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Scotland ESF and ERDF Fund Programme 2014-20 Strategic Environmental Assessment

Environmental Report
Prepared by LUC
May 2014

Project Title: Scotland ESF and ERDF Fund Programme 2014 – 2020- Strategic Environmental Assessment

Client: Hall Aitken Associates / Scottish Government

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Scotland ESF and ERDF Fund Programme 2014-20

Strategic Environmental Assessment

Environmental Report
Prepared by LUC
May 2014

Planning & EIA
Design
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LUC GLASGOW
37 Otago Street
Glasgow G12 8JJ
Tel: 0141 334 9595
Fax: 0141 334 7789
glasgow@landuse.co.uk

Offices also in:
London
Bristol
Edinburgh

FS 566056
EMS 566057

Land Use Consultants Ltd
Registered in England
Registered number: 2549296
Registered Office:
43 Chalton Street
London NW1 1JD
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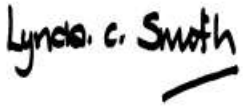
SEA Environmental Report Cover Note

Title	Scotland ESF and ERDF Fund Programme 2014-2020
Responsible Authority	The Scottish Government
Contact name	Lynda Smith
Contact address	Policy Manager - Future Funds & Regional Aid Scottish Government European Structural Funds 3rd Floor 5 Atlantic Quay 150 Broomielaw Glasgow G2 8LU
Contact telephone number	0300 244 1109
Contact email	Lynda.smith@scotland.gsi.gov.uk
Signature	
Date	01/05/2014

Non-technical summary

Introduction

This is the non-technical summary of the Environmental Report prepared as part of the SEA of the European Structural and Investment Funds 2014 – 2020. Strategic Environmental Assessment (SEA) is required under The Environmental Assessment (Scotland) Act 2005[1]. SEA is a systematic method of assessing the environmental effects of plans and programmes during their preparation, allowing for the mitigation of any adverse effects before implementation.

European and Structural Investment Funds

The Structural Funds and the Cohesion Fund are financial tools which implement the regional policy of the European Union. Their objective is to reduce regional disparities in terms of income, wealth and opportunities. The Structural Funds comprise of the European Regional Development Fund (ERDF) and the European Social Fund (ESF). The ERDF supports programmes addressing regional development, economic change, enhanced competitiveness and territorial co-operation throughout the EU. The ESF focuses on four key areas: (1) increasing the adaptability of workers and enterprises, (2) enhancing access to employment and participation in the labour market, (3) reinforcing social inclusion by combating discrimination and facilitating access to the labour market for disadvantaged people, and (4) promoting partnership for reform in the fields of employment and inclusion. The proposals for strategic interventions for the Structural Funds are presented under the following three themes:

- **Smart Growth:** Competitiveness, innovation and jobs
- **Sustainable Growth:** Environment, low carbon and resource efficiency
- **Inclusive Growth:** Local development and social inclusion

Summary of the Strategic Environmental Assessment process

The SEA process assesses the expected effects of the proposals for the European and Structural Investment Funds (ESIF), and the alternatives to them. The first stage is Scoping which sets out the proposed method and approach to the assessment in a scoping report and is informed by engagement with the consultation authorities Scottish Natural Heritage (SNH), Historic Scotland (HS) and the Scottish Environment Protection Agency (SEPA).

The assessment process is based around several environmental objectives which examine key questions in relation to a number of environmental topics. This allows the identification of individual and collective positive and negative impacts of the European and Structural Investment funds on the environment. The assessment has examined the environmental effects of the strategic intervention proposals and the alternatives to them. The assessment has been undertaken with regard to the environmental context of the European and Structural Investment Funds in Scotland.

Alternatives

The alternative assessed was based on the alternative proposals that emerged through the development of the proposals which form the content of the Consultation Document. These proposals covered topics such as skills development, social inclusion, employment and low carbon development.

Overall, the alternative proposals had similar effects, with particular positive effects in relation to population and human health and climatic factors.

[1] The Environmental Assessment (Scotland) Act 2005. London: The Stationery Office. [online] Available at: http://www.legislation.gov.uk/asp/2005/15/pdfs/asp_20050015_en.pdf [Accessed 01 April 2014]

Environmental baseline

Biodiversity, flora and fauna

Scotland 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 resulting from climate change, land use change and pollution.

Population and human health

Environmental quality has an important influence on population and human health along with access to services, training and employment opportunities. Inequalities in health and life expectancy are an issue in Scotland, alongside the health impacts of poor air quality, flood risk and climate change.

Climatic factors

Climate change is having an increasing impact on the environment. Projected impacts include higher temperatures, wetter winters and drier summers. Emissions from energy generation, transportation and a wide range of other human activities contribute to climate change, and there is a need to adapt to the challenges of the changing climate.

Air

Air quality has an important impact on the environment and human health. Energy, industry and transportation have impacts on air quality, particularly in urban areas.

Water

Good water quality is an important factor for economic development in Scotland. Flood management is also vital to avoid adverse impacts on business growth and economic development. Although water quality is generally good, a number of water bodies are under significant pressure.

Soil

Soil supports a range of economic activity within Scotland, and sustainable management of the soil resource is important to support this. Regeneration is an important aspect of sustainable soil management through bringing derelict land back into productive use.

Cultural heritage

Scotland has a rich cultural heritage which contributes to economic prosperity and is evident in the built and natural environment. A range of natural and man-made pressures affect the historic environment including development pressure and climate change.

Landscape and geodiversity

Scotland has a rich and diverse landscape which supports a range of activities, but is influenced by changes in development and land use. A network of protected areas cover the most outstanding examples of landscape.

Material Assets

Scotland has many natural resources and built assets including electricity and transport infrastructure, agricultural land, forestry and minerals. These resources are vital to economic activity across Scotland and need to be protected, developed and maintained to continue to fulfil this role.

Likely significant environmental effects

The ESF and ERDF Operational Programmes will not have *any significant negative or positive* environmental impacts, however the nature of the programmes is such that many of its impacts are uncertain and in some cases both potentially positive and negative. The Operational Programmes are strategic in nature making precise assessment difficult and it proposes broad priorities under which certain types of activity will be supported. The impacts of the Operational Programmes 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 stem from the Operational Programmes and it suggests ways to ensure negative impacts are minimised or mitigated and opportunities for positive impacts are maximised. The following paragraphs provide a brief summary of anticipated impacts.

The proposals under the heading of competitiveness, innovation and jobs could result in minor project level impacts on biodiversity, flora and fauna, soil, water and cultural heritage. Positive effects are noted in relation to population and human health as a result of employment opportunities, skills enhancement and actions to target social deprivation and access to services. Mixed effects are identified in relation to climatic factors resulting from increases in emissions as a result of developing export markets, alongside positive effects from increased business efficiency.

