following suggestions:</p> <p>In line with the EU objective of pursuing the principle of sustainable development through this fund, we suggest that the criteria are re-phrased to be more positive. Many of the criteria currently only require 'avoidance' of but no reduction or enhancement for the SEA topic. For example, we suggest that the criterion relating to flood risk is re-written to not just avoid increasing flood risk but to reduce flood risk wherever possible. A similar comment applies to the water consumption criterion. This re-phrasing of the criteria may help with the assessment methodology described in paragraph 5.8 and use of the symbols in Table 5.2 i.e. where an activity is just likely to help avoid an impact then a minor effect could be recorded, however, where an activity is likely to lead to a reduction or enhancement then a significant effect could be recorded.</p>	The SEA Framework criterion in Table 2.1 has been re-phrased as suggested to make the questions more positive.
Environment Agency	Chapter 5	We suggest that the criterion under the water topic relating to pollution is re-written in line with the more comprehensive requirements of the Water Framework Directive which take into account the whole water environment in terms of meeting good ecological status and ensuring no deterioration in status.	An additional criterion for determining the effects has been added within the water topic of Table 2.1 .
Environment Agency	Chapter 5	We suggest that a criterion relating to climate change adaptation is included in line with Thematic Objective 5: Promoting climate change adaptation, risk prevention and management as currently only climate change mitigation issues are covered.	Table 2.1 now includes a criterion on the effects of the ERDF upon climate change adaptation.
Environment Agency	Chapter 5 - Cumulative effects	<p>Cumulative effects</p> <p>The cumulative effects section (paragraphs 5.11 and 5.12) does not mention the assessment of cumulative effects with other plans and programmes. We acknowledge the difficulties of this type of assessment over a wide area and range of different plans and programmes. However, we suggest that an attempt is made, in line with guidance set out in A Practical Guide to the Strategic Environmental Assessment Directive (ODPM 2005), to identify the significant effects in relation to this programme</p>	There are 433 principal authorities in the UK each of which will have their own or joint plans and programmes. Given the scale of information available it has not been practical to provide an assessment of the cumulative effects of the ERDF operational programme on these. However, the consideration of 'likely evolution without the Operational Programme' provides an indication of potential effects arising from other plans and programmes.
Environment Agency	Chapter 4 -	<p>Mitigation</p> <p>In Chapter 4, the scoping report recognises that negative impacts associated with an increase in</p>	The list of ERDF Operational Programme objectives has now

Respondent	Section of SEA Scoping Report	Comment (N.B. Chapter and paragraph references relate to text in the SEA Scoping Report)	Response to comments
	Mitigation	economic activity (linked to thematic objectives 1,2 and 3) could be mitigated through positive impacts associated with thematic objectives 4,5,6 and 7. However, whilst thematic objectives 1,2,3 and 4 are mandatory, thematic objectives 5,6 and 7 are optional. Therefore the ability to mitigate negative impacts in part depends upon the emphasis that is placed on these optional objectives.	been finalised. As described in Chapter 3 , it includes Thematic Objectives 5, 6 and 7.
Environment Agency	Chapter 5 - Mitigation	Paragraph 5.13 states that mitigation of significant impacts will be addressed by measures included under the sustainable development cross cutting theme. We note that recent guidance issued to Local Enterprise Partnerships (LEPs) by BIS encourages them to take a more holistic approach to sustainable development. It states that where LEP plans have proposed little or no investment in thematic objectives 5 and 6, they should be clear on how environmental protection and enhancement and climate change adaptation are being considered across all thematic objectives. We trust that the principles set out in this guidance can be used to ensure that any recommendations from the SEA process, relating to the mitigation of significant effects, are considered as part of the developing and refining options stage for the Operational Programme.	Noted. No further action required.

Consultation on SEA Report for 2nd June 2014 draft ERDF Operational Programme

Respondent	Section of June 2014 draft SEA Report	Comment (N.B. Chapter and paragraph references relate to text in the SEA Scoping Report)	Response to comments
Environment Agency	Whole report	We are generally satisfied that the SEA approach is proportionate, based on the information in the draft ERDF Operational Programme. We are pleased to see that most of our comments on the SEA scoping document (submitted December 2013) have been taken into account.	Noted. No change to SEA required.
Environment Agency	Chapter 5 – Assumed safeguards	We are concerned that the LEP area model noted in paragraph 5.3 , and the safeguards assumed in paragraph 5.42 , may not <i>necessarily</i> ensure that projects will be subject to close scrutiny with regards to their environmental effects. Proper scrutiny with regards to environmental effects will require the robust application of the cross-cutting sustainable development principles, as outlined in section 6.1 of the DCLG OP consultation (May 2014) and in section 11 of the draft OP considered by the SEA consultants. We recognise that DCLG is already working with Defra and its agencies to agree how this can best be achieved.	Safeguards that are assumed to exist at the project selection and implementation stages are clearly stated in paragraphs 5.3-5.4 and paragraph 5.42 of the draft SEA Report. No change to SEA required.
Environment Agency	Section 5 – Suggestions for further mitigation and enhancement	We agree that these cross-cutting sustainable development principles should be embedded within ERDF project selection criteria, as suggested in paragraph 5.43 . The application of these principles and selection criteria should be supported by clear governance, guidance, training and expert assistance to the Government's local growth teams, to the (new) local ESI Growth Programme Sub-Committees and to applicants.	Noted. No change to SEA required.
Environment Agency	Chapter 5 – Effects of Thematic Objective 5	We agree with the assessment of Thematic Objective 5 – Promoting climate adaptation, risk prevention and management – with regards to air, material assets, cultural heritage and landscape as summarised in section 5 and detailed in annex 2. However, we are concerned that this assessment does not adequately reflect the positive effects that the proposed investments in flood and coastal risk management can have with regards to biodiversity, population, human health, soil, water and climate factors.	Some additional potential positive effects are now recognised in the assessment but many of these are uncertain because of the lack of an explicit green infrastructure approach to flood risk and surface water management.
Environment Agency	Chapter 5 – Effects of Thematic Objective 6	We agree with the assessment of Thematic Objective 6 – Preserving and protecting the environment and promoting resource efficiency – with regards to biodiversity, population, human health, soil, air, material assets, cultural heritage and landscape as summarised in section 5 and detailed in annex 2. However, as with Thematic Objective 5, we are concerned that this assessment does not adequately reflect the positive effects that the proposed investments in site development and business waste reduction can have with regards to water and climate factors.	Agreed that the positive effects of this Thematic Objective may be broader than suggested in the draft SEA, particularly in light of the amended list of actions to be supported by the ERDF Operational Programme. Assessment revised.
Environment Agency	Section 2 - SEA Framework Table 2.1	The criteria (table 2.1) used in the SEA to assess climate change impacts to 'avoid increases in climate change emissions' is too weak and could give misleading positive results in the SEA. It is not clear whether the Climate Change Act 2008 and subsequent policy, which are referred to later in the document, are implicit in this criteria. If they are, we suggest this should be made clear. If they are not, we believe the criteria and assessment of climate change impacts should be revisited.	Agreed. To reflect the binding CO ₂ reduction targets in the Climate Change Act, this criterion has been amended to read " <i>Will it help to reduce greenhouse gas emissions</i> ". In light of this change and the Natural England comment on SEA of Thematic Objective 4 below, the

Respondent	Section of June 2014 draft SEA Report	Comment (N.B. Chapter and paragraph references relate to text in the SEA Scoping Report)	Response to comments
			assessment of the effects of the ERDF Operational Programme on greenhouse gas emissions has been revised, resulting in additional negative effects.
Environment Agency	Section 5 – Suggestions for further mitigation and enhancement	We suggest that the SEA’s recommendations relating to the further mitigation and enhancement on the OPs environmental effects should be captured in a separate chapter in both documents. This could be in the form of an action plan which sets out what needs to be carried forward, in which plans and projects, where responsibility lies, and how uncertainties will be addressed. This would make the documents more accessible to those responsible for delivering the programme. It would also make the process more transparent and facilitate monitoring.	The role of the SEA is to describe potential mitigation and monitoring measures. DCLG has stated that the Government will publish a response to the consultation on the draft SEA Report and that it will also add text to the ERDF Operational describing how the findings of the SEA have been reflected.
Environment Agency	Section 5 – Suggestions for further mitigation and enhancement	<p>As requested by the SEA consultants, we are providing clarification with regards to Environment Agency Representation referred to in SEA table 5.2 in relation to Thematic Objective 6 - Preserving and protecting the environment and promoting resource efficiency, and in relation to Thematic Objective 9 – Promoting social inclusion, combating poverty any discrimination.</p> <p>In our response to DCLG’s ERDF OP consultation (May 2014) we expressed concern that the Operational Programme proposed a narrow focus on site development with regards to Thematic Objective 6. This approach could constrain those LEPs who want to invest more broadly in the protection and enhancement of green and blue infrastructure, as a local driver for sustainable growth. For example through biodiversity offsetting, or restoring green corridors and urban rivers.</p> <p>A review of LEPs’ Jan 2014 ESI Growth Programme Strategies suggests that this might be the case in the Black Country, Cornwall, Cumbria, Gloucestershire, Gr Lincolnshire , Gr Manchester, Leeds City Region, Liverpool City Region, South East Midlands, Stoke and Staffordshire, Thames Valley Berkshire, West of England and Worcestershire.</p> <p>In our response to DCLG’s ERDF OP consultation (May 2014) we also welcomed the use of community-led local development activities to address multiple barriers to growth, and to deliver long lasting socio economic and environmental benefits. We explained there is often a link between, poor and economically deprived environments and vulnerability to climate change notably flood risk. Our sources of evidence for this link are:</p> <p>Inter-Governmental Panel on Climate Change Working Group 2 Report “Impacts, Adaptation and Vulnerability” (2014), Summary for Policy-Makers. http://ipcc-wg2.gov/AR5/images/uploads/WG2AR5_SPM_FINAL.pdf</p> <p>Joseph Rowntree Foundation Report “Climate change and social justice: an evidence review” (Banks</p>	<p>Clarification of these May 2014 representations on the ERDF Operational Programme consultation document was requested by DCLG.</p> <p>Clarification of representation on Thematic Objective 6: A broad definition of green infrastructure is provided under Investment Priority 1 of Priority Axis 6 of the ERDF Operational programme. A new indicative action under Thematic Objective 6 supports investment in green and blue infrastructure. Together, these are judged to address the previously expressed consultation comment and the related recommendation has been removed from the SEA Report.</p> <p>Clarification of representation re. link between deprived areas and vulnerability to flood risk: This issue is reflected in LUC’s suggestions for mitigation and enhancement of Thematic Objective 9. No change required to</p>

Respondent	Section of June 2014 draft SEA Report	Comment (N.B. Chapter and paragraph references relate to text in the SEA Scoping Report)	Response to comments
		<p>et al 2014, summary). http://www.irf.org.uk/publications/climate-change-and-social-justice-evidence-review</p>	the SEA Report.
Natural England	Whole report	<p>The draft SEA report generally identifies, describes and evaluates the positive and negative effects on the environment of implementing the Operational Programme. However, there is an acknowledged lack of geographic specificity in the programme which introduces uncertainty on the environmental impact in a given location/area. In some cases the assessments do not seem to be based on the evidence base provided and seem either overly optimistic or pessimistic. In the case of Thematic Objective 6 – Protecting the Environment and Resource Efficiency, ambiguity within the Operational Programme makes it difficult to provide an accurate evaluation. On the whole there are a disappointing number of ‘uncertain’ assessments following the production of the Environmental Report (e.g. 9 out of 16 assessments for ‘Biodiversity’ are considered uncertain). The report acknowledges the lack of geographical specificity and the difficulty of identifying the inter-relationships between the programme and existing legislation/funding initiatives. Whilst Natural England understands the difficulties in producing the assessment, we believe that the assessment questions should be evolved to identify potential significant effects. This will allow for the SEA assessment to be valuable to the process of producing the programme and allow for iterative changes of the programme to be considered. Additionally, we believe that the role of Green Infrastructure as part of the Sustainable Development cross cutting theme, and the role it can play in mitigating the impacts of infrastructure developments should be reflected more fully in the assessment.</p>	<p>This Natural England comment summarises more detailed comments made below and LUC’s responses to these are also set out below.</p> <p>As a general point, LUC would like to note that the SEA was conducted in accordance with the approach set out in the SEA Scoping Report which stated that:</p> <p><i>“The Operational Programme is likely to be of a high-level nature (e.g. it is likely to include broad processes and funding initiatives rather than locationally specific projects)...a qualitative assessment will be the most suitable approach, by which judgements will need to be made on the basis of the activities being proposed”.</i></p> <p>Natural England’s response to consultation on the SEA Scoping Report stated that:</p> <p><i>“We have reviewed the scoping assessment, and support the general approach being taken, but due to the broad diversity of the programme and non-specific nature of the impacts we have no detailed comments to make at this stage.”</i></p>
Natural England		<p>Geographic specificity</p> <p>The SEA highlights the difficulty encountered to carry out detailed analysis of the effects of the ERDF Operational Programme because of the nature of the Operational Programme and lack of geographic specificity. As a result, a high level, qualitative assessment has been carried out for England as a</p>	LUC agrees that a second stage of SEA would be beneficial. As explained in the ‘Introduction and difficulties encountered’ section of Chapter 2 of the SEA Report, we