The local development and social inclusion proposals are also identified as having some positive effects in relation to biodiversity, flora and fauna in relation to improvements to green infrastructure. The proposals are also positive in relation to population and human health, as a result of enhancements to training and education, improving employability and regeneration. Minor positive effects are also identified in relation to climatic factors as a result of reducing greenhouse gas emission from active travel and support for low carbon development.

The environment, low carbon and resource efficiency proposals have positive effects on population and human health resulting from improved employment opportunities, improvements to health and living environments and tackling social exclusion. The proposals are also largely positive in relation to climate change, helping to avoid increases in future energy use and greenhouse gas emissions and supporting low carbon technologies and renewable energy. Linked to the actions which are positive for climatic factors, there are benefits for air quality resulting from alternative transport methods and alternative fuel.

Monitoring

The Strategic Environmental Assessment process requires that significant environmental effects are avoided, reduced or off-set. Although no significant adverse environmental effects were identified, monitoring is required to identify any unforeseen adverse environmental effects. In addition the SEA identifies a number of opportunities for maximising the benefits of the proposals for the environment. Potential indicators for monitoring issues raised by the assessment relate to the topics of population and human health and climatic factors.

1 Introduction and Background

Introduction

1.1 As part of the preparation of Scotland ESF and ERDF Fund Programme 2014-2020, the Scottish Government is required to undertake a Strategic Environmental Assessment (SEA) of the programme. SEA is a systematic method for considering the likely environmental effects of certain plans, policies and strategies (PPS).

1.2 According to The Scottish Government's **Strategic Environmental Assessment Guidance**[2] published in 2013, SEA, when undertaken in a proportionate and effective way, can lead to:

- Better environmental protection;
- Improved plans;
- Providing insights;
- Exploration of reasonable alternatives;
- Enhanced communication and transparency;
- Reduced long term costs;
- Streamlined consenting; and
- Potential smoother delivery.

1.3 The SEA Environmental Report has been prepared in accordance with the Environmental Assessment (Scotland) Act 2005[3] (hereafter referred to as 'the 2005 Act'). According to the 2013 Scottish Government SEA Guidance, the key SEA stages are:

Table 1.1 Key SEA Stages

SEA Stages	
Pre-screening	Pre-screening is effectively a process of self-exemption undertaken by the Responsible Authority. This can be undertaken where it can be clearly established that a plan is likely to have no or minimal effects on the environment.
Screening	Screening takes the form of a formal submission (i.e. a Screening Report), where the Responsible Authority seeks the views of the Consultation Authorities on whether a plan is likely to have significant environmental effects and therefore whether a SEA is required.
Scoping	Deciding on the scope and level of detail of the Environmental Report, and the consultation period for the report – this is carried out in consultation with Scottish Natural Heritage (SNH), The Scottish Ministers (Historic Scotland) (HS), and the Scottish Environment Protection Agency (SEPA).
Environmental Assessment: **Environmental Report**	The assessment establishes the likely significant (positive and negative) environmental effects of implementing a plan. The effects of a plan and any potential reasonable alternatives should be considered at this stage, along with viable mitigation measures to avoid, reduce or offset adverse effects. The Environmental Report outlines the findings from the environmental assessment. The contents of an Environmental Report are outlined within Schedule 3 of the 2005 Act.
Main Consultation	The main consultation on the Environmental Report and the draft plan has to take place at a sufficiently early stage within a plan's preparation, to

[2] Scottish Government, 2013. *Strategic Environmental Assessment Guidance.* Edinburgh: Scottish Government

[3] The Environmental Assessment (Scotland) Act 2005. London: The Stationery Office. [online] Available at: http://www.legislation.gov.uk/asp/2005/15/pdfs/asp_20050015_en.pdf [Accessed 01 April 2014]

	ensure any views received during the consultation process can be taken into account.
Post-adoption SEA Statement	This statement is produced after a plan has been adopted. It outlines how the assessment and consultation responses have been taken into account, within the finalised plan.
Monitoring	Monitoring significant environmental effects in such a manner so as to also enable the Responsible Authority to identify any unforeseen adverse effects at an early stage and undertake appropriate remedial action.

Purpose and scope

1.4 The purpose of the Scotland ESF and ERDF Fund Programme 2014-2020 **Strategic Environmental Assessment (SEA) Environmental Report** is to:

- Provide information on Scotland's ESF and ERDF Fund Programme 2014-2020;
- Identify, describe and evaluate the likely significant effects of the PPS and its reasonable alternatives; and,
- Provide an early and effective opportunity for the Consultation Authorities and the public to offer views on any aspect of this Environmental Report.

Structure of the SEA

1.5 The required content of an Environmental Report is set out in Schedule 3 of the 2005 Act. **Table 1.2** sets out those requirements and where they can be found in the body of the report.

Table 1.2 Schedule 3 of the Act: Information for Environmental Reports

Schedule 3 of the Act: Information for Environmental Reports		Where it is detailed?
1	An outline of the contents and main objectives of the plan or programme, and of its relationship (if any) with other qualifying plans and programmes.	Chapter 1, Chapter 2, Chapter 3, Appendix 1
2	The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme.	Chapter 4
3	The environmental characteristics of areas likely to be significantly affected.	Chapter 4
4	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 Council Directive 79/409/EEC on the conservation of wild birds and Council Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna (as last amended by Council Directive 97/62/EC).	Chapter 4
5	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.	Chapter 4
6	The likely significant effects on the environment, including— (a) on issues such as— (i) biodiversity; (ii) population; (iii) human health; (iv) fauna; (v) flora; (vi) soil; (vii) water; (viii) air; (ix) climatic factors; (x) material assets; (xi) cultural heritage, including architectural and archaeological heritage; (xii) landscape; and (xiii) the inter-relationship between the issues referred to in heads (i) to (xii); (b) short, medium and long-term effects; (c) permanent and temporary effects;	Chapter 6, Appendix 3

Schedule 3 of the Act: Information for Environmental Reports		Where it is detailed?
	(d) positive and negative effects; and (e) secondary, cumulative and synergistic effects.	
7	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 8
8	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 expertise) encountered in compiling the required information.	Chapter 7
9	A description of the measures envisaged concerning monitoring in accordance with section 19.	Chapter 8
10	A non-technical summary of the information provided under paragraphs 1 to 9.	NTS

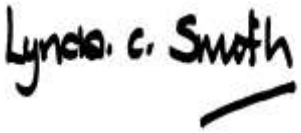
1.6 It is noteworthy that this SEA not only assesses the ESF and ERDF Operational Programmes but also the individual proposals