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		<p>whole. As recognised in the SEA, the Operational Programme has been informed by the 39 Local Economic Partnership (LEP) European Structural Investment Fund (ESIF) strategies. These strategies have now been developed and it seems likely that through the differing approaches to environmental and sustainability issues and, the investment choices made, the environmental impact of the Operational Programme will be significantly different in different LEP areas. Some ESIF strategies recognise significant environmental pressures but, propose business as usual, with no action to address those pressures whilst others, have fully addressed sustainable development issues. Whilst fully recognising that the ESIF strategies do not (on the whole) propose specific projects in specific locations, developing the SEA to take account of the geographic literacy of the ESIF strategies would provide a more accurate picture of the likely impact of the ERDF Programme.</p> <p>We would suggest that as a second stage to the SEA, e.g. assessment of the ESIF strategies should be considered in order to identify possible exceptions to the England level assessment – areas where investment choices may result in either a concentration of environmental impacts or, anomalous impacts.</p>	<p>believe that the current level of detail in the SEA for the ERDF Operational Programme is consistent with the requirements of Article 5(2) of the SEA Directive. For good practice, we therefore suggest that each of the LEP's ESIF strategies be subject to SEA in its own right to ensure that environmental issues specific to particular geographies and projects are assessed at an appropriate level in the decision-making process.</p>
Natural England		<p>Thematic Objective 1: Strengthening research, technological development and innovation</p> <p>In general we would agree with the assessment that most actions under this thematic objective are not expected to have any effect on the identified SEA topics. The report correctly focusses on potential exceptions. We would question whether all exceptions have been identified. The potential to support SME's under this objective suggests that issues identified for SEA topics under thematic objective (TO) 3 are equally relevant to this objective. For example, considering the Biodiversity SEA topic, the logic set out under TO3 that "increased growth of SME's is likely to drive up demand for employment land which, in turn, may result in loss of or damage to wildlife habitats and the species that depend on them" is also relevant within TO1. We would suggest that similar overlaps of issues between TO3 and TO1 exist in respect of – soil, water, air and, climatic factors.</p> <p>To mitigate possible negative effects on biodiversity, flora and fauna prioritisation should be given to Green Infrastructure within infrastructure investments in accordance with the Sustainable Development commitments of the UK Partnership Agreement – "Where possible Government will prioritise the provision of Green and Blue Infrastructure to deliver objectives, utilising its multifunctional nature to secure environmental gain from activities in urban and rural areas. Well planned Green Infrastructure has the capability of making a positive contribution across the full range of SEA topics.</p>	<p>The focus of Thematic Objective 1 is more on building SME capabilities in relation to research, development and innovation in contrast to the growth and competitiveness focus of Thematic Objective 3. It is accepted, however, that this is likely to indirectly support economic growth and associated employment development with the types of effect described under Thematic Objective 3. Assessment amended accordingly.</p> <p>Investment in green infrastructure is supported elsewhere in the ERDF Operational Programme, notably under Thematic Objective 6.</p>
Natural England		<p>Thematic Objective 2: Enhancing Access to, and use and quality of ICT</p> <p>We generally agree with the assessments under this objective. However, as identified under the Biodiversity, Flora and Fauna topic, support is likely to be focussed in "remote rural locations with low population density". This geographic literacy is likely to impact on the assessment of the other SEA topics. For example, this spatial factor may mean that increased take up of broadband does not reduce the need to travel with a positive effect on emissions of air pollutants from transport. Improved broadband in remote rural areas may well make those areas more attractive for business, leading to inward investment and a consequential increase in the need to travel. So, whilst in general</p>	<p>Noted. Assessment of this Thematic Objective has been amended to suggest that the Sustainable Development horizontal principle states that project selection criteria should take account of the potential for supported projects in unsustainable locations to increase demand for</p>

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		<p>an increase in broadband / e commerce may reduce the need to travel, the spatial dimension of the Programme may lead to an increase in travel in the targeted areas.</p> <p>It is important that any spatial concentration of impacts are identified so that appropriate mitigation measures can be applied at both the local and project level.</p>	<p>employment land or to increase business-related travel.</p>
Natural England		<p>Thematic Objective 3: Enhancing competitiveness of small and medium sized enterprises</p> <p>We agree with the finding that that there are no significant environmental effects arising from this objective and that the main risk arises from increased growth of SME's with potential impacts on biodiversity, water and air. The assessment correctly identifies that any impact is likely to be affected by spatial considerations – the location of development.</p> <p>It is important that any spatial concentration of impacts is identified so that appropriate mitigation measures can be applied at both the local and project level.</p> <p>We would agree with the suggestion to expand the project selection criteria to aid high levels of resource efficiency within SME's. Further work will be required to identify a suitable project selection criterion that is both simple and effective. Natural England is working as part of a cross Departmental group to embed the sustainable development cross cutting theme in the Operational Programme. This is the best forum to develop such criteria. We will continue to input into the work of that group.</p>	<p>Noted. No change to SEA required.</p>
Natural England		<p>Thematic Objective 4: Supporting the shift towards a low carbon economy in all sectors</p> <p>The range of indicative actions, in the absence of geographic literacy and sense of scale, introduces great uncertainty into any assessment of environmental impact. Several of the indicative actions concern either the provision of Green Infrastructure or activity that could include Green Infrastructure. Where this is the case, and the Green Infrastructure is well planned, there is potential to secure positive impacts across the range of SEA topics. These impacts are not always incorporated within the assessment. We would suggest that in accordance with the Sustainable Development commitments of the UK Partnership Agreement, Green Infrastructure is prioritised where appropriate.</p> <p>The SEA suggests that the majority of actions will help to reduce greenhouse gas emissions (Climate Factors topic). Given that this is a growth programme, we question whether this is fully accurate – it will help decouple greenhouse gas emissions and growth but, that is not to say it will necessarily help reduce greenhouse gas emissions overall.</p>	<p>A broad range of positive effects from support for green infrastructure is already recognised within the assessment. Assessment text has been modified to further reflect the role of green infrastructure in relation to biodiversity.</p> <p>Added a new suggestion for mitigation and enhancement of the Sustainable Development Cross Cutting theme that it states that <i>"In considering capital investments, proposals must identify how these support green infrastructure that is well designed so as to ensure a wide range of benefits within and, where relevant, beyond their boundaries."</i></p> <p>Agree that low carbon measures within the ERDF Operational Programme will help to decouple</p>

Respondent	Section of June 2014 draft SEA Report	Comment (N.B. Chapter and paragraph references relate to text in the SEA Scoping Report)	Response to comments
			growth from greenhouse gas emissions. In light of this and the Environment Agency comment above on the climate change criterion within the SEA Framework, assessment has been amended accordingly.
Natural England		<p>Thematic Objective 5: Promoting climate change adaptation, risk prevention and management</p> <p>We generally agree with the assessments under this objective but would modify the suggested enhancement – “State that natural approaches to flood risk and surface water management which also have biodiversity benefits will be actively considered alongside hard infrastructure measures and used in preference where possible”, so that it better reflects the Sustainable Development cross cutting theme as set out in the Partnership Agreement. This would mean that Green Infrastructure would be prioritised over hard infrastructure, to address flood risk and surface water management. As with all Green Infrastructure, it should be well planned so that it is able to deliver a wide range of benefits.</p>	Agreed. Suggestion for enhancement modified in line with Natural England comment.
Natural England		<p>Thematic Objective 6: Preserving and protecting the environment and resource efficiency</p> <p>The assessment of this objective is complicated by the fact that the Operational Programme is not clear on the activities that will be delivered. For site based activity, it is possible to conclude that the main activity is site development, which may include environmental improvements, to bring derelict and brownfield land into improved condition where this will unlock employment sites and so deliver economic growth⁷⁶. This view is supported by the emphasis in the draft Operational Programme on “developing derelict and brownfield land back in particular can unlock employment and create growth in local areas”. If this is the case, then the assessment of impact against the SEA topics is optimistic. On the other hand, the chosen Investment Priority – “Protecting and restoring biodiversity and soil and promoting ecosystems, including through Natura 2000 and Green Infrastructure”, along with five indicative activities identified in the draft Operational Programme⁷⁷, suggests that the Programme will be providing Green Infrastructure which is designed as a multifunctional resource, delivering a range of environmental and quality of life benefits. In this case, some elements of the assessment may be pessimistic. Well planned Green Infrastructure has the capability of making a positive</p>	<p>Only the two indicative actions shown in the draft SEA Report appeared in the 2nd June draft of the ERDF Operational Programme; Natural England comments relate to a later draft of the Programme dated 18th June. The revised OP (V10.0) includes a broader range of indicative actions which are now reflected in the SEA.</p> <p>A broad definition of green infrastructure is provided under Investment Priority 1 of Priority Axis 6 of the ERDF Operational programme, making clear the</p>

⁷⁶ ERDF Operational Programme Summary, Growth Programme Board 25. 06.14

⁷⁷ ERDF Operational Programme – version 18th June 2014

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		<p>contribution across the full range of SEA topics.</p> <p>We note that the assessment identifies only one of the five, indicative actions, highlighted in the Operational Programme⁷⁸ – “bringing derelict and brownfield sites into improved condition through investment in GI”. We would suggest that all five are stated –</p> <ul style="list-style-type: none"> • Investing in Green and blue Infrastructure that enhances the quality of heavily urbanised environments, to improve their appeal and thus increase likelihood attracting additional investment and employment opportunities; • Investing in Green and blue infrastructure that reduces pollution/ the impacts of pollution on businesses, and protects and enhances natural capital assets. • Investing in Green Infrastructure that provides accessible green space, providing recreation, quality of life, health, economic growth and inward investment opportunities that attract businesses, support employee retention, reduce illness, and provide new business opportunities in their own right. • Incorporating Green and blue Infrastructure into development sites to enhance the appeal and overall sustainability of the investment. • Bringing derelict and brownfield sites into improved condition through investment in Green Infrastructure. <p>Further, the SEA suggests that the Investment Priority is reworded, questioning what is meant by “promoting ecosystems”. The chosen Investment Priority is taken from the ERDF Regulation⁷⁹ we support the use of that Investment Priority, and do not think it appropriate to reword it. Rather, we think that clarity on this point can best be provided by ensuring that there is no ambiguity within the Operational Programme that activity under this objective only “may” deliver environmental improvement and, providing clarity on what is meant by Green Infrastructure. Fundamentally Green Infrastructure is about living systems⁸⁰, environmental improvement should be a given. All Green Infrastructure should be well planned, so that it delivers multiple benefits for both the environment and quality of life of people.</p> <p>We believe that the suggestions above would better reflect advice on this thematic objective (alongside that of the Environment Agency). It is unclear having spoken with the Environment Agency, what is meant by the suggestion that a broader approach is taken, allowing strategic investment as well as site based. It may be that recent updates to the ERDF Operating Programme have addressed the issue. Taken together, the five indicative actions suggest that this objective no longer has a narrow focus on site development.</p>	<p>objective of multifunctionality. A new indicative action under Thematic Objective 6 supports investment in green and blue infrastructure. Together, these are judged to provide clarity on what is meant by green infrastructure and the related recommendations in the SEA Report have been removed.</p> <p>The suggestion to reword the “promoting ecosystems” Investment Priority has been withdrawn.</p>

⁷⁸ ERDF Operational Programme – version 18th June 2014

⁷⁹ Regulation 1301(2013)

⁸⁰ Green Infrastructures contribution to economic growth, Defra / Natural England, July 2013

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		Our view is that the provision of Green Infrastructure is key to the sustainability of the Operational Programme. This role is recognised within the Sustainable Development cross cutting theme of the Partnership Agreement which gives a priority to “the provision of Green Infrastructure to deliver objectives, utilising its multifunctional nature to secure environmental gain from activities in urban and rural areas” where possible. Prioritisation of Green Infrastructure under this objective, and embedding GI into infrastructure activities under other objectives, is an effective way to ensure that the Programme delivers its environmental obligations. Natural England will continue to input to the cross Departmental group to embed sustainable development into the Operational Programme.	
Natural England		Thematic Objective 7: Promoting sustainable transport and removing bottlenecks in key network infrastructure We generally agree with the assessment.	Noted. No change to SEA required.
Natural England		Thematic Objective 9: Promoting social inclusion, combating poverty and any discrimination Activity under this investment includes the provision of infrastructure. For other objectives, where this is the case, the assessment has recognised that development may result in loss or damage to wildlife habitats and species, soil, water, air, climatic factors, landscape. A consistent approach should be taken across the SEA and these risks should be recognised within this assessment. However, the scope of activity that can be supported under this objective may also allow the provision of Green Infrastructure, delivering the cross cutting theme commitment to prioritising Green Infrastructure, or other environmental enhancements. This should also be reflected within the SEA.	It is accepted that some of the activities under this objective include infrastructure provision. The assessment has been amended for consistency with the assessment of other Thematic Objectives where this is the case. Disagree that green infrastructure has a significant role to play in promoting social inclusion, combating poverty and any discrimination; no change made to SEA in respect of this comment.
Natural England		Chapter 4 of the SEA sets out the Environmental Protection objectives and baseline information. Given that the Operational Programme has a significant focus on the urban environment we would suggest that the baseline information incorporates evidence from the National Ecosystem Assessment, particular the state of urban services and the role of GI. The NEA recognises that urban areas are poor at providing environmental services; the exception to this is Green Infrastructure. This strongly influenced our decision to support a Green Infrastructure approach within the Operational Programme. The NEA also highlights that climate, hazard, noise and soil quality services are all in decline in urban areas.	Evidence from National Ecosystem Assessment now added to baseline information in Chapter 4 of the SEA Report, where relevant.
Natural England		The assessment of alternatives (table 6.1), presents selected alternatives and assesses the potential significant impacts, only in relation to the chosen alternative. The overall impression is that the alternatives have not been given the same level of assessment and consideration as the chosen option for the programme. The purpose of assessing reasonable alternatives in SEA is to highlight the potential for altering a programme / plan in light of the choices available. The presentation of Table 6.1 does not meet this objective and provides alternatives only as a means of justifying why the main option has been chosen, rather than as an exercise to improve the programme, through a	The bottom-up manner in which the ERDF Operational Programme was prepared, [how do we want to describe this?], made the consideration of ‘clear cut’ and easily described reasonable alternatives difficult.

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		consideration of potential alternatives. This may be a presentational issue and it may be clearer if each alternative considered is first presented with an assessment matrix (as has been provided in Table 5.1 for the chosen option), before undertaking the consideration against the chosen alternative (table 6.1).	All of the information available from DCLG on the alternatives considered has been reproduced in the SEA Report; the lack of detail precludes more detailed assessment. Since the alternatives considered are high level approaches considered early on in the development of the ERDF Operational Programme they cannot be expected to contain the same level of detail as the final programme document. This has now been reflected in the 'difficulties encountered' section of the SEA Report
Cornwall Council and Cornwall and Isles of Scilly Local Enterprise Partnership		Yes in the main this qualitative assessment does identify, describe and evaluate the significant effects on the environment within the restrictions of such a high level Operational Programme document (where only broad objectives, investment priorities and indicative actions are described, rather than specific projects in specific geographical areas). It is perfectly understandable that given the limitations of this high level document, and the difficulties that this creates in carrying out a detailed analysis, that there remain unknowns regarding specific impacts and cumulative and synergistic effects.	Noted. No change to SEA required.
Cornwall Council and Cornwall and Isles of Scilly Local Enterprise Partnership		The assessment matrices provide a good assessment of the thematic objectives using the SEA framework criteria for determining effects, and details clearly where these remain undetermined. Clearly one of the challenges in an England wide ERDF Operational Programme is that a general review is taken which in itself imposes limitations on the level of detail that can be included. This is particularly relevant in Cornwall and the Isles of Scilly where we have particular challenges as a Less Developed Region.	Noted. No change to SEA required.
Cornwall Council and Cornwall and Isles of Scilly Local Enterprise Partnership		We welcome the recent announcement that C&IoS will be supported in developing an Integrated Territorial Investment (ITI) and would expect to see a greater level of identification of particular challenges within such a document.	Noted. No change to SEA required.
Cornwall Council and Cornwall and		To help clarify the outcomes of the assessment and put them into context, it would be of benefit to include a paragraph at the beginning of section 2 (SEA Methodology) that details the assumptions and interpretations made. Whilst these are woven throughout the assessment report it would be good to	A cross reference to the 'Assumptions' section of Chapter 5

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Isles of Scilly Local Enterprise Partnership		include a summary of these, as this would provide further clarity and define where assumptions provide part of, and have influenced the outcomes of the assessment. For example with regard to assumptions there is reference to assumed mitigation, physical development project specific assessment processes, legislative controls, the LEP area model environmental scrutiny requirements, horizontal principles (or cross cutting themes) and safeguards, etc. This is particularly important as 5.2 states that whilst the ERDF Operational Programme sets the framework for decision making with regard to the Thematic Objectives and investment priorities, it has little influence on the nature, scale or location of individual projects to be funded and related physical works that have the potential for adverse environmental effects.	has now been added to Chapter 2.
Cornwall Council and Cornwall and Isles of Scilly Local Enterprise Partnership		There is a very useful table identifying recommendations and suggestions made under each of the thematic objectives. It would be very useful if the 'Conclusions on environmental effects of the ERDF Operational Programme as a whole' made the recommendations stand out more clearly, either with a summary section or by emboldening 'recommendations' as they are currently embedded in text and would benefit from being more prominent and more readily identifiable.	'Table 5.2 Suggestions for mitigation and enhancement' has been extended to ensure that all of the SEA Report's recommendations and suggestions are captured in one place.
Liverpool City Region LEP		The SEA does broadly identify relevant significant effects on the environment, in relation to the broad activity scope of the Operational Programme at an England level.	Noted. No change to SEA required.
Liverpool City Region LEP		Under 'Climatic Factors' consideration could be given to other extreme events in addition to flooding, for example ICT disruption, supply chain disruption and impacts on infrastructure. Consideration could also be given to the opportunity to raise awareness among businesses regarding the need to identify potential effects of climate change on business activities and ensure contingency plans are in place.	Already considered under the Climatic Factors criterion "Will it support appropriate adaptation of future development to climate change". No change required to SEA Report although DCLG may wish to give additional consideration to the ERDF Operational Programme's support for actions which address this aspect of climate change adaptation.
Liverpool City Region LEP		Under 'Population' - improve the skills base of communities – consideration could be given to the potential to address 'environmental education and awareness' including environmental management.	Already considered under the Climatic Factors criterion "Will it improve the skills base of communities exhibiting the greatest social deprivation". No change required to SEA Report although DCLG may wish to give additional consideration to the ERDF Operational Programme's support for actions which address

Respondent	Section of June 2014 draft SEA Report	Comment (N.B. Chapter and paragraph references relate to text in the SEA Scoping Report)	Response to comments
Liverpool City Region LEP		<p>Given the non-specific nature of the impacts the SEA does not make an assessment of any potential cumulative environmental effects. There is an assumption made that because the allocation of investment is to Local Economic Partnership areas and the implementation will be carried out at a local scale then the environmental risks will be managed at a local level. However, environmental effects occur across authority / LEP boundaries and the SEA does not cover what mitigation measures might be taken for any significant trans-boundary environmental effects or reference opportunities for cross-LEP collaboration.</p> <p>Liverpool City region LEP is aware that the SEA Scoping Report was made available to the statutory environmental bodies (Environment Agency, Natural England and English Heritage) in December 2013 for a five week consultation period and the responses taken into account in preparation of this SEA Report.</p> <p>The SEA has been taken forward as a high level, qualitative assessment for England as a whole with judgements made on the basis of the Thematic Objectives and does not provide an assessment at a sub-national geographical level.</p> <p>Due to broad activity scope of the Operational Programme and the non-specific nature of the impacts it is difficult to comment on specifics. However, the SEA makes an assumption that because the allocation of investment is to Local Economic Partnership areas and the implementation will be carried out at a local scale then the environmental risks will be managed at a local level.</p> <p>The SEA document states that <i>"many of the potential negative environmental effects are judged to be minor in scale because of the safeguards that should operate when individual projects are proposed. These safeguards are assumed to be operated by those responsible for selecting projects for funding, in line with the requirements of the ERDF Operational Programme's Horizontal Principles of Sustainable Development and Equal Opportunities and Non-Discrimination."</i></p> <p>The SEA does not make an assessment of any potential cumulative environmental effects that may occur across authority / LEP boundaries or what steps will be taken at England level to mitigate any significant cumulative impacts.</p>	<p>this aspect of skills improvement.</p> <p>As discussed under 'Geographic specificity' above and in Chapter 2 of the SEA Report, LUC believes that the contents and level of detail in the ERDF Operational Programme is such that it is not appropriate for the SEA Report to provide geographically specific assessment and that spatial concentrations of effects should be addressed via SEA of each LEP ESIF Strategy. Since the assessment considers likely significant effects at a national scale, consideration of cumulative effects between sub-national geographies (LEP areas) is not required. The SEA Report provides an assessment of the likely significant effects of implementation of the ERDF Operational Programme for England as a whole.</p>
Miss Alessandra Paradise		<p>I am sure you have considered this possibility already-, but I thought I would bring this to your attention anyway. I am a 16 year old girl living in a small village called Storrington in West Sussex. Even though I can not drive, I have found it concerning about the amount of road works causing delays in the south. Its good that the council are trying to fix things but I feels that there is a better solution.</p> <p>As you may have already seen on the Internet, this American couple have invented a solar panel suited for roads. This invention has stormed our generation and is spread all over the internet and has had incredible positive feed back. It has shown great promise and have been tested with positive results but I fear that every day time is running out on having any chance of saving this planet. So instead of bringing this idea to a local council view; if this could benefit not only England but the whole world. I beg you to look further into these idea's as soon as possible for everyday, this planet is</p>	<p>Suggestion as to type of proposal to be supported by the ERDF Operational Programme. No change to SEA required.</p>

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		<p>being destroyed by us. Together we need to undo our wrong.</p> <p>For more information about solar roadways and how they work go to: http://www.solarroadways.com/intro.shtml</p>	

Appendix 2

Assessment matrices

Thematic Objective 1: Strengthening research, technological development and innovation

Priority axis 1. Research and innovation

Investment priorities **Specific objectives corresponding to the investment priorities**

Strengthening research, technological development and innovation by: promoting business investment in R&I; developing links and synergies between enterprises, research and development centres and the Higher Education sector; promoting investment in product and service development, technology transfer, social innovation, eco-innovation, public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation; and supporting technological and applied research, pilot lines, early product validation actions, advance manufacturing capabilities and first production, in particular in key enabling technologies and diffusion of general purpose technologies.	SO 1: Increase the number of SMEs innovating to bring new products and processes brought to the market. SO 2: Increase collaborative research and innovation between large enterprises, research institutions and public institutions to improve SME commercialisation.
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What this means in practice

- Priority indicative actions that the ERDF will support include:
- Promoting business investment in research and innovation, including through the attraction of new companies and inward investment, especially where the purpose is to help SMEs bring new products and processes to the commercial markets.
 - Developing links, synergies and joint activity between enterprises, research and development centres and the higher education sector, including the development of innovation centres that combine physical space for innovative firms with specialist support services and/or equipment needed for the commercialisation of new products.
 - Facilitating the development of spin out companies from higher education institutions and other research centres.
 - Promoting investment in product and service development, including social innovation, eco innovation and public service applications, including the development of new solutions through public service procurement.
 - Supporting, including through capital investment where necessary, the development of existing (and a limited number of new) enterprise, innovation and technology hubs and centres of excellence, manufacturing clusters and the development of appropriate test facilities, pilot lines and advance manufacturing capabilities.
 - Driving demand for innovation, including through business engagement and the provision of advice, support for networking and clusters of innovative firms and those firms seeking to become innovative, business-to-business collaborations, especially where actions seek to build systems and cultures of open innovation.

SEA Topic	Criteria for determining effects	Assessment score	Justification and any suggestions for mitigation or enhancement
BIODIVERSITY, FLORA AND FAUNA	Will it avoid adverse effects on protected habitats and species?	-?	The potential support for capital investment in enterprise, innovation and technology hubs, manufacturing and test facilities may result in direct loss of or damage to wildlife habitats and the species which depend on them. More generally, the economic growth supported by this Thematic Objective is likely to drive up demand for employment land with similar adverse effects. It may be possible to avoid such negative effects via appropriate siting and other mitigation at the project stage.
	Will it enhance broader biodiversity, restore and/or create habitats and ecological networks?	-?	
POPULATION	Will it improve the skills base of communities exhibiting the greatest social deprivation?	0	Actions under this Thematic Objective are likely to boost employment availability and some of these jobs may be in areas of high unemployment, although this by no means certain. The focus on higher education and research is likely to favour sections of the community with higher skills levels, such as graduates, potentially failing to address inequality.
	Will it increase access to jobs in areas of high unemployment?	+?	
	Will it improve local per capita incomes in areas of low incomes?	0	
	Will it ensure the achievement of	0	

Thematic Objective 1: Strengthening research, technological development and innovation			
	equal opportunities for all sectors of the community?		
HUMAN HEALTH	Will it enhance human health and quality of life?	0	
	Will it improve the health and environments of communities exhibiting greatest health deprivation?	0	
SOIL	Will it avoid adverse effects on best and most versatile land?	-?	The potential support for capital investment in enterprise, innovation and technology hubs, manufacturing and test facilities may result in loss of high quality agricultural land. More generally, the economic growth supported by this Thematic Objective is likely to drive up demand for employment land with similar negative effects. It may be possible to avoid such negative effects via appropriate siting at the project stage.
	Will it ensure the efficient use of previously developed land and the remediation of contaminated land?	0	
WATER	Will it avoid pollution to water?	-?	Potential investment in enterprise, hubs, manufacturing facilities etc. and more general economic growth supported by this Thematic Objective are likely to drive up demand for water. They are also likely to increase the volume of wastewater discharged from wastewater treatment works with potential negative effects on the water environment although it should be possible to avoid these via operation of the Environment Agency's consenting regime. The increased demand for employment land may make it harder to avoid development of sites with a high flood risk but this effect is uncertain as it will depend on factors such as levels of flood risk in locations to be developed and opportunities to avoid increased risk via flood resilient design.
	Will it reduce water consumption?	-	
	Will it reduce flood risk?	-?	
	Will it help to meet the objectives of the Water Framework Directive and River Basin Management Plans (including meeting good ecological status and ensuring no deterioration in status)?	-?	
AIR	Will it avoid increasing emissions to air?	-	Potential investment in enterprise, hubs, manufacturing facilities etc. and more general economic growth supported by this Thematic Objective are likely to result in increased volumes of business-related travel, with the resulting potential for increased traffic emissions and negative effects on air quality, notwithstanding the ability to partially mitigate these through choice of sustainable development locations, sustainable travel plans etc. Such negative effects may also occur in AQMAs but this effect is uncertain as locations for development are not known at this stage.
	Will it improve air quality in AQMAs?	-?	
CLIMATIC FACTORS	Will it help to reduce greenhouse gas emissions?	--	Potential investment in enterprise, hubs, manufacturing facilities etc. and more general economic growth supported by this Thematic Objective are likely to result in increased volumes of business-related travel and increased energy consumption in business premises, with the resulting likelihood of increased
	Will it promote the use of renewable energy sources?	0	
	Will it support appropriate adaptation of future development to climate change?	0	

Thematic Objective 1: Strengthening research, technological development and innovation

	Will it avoid development that could hamper the adaptation of the environment to climate change (for example development that reduces flood storage or reduces the resilience of biological networks)?	-?	<p>emissions of greenhouse gases from traffic and from energy generation.</p> <p>The uncertain negative effects identified in relation to the natural environment above (e.g. loss of wildlife habitat; increased flood risk) may indirectly hamper climate change adaptation.</p> <p>SUGGESTED ENHANCEMENT</p> <p>In order to help embed the 'Sustainable Development' cross-cutting theme (Section 11 of ERDF Operational Programme) in this Thematic Objective it is suggested that the ERDF Operational Programme project selection criteria be expanded to reflect the suggested deliverable for TO1 described in Section 11.1 of the ERDF Operational Programme i.e. capital investment in new buildings should achieve a BREEAM rating of Excellent; refurbishments should achieve Very Good.</p>
MATERIAL ASSETS	Will it encourage use of resources in accordance with the waste hierarchy?	0	
	Will it promote the efficient use of mineral resources?	0	
CULTURAL HERITAGE	Will it conserve and enhance the historic environment, heritage assets and their settings?	?	Potential investment in enterprise, hubs, manufacturing facilities etc. and more general economic growth supported by this Thematic Objective could potentially have negative effects on historic environment assets or their settings but it could also provide opportunities to improve these, for example by bringing at-risk historic buildings back into appropriate use. Effects are therefore uncertain.
	Will it provide opportunities for heritage-led regeneration?	0	
LANDSCAPE	Will it avoid adverse impacts on protected landscapes?	?	Potential investment in enterprise, hubs, manufacturing facilities etc. and more general economic growth supported by this Thematic Objective could potentially have negative effects on protected landscapes or landscape character but it could also provide opportunities to improve the landscape, for example by redeveloping derelict sites or those currently occupied by buildings with a negative impact. Most economic development is likely to increase levels of human activity and associated noise pollution and light spill.
	Will it strengthen landscape character and distinctiveness?	?	
	Will it lead to a reduction in noise and light pollution?	-	

Summary of significant environmental effects

CLIMATIC FACTORS: Significant negative effects are predicted on this SEA topic in respect of helping to reduce greenhouse gas emissions since the potential investment in enterprise, hubs, manufacturing facilities etc. and more general economic growth supported by this Thematic Objective are likely to result in increased volumes of business-related travel and increased energy consumption in business premises.