Key facts

1.7 The key facts relating to the Scotland ESF and ERDF Fund Programme 2014-2020 are detailed in **Table 1.3** below.

Table 1.3 Key Facts

KEY STRATEGY FACTS	
Title	Scotland ESF and ERDF Fund Programme 2014-2020
Responsible Authority	The Scottish Government
What prompted the Programme	The requirement to define a new Programme for the period 2014-2020 following the closure of the 2007-2013 programme
Subject	Delivery of European Structural Funds in Scotland
Period covered by the Programme	2014-2020
Frequency of updates	It is anticipated that a new programme may be developed for the period after 2020
Area covered by the Programme	Scotland
Purpose or objectives of the Programme	To create a framework for the delivery of European Structural Funds in Scotland, focusing on measures to reduce regional disparities within the European Union in terms of income, wealth and opportunities
Contact name	Lynda Smith
Contact address	Policy Manager - Future Funds & Regional Aid Scottish Government European Structural Funds 3rd Floor 5 Atlantic Quay 150 Broomielaw Glasgow G2 8LU
Contact telephone number	0300 244 1109
Contact email	lynda.smith@scotland.gsi.gov.uk

Signature	
Date	01/05/2014

SEA Activities to Date

1.8 As required by the 2005 Act and in accordance with good practice, a range of activities have been undertaken during the SEA process, culminating in the development of this report. The Programmes have been screened, scoped and assessed, SEA objectives have been developed with stakeholders and at various points comments have been invited from the Consultation Authorities.

Table 1.4 SEA Activities to Date

SEA Action/Activity	When	Notes (e.g. data availability, issues, CA advice)
Screening to determine whether the programmes are likely to have significant environmental effects	*N/A*	It is considered that SEA of the ERDF and ESF Fund Programmes is compulsory under Section 5 of the Environmental Assessment (Scotland) Act 2005 and accordingly no previous screening exercise has been carried out.
Scoping the level of detail to be included in the ER (scoping meeting with Consultation Authorities) Submission of Scoping Report	April 2013	Scoping request submitted to SEA gateway on 25th April 2013.
Scoping Report consultation period	25th April 2013 – 29th May 2013	Comments received on the Scoping Report have been incorporated throughout the ER as appropriate.
First draft Environmental Report prepared: • Introduction and background to ESF and ERDF; • Overview of Operational Programmes and Strategic Intervention Proposals; • Relationships with other PPS; • Baseline, trends and problems; • Alternatives considered and assessed; • Environmental assessment undertaken; • Mitigation measures; • Monitoring proposed	May 2013 - December 2013	ER prepared incorporating comments received to date.
Consultation on draft Operational Programmes and the ER for 8 weeks	20th December 2013 – 07th February 2014	Comments received on the first draft of the Environmental Report have been incorporated throughout the revised ER as appropriate.

Revised Environmental Report prepared	March 2014 – May 2014	ER revised incorporating comments received to date. Updated baseline, trends and problems; overview of Operational Programmes and Strategic Intervention Proposals. Environmental assessment of Operational Programmes undertaken. Limitations on Operational Programmes' assessment due to their strategic level and lack of specific details on the exact nature of projects
Consultation on the revised Environmental Report	*Summer 2014*	*To be completed*
Revision of SEA in line with outcomes of consultation process. Submitted to European Commission.	*Expected late 2014*	*To be completed*
SEA post-adoption statement	*Expected early 2015*	*To be completed*

Summary of likely changes to the environment without the programmes

1.9 The Act requires that Environmental Reports consider the likely evolution of the environment without implementation of the plan or programme.

1.10 However, assessing likely changes to the environment without the ESF and ERDF programmes is problematic. Due to the nature of EU funding rounds, the existing 2007-2013 programmes have closed and, although projects in receipt of funding may continue in different guises, the effects of the programme itself cease. Similarly, there is no realistic prospect of a successor programme *not* coming into force, given that this is required by EU regulations and the UK, as the Member State, has a duty to produce an appropriate Partnership Agreement and National Strategic Reference Framework. The likely effects of the previous programmes have already been subject to SEA.

It is therefore considered unrealistic to assess the effects of the absence of the ESIF 2014-2020 programmes.

1.11 Broadly, however, it is likely that without ESF and ERDF funding in place, there would be substantially less investment across the 11 'thematic objectives' for the programmes identified at EU level. This would have most significant effects in relation to the Population and Human Health SEA objective, where major positive effects – in relation to job creation, health and built environment enhancement – would be missed. Similarly, without ERDF/ESF seed funding, green infrastructure projects and investment in low carbon technology research, development and marketization would also likely experience slower growth. ERDF funding is particularly valuable in such higher risk investment areas, where the stability and cachet brought by EU investment can help to attract match funding that may not otherwise come forward.

2 Overview of Scotland ESF and ERDF Fund Programme 2014-2020

Introduction to EU Regional Policy

2.1 The EU's Regional Policy, also known as the Cohesion Policy, aims to reduce economic disparities between the EU's regions, ultimately making all of Europe more competitive on the global stage. Funding for delivery against the Cohesion Policy comes from four funds, known together as the **European Structural and Investment Fund** (ESIF). This comprises the:

- **European Social Fund** (ESF): invests in people, and is the main EU instrument for improving employment and education opportunities, tackling social exclusion and poverty and investing in institutional capacity and efficient public administration.
- **European Regional Development Fund** (ERDF): aims to tackle region disparities and strengthen economic and social cohesion, focussing on innovation, support for business, the digital agenda and delivering a low carbon economy.
- **European Agricultural Fund for Rural Development** (EAFRD): finances the rural development pillar ('Pillar 2') of the EU's Common Agricultural Policy.
- **European Maritime and Fisheries Fund** (EMFF): funds the EU maritime and fishery policy, assisting transition to sustainable fisheries, supporting coastal communities and helping to improve quality of life in coastal communities.

2.2 The Structural Funds and the Cohesion Fund are financial tools which implement the regional policy of the European Union. Their 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.

2.3 Together with the Common Agricultural Policy (CAP), the Structural Funds and the Cohesion Fund make up the great bulk of EU funding, and the majority of total EU spending. The lifespan of the previous Regional Policy framework covered the period from 2007 to 2013. The lifespan of the new ESF and ERDF Fund Programme (the subject of this SEA) covers the period from 2014 to 2020.

The legislative framework and alignment between European Funds

Europe 2020

2.4 In October 2011, the European Commission announced their proposals for the 2014 – 2020 European Structural and Investment (ESI) funds. The proposals contain a number of new concepts, for example **11 thematic objectives** – defined in a 'Common Strategic Framework' – which all ESI funds must focus on, a tighter alignment with Europe 2020, and a Partnership Agreement which will set out the key activities for Structural, Cohesion, Rural Development and Fisheries Funds, and how that activity will deliver Europe 2020[4] aims of **smart**, **sustainable** and **inclusive growth**.