Summary of suggestions for mitigation or enhancement

SUGGESTED ENHANCEMENT: In order to help embed the 'Sustainable Development' cross-cutting theme (Section 11 of ERDF Operational Programme) in this Thematic Objective it is suggested that the ERDF Operational Programme project selection criteria be expanded to reflect the suggested deliverable for TO1 described in Section 11.1 of the ERDF Operational Programme i.e. capital investment in new buildings should achieve a BREEAM rating of Excellent;

Thematic Objective 1: Strengthening research, technological development and innovation

refurbishments should achieve Very Good.

Thematic Objective 2: Enhancing access to, and use and quality of, ICT			
Priority axis	2. Enhancing access to, and use and quality of, ICT		
Investment priorities	Specific objectives corresponding to the investment priorities		
Extending broadband deployment and the roll-out of high-speed networks and supporting the adoption of emerging technologies and networks for the digital economy.	SO1: Increase the coverage and take up of superfast and ultrafast Broadband in areas where the market is failing, particularly where this is creating a barrier to SME growth.		
Developing ICT products and services, e-commerce, and enhancing demand for ICT.	SO2: Increase the number of SMEs using and having access to digital technologies including trading on line.		
What this means in practice			
<p>Priority indicative actions that the ERDF will support include:</p> <ul style="list-style-type: none"> • Improve access to superfast and ultrafast broadband • Increase business to take up of ICT connections. This could include: use of IP Telephony Solutions, cloud computing solutions, the implementation of flexible working and remote access solutions • Supporting Small and Medium Sized Enterprises to update/introduce new ICT business models which will drive business performance. <p>Examples of actions which may be supported are:</p> <ul style="list-style-type: none"> • Extension of superfast broadband networks. • Provision of vouchers to SMEs to help with superfast or ultrafast connection costs. • Provision of coaching, advice, consultancy, mentoring and peer-to-peer support. • Targeted grant schemes. <p>Activities will target SMEs, including Social Enterprises.</p>			
SEA Topic	Criteria for determining effects	Assessment score	Justification and any suggestions for mitigation or enhancement
BIODIVERSITY, FLORA AND FAUNA	Will it avoid adverse effects on protected habitats and species?	-?	<p>This Thematic Objective addresses market failures in broadband coverage. Many of these are likely to be in remote rural locations with low population density; locations where the potential for negative effects on wildlife habitats may be higher than in densely populated areas.</p> <p>ICT measures are designed to support increased growth of SMEs. This is likely to drive up demand for employment land which, in turn, may result in loss of or damage to wildlife habitats and the species which depend on them, although it may be possible to avoid such negative effects via appropriate siting and other mitigation at the project stage.</p>
	Will it enhance broader biodiversity, restore and/or create habitats and ecological networks?	-?	
POPULATION	Will it improve the skills base of communities exhibiting the greatest social deprivation?	+?	<p>ICT measures are designed to support increased growth of SMEs. This is likely to create more job opportunities and whilst ICT-driven productivity improvements and ICT skills development will help to support higher wage opportunities. The investment priorities and specific objectives do not specifically target sections of society experiencing greatest social deprivation, low incomes or high unemployment, making positive effects on these groups uncertain.</p> <p>SUGGESTED ENHANCEMENT</p> <p>Consider targeting measures at SMEs in areas that have high levels of social</p>
	Will it increase access to jobs in areas of high unemployment?	+?	
	Will it improve local per capita incomes in areas of low incomes?	+?	
	Will it ensure the achievement of equal opportunities for all sectors of the community?	+?	

Thematic Objective 2: Enhancing access to, and use and quality of, ICT			
			deprivation or unemployment or low incomes per capita, for example by measures to develop ICT provision and skills amongst low income or high unemployment groups.
HUMAN HEALTH	Will it enhance human health and quality of life?	+?	The uncertain positive effects on the POPULATION topic described above would indirectly benefit the quality of life and health since these are strongly linked to access to jobs.
	Will it improve the health and environments of communities exhibiting greatest health deprivation?	+?	
SOIL	Will it avoid adverse effects on best and most versatile land?	0/-?	The impact of small scale broadband infrastructure development on loss of agricultural land is likely to be negligible.
	Will it ensure the efficient use of previously developed land and the remediation of contaminated land?	0	ICT measures are designed to support increased growth of SMEs. This is likely to drive up demand for employment land which, in turn, may result in loss of high quality agricultural land, although it may be possible to avoid such negative effects via appropriate siting.
WATER	Will it avoid pollution to water?	-?	ICT measures are designed to support increased growth of SMEs. This is likely to drive up demand for water. It is also likely to increase the volume of wastewater discharged from wastewater treatment works with potential negative effects on the water environment although it should be possible to avoid these via operation of the Environment Agency's consenting regime. The increased demand for employment land may make it harder to avoid development of sites with a high flood risk but this effect is uncertain as it will depend on factors such as levels of flood risk in locations to be developed and opportunities to avoid increased risk via flood resilient design.
	Will it reduce water consumption?	-	
	Will it reduce flood risk?	-?	
	Will it help to meet the objectives of the Water Framework Directive and River Basin Management Plans (including meeting good ecological status and ensuring no deterioration in status)?	-?	
AIR	Will it avoid increasing emissions to air?	+/-	Increased take-up of broadband by SMEs and increased e-commerce should reduce the need to travel, resulting in a positive effect on emissions of air pollutants from transport. ICT measures are designed to support increased growth of SMEs. This is likely to result in increased volumes of business-related travel, with the resulting potential for increased traffic emissions and negative effects on air quality, notwithstanding the ability to partially mitigate these through choice of sustainable development locations, sustainable travel plans etc. Such negative effects may also occur in AQMAs but this effect is uncertain as locations for development are not known at this stage. SUGGESTED ENHANCEMENT It is suggested that the Sustainable Development horizontal principle be expanded to state that project selection criteria should take account of the need to manage the potential for supported
	Will it improve air quality in AQMAs?	+?/-?	

Thematic Objective 2: Enhancing access to, and use and quality of, ICT			
			projects in unsustainable locations to increase demand for employment land or to increase business-related travel.
CLIMATIC FACTORS	Will it help to reduce greenhouse gas emissions?	+/-	Increased take-up of broadband by SMEs and increased e-commerce should reduce the need to travel, resulting in a positive effect on transport related greenhouse gas emissions.
	Will it promote the use of renewable energy sources?	0	
	Will it support appropriate adaptation of future development to climate change?	0	ICT measures are designed to support increased growth of SMEs. This is likely to result in increased volumes of business-related travel and increased energy consumption in business premises, with the resulting potential for increased emissions of greenhouse gases from traffic and energy generation. The uncertain negative effects identified in relation to the natural environment above (e.g. loss of wildlife habitat; increased flood risk) may indirectly hamper climate change adaptation. SUGGESTED ENHANCEMENT See suggestion under AIR topic above.
	Will it avoid development that could hamper the adaptation of the environment to climate change (for example development that reduces flood storage or reduces the resilience of biological networks)?	-?	
MATERIAL ASSETS	Will it encourage use of resources in accordance with the waste hierarchy?	0	
	Will it promote the efficient use of mineral resources?	0	
CULTURAL HERITAGE	Will it conserve and enhance the historic environment, heritage assets and their settings?	?	ICT measures are designed to support increased growth of SMEs. This is likely to increase demand for the development of employment premises. Such development could potentially have negative effects on historic environment assets or their settings but it could also provide opportunities to improve these, for example by bringing at-risk historic buildings back into appropriate use. Effects are therefore uncertain.
	Will it provide opportunities for heritage-led regeneration?	0	
LANDSCAPE	Will it avoid adverse impacts on protected landscapes?	-/?	This Thematic Objective addresses market failures in broadband coverage. Many of these are likely to be in remote rural locations with low population density and solutions are likely to include development of wireless broadband infrastructure. The likelihood that the landscape of remote rural locations will be sensitive to such infrastructure development is higher than in densely populated areas. Increased growth of SMEs is likely to increase demand for the development of employment premises. Such development could potentially have negative effects on protected landscapes or landscape character but it could also provide opportunities to improve the landscape, for example by redeveloping derelict sites or those currently occupied by buildings with a negative impact. Most economic development is likely to increase levels of human activity and associated noise pollution and light spill.
	Will it strengthen landscape character and distinctiveness?	-/?	
	Will it lead to a reduction in noise and light pollution?	-	

Thematic Objective 2: Enhancing access to, and use and quality of, ICT

Summary of significant environmental effects

None identified.

Summary of suggestions for mitigation or enhancement

POPULATION: Consider targeting measures designed to support growth of SMEs in areas that have high levels of social deprivation or unemployment or low incomes per capita, for example by measures to develop ICT provision and skills amongst low income or high unemployment groups.

AIR; CLIMATIC FACTORS: It is suggested that the Sustainable Development horizontal principle be expanded to state that project selection criteria should take account of the need to manage the potential for supported projects in unsustainable locations to increase demand for employment land or to increase business-related travel.

Thematic Objective 3: Enhancing the competitiveness of SMEs

Priority axis	3. Enhancing the competitiveness of SMEs
Investment priorities	Specific objectives corresponding to the investment priorities
Supporting the creation and the extension of advanced capacities for products, services and development.	SO1: Increase growth capacity of SMEs.
Supporting the capacity of SMEs to grow in regional, national and international markets, and to engage in innovation processes.	SO2: Increase growth capability of SMEs.
Promoting entrepreneurship, in particular by facilitating the economic exploitation of new ideas and fostering the creation of new firms, including through business incubators.	SO3: Increase entrepreneurship, particularly in areas with low levels of enterprise activity and amongst under-represented groups.
What this means in practice	
<p>Priority indicative actions that the ERDF will support include:</p> <ul style="list-style-type: none"> • Provision of advice to support business to develop new business models or higher quality products, processes or services • Advice and support for businesses to implement productivity improvements including through the provision of resource efficiency advice and workforce development • Supporting supply chain interventions to strengthen and grow the domestic supplier base. • Developing local offers and capacity to attract overseas investment to high growth and priority sectors. • Ensuring Small and Medium Sized Enterprises have access to sufficient level of finance to implement their growth plans, including appropriate capital investment for premises and equipment to help build capacity. • Provide efficient local referral routes to ensure that Small and Medium Sized Enterprises are able to identify and access the most appropriate and tailored support for their specific growth needs. • Support Small and Medium Sized Enterprises to develop focused growth strategies which will drive business performance. • Support Small and Medium Sized Enterprises to enter, establish and expand in new domestic and international markets. • Help businesses to become investment ready. • Strengthen entrepreneurial and enterprise culture using targeted engagement, outreach and mentoring. • Provide support for entrepreneurship and self-employment in particular amongst under-represented groups by developing entrepreneurial skills and attitudes with a focus on increasing the number of business start-ups (including social enterprises). • Provide support for new business start ups to survive and grow (including social enterprises). • Address market failures in the provision of start-up finance, e.g. see finance, start-up loans. <p>Examples of actions which may be supported are:</p> <ul style="list-style-type: none"> • Provision of advice, consultancy support, mentoring, peer to peer support, and support for collaborative projects. • Grant finance for business to invest against product, process and service improvements (not through Financial Instruments). • Provision of non-grant finance where there is a clearly evidenced market failure. • Provision of business incubation, managed workspace, or grow-on space where evidence shows there is demand that is not met by supply. Support for accommodation will only be provided where it is combined with an effective programme of business support tailored to the growth ambition of the incubatees. • Provision of advice, consultancy, mentoring and peer-to-peer support to indigenous businesses and inward investors (SMEs from outside the EU who will move to England). • Leadership and management coaching where connected to the development and implementation of a business growth plan. • Support events, trade fairs and missions to enable SMEs to enter, establish and expand in new domestic and international markets. • Targeted grant schemes. • Provision of advice and consultancy on access to finance. 	

Thematic Objective 3: Enhancing the competitiveness of SMEs

- Outreach, coaching, mentoring, networking and consultancy support to promote business start up, survival and growth.
- Grants, coaching, mentoring, and consultancy support.
- Provision of non-grant finance to support start ups/entrepreneurs where there is a clearly evidenced market failure.
- Provisions of incubator space, managed workspace, or grow-on space where evidence shows there is demand that is not met by supply. Support for accommodation will be provided only where it is combined with an effective programme of business support tailored to the growth ambition of the incubatees.