2.5 These thematic objectives are as follows:

1 **Innovation**: 'Strengthening research, technological development and innovation';

[4] European Commission, 2010. *Europe 2020 – A strategy for smart, sustainable and inclusive growth* [pdf]. Brussels: European Commission. Available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020:FIN:EN:PDF [Accessed 02 December 2013]

2 **ICT**: 'Enhancing access to, and use and quality of, ICT';

3 **Small and Medium-sized Enterprises**: 'Enhancing the competitiveness of SMEs';

4 **Low Carbon**: 'Supporting the shift towards a low carbon economy in all sectors';

5 **Climate Change Adaptation**: 'Promoting climate change adaption, risk prevention and management';

6 **Environmental Protection**: 'Protecting the environment and promoting resource efficiency';

7 **Sustainable Transport**: 'Promoting sustainable transport and removing bottlenecks in key network infrastructures';

8 **Employment**: 'Promoting employment and supporting labour mobility';

9 **Social Inclusion**: 'Promoting social inclusion and combating poverty';

10 **Skills**: 'Investing in education, skills and lifelong learning'; and,

11 ***Enhancing Institutional Capacity and an Efficient Public Administration***: *Investments under this priority are, in the opinion of the UK Government, designed primarily for the less development member states and regions of the EU. It is not therefore considered appropriate for the UK to fund investments under this objective.*

UK Partnership Agreement

2.6 Each member state produces a Partnership Agreement, setting out the plans and priorities to be delivered using ESI funding. These agreements are submitted to, and approved by, the European Commission and are used to guide spending and monitor performance.

2.7 In the case of the UK, this is produced by the UK Government. A chapter, produced by each of the devolved administrations in consultation with the UK Government, is included in the PA detailing how funds will be deployed in the regions of each administration.

National Strategic Reference Framework

2.8 Each member state also produces a National Strategic Reference Framework. This provides the reference point for programming ESIF interventions in a manner consistent with EU guidance. It defines the strategy adopted by the member state and presents a list of national and regional Operational Programmes (OPs) which it seeks to implement over the ESIF time horizon (in this case 2014-20) and an indicative annual financial allocation for each OP.

Priorities for Scotland ESF and ERDF Fund Programme

2.9 Scotland's ESF and ERDF Fund Programme for 2014-2020 has been subject to a complex drafting and preparation process reflecting uncertainties about the EU budget and ongoing discussions between the EU, UK Government and Scottish Government.

2.10 Set out below is a summary of the priorities that the Commission would like to co-finance in the UK in the next programming period 2014-2020 for all European Structural and Investment Funds[5]:

1. Increasing labour market participation through improved labour market and education policies and reducing the risk of social exclusion:
   - Improving skills;
   - Creating jobs by supporting employers and self-employment;
   - Improving labour market mobility in rural and coastal areas;
   - Facilitating labour market participation of women and lone parents;
   - Diversification into non-farming activities; and,

[5] European Commission, 2012. *Position of the Commission services on the development of the Partnership Agreement and programmes in the United Kingdom for the period 2014- 2020* [pdf]. Brussels: European Commission. Available at: http://ec.europa.eu/regional_policy/what/future/pdf/partnership/uk_position_paper.pdf [Accessed 03 December 2013]

- Enhancing access to affordable, sustainable and high-quality services, in particular childcare, and on integrating into the labour market people from workless households, low-skilled and inactive people moved off benefits onto the labour market, disadvantaged individuals, especially those facing multiple disadvantages, lone parents with caring responsibilities, and certain ethnic minorities.

2. ESIF funds UK :

- Support business investment in R&D&I;
- Encourage more clustering and cooperation mechanisms between complementary sectors and between research and economic actors;
- Support innovative production and consumption patterns that minimise the negative impact on the environment, particularly among SMEs, including in the agriculture, fisheries and aquaculture sectors, and promote innovative ways of using ecosystem-based approaches to improve the competitiveness of SMEs;
- Strengthened support should be provided for business development, business skills and entrepreneurship in the fisheries and agriculture sectors to develop new products and processes. This should include support for the adoption of improved technologies, processes for both the domestic and export markets, management and organisation systems in the supply chain, and the improvement of market organisation to enhance competitiveness and value-adding capability; and,
- Increase SME competitiveness and back entrepreneurship, in particular in export-related sectors, through the provision of funding, in particular nonbank finance (financial engineering) and business advisory services.

3. Promoting an environmentally friendly and resource-efficient economy:

- Support an increase in the use of all types of renewable energy (e.g. marine, wind and biomass energy), looking especially at the potential of innovative technologies, and should promote energy efficiency, particularly in buildings;
- The Funds should promote growth and sustainable living by investing in sustainable transport and connectivity in urban areas;
- Investment is needed to reduce air pollutants, in particular from transport;
- Support improvement of the management and environmental protection of natural resources in order to move towards a greener economy and meet the major environmental policy challenges; and,
- Rural development funding will be central for the delivery of environmental and climate change policies and priorities for sustainable land use, as this creates jobs and conditions for economic growth.

Operational Programme

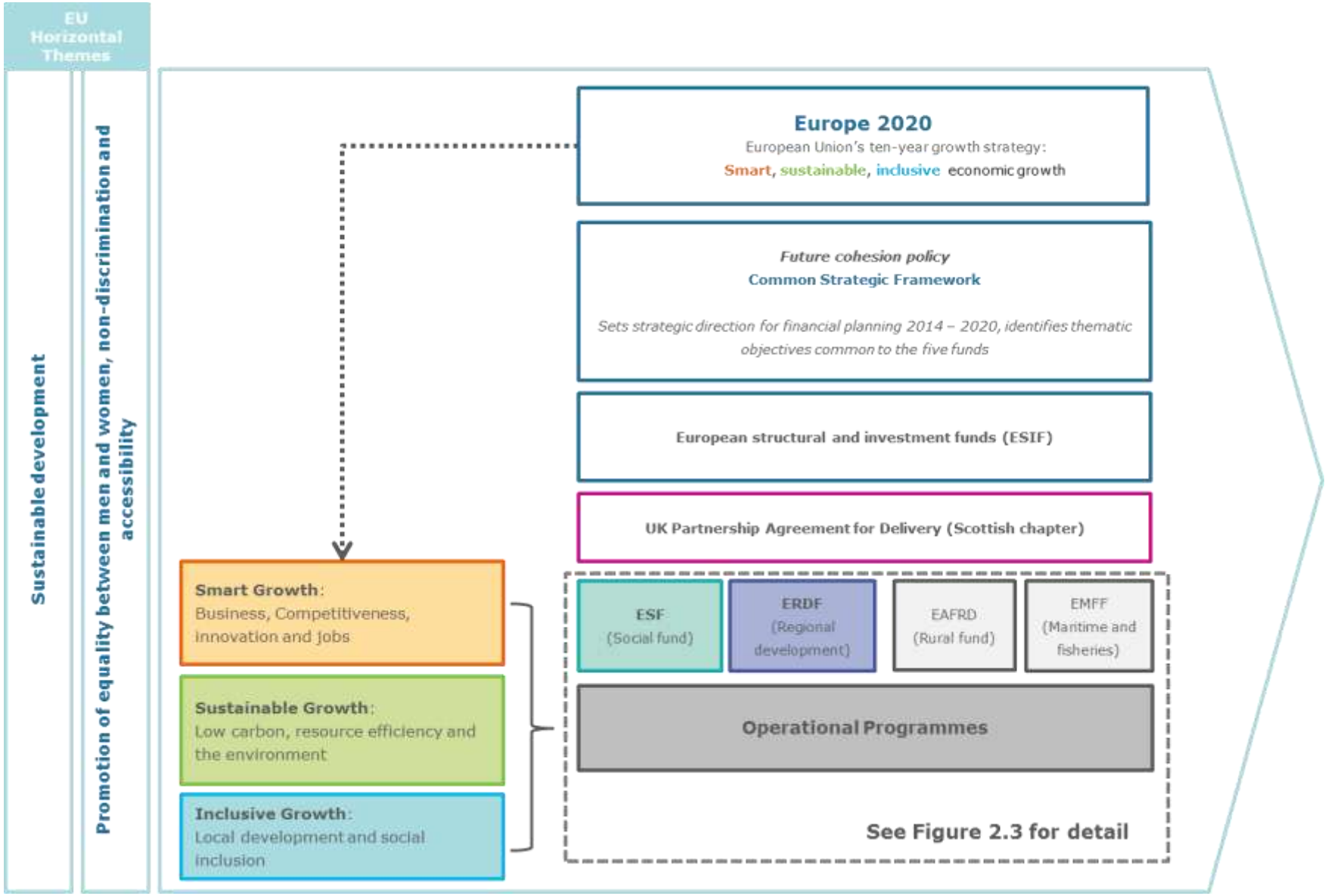
2.11 An Operational Programme (OP) sets out a region's priorities for delivering funds. Although there is scope for regional flexibility, a region's priorities must be consistent with the member state's National Strategic Reference Framework (NRSF). There is an Operational Programme for each region in the EU.

2.12 Four OPs covering ESI funds in Scotland are being prepared, and the OPs, just like the NSRF, have to be approved by the European Commission before they are implemented. The Operational Programmes for Scotland are:

- A Rural Development Programme (the Scotland Rural Development Programme [SRDP]);
- A Maritime and Fisheries Programme (EMFF) – coordinated at a UK level but supporting projects in Scotland;
- **A Social Fund Programme (ESF)**; and,
- **A Regional Development Programme (ERDF)**.

2.13 **Figure 2.1** overleaf provides contextual analysis for the European Structural and Investment Funds.

Figure 2.1 Contextual analysis diagram for ESF and ERDF



ESF and ERDF Operational Programmes

2.14 For the 2014-2020 programming period, the Highlands and Islands have been designated as a *transitional region* and the rest of Scotland as a *more developed region*. The justification for and choice of thematic objectives and investment priorities are the same across Scotland; but the delivery structure will ensure that relevant local projects can be tailored to, for example, remote locations.

2.15 Table 2.1 provides an overview of the thematic objectives, investment priorities and specific objectives of the new ERDF and ESF programmes (based on the draft Operational Programmes as at April 2014).

Strategy, governance and delivery

Strategy

2.16 In order to ensure that all Member States contribute to the Europe 2020 targets of smart, sustainable and inclusive growth each EU fund programme must have a significant impact on jobs and growth during a period of prolonged economic difficulty. The activities of all the funds must complement each other and work in conjunction with other EU funding streams.

2.17 Although Scotland will have separate Operational Programmes for each ESI fund (as outlined in **Para. 2.12**), the financial allocations will be made to schemes, programmes and projects through three Scottish Themed Funds. The objective of the Scottish Themed Funds is to collectively support the long term change Scotland needs to meet the aspirations of the Europe 2020 strategy:

- **Smart growth:** Competitiveness, innovation and jobs;
- **Sustainable growth:** Low carbon, resources efficiency and the environment; and
- **Inclusive growth:** Local development and social inclusion.

2.18 **Figure 2.2** overleaf sets out the potential strategic interventions for the Structural Funds.

Governance

2.19 All ESI funds will be held to account through the Scottish Chapter of the Partnership Agreement. This will also contain the objectives for the funds and how much resource from each ESI Fund has been allocated to the Scottish Themed Funds and what outcomes are expected. In addition, the individual Operational Programmes will set out the reporting, evaluation, compliance, verification, audit and payment requirements.

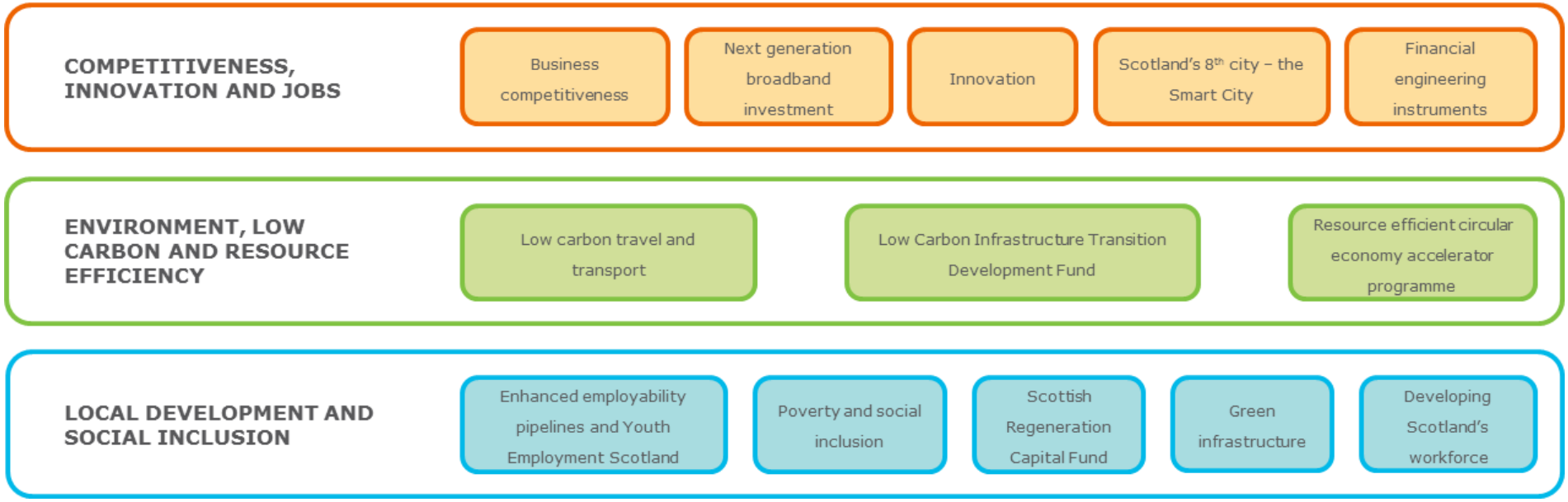
2.20 Projects or schemes of projects (referred to as operations) which are eligible for ESI Funds will be owned by Lead Partners who will provide the initial match funding , but may deliver operations directly, contract delivery or enter into partnerships. Monitoring of these operations will be done by Strategic Delivery Partnerships (SDPs) which will ensure that they are complementary and that various interventions are performing and making a measurable contribution to the Europe 2020 targets.