Beneficiaries will be individuals with ambition to start up a business, and Small and Medium Sized Enterprises (including social enterprises) in the early stage of operation. Projects may be particularly targeted at groups with lower than average enterprise rates, such as women, and certain minority ethnic groups.

SEA Topic	Criteria for determining effects	Assessment score	Justification and any suggestions for mitigation or enhancement
BIODIVERSITY, FLORA AND FAUNA	Will it avoid adverse effects on protected habitats and species?	-?	Increased growth of SMEs is likely to drive up demand for employment land which, in turn, may result in loss of or damage to wildlife habitats and the species which depend on them, although it may be possible to avoid such negative effects via appropriate siting and other mitigation at the project stage.
	Will it enhance broader biodiversity, restore and/or create habitats and ecological networks?	-?	
POPULATION	Will it improve the skills base of communities exhibiting the greatest social deprivation?	+	SME growth and capacity building amongst the self-employed/entrepreneurs is likely to create more job opportunities and the specific objective of increasing entrepreneurship in areas with low levels of enterprise activity and amongst under-represented groups should help to address inequalities in employment, incomes and opportunities, although business start-ups are likely to offer opportunities to a relatively small proportion of socially deprived or low income groups.
	Will it increase access to jobs in areas of high unemployment?	+	
	Will it improve local per capita incomes in areas of low incomes?	+	
	Will it ensure the achievement of equal opportunities for all sectors of the community?	+	
HUMAN HEALTH	Will it enhance human health and quality of life?	+	The positive effects on the POPULATION topic described above would indirectly benefit the quality of life and health since these are strongly linked to access to jobs.
	Will it improve the health and environments of communities exhibiting greatest health deprivation?	+	
SOIL	Will it avoid adverse effects on best and most versatile land?	-?	Increased growth of SMEs is likely to drive up demand for employment land which, in turn, may result in loss of high quality agricultural land, although it may be possible to avoid such negative effects via appropriate siting.
	Will it ensure the efficient use of previously developed land and the remediation of contaminated land?	0	
WATER	Will it avoid pollution to water?	-?	Increased growth of SMEs is likely to drive up demand for water. It is also likely to increase the volume of wastewater discharged from wastewater treatment works with potential negative effects on the water environment although it should be possible to avoid these via operation of the Environment Agency's consenting regime. The increased demand for employment land may make it harder to avoid development of sites with a high flood risk but this effect is uncertain as it will depend on factors such as levels of flood risk in locations to be developed and
	Will it reduce water consumption?	-	
	Will it reduce flood risk?	-?	
	Will it help to meet the objectives of the Water Framework Directive and River Basin Management Plans (including meeting good ecological status and ensuring no deterioration in status)?	-?	

Thematic Objective 3: Enhancing the competitiveness of SMEs			
			opportunities to avoid increased risk via flood resilient design.
AIR	Will it avoid increasing emissions to air?	-	Increased growth of SMEs is likely to result in increased volumes of business-related travel, with the resulting potential for increased traffic emissions and negative effects on air quality, notwithstanding the ability to partially mitigate these through choice of sustainable development locations, sustainable travel plans etc. Such negative effects may also occur in AQMAs but this effect is uncertain as locations for development are not known at this stage.
	Will it improve air quality in AQMAs?	-?	
CLIMATIC FACTORS	Will it help to reduce greenhouse gas emissions?	--	Increased growth of SMEs is likely to result in increased volumes of business-related travel and increased energy consumption in business premises, with the resulting likelihood of increased emissions of greenhouse gases from traffic and from energy generation. The uncertain negative effects identified in relation to the natural environment above (e.g. loss of wildlife habitat; increased flood risk) may indirectly hamper climate change adaptation.
	Will it promote the use of renewable energy sources?	0	
	Will it support appropriate adaptation of future development to climate change?	0	
	Will it avoid development that could hamper the adaptation of the environment to climate change (for example development that reduces flood storage or reduces the resilience of biological networks)?	-?	
MATERIAL ASSETS	Will it encourage use of resources in accordance with the waste hierarchy?	0	<p>SUGGESTED ENHANCEMENT</p> <p>In order to help embed the 'Sustainable Development' cross-cutting theme (Section 11 of ERDF Operational Programme) in this Thematic Objective it is suggested that the ERDF Operational Programme project selection criteria be expanded to reflect the suggested deliverable for SME competitiveness described in Section 11.1 of the ERDF Operational Programme i.e. embedding high levels of resource efficiency in investments that support SMEs.</p>
	Will it promote the efficient use of mineral resources?	0	
CULTURAL HERITAGE	Will it conserve and enhance the historic environment, heritage assets and their settings?	?	Increased growth of SMEs is likely to increase demand for the development of employment premises. Such development could potentially have negative effects on historic environment assets or their settings but it could also provide opportunities to improve these, for example by bringing at-risk historic buildings back into appropriate use. Effects are therefore uncertain.
	Will it provide opportunities for heritage-led regeneration?	0	
LANDSCAPE	Will it avoid adverse impacts on protected landscapes?	?	Increased growth of SMEs is likely to increase demand for the development of employment premises. Such development could potentially have negative effects on protected landscapes or landscape character but it could also provide opportunities to improve the landscape, for example by redeveloping derelict sites or those currently occupied by buildings with a negative impact. Most economic development is likely to increase levels of human activity and
	Will it strengthen landscape character and distinctiveness?	?	
	Will it lead to a reduction in noise and light pollution?	-	

Thematic Objective 3: Enhancing the competitiveness of SMEs

associated noise pollution and light spill.

Summary of significant environmental effects

CLIMATIC FACTORS: Significant negative effect predicted in respect of helping to reduce greenhouse gas emissions. Increased growth of SMEs is likely to result in increased volumes of business-related travel and increased energy consumption in business premises, with the resulting likelihood of increased emissions of greenhouse gases from traffic and from energy generation.

Summary of suggestions for mitigation or enhancement

SUGGESTED ENHANCEMENT: In order to help embed the 'Sustainable Development' cross-cutting theme (Section 11 of ERDF Operational Programme) in this Thematic Objective it is suggested that the ERDF Operational Programme project selection criteria be expanded to reflect the suggested deliverable for SME competitiveness described in Section 11.1 of the ERDF Operational Programme i.e. embedding high levels of resource efficiency in investments that support SMEs.

Thematic Objective 4: Supporting the shift towards a low carbon economy in all sectors

Priority axis	4. Supporting the shift towards a low carbon economy in all sectors
Investment priorities	Specific objectives corresponding to the investment priorities
Promoting research and innovation in, and adoption of, low-carbon technologies.	SO1: Increase innovation in, and adoption of, low carbon technologies.
Promoting the production and distribution of energy derived from renewable sources. Promoting low-carbon strategies for all types of territories, in particular for urban areas, including the promotion of sustainable multimodal urban mobility and mitigation-relevant adaptation measures.	SO2: Increase implementation of whole place low carbon solutions and decentralised energy measures.
Promoting energy efficiency and renewable energy use in enterprises.	SO3: Increase energy efficiency and implementation of low carbon technologies in all types of enterprise.
Supporting energy efficiency, smart energy management and renewable energy use in public infrastructure, including in public buildings, and in the housing sector.	SO3: Increase energy efficiency and implementation of low carbon technologies.

What this means in practice

Priority indicative actions that the ERDF will support include:

- R&D, innovation, supply chain work for low carbon technologies and materials, including carbon capture and carbon storage, wave and wind energy, smart grids, distributed generation, solar and photovoltaics, heat networks, heat pumps and low carbon heat for energy intensive industries.
- Technology centres of excellence and test facilities, including relevant Catapult centres.
- Renewable technologies in the UK renewable energy roadmap.
- Mitigation and adapted technologies.
- Development of low carbon vehicles and fuels.
- Knowledge transfer with HE/FE and businesses.
- Low carbon technologies to build the market in in Low Carbon Environmental Technologies, Goods and Services sector and its supply chain, focusing on goods and services with embedded low carbon technologies.
- Supporting increased production of renewable and low carbon fuels/energy.
- Whole place low carbon initiatives/solutions.
- Urban design and smart grids.
- Waste to energy projects.
- Decentralised renewable energy, district heating, geothermal, micro-generation.
- Resilient low carbon energy infrastructure.
- Provision of advice and support to increase the use or take up of renewable and low carbon fuels/energy.
- ICT to reduce carbon emissions/improve energy efficiency.
- Low carbon transport, including electric/low carbon vehicle infrastructure, cycle paths, walking and waterways.
- Smart Cities, urban mobility, urban design.
- Smart grids and demand management.
- Low carbon modal shift and smart systems.
- Green and blue infrastructure to reduce whole place energy requirements.
- Low carbon innovation in relation to waste and re-use.
- Energy efficiency in enterprises including industrial processes, designing out waste, recovery of 'waste' heat energy and CHP.
- Non domestic low carbon technologies and energy efficiency.
- Moving to renewable and low carbon fuels to generate heat, electricity and transport.
- Building retrofit and energy efficiency especially whole building solutions exemplifying next phase technologies which are near to market.

Thematic Objective 4: Supporting the shift towards a low carbon economy in all sectors

- Low carbon construction techniques.
- Domestic energy efficiency and low carbon construction techniques.

SEA Topic	Criteria for determining effects	Assessment score	Justification and any suggestions for mitigation or enhancement
BIODIVERSITY, FLORA AND FAUNA	Will it avoid adverse effects on protected habitats and species?	0	<p>Actions to be supported include green and blue infrastructure to reduce whole place energy requirements. Text elsewhere within the ERDF Operational Programme makes clear that green infrastructure will be multi-functional and it should therefore also provide benefits to biodiversity.</p> <p>Supporting the shift to a low carbon economy will have long term, indirect beneficial effects on biodiversity by helping to reduce greenhouse gas emissions and mitigate climate change.</p>
	Will it enhance broader biodiversity, restore and/or create habitats and ecological networks?	+	
POPULATION	Will it improve the skills base of communities exhibiting the greatest social deprivation?	0	<p>Some of the actions likely to be supported under this Thematic Objective, such as deployment of smart grids and decentralised renewable energy systems, are likely to generate new jobs but most of these are likely to be highly skilled jobs. As a result, potential positive effects on joblessness, low income per capita and equality are uncertain.</p>
	Will it increase access to jobs in areas of high unemployment?	+?	
	Will it improve local per capita incomes in areas of low incomes?	+?	
	Will it ensure the achievement of equal opportunities for all sectors of the community?	+?	
HUMAN HEALTH	Will it enhance human health and quality of life?	+	<p>Supporting the shift to a low carbon economy will have long term, indirect beneficial effects on human health and quality of life by helping to reduce greenhouse gas emissions and mitigate the negative public health effects of climate change associated with heat waves and possible worsening of ground level ozone pollution. More direct health and wellbeing benefits will also be obtained from this Thematic Objective's support for green infrastructure. These benefits are likely to be felt across all communities rather than targeting those with greatest health deprivation.</p>
	Will it improve the health and environments of communities exhibiting greatest health deprivation?	+?	
SOIL	Will it avoid adverse effects on best and most versatile land?	0	
	Will it ensure the efficient use of previously developed land and the remediation of contaminated land?	0	
WATER	Will it avoid pollution to water?	0	<p>Support for green and blue infrastructure may offer opportunities to provide flood storage in areas of high flood risk and opportunities to naturalise and restore the ecological health of water bodies and marginal vegetation.</p>
	Will it reduce water consumption?	0	
	Will it reduce flood risk?	+?	
	Will it help to meet the objectives of the Water Framework Directive and River Basin Management Plans (including meeting good ecological status and ensuring no deterioration in	+?	

Thematic Objective 4: Supporting the shift towards a low carbon economy in all sectors

	status)?		
AIR	Will it avoid increasing emissions to air?	+	<p>Actions under this Thematic Objective reduce greenhouse gas emissions, e.g. support for renewable technologies and development of low carbon vehicles, will also reduce emissions responsible for poor air quality, including in AQMAs.</p> <p>Long term reduction of harmful ground level ozone may result from actions to reduce climate warming.</p>
	Will it improve air quality in AQMAs?	+	
CLIMATIC FACTORS	Will it help to reduce greenhouse gas emissions?	+	<p>The majority of actions to be supported under this Thematic Objective will help to decouple greenhouse gas emissions from growth (e.g. promoting energy efficiency in enterprises; smart energy management) although absolute reductions are unlikely in the context of the economic growth supported by the Thematic Objective.</p> <p>Strong support is provided for use of renewable energy sources.</p> <p>SUGGESTED ENHANCEMENTS</p> <p>In order to help embed the 'Sustainable Development' cross-cutting theme (Section 11 of ERDF Operational Programme) in this Thematic Objective it is suggested that the ERDF Operational Programme project selection criteria be expanded to reflect suggested deliverables (3) and (4) described in Section 11.1 of the ERDF Operational Programme i.e. ensuring that the greenhouse gas reduction benefits of supported greenhouse gas reduction projects and the carbon saving benefits of green infrastructure enhancement projects are auditable/measurable.</p> <p>In line with Environment Agency representations⁸¹, it is suggested that this Thematic Objective makes specific reference to energy efficiency and low carbon innovation with regards to water management, for example via actions to develop or implement innovative water and wastewater treatment technologies.</p>
	Will it promote the use of renewable energy sources?	++	
	Will it support appropriate adaptation of future development to climate change?	0	
	Will it avoid development that could hamper the adaptation of the environment to climate change (for example development that reduces flood storage or reduces the resilience of biological networks)?	0	
MATERIAL ASSETS	Will it encourage use of resources in accordance with the waste hierarchy?	+	<p>Actions likely to be supported under this Thematic Objective include designing out waste in industrial processes and waste to energy projects.</p>
	Will it promote the efficient use of mineral resources?	0	
CULTURAL HERITAGE	Will it conserve and enhance the historic environment, heritage assets and their settings?	0	
	Will it provide opportunities for heritage-led regeneration?	0	
LANDSCAPE	Will it avoid adverse impacts on	+/-	Support for green and blue

⁸¹ 2014 to 2020 European Structural and Investment Funds Growth Programme in England: Consultation on European Regional Development Fund Operation Programmes, Environment Agency Consultation Response Form 28th May 2014

Thematic Objective 4: Supporting the shift towards a low carbon economy in all sectors

	protected landscapes?		infrastructure is likely to strengthen the character of the local landscape, including in protected landscapes, and may also offer opportunities to reduce noise and light pollution. However, support for renewable energy deployment could lead to negative landscape impacts, including in protected landscapes.
	Will it strengthen landscape character and distinctiveness?	+/-	
	Will it lead to a reduction in noise and light pollution?	+?	