Delivery

2.21 SDPs are being established around the three Scottish Themed Funds and, through facilitated discussions, will determine a limited set of priorities which will deliver a measurable impact against the Europe 2020 targets, and which will form the basis of the Operational Programmes and Partnership Agreement. The SDPs have three key responsibilities:

- Help shape the Operational Programmes by deciding what operations to fund;
- Ensure funding stability through the lifetime of the funding period by providing the initial match funding for agreed operations; and,
- Be accountable for the impact of the Structural Fund operations.

Figure 2.2 Overview of potential strategic interventions for Structural Funds



European Regional Development Fund (ERDF)

2.22 The ERDF focuses its investments on several key priority areas:

- Innovation and research;
- The digital agenda;
- Support for small and medium-sized enterprises (SME's); and,
- The low-carbon economy.

2.23 Under the European Territorial Cooperation programmes, at least 80% of funds will be concentrated on these four priority areas.

2.24 The ERDF also gives particular attention to specific territorial characteristics. ERDF action is designed to reduce economic, environmental and social problems in urban areas, with a special focus on sustainable urban development.

2.25 Areas which are naturally disadvantaged from a geographical viewpoint (remote, mountainous or sparsely populated areas) benefit from special treatment. Lastly, the outermost areas also benefit from specific assistance from the ERDF to address possible disadvantages due to their remoteness.

European Social Fund (ESF)

2.26 The ESF focuses on four key areas:

- Increasing the adaptability of workers and enterprises;
- Enhancing access to employment and participation in the labour market;
- Reinforcing social inclusion by combating discrimination and facilitating access to the labour market for disadvantaged people; and,
- Promoting partnership for reform in the fields of employment and inclusion.

2.27 The implementation of the ESF on the ground is achieved through projects which are applied for and implemented by a wide range of organisations, both in the public and private sector. These include national, regional and local authorities, educational and training institutions, non-governmental organisations (NGOs) and the voluntary sector, as well as social partners, for example, trade unions and works councils, industry and professional associations, and individual companies.

2.28 The beneficiaries of ESF projects are varied and may include individual workers; groups of people; industrial sectors; trades unions; public administration; and, individual firms. Vulnerable groups of people who have particular difficulty in finding work or advancing in their jobs, such as the long-term unemployed and women, are a particular target group.

Overview

2.29 The ERDF operates at the national scale, and the scale of activity, and thus the potential for environmental effects, will be influenced by the size of budget allocated to the programme in Scotland.

2.30 It is evident from the above summary that a significant proportion of ESF themes and priorities relate to topics such as training and skills development, which will have the greatest impact under the heading of population and human health.

2.31 Parts of the ERDF have a stronger link to environmental change or management. Measures such as the promotion of sustainable energy generation and use, support for key sectors, low carbon development and improved ICT all have potential implications for the environment. Other measures, such as the provision of advice and finance to businesses are again more difficult to assess, beyond identifying effects under the heading of population and human health.

Figure 2.3: Investment priorities and Strategic Intervention Proposals

Fund	EU 2020 theme		Thematic objectives		Investment priorities	Strategic Intervention Proposals *(Italics=cross-cutting priorities)*
ERDF	Smart Growth	1	**Innovation:**	**'Strengthening research, technological development and innovation'**	1(b). Promoting business investment in innovation and research and developing links and synergies between enterprises, R&D centres and higher education in particular 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, advanced manufacturing capabilities and first production, in particular key enabling technologies and diffusion of general purpose technologies.	Innovation *Financial Engineering Instruments*
		2	**ICT:**	**'Enhancing access to, and use and quality of, ICT'**	2(a). Extending broadband deployment and the roll out of high speed networks and supporting the adoption of emerging technologies and networks for the digital economy	Next-generation broadband investment *Financial Engineering Instruments*
		3	**Small and Medium-sized Enterprises:**	**'Enhancing the competitiveness of SMEs'**	3(d). Supporting the capacity of SME's to engage in growth in regional, national and international markets, and in innovation processes.	Scotland's 8th City – 'the Smart City' Business competitiveness *Financial Engineering Instruments*

ERDF	Sustainable Growth	4	**Low Carbon:**	**'Supporting the shift towards a low carbon economy in all sectors'**	**4(e). Promoting low-carbon strategies for all types of territories, in particular for urban areas, including the promotion of sustainable multi-model urban mobility and mitigation relevant adaption measures.** **4(f). Promoting research in, innovation in and adoption of low-carbon technologies**	**Low carbon travel and transport** **Low Carbon Infrastructure Transitional Development Fund** **Resource-efficient circular economy accelerator programme** ***Financial Engineering Instruments***
		5	**Climate Change Adaptation:**	**'Promoting climate change adaption, risk prevention and management'**		
		6	**Environmental Protection:**	**'Protecting the environment and promoting resource efficiency'**	6(d). Protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000 and green infrastructure 6(g). Supporting industrial transition towards a resource efficient economy, promoting green growth, eco-innovation and environmental performance management in the public and private sectors	Resource-efficient circular economy accelerator programme *Green Infrastructure* *Financial Engineering Instruments*
		7	**Sustainable Transport:**	**'Promoting sustainable transport and removing bottlenecks in key network infrastructures'**		

ESF	Inclusive Growth	8	**Employment:**	**'Promoting employment and supporting labour mobility'**	**8(a)(i). Access to employment for job-seekers and inactive people, including long-term unemployed and people who are far from the labour market, also through local employment initiatives and support for labour mobility** **8(a)(ii). Sustainable integration of young people, in particular those not in employment, education or training, including young people at risk of social exclusion and young people from marginalised communities, into the labour market, including through the implementation of the Youth Guarantee**	**Enhanced employability pipelines and Youth Employment Scotland** ***Financial Engineering Instruments***
		9	**Social Inclusion:**	**'Promoting social inclusion and combating poverty'**	9(b)(i). Active inclusion, including with a view to promoting equal opportunities, active participation and improving employability	Poverty and social inclusion Scottish Regeneration Capital Grant Fund *Green Infrastructure*
		10	**Skills:**	**'Investing in education, skills and lifelong learning'**	10(c)(iv). Improving the labour market relevance of education and training systems, facilitating the transition from education to work, and strengthening vocational education and training systems and their quality, including through mechanisms for skills anticipation, adaptation of curricula and the establishment and development of work-based learning systems, including dual learning systems and apprenticeship schemes.	Developing Scotland's workforce
Not applicable		11	**Enhancing Institutional Capacity and an Efficient Public Administration:**	*Not used in UK Participation Agreement or Operational Programmes*		

3 Relationship with other PPS, and Environmental Objectives

Introduction

3.1 The SEA process considers the extent to which the ESF and ERDF Programme reflects the environmental objectives of other relevant programmes, plans and strategies. It also establishes the predicted effects of the ESF and ERDF Programmes within the context of the Scottish environment and the way it is anticipated to evolve over the lifetime of the programme.

3.2 The Environmental Assessment (Scotland) Act 2005 requires the Environmental Report to include an outline of relationships with other relevant programmes, plans and strategies (PPS), and how their environmental protection objectives have been taken into account in the PPS review.

3.3 **9.2Appendix 1** lists the plans, programmes, strategies and environmental objectives which have been analysed in the Environmental Report in terms of their relationship with the ESF and ERDF Fund Programme. The objectives and/or requirements of the other PPS are summarised below under each of the main themes addressed within the SEA process.

3.4 **Biodiversity, flora, fauna**: Existing legislation and supporting policies aim to protect species and habitats from damage and disturbance, identifying areas and species recognised to be of value or under particular threat. Policies define a hierarchy of protection ranging from international to local designations. Policies are increasingly aiming to enhance biodiversity by restoring habitats, creating strategic and more local habitat networks and helping species adapt to the changing climate.

3.5 **Population and human health**: National and local policies increasingly recognise and prioritise the link between a high quality environment and people's health and quality of life. Key links include the provision of greenspace, the promotion of physical activity and active travel.

3.6 **Soil**: There is now European recognition of the importance of soil resources and national commitments to protect valued soils and promote sustainable soil management. Key soil resources include prime quality agricultural land and those such as peat which have a high carbon content. Other policies support the remediation of contaminated soils and measures to prevent soil pollution.

3.7 **Water**: Scotland is covered by two River Basin Management Plans, prepared under the European Water Framework Directive. These aim to improve the condition of water bodies inland and on the coast. Addressing inland and coastal flood risk is a growing policy priority, particularly within the context of climate change and sea level rise. Scotland's first National Marine Plan is currently being prepared.

3.8 **Air**: Policy objectives relating to air are focused on reducing and avoiding emissions which are harmful to human health and the environment. The need to reduce greenhouse gas emissions is a particular priority, reflected in legislation and policy.

3.9 **Climate change**: The dual priorities of reducing the rate of climate change and ensuring Scotland is able to adapt and become more resilient to climate change are embodied in legislation and national policy. Measures to slow the rate of climate change focus on reducing carbon emissions from energy generation, transport and the building stock together with measures to increase the natural environment in absorbing and storing carbon from the atmosphere. Adaptation measures are more wide ranging and include responses to flood risk, severe weather events, ecological change and opportunities and challenges for sectors such as agriculture.

3.10 **Material assets**: There are wide ranging policies covering the sustainable use of natural resources (energy, minerals, water, timber and agricultural products) including approaches to waste minimisation, reuse, recycling and disposal.

3.11 **Cultural heritage**: Policies are designed to protect and enhance (where appropriate) sites, townscapes, buildings and landscapes which are recognised for their international, national or local cultural heritage value. Protection focuses on known and unknown sites and their wider setting, with a continued emphasis on supporting interpretation and understanding. There is a growing focus on promoting quality in new development and in the design and management of the public realm including open spaces.

3.12 **Landscape**: Policies for landscape sit within the framework of the European Landscape Convention which balances protection of nationally and locally important landscapes with recognition of the importance of all landscapes and an emphasis on improving damaged and degraded landscapes.

3.13 These policy objectives have informed the SEA objectives against which the effects of the ESF and ERDF Fund Programme have been assessed. The assessment process also considers the extent to which the ESF and ERDF Fund Programme reflects, supports or potentially conflicts with the PPS which sit behind these objectives, outlining ways in which the Programme could be modified or clarified to avoid or reduce any areas of conflict.

4 Environmental Baseline

Introduction

4.1 Schedule 3 of the Environmental Assessment (Scotland) Act 2005 requires Responsible Authorities to identify:

- Relevant aspects of the current state of the environment and its likely evolution without the plan or programme;
- Environmental characteristics of areas likely to be affected;
- Relevant existing environmental problems; and,
- Relevant environmental protection objectives at the international, European or national level.

4.2 There are many objectives for environmental protection and improvement within existing legislation, policies, strategies, and plans, forming the context for this SEA. **9.2Appendix 1** includes a table setting out the fuller analysis of relevant environmental objectives. For each key environmental topic, a summary of these existing environmental protection objectives has been provided.

4.3 Secondly, the environmental baseline is described, including information on trends (to describe its likely evolution in the absence of ERDF and ESF) and key environmental problems, with this information taking a largely Scotland-wide perspective. The baseline information provides the context against which the environment effects of the ESF and ERDF Fund Programme are assessed.

Biodiversity, flora and fauna

Existing environmental protection objectives

4.4 Legislation and policies relating to biodiversity, flora and fauna aim to protect habitats and species from damage and disturbance, by identifying areas of particular value. These policies define a hierarchy of protection, from the international to local level.

4.5 A network of sites across the European Community known as Natura comprise of areas designated as either Special Areas of Conservation (SACs) or Special Protection Areas (SPAs). These sites are designated and protected under **The Conservation (Natural Habitats, &c.) Regulations 1994**[6] (as amended[7]) (hereafter known as the 'Habitats Regulations').

4.6 SACs are strictly protected sites designated under the **Directive 92/43/EEC**[8] (the 'Habitats Directive') and form a European network of important, high quality conservation sites which contribute to conserving 189 habitat types and 788 identified species.

4.7 SPAs are strictly protected sites classified in accordance with Article 4 of **Directive 2009/147/EC**[9] (the 'Birds Directive') for rare and vulnerable birds (identified in Annex II of the Directive) and also for regularly occurring migratory species.

[6] The Conservation (Natural Habitats, &c.) Regulations 1994.
[7] The Conservation of Habitats and Species Regulations 2010.
[8] EC Council Directive 92/43/EEC.
[9] EC Council Directive 2009/147/EC.

4.8 Ramsar sites are identified under the International Convention on the Conservation of Wetlands of International Importance, and Scottish Ministers require these sites to be subject to the same protection as European sites.

4.9 Sites of Special Scientific Interest (SSSIs) protect flora, fauna, geological or physiographical features of outstanding quality in terrestrial and coastal environments. In Scotland, SSSIs are notified by Scottish Natural Heritage under the **Nature Conservation (Scotland) Act 2004** (which amended the **Wildlife and Countryside Act 1981**).

4.10 European protected species which are protected under the Habitats Regulations, and the aims of **The 2020 Challenge for Scotland's Biodiversity**[10] also provide conservation objectives. Beyond designated sites and species, there are longer term aspirations for enhancing biodiversity, improving landscape-scale ecological networks and addressing the impacts of climate change on the natural environment.