Summary of significant environmental effects

CLIMATIC FACTORS: Significant positive effects are predicted on the SEA topic in respect of promoting use of renewable energy sources for which strong support is provided.

Summary of suggestions for mitigation or enhancement

CLIMATIC FACTORS:

In order to help embed the 'Sustainable Development' cross-cutting theme (Section 11 of ERDF Operational Programme) in this Thematic Objective it is suggested that the ERDF Operational Programme project selection criteria be expanded to reflect suggested deliverables (3) and (4) described in Section 11.1 of the ERDF Operational Programme i.e. ensuring that the greenhouse gas reduction benefits of supported greenhouse gas reduction projects and the carbon saving benefits of green infrastructure enhancement projects are auditable/measurable.

In line with Environment Agency representations⁸², it is suggested that this Thematic Objective makes specific reference to energy efficiency and low carbon innovation with regards to water management, for example via actions to develop or implement innovative water and wastewater treatment technologies.

⁸² 2014 to 2020 European Structural and Investment Funds Growth Programme in England: Consultation on European Regional Development Fund Operation Programmes, Environment Agency Consultation Response Form 28th May 2014

Thematic Objective 5: Promoting climate change adaptation, risk prevention and management			
Priority axis	5. Promoting climate change adaptation, risk prevention and management		
Investment priorities	Specific objectives corresponding to the investment priorities		
Enabling and protecting economic development potential through investment in flood and coastal flooding management where there is demonstrable market failure.	SO1: Enabling and protecting economic development potential through investment in flood and coastal flooding management where there is demonstrable market failure.		
What this means in practice			
Priority indicative actions that the ERDF will support include:			
<ul style="list-style-type: none"> Flood mitigation measures that support the protection of new and existing major employment areas including incorporation of flood risk management and river restoration into employment sites and surrounding areas, design and lay-out so that flood risk and surface water management is actively addressed in a sustainable way. Flood mitigation and environmental measures focused on strategically important sites/areas identified as central to realising growth aspirations to include activities that remediate and unlock dormant and/or contaminated land and bring it back into use for future economic development. Addressing upstream water management to protect key employment areas and carbon sequestration activities where these also reduce flood risk. Physical environmental enhancement of employment premises, sites and surrounding areas. Initiatives that actively involve businesses and communities in the planning and management of flood risk. Knowledge transfer and exchange of information relating to adaptations to climate change, risk management and resilience. 			
SEA Topic	Criteria for determining effects	Assessment score	Justification and any suggestions for mitigation or enhancement
BIODIVERSITY, FLORA AND FAUNA	Will it avoid adverse effects on protected habitats and species?	0	Flood mitigation and environmental measures such as Sustainable Urban Drainage Systems (SUDS), green roofs and urban forests can play an important local role in flood risk reduction and these can also provide wildlife habitats. Upstream water management measures such as land management approaches that attenuate run-off and river restoration and coastal measures such as wetland restoration can similarly have positive effects on both biodiversity and flood risk. Positive effects of the Thematic Objective on this SEA topic are uncertain since, with the exception of references to river restoration and unspecified 'environmental measures', a green infrastructure approach with its associated multiple benefits, is not made explicit. SUGGESTED ENHANCEMENT State that green infrastructure will be prioritised over hard infrastructure to address flood risk and surface water management. As with all green infrastructure, it should be well planned to deliver a wide range of benefits.
	Will it enhance broader biodiversity, restore and/or create habitats and ecological networks?	+?	
POPULATION	Will it improve the skills base of communities exhibiting the greatest social deprivation?	0	SO (5.1) seeks to 'enable and protect economic development potential' by reducing flood risk in employment areas. This is likely to have a positive effect on jobs growth in all flood risk areas where projects are supported but the lack of a policy link to areas of high unemployment makes benefits in those
	Will it increase access to jobs in areas of high unemployment?	+?	
	Will it improve local per capita incomes in areas of low incomes?	0	

Thematic Objective 5: Promoting climate change adaptation, risk prevention and management			
	Will it ensure the achievement of equal opportunities for all sectors of the community?	0	areas uncertain.
HUMAN HEALTH	Will it enhance human health and quality of life?	+?	Flood mitigation measures will be focused on areas of economic development rather than residential areas, limiting direct positive effects on health and quality of life.
	Will it improve the health and environments of communities exhibiting greatest health deprivation?	0	Positive effects of the Thematic Objective on this SEA topic related to green infrastructure approaches to flood risk and surface water management are uncertain since, with the exception of references to river restoration and unspecified 'environmental measures', a green infrastructure approach with its associated multiple benefits, is not made explicit.
SOIL	Will it avoid adverse effects on best and most versatile land?	0	Actions to be supported include flood mitigation and environmental measures that unlock dormant and/or contaminated land and bring it back into use for economic development.
	Will it ensure the efficient use of previously developed land and the remediation of contaminated land?	+	
WATER	Will it avoid pollution to water?	+?	Actions to remediate contaminated land and to reduce flood risk in employment areas may help to avoid contamination being washed into watercourses during flood events although this positive effect is uncertain, being dependent on local circumstances.
	Will it reduce water consumption?	0	
	Will it reduce flood risk?	++	
	Will it help to meet the objectives of the Water Framework Directive and River Basin Management Plans (including meeting good ecological status and ensuring no deterioration in status)?	+?	The majority of actions likely to be supported under this Thematic Objective will help to reduce flood risk. Sustainable flood risk and surface water management measures such as river restoration and wetland restoration can also have positive effects on both biodiversity and the ecological status of watercourses. Positive effects of the Thematic Objective on this aspect of the SEA topic are uncertain since, with the exception of references to river restoration and unspecified 'environmental measures', a green infrastructure approach with its associated multiple benefits, is not made explicit. SUGGESTED ENHANCEMENT See Biodiversity topic above.
AIR	Will it avoid increasing emissions to air?	0	
	Will it improve air quality in AQMAs?	0	
CLIMATIC FACTORS	Will it help to reduce greenhouse gas emissions?	0	The majority of actions likely to be supported under this Thematic Objective will help to reduce flood risk for economic development, thereby providing adaptation to a major climate change challenge.
	Will it promote the use of renewable energy sources?	0	
	Will it support appropriate adaptation of future development	++	

Thematic Objective 5: Promoting climate change adaptation, risk prevention and management

	to climate change?		It is unclear whether flood risk and surface water management measures that reduce flood storage will be supported, resulting in uncertain effects on this aspect of the SEA topic. SUGGESTED ENHANCEMENT State explicitly that development of flood risk and surface water management measures that could hamper climate change adaptation by reducing flood storage will be not be supported where they increase flood risk in areas with a high probability of flooding.
	Will it avoid development that could hamper the adaptation of the environment to climate change (for example development that reduces flood storage or reduces the resilience of biological networks)?	?	
MATERIAL ASSETS	Will it encourage use of resources in accordance with the waste hierarchy?	0	
	Will it promote the efficient use of mineral resources?	0	
CULTURAL HERITAGE	Will it conserve and enhance the historic environment, heritage assets and their settings?	0	
	Will it provide opportunities for heritage-led regeneration?	0	
LANDSCAPE	Will it avoid adverse impacts on protected landscapes?	0	
	Will it strengthen landscape character and distinctiveness?	0	
	Will it lead to a reduction in noise and light pollution?	0	

Summary of significant environmental effects

WATER: Significant positive effects as a result of support for a variety of actions aimed at reducing flood risk.

CLIMATIC FACTORS: Significant positive effects in respect of support for adaptation of development to climate change, specifically measures that address increased flood risk expected under climate change.

Summary of suggestions for mitigation or enhancement

BIODIVERSITY, FLORA AND FAUNA; WATER: State that green infrastructure will be prioritised over hard infrastructure to address flood risk and surface water management. As with all green infrastructure, it should be well planned to deliver a wide range of benefits.

CLIMATIC FACTORS: State explicitly that development of flood risk and surface water management measures that could hamper climate change adaptation by reducing flood storage will be not be supported where they increase flood risk in areas with a high probability of flooding.

Thematic Objective 6: Preserving and protecting the environment and promoting resource efficiency

Priority axis 6. Preserving and protecting the environment and promoting resource efficiency

Investment priorities	Specific objectives corresponding to the investment priorities
Protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000, and green infrastructure.	SO1: Investments in Green and Blue infrastructure and actions that support the provision of ecosystem services on which businesses and communities depend to increase local natural capital and support sustainable economic growth.
Promoting innovative technologies to improve environmental protection and resource efficiency in the waste sector, water sector and with regard to soil, or to reduce air pollution.	SO2: Investment in the uptake of innovative technologies and resource efficiency measures to increase environmental protection, resilience and performance of businesses and communities.

What this means in practice

- Priority indicative actions that the ERDF will support include:
- New habitat creation that enhances the connectivity and resilience for priority sites and species in a manner that may also provide additional benefits such as attracting inward investment, employment opportunities and greater employee retention.
 - Revitalisation of brownfield land and other sites, regeneration of sites through soil desealing and decontamination and measures to increase the biodiversity, recreation and aesthetic quality of the site.
 - Sustainable drainage to improve water quality and in some cases local air quality (with potential for associated carbon reductions also).
 - Investment in green and blue infrastructure such as green corridors in urban areas and waterways.
 - Provision of support and advice for businesses in the management and reuse of energy, materials, and water, reducing waste.
 - Investment in the development of “green” products and service.
 - Support and advice for the dissemination of innovative technologies.

SEA Topic	Criteria for determining effects	Assessment score	Justification and any suggestions for mitigation or enhancement
BIODIVERSITY, FLORA AND FAUNA	Will it avoid adverse effects on protected habitats and species?	++	Investment priorities include protecting and restoring biodiversity. This explicitly includes Natura 2000 sites, which represent the highest level of protection for habitats and species. Specific objectives and indicative actions to be supported include investments in green and blue infrastructure, provision of ecosystem services, and habitat creation that enhances the connectivity and resilience for priority sites and species.
	Will it enhance broader biodiversity, restore and/or create habitats and ecological networks?	++	
POPULATION	Will it improve the skills base of communities exhibiting the greatest social deprivation?	0	
	Will it increase access to jobs in areas of high unemployment?	0	
	Will it improve local per capita incomes in areas of low incomes?	0	
	Will it ensure the achievement of equal opportunities for all sectors of the community?	0	
HUMAN HEALTH	Will it enhance human health and quality of life?	++	Investments in green and blue infrastructure and support for ecosystem services should all improve the quality of the natural environment with benefits for physical and mental health and quality of life. Communities with high levels of health deprivation are
	Will it improve the health and environments of communities exhibiting greatest health deprivation?	+?	

Thematic Objective 6: Preserving and protecting the environment and promoting resource efficiency

			not targeted, resulting in uncertain benefits for this group.
SOIL	Will it avoid adverse effects on best and most versatile land?	0	Investment priorities include protecting and restoring soil. Examples of priority actions to be supported include regeneration of sites through soil desealing and decontamination. Support for innovative technologies may also lead to remediation of contaminated soils.
	Will it ensure the efficient use of previously developed land and the remediation of contaminated land?	++	
WATER	Will it avoid pollution to water?	++	Water pollution should be avoided by promoting innovative technologies to improve environmental protection in the waste and water sectors, investment in sustainable drainage to improve water quality, decontamination of industrial sites and support for green infrastructure. Water consumption should be reduced by promoting innovative technologies to improve resource efficiency in the waste and water sectors and advice to businesses in the management and reuse of water.
	Will it reduce water consumption?	+	
	Will it reduce flood risk?	0	
	Will it help to meet the objectives of the Water Framework Directive and River Basin Management Plans (including meeting good ecological status and ensuring no deterioration in status)?	+	
AIR	Will it avoid increasing emissions to air?	+	Promoting innovative technologies to improve environmental protection and resource efficiency to reduce air pollution is an investment priority, which should help to avoid increasing emissions to air from business. AQMAs are unlikely to benefit significantly since these are mostly designated in respect of air pollution from road traffic sources.
	Will it improve air quality in AQMAs?	0	
CLIMATIC FACTORS	Will it help to reduce greenhouse gas emissions?	+	Actions to improve resource efficiency in the waste and water sectors should also help to reduce greenhouse gas emissions associated with the energy used to extract and process materials.
	Will it promote the use of renewable energy sources?	0	
	Will it support appropriate adaptation of future development to climate change?	0	
	Will it avoid development that could hamper the adaptation of the environment to climate change (for example development that reduces flood storage or reduces the resilience of biological networks)?	0	
MATERIAL ASSETS	Will it encourage use of resources in accordance with the waste hierarchy?	++	Support for uptake by business of innovative resource efficiency measures and business waste reduction and reuse should have positive effects on waste reduction and efficient use of mineral resources.
	Will it promote the efficient use of mineral resources?	++	
CULTURAL HERITAGE	Will it conserve and enhance the historic environment, heritage assets and their settings?	0	
	Will it provide opportunities for heritage-led regeneration?	0	
LANDSCAPE	Will it avoid adverse impacts on	0	

Thematic Objective 6: Preserving and protecting the environment and promoting resource efficiency

	protected landscapes?		
	Will it strengthen landscape character and distinctiveness?	0	
	Will it lead to a reduction in noise and light pollution?	0	

Summary of significant environmental effects

BIODIVERSITY, FLORA AND FAUNA: Significant positive effects on protected habitats and species and wider biodiversity through protecting and restoring biodiversity, investments in green and blue infrastructure, provision of ecosystem services, and habitat creation that enhances the connectivity and resilience for priority sites and species.

HUMAN HEALTH: Significant positive effects on human health and quality of life through investments in blue and green infrastructure.

SOIL: Significant positive effects on remediation of contaminated land by, for example, support for regeneration of sites through soil desealing and decontamination.

WATER: Significant positive effects on avoiding pollution to water by promoting innovative technologies to improve environmental protection in the waste and water sectors, investment in sustainable drainage to improve water quality, decontamination of industrial sites and support for green infrastructure.

MATERIAL ASSETS: Significant positive effects as support for uptake by business of innovative resource efficiency measures and business waste reduction and reuse should have positive effects on waste reduction and efficient use of mineral resources.

Summary of suggestions for mitigation or enhancement

None identified.

Thematic Objective 7: Promoting sustainable transport and removing bottlenecks in key network infrastructures

Priority axes	7. Sustainable transport in Cornwall and the Isles of Scilly 8. Sustainable transport
Investment priorities	Specific objectives corresponding to the investment priorities
Priority axis 7	
Supporting a multimodal Single European Transport Area by investing in the trans-European transport network (TEN-T).	SO1: Improving the accessibility of Cornwall and the Isles of Scilly by enhancing integration with the TEN-T road and rail network.
Developing and improving environmentally-friendly (including low-noise) and low-carbon transport systems, including inland waterways and maritime transport, ports, multimodal links and airport infrastructure, in order to promote sustainable regional and local mobility	SO2: Improve accessibility and connectivity within Cornwall and the Isles of Scilly through developing sustainable means of transport.
Priority axis 8	
Enhancing regional mobility by connecting secondary and tertiary nodes to TEN-T infrastructure, including multimodal nodes.	SO1: Improving regional mobility and the economic viability of areas by linking them to the TENS-T network with transport infrastructure
Developing and improving environmentally-friendly (including low-noise) and low-carbon transport systems, including inland waterways and maritime transport, ports, multimodal links and airport infrastructure, in order to promote sustainable regional and local mobility.	SO2: To remove pressure from road network by promoting other forms of transport that support sustainable development, jobs and growth.
What this means in practice	
<p>Priority indicative actions that the ERDF will support include:</p> <ul style="list-style-type: none"> • Targeted investment in the Comprehensive TEN-T road network, in particular enhancements to the A30 to alleviate congestion at identified bottlenecks • Targeted investments in the Comprehensive TEN-T rail network in particular improvements to signalling infrastructure on mainline from London to St Ives and development of strategic transport hubs at key spots along the railway line. • Investments in ticketing technologies and information systems. • Public transport network improvements, particularly to key employers. • Development of transport hubs. • Improvements to sea transport links. • Urban traffic management control systems to give public transport priority, resulting in quicker public transport journeys. • Cycling infrastructure to discourage use of private cars and could include new routes linking to current and future employment development sites. • Alternative fuel infrastructure and incentives to encourage the uptake of low carbon vehicles as part of a strategy for sustainable transport. • Improvements to the Strategic Transport network where they can be shown to unlock jobs and improve regional mobility by enhancing connectivity with the TEN-T Network. • Support key transport initiatives to support growth, based around improvements to existing interchanges and routes and making use of multi-modal opportunities, in order to improve connectivity with the TEN-T network. • Improve the accessibility and viability of priority employment and development sites in the LEP area by improving connectivity with the TEN-T Network. • Infrastructure to connect local networks to TEN-T networks. • Smart transport systems. • Measures to facilitate access to public transport, including bus and railways, and thereby reduce carbon emissions. • Measures to address over-crowding. • Sustainable transport Promoting Sustainable Transport and Removing Bottlenecks in Key Network Infrastructures. • Investment in cycling, linking to current and future employment development sites. 	

Thematic Objective 7: Promoting sustainable transport and removing bottlenecks in key network infrastructures

SEA Topic	Criteria for determining effects	Assessment score	Justification and any suggestions for mitigation or enhancement
BIODIVERSITY, FLORA AND FAUNA	Will it avoid adverse effects on protected habitats and species?	-?	Actions under this Thematic Objective include investment in transport infrastructure; indirectly this will also act as an enabler of economic development in the areas that improved transport networks serve. Such development may result in loss of or damage to wildlife habitats and the species which depend on them, or reduce connectivity of biological networks, although it may be possible to avoid such negative effects via appropriate siting and other mitigation at the project stage.
	Will it enhance broader biodiversity, restore and/or create habitats and ecological networks?	-?	
POPULATION	Will it improve the skills base of communities exhibiting the greatest social deprivation?	0	Investments in transport infrastructure serving employment sites that are currently poorly served by transport networks will improve access to jobs and help to support employment opportunities in more remote and less developed areas such as Cornwall and the Isles of Scilly where high unemployment and low incomes are more likely to be an issue.
	Will it increase access to jobs in areas of high unemployment?	++	
	Will it improve local per capita incomes in areas of low incomes?	+	
	Will it ensure the achievement of equal opportunities for all sectors of the community?	+	
HUMAN HEALTH	Will it enhance human health and quality of life?	+	The positive effects on the POPULATION topic described above would indirectly benefit the quality of life and health since these are strongly linked to access to jobs.
	Will it improve the health and environments of communities exhibiting greatest health deprivation?	+	
SOIL	Will it avoid adverse effects on best and most versatile land?	-?	Transport infrastructure development and associated economic development may result in loss of high quality agricultural land, although it may be possible to avoid such negative effects via appropriate siting.
	Will it ensure the efficient use of previously developed land and the remediation of contaminated land?	0	
WATER	Will it avoid pollution to water?	-?	Economic development enabled by improved transport links to employment sites is likely to drive up demand for water. It is also likely to increase the volume of wastewater discharged from wastewater treatment works with potential negative effects on the water environment although it may be possible to avoid these via operation of the Environment Agency's consenting regime. The increased demand for employment land may make it harder to avoid development of sites with a high flood risk but this effect is uncertain as it will depend on factors such as levels of flood risk in locations to be developed and opportunities to avoid increased risk via flood resilient design.
	Will it reduce water consumption?	-	
	Will it reduce flood risk?	-?	
	Will it help to meet the objectives of the Water Framework Directive and River Basin Management Plans (including meeting good ecological status and ensuring no deterioration in status)?	-?	
AIR	Will it avoid increasing emissions to air?	++/--	Some of the transport improvements supported by this Thematic Objective are likely to increase the efficiency of existing journeys to and from employment sites or support a modal shift to more sustainable modes with
	Will it improve air quality in AQMAs?	+?/-?	

Thematic Objective 7: Promoting sustainable transport and removing bottlenecks in key network infrastructures

			<p>positive effects on air quality. Development/ improvement of environmentally-friendly transport systems will also have some positive effects.</p> <p>Economic development enabled by improved transport links to employment sites is likely to result in increased volumes of business-related travel, with the resulting potential for increased traffic emissions and negative effects on air quality, notwithstanding the ability to partially mitigate these through choice of sustainable development locations, sustainable travel plans etc.</p> <p>Both positive and negative effects may also occur in AQMAs but this effect is uncertain as locations for investment are not known at this stage.</p>
CLIMATIC FACTORS	Will it help to reduce greenhouse gas emissions?	++/--	Transport related greenhouse gas emissions are likely to see a mix of positive and negative effects for the reasons described under the AIR topic above.
	Will it promote the use of renewable energy sources?	0	
	Will it support appropriate adaptation of future development to climate change?	0	<p>The uncertain negative effects identified in relation to the BIODIVERSITY topic above (e.g. loss of wildlife habitat) may indirectly hamper the ability of biological networks to adapt to climate change.</p> <p>SUGGESTED ENHANCEMENT: In order to help embed the 'adaptation and local resilience to a changing climate' aspect of the 'Sustainable Development' cross-cutting theme (Section 11 of ERDF Operational Programme) in this Thematic Objective and in line with Environment Agency representations⁸⁵, it is suggested that this Thematic Objective be expanded to state that transport related proposals must identify how they have integrated adaptation and local resilience to climate change.</p>
	Will it avoid development that could hamper the adaptation of the environment to climate change (for example development that reduces flood storage or reduces the resilience of biological networks)?	-?	
MATERIAL ASSETS	Will it encourage use of resources in accordance with the waste hierarchy?	0	
	Will it promote the efficient use of mineral resources?	0	
CULTURAL HERITAGE	Will it conserve and enhance the historic environment, heritage assets and their settings?	?	<p>Economic development enabled by improved transport links to employment sites could potentially have negative effects on historic environment assets or their settings but it could also provide opportunities to improve these, for example by bringing at-risk historic buildings back into appropriate use. Effects are therefore uncertain.</p>
	Will it provide opportunities for heritage-led regeneration?	0	
LANDSCAPE	Will it avoid adverse impacts on protected landscapes?	-?	<p>Actions under this Thematic Objective include investment in transport infrastructure. Linear transport infrastructure is likely to have negative</p>
	Will it strengthen landscape	+/-	

⁸⁵ 2014 to 2020 European Structural and Investment Funds Growth Programme in England: Consultation on European Regional Development Fund Operation Programmes, Environment Agency Consultation Response Form 28th May 2014

Thematic Objective 7: Promoting sustainable transport and removing bottlenecks in key network infrastructures

	character and distinctiveness?		<p>effects on landscape character. These effects may also occur in protected landscapes although it may be possible to avoid these areas or provide additional mitigation in them, making the effects less certain. Such development is generally likely to increase noise pollution although the investment priority of developing low noise transport systems may mitigate this in some instances.</p> <p>Transport improvements will also act as an enabler of economic development in the areas that improved transport networks serve. Such development may sometimes have negative effects on landscape character but in other instances it could also provide opportunities to improve the landscape, for example by redeveloping derelict sites or those currently occupied by buildings with a negative impact. Most economic development is likely to increase levels of human activity and associated noise pollution and light spill.</p>
	Will it lead to a reduction in noise and light pollution?		

Summary of significant environmental effects

POPULATION: Significant positive effects on access to jobs as investments in transport infrastructure serving employment sites that are currently poorly served by transport networks will improve access and help to support employment opportunities, particularly in more remote and less developed areas such as Cornwall and the Isles of Scilly, where high unemployment and low incomes are more likely to be an issue.

AIR: Significant positive effects on emissions to air due to improved efficiency of existing journeys related to economic activity and support for shift to more sustainable modes. Significant negative effects are predicted due to the likelihood of an increased volume of travel associated with improvements to transport infrastructure and with indirect support for employment development that these improvements will facilitate.

CLIMATIC FACTORS: Transport related greenhouse gas emissions are likely to see a mix of significant positive and significant negative effects for the reasons described under the AIR topic above.

Summary of suggestions for mitigation or enhancement

CLIMATIC FACTORS: In order to help embed the 'adaptation and local resilience to a changing climate' aspect of the 'Sustainable Development' cross-cutting theme (Section 11 of ERDF Operational Programme) in this Thematic Objective and in line with Environment Agency representations⁸⁶, it is suggested that this Thematic Objective be expanded to state that transport related proposals must identify how they have integrated adaptation and local resilience to climate change.

The assessment above has covered Priority Axis 7: Sustainable Transport in Cornwall and the Isle of Scilly as part of Thematic Objective 7. Commensurate with approach to the rest of the SEA of the Operational Programme as a whole, this assessment is at a high level. We recommend that a separate, sub-national SEA (and where appropriate EIA) is undertaken of this particular component of the ERDF Operational Programme in light of the geographically specific issues that may need to be considered.

⁸⁶ 2014 to 2020 European Structural and Investment Funds Growth Programme in England: Consultation on European Regional Development Fund Operation Programmes, Environment Agency Consultation Response Form 28th May 2014

Thematic Objective 9: Promoting social inclusion, combating poverty and any discrimination

Priority axis	9. Promoting social inclusion and combating poverty and any discrimination
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Investment priorities	Specific objectives corresponding to the investment priorities
Undertaking investment in the context of community led local development strategies.	<p>SO 1: To build capacity and mobilise resources at community level that overcomes persistent barriers to growth and employment in lagging areas or deprived communities.</p> <p>SO 2: Reduced risk of poverty and social exclusion through improved access to economic growth and development opportunities.</p>

What this means in practice

- Examples of activity that the ERDF will support:
- Animation and capacity building activity in targeted areas which seeks to mobilise community resources and build upon local assets to mitigate risk of social exclusion and embed improved economic performance.
 - Provision of community hub facilities to support SMEs (including social enterprise) in targeted areas.
 - Activity that seeks to promote entrepreneurship and self-employment in deprived areas and targeted communities.
 - Tailored business support activity, mentoring, coaching, information, advice and guidance.
 - Support for access to new markets related to climate change, energy saving and production, care, health, culture and the digital economy.
 - Support for local and community based initiatives that focus on reducing greenhouse gas emissions and/or facilitate the transition to a low carbon society.
 - Small equipment grants.
 - Provision of business space / premises / hot-desking facilities.
 - Support for clustering / networking/ cooperation/ local supply chains/ collaboration.
 - Investment in small scale infrastructure linking deprived neighbourhoods and areas of need with areas of opportunity and employment growth.
 - Support to embed and apply innovation in a local context (e.g. new products/services/ways of working) that builds on community assets.
 - Support for new forms of enterprise (including the social economy and social enterprises).
 - Support for activity linked to renovation of local housing, local energy production and conservation and new uses for existing buildings.