Overview

4.11 Biodiversity plays a key role in the functioning of ecosystems and supports our lives through the provision of crucial resources like fresh air, clean water and food[11]. It is commonly viewed as a measure of the health of ecosystems, and provides the essential functions or 'ecosystem services' that are the basis of life. Many of these services are not immediately obvious, with biodiversity contributing to actions such as the regulation of chemistry in our air and water, soil formation, nutrient cycling, climate and disease regulation, carbon cycling, pollination, flood regulation and water purification[12]. Biodiversity is closely linked with the other environmental topics, particularly soil and water, which each support an incredible diversity of life. Climate change has the potential to greatly impact on global biodiversity[13] and species and habitats unique to Scotland.

4.12 Fully functioning ecosystems and healthy biodiversity provide significant benefits for Scotland's communities and their economies. While it is difficult to assign values to ecosystem services, the benefits provided by Scotland's natural resources that can be valued are estimated to be worth between £21.5 and £23 billion per year to Scotland[14].

4.13 Scotland has a rich and important diversity of biological and geological natural features. There are a series of nature conservation designations at international and national levels (SSSIs, SPAs, SACs, and Ramsar) which seek to protect the best examples. There are a total of 1,872 protected sites in Scotland, although some of their boundaries overlap, which host a total of 5,367 designated natural features.

Table 4.1 Designated sites in Scotland

Designated Site	Total in Scotland[15]
Special Areas of Conservation	240
Special Protection Area	153
Ramsar	51
Biosphere Reserve	2

[10] Scottish Government, 2013. *The 2020 Challenge for Scotland's Biodiversity - A Strategy for the conservation and enhancement of biodiversity in Scotland.* Edinburgh: Scottish Government.
[11] Scottish Natural Heritage, 2012. *Safeguarding Biodiversity* [online]. Available at: http://www.snh.gov.uk/protecting-scotlands-nature/safeguarding-biodiversity/ [Accessed 03 October 2013]
[12] Mackey, E.C. and Mudge, G.P., 2010. *Scotland's Wildlife: An assessment of biodiversity in 2010* [pdf]. Scottish Natural Heritage: Inverness. Available at: http://www.snh.gov.uk/docs/B811968.pdf [Accessed 03 December 2013]
[13] Convention on Biological Diversity, 2012 .*Climate Change and Biodiversity – Introduction* [online]. Available at: http://www.cbd.int/climate/intro.shtml [Accessed 03 December 2013]
[14] Scotland's Environment, 2012. *Benefits from Nature* [online]. Available at: http://www.environment.scotland.gov.uk/our_environment/society/benefits_from_nature.aspx [Accessed 04 April 2014]
[15] Scottish Government, 2013. *Key Scottish Environmental Statistics 2013.* [online] Available at: http://www.scotland.gov.uk/Publications/2013/08/1634/48 [Accessed 09 April 2014]

Sites of Special Scientific Interest	1,429 (covering a total of 1,022,604 ha)[16]
National Nature Reserve	52 (covering a total area of 128,287 ha)[17]
Local Nature Reserve	67 (covering a total area of 10,575 ha)[18]

4.14 The Marine (Scotland) Act[19] and the UK Marine and Coastal Access Act both contain new powers to designate Marine Protected Areas (MPA) in the seas around Scotland. In 2013, the consultation on MPA identified 33 possible Maine Protected Areas (pMPAs) which protect important marine habitats and wildlife, geology and geomorphology, as well as features of cultural importance such as shipwrecks and submerged landscapes.

4.15 The UKBAP[20] identifies 39 priority species in the UK, with 197 of these occurring in Scotland. In the 2008 assessment of species in Scotland, 5% of the species were increasing, 32% were stable and 22% were in decline. For the remainder of the species considered, 7% showed no clear trend and 32% had an unknown trend, 1 species (Wryneck) had been lost since the commencement of BAP in 1994, 2 had been lost pre BAP and 1 was no longer considered a true species[21].

4.16 The UKBAP also identifies 45 habitats in the UK, 39 of these occurring in Scotland. The 2008 assessment identifies that of these 39 habitats, 15% were increasing, 28% were considered stable and 33% were in decline. For the remainder, 21% had an unknown trend and for 1 habitat the trend was unclear[22]. There is a clear impetus to improve the health of UKBAP habitats and species.

4.17 The proportion of natural features in favourable condition on protected sites in March 2013 was 78.1%[23]. In October 2010, SNH reported that of the 2,370 habitat and 601 geological features assessed for condition[24]:

- 55% of habitat features (non-geological) were in favourable condition, 17% were in unfavourable recovering and 27% were unfavourable;
- 99% of marine and 83% of coastal features were favourable or unfavourable recovering;
- 78% of freshwater and 76% of wetland features were favourable or unfavourable recovering;
- 66% of upland, 65% of woodland, 81% of lowland heathland and 65% of lowland grassland features were favourable or unfavourable recovering; and,
- 96% of geological features were favourable or unfavourable recovering.

Evolution of the baseline – Pressures, trends and key environmental problems

4.18 Biodiversity loss has been documented over the last 50 years, and today a range of pressures have the potential to impact on Scotland's wildlife and biodiversity. Key issues

[16] Scottish Government, 2013. *Scottish Environment Statistics Online – Conservation*. [online] Available at: http://www.scotland.gov.uk/seso/DatasetSearch.aspx?TID=127 [Accessed 09 April 2014]
[17] Scottish Government, 2013. *Scottish Environment Statistics Online – Conservation*. [online] Available at: http://www.scotland.gov.uk/seso/DatasetSearch.aspx?TID=127 [Accessed 09 April 2014]
[18] Scottish Government, 2013. *Scottish Environment Statistics Online – Conservation*. [online] Available at: http://www.scotland.gov.uk/seso/DatasetSearch.aspx?TID=127 [Accessed 09 April 2014]
[19] Marine (Scotland) Act 2010.
[20] JNCC, 2007. *UK BAP Priority Species and Habitats* [online]. Available at: http://jncc.defra.gov.uk/page-5705 [Accessed 04 December 2013]
[21] Scottish Government, 2011. *High Level Summary Statistics Trend Last Update 21/09/2011 – Biodiversity – BAP Species and Habitats* [online]. Available at: http://www.scotland.gov.uk/Topics/Statistics/Browse/Environment/TrendBAP [Accessed 09 April 2014]
[22] Scottish Government, 2011. *High Level Summary Statistics Trend Last Update 21/09/2011 – Biodiversity – BAP Species and Habitats* [online]. Available at: http://www.scotland.gov.uk/Topics/Statistics/Browse/Environment/TrendBAP [Accessed 09 April 2014]
[23] Scottish Natural Heritage, 2013. *The Proportion of Scotland's Protected Sites in Favourable Conditions 2013.* [pdf] Available at: http://www.snh.gov.uk/docs/A932107.pdf [Accessed 09 April 2014]
[24] Mackey, E.C. and Mudge, G.P., 2010. *Scotland's Wildlife: An assessment of biodiversity