SEA Topic	Criteria for determining effects	Assessment score	Justification and any suggestions for mitigation or enhancement
BIODIVERSITY, FLORA AND FAUNA	Will it avoid adverse effects on protected habitats and species?	-?	Infrastructure development supported by this Thematic Objective (e.g. business premises) may result in loss of or damage to wildlife habitats and the species which depend on them, although it may be possible to avoid such negative effects via appropriate siting and other mitigation at the project stage.
	Will it enhance broader biodiversity, restore and/or create habitats and ecological networks?	-?	
POPULATION	Will it improve the skills base of communities exhibiting the greatest social deprivation?	++	Investments under this Thematic Objective will target regeneration in geographic areas which are disadvantaged in terms of economic growth and employment, facilitating improvements across all of the criteria in this SEA topic.
	Will it increase access to jobs in areas of high unemployment?	++	
	Will it improve local per capita incomes in areas of low incomes?	++	
	Will it ensure the achievement of equal opportunities for all sectors of the community?	++	

Thematic Objective 9: Promoting social inclusion, combating poverty and any discrimination			
HUMAN HEALTH	Will it enhance human health and quality of life?	+	The positive effects on the POPULATION topic described above would indirectly benefit the quality of life and health since these are strongly linked to access to jobs.
	Will it improve the health and environments of communities exhibiting greatest health deprivation?	+	
SOIL	Will it avoid adverse effects on best and most versatile land?	-?	Infrastructure development supported by this Thematic Objective (e.g. business premises) may result in loss of high quality agricultural land, although it may be possible to avoid such negative effects via appropriate siting.
	Will it ensure the efficient use of previously developed land and the remediation of contaminated land?	0	
WATER	Will it avoid pollution to water?	-?	Infrastructure development supported by this Thematic Objective (e.g. business premises) is likely to drive up demand for water. It is also likely to increase the volume of wastewater discharged from wastewater treatment works with potential negative effects on the water environment although it may be possible to avoid these via operation of the Environment Agency's consenting regime. The increased demand for development land may make it harder to avoid development of sites with a high flood risk but this effect is uncertain as it will depend on factors such as levels of flood risk in locations to be developed and opportunities to avoid increased risk via flood resilient design.
	Will it reduce water consumption?	-	
	Will it reduce flood risk?	-?	
	Will it help to meet the objectives of the Water Framework Directive and River Basin Management Plans (including meeting good ecological status and ensuring no deterioration in status)?	-?	
AIR	Will it avoid increasing emissions to air?	-	Infrastructure development supported by this Thematic Objective (e.g. business premises) is likely to result in increased volumes of business-related travel, with the resulting potential for increased traffic emissions and negative effects on air quality, notwithstanding the ability to partially mitigate these through choice of sustainable development locations, sustainable travel plans etc. Such negative effects may also occur in AQMAs but this effect is uncertain as locations for development are not known at this stage.
	Will it improve air quality in AQMAs?	-?	
CLIMATIC FACTORS	Will it help to reduce greenhouse gas emissions?	--	Support for local and community based initiatives that focus on reducing greenhouse gas emissions and/or facilitate the transition to a low carbon society will have minor positive effects, in terms of decoupling growth from greenhouse gas emissions. However, infrastructure development supported by this Thematic Objective (e.g. business premises) is likely to result in increased volumes of business-related travel and increased energy consumption in business premises, with the resulting likelihood of increased emissions of greenhouse gases from traffic and from energy generation. The net effect is judged to be a significant negative one on reducing greenhouse gas emissions.
	Will it promote the use of renewable energy sources?	0	
	Will it support appropriate adaptation of future development to climate change?	0	
	Will it avoid development that could hamper the adaptation of the environment to climate change (for example development that reduces flood storage or reduces the resilience of biological networks)?	-?	

Thematic Objective 9: Promoting social inclusion, combating poverty and any discrimination

			<p>The uncertain negative effects identified in relation to the natural environment above (e.g. loss of wildlife habitat; increased flood risk) may indirectly hamper climate change adaptation.</p> <p>SUGGESTED ENHANCEMENT</p> <p>In line with Environment Agency representations⁸⁹, it is suggested that this Thematic Objective explicitly recognises the correlation that often exists between poor and economically deprived areas and local vulnerability to climate change, notably flood risk, by considering investment in adaptation in such areas.</p>
MATERIAL ASSETS	Will it encourage use of resources in accordance with the waste hierarchy?	0	
	Will it promote the efficient use of mineral resources?	0	
CULTURAL HERITAGE	Will it conserve and enhance the historic environment, heritage assets and their settings?	?	<p>Infrastructure development supported by this Thematic Objective (e.g. business premises) is likely to increase demand for the development of employment premises. Such development could potentially have negative effects on historic environment assets or their settings but it could also provide opportunities to improve these, for example by bringing at-risk historic buildings back into appropriate use. Effects are therefore uncertain.</p>
	Will it provide opportunities for heritage-led regeneration?	0	
LANDSCAPE	Will it avoid adverse impacts on protected landscapes?	?	<p>Infrastructure development supported by this Thematic Objective (e.g. business premises) is likely to increase demand for the development of employment premises. Such development could potentially have negative effects on protected landscapes or landscape character but it could also provide opportunities to improve the landscape, for example by redeveloping derelict sites or those currently occupied by buildings with a negative impact. Most economic development is likely to increase levels of human activity and associated noise pollution and light spill.</p>
	Will it strengthen landscape character and distinctiveness?	?	
	Will it lead to a reduction in noise and light pollution?	-	

Summary of significant environmental effects

POPULATION: Investments under this Thematic Objective will target regeneration in geographic areas which are disadvantaged in terms of economic growth and employment, facilitating improvements across all of the criteria in this SEA topic.

CLIMATIC FACTORS: Support for local and community based initiatives that focus on reducing greenhouse gas emissions and/or facilitate the transition to a low carbon society will have minor positive effects, in terms of decoupling growth from greenhouse gas emissions. However, infrastructure development supported by this Thematic Objective (e.g. business premises) is likely to result in increased volumes of business-related travel and increased energy consumption in business premises, with the resulting likelihood of increased emissions of greenhouse gases from traffic and from energy generation. The net effect is judged to be a significant negative one on reducing greenhouse gas emissions.

⁸⁹ 2014 to 2020 European Structural and Investment Funds Growth Programme in England: Consultation on European Regional Development Fund Operation Programmes, Environment Agency Consultation Response Form 28th May 2014

Thematic Objective 9: Promoting social inclusion, combating poverty and any discrimination

Summary of suggestions for mitigation or enhancement

CLIMATIC FACTORS: In line with Environment Agency representations⁹⁰, it is suggested that this Thematic Objective explicitly recognises the correlation that often exists between poor and economically deprived areas and local vulnerability to climate change, notably flood risk, by considering investment in adaptation in such areas.

⁹⁰ 2014 to 2020 European Structural and Investment Funds Growth Programme in England: Consultation on European Regional Development Fund Operation Programmes, Environment Agency Consultation Response Form 28th May 2014

Significant effects only have been identified for Priority Axis 10 due to the late receipt of this section of the ERDF Operational Programme. As noted in the main body of the SEA Report, most of the Investment Priorities and Specific Objectives appearing within this Priority Axis also appear under the Thematic Objectives for which more detailed assessments are provided.

Priority Axis 10. Sustainable urban development		
Investment priorities	Specific objectives corresponding to the investment priorities	Summary of significant⁹¹ environmental effects
Strengthening research, technological development and innovation by: promoting business investment in R&I; developing links and synergies between enterprises, research and development centres and the Higher Education sector; promoting investment in product and service development, technology transfer, social innovation, eco-innovation, public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation; and supporting technological and applied research, pilot lines, early product validation actions, advance manufacturing capabilities and first production, in particular in key enabling technologies and diffusion of general purpose technologies.	SO1: Increase the number of SMEs innovating to bring new products and processes to the market. SO2: Increase collaborative research and innovation between large enterprises, research institutions and public institutions to improve SME commercialisation.	CLIMATIC FACTORS: Significant negative effects are predicted on this SEA topic in respect of helping to reduce greenhouse gas emissions since the economic growth supported by this Priority Axis is likely to result in increased volumes of business-related travel and increased energy consumption in business premises. Minor and negligible effects on SEA topics will be similar to those described for Thematic Objective 1: Strengthening research, technological development and innovation.
Extending broadband deployment and the roll-out of high-speed networks and supporting the adoption of emerging technologies and networks for the digital economy	SO3: Increase the coverage and take up of superfast and ultrafast Broadband in areas where the market is failing, particularly where this is creating a barrier to SME growth	No significant effects identified. Minor and negligible effects on SEA topics will be similar to those described for Thematic Objective 2: Enhancing access to, and use and quality of, ICT.
Developing ICT products and services, e-commerce, and enhancing demand for ICT	SO4: Increase the number of SMEs using and having access to digital technologies including trading on line.	No significant effects identified. Minor and negligible effects on SEA topics will be similar to those described for Thematic Objective 2 Enhancing access to, and use and quality of, ICT.
Supporting the capacity of small and medium sized enterprises to grow in regional, national and international markets and to engage in innovation processes	SO5: Increase growth capability of SMEs.	CLIMATIC FACTORS: Significant negative effect predicted in respect of helping to reduce greenhouse gas emissions. Increased growth of SMEs is likely to result in increased volumes of business-related travel and increased energy consumption in business premises, with the resulting likelihood of increased emissions of greenhouse gases from traffic and from energy generation. Minor and negligible effects on SEA topics will be similar to those described for Thematic Objective 3: Enhancing the competitiveness of SMEs.
Promoting entrepreneurship, in particular by facilitating the economic exploitation of new ideas and fostering the creation of new firms, including through business	SO6: Increase entrepreneurship, particularly in areas with low levels of enterprise activity and amongst under-represented groups	No significant effects identified. Minor and negligible effects on SEA topics will be similar to those described for Thematic Objective 3: Enhancing the

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incubators.		competitiveness of SMEs.
Promoting research and innovation in, and adoption of, low-carbon technologies	SO7: Increase innovation in, and adoption of, low carbon technologies.	No significant effects identified. Minor and negligible effects on SEA topics will be similar to those described for Thematic Objective 4: Supporting the shift towards a low carbon economy in all sectors.
Promoting the production and distribution of energy derived from renewable sources	SO8: Increase implementation of whole place low carbon solutions and decentralised energy measures.	CLIMATIC FACTORS: Significant positive effects are predicted on the SEA topic in respect of promoting use of renewable energy sources for which strong support is provided.
Promoting low-carbon strategies for all types of territories, in particular for urban areas, including the promotion of sustainable multimodal urban mobility and mitigation-relevant adaptation measures		
Promoting energy efficiency and renewable energy use in enterprises	SO9: Increase energy efficiency and implementation of low carbon technologies in all types of enterprise	No significant effects identified. Effects on CLIMATIC FACTORS in respect of helping to reduce greenhouse gas emissions are only judged to be minor positive as actions to be supported under this Specific Objective will help to decouple greenhouse gas emissions from growth but absolute reductions are unlikely in the context of the economic growth supported by the Priority Axis.
Supporting energy efficiency, smart energy management and renewable energy use in public infrastructure, including in public buildings, and in the housing sector	SO10: Increase energy efficiency and implementation of low carbon technologies	No significant effects identified. Effects on CLIMATIC FACTORS in respect of helping to reduce greenhouse gas emissions are only judged to be minor positive as actions to be supported under this Specific Objective will help to decouple greenhouse gas emissions from growth but absolute reductions are unlikely in the context of the economic growth supported by the Priority Axis.
Protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000, and green infrastructure	SO11: Investments in Green and Blue infrastructure and actions that support the provision of ecosystem services on which businesses and communities depend to increase local natural capital and support sustainable economic growth	BIODIVERSITY, FLORA AND FAUNA: Significant positive effects on protected habitats and species and wider biodiversity through protecting and restoring biodiversity, investments in green and blue infrastructure, provision of ecosystem services, and habitat creation that enhances the connectivity and resilience for priority sites and species. HUMAN HEALTH: Significant positive effects on human health and quality of life through investments in blue and green infrastructure. SOIL: Significant positive effects on remediation of contaminated land by, for example, support for regeneration of sites through soil desealing and decontamination. WATER: Significant positive effects on avoiding pollution to water by investment in sustainable drainage to improve water quality, decontamination of industrial sites and support for green

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		infrastructure.
Promoting innovative technologies to improve environmental protection and resource efficiency in the waste sector, water sector and with regard to soil, or to reduce air pollution	SO12: Investment in the uptake of innovative technologies and resource efficiency measures to increase environmental protection, resilience and performance of businesses and communities.	<p>MATERIAL ASSETS: Significant positive effects as support for uptake by business of innovative resource efficiency measures and business waste reduction and reuse should have positive effects on waste reduction and efficient use of mineral resources.</p> <p>Minor positive effects on SOIL, WATER, AIR, CLIMATIC FACTORS, and SOILS SEA topics for similar reasons to those described under Thematic Objective 6: Preserving and protecting the environment and promoting resource efficiency.</p>
Providing support for physical, economic and social regeneration of deprived communities in urban and rural areas.	SO13: Unlocking growth potential in disadvantaged urban areas and increasing urban cohesion. Increase growth capacity of SMEs.	<p>POPULATION: Investments under this Priority Axis will target regeneration in disadvantaged urban areas with significant positive effects on social deprivation, access to jobs in areas of high unemployment, improving per capita incomes and providing equality of opportunity.</p> <p>CLIMATIC FACTORS: Significant negative effects are predicted on this SEA topic in respect of helping to reduce greenhouse gas emissions since the economic growth supported by this Priority Axis is likely to result in increased volumes of business-related travel and increased energy consumption in business premises.</p>
Summary of suggestions for mitigation or enhancement		
No new suggestions that have not already been identified in the assessments of the Thematic Objectives.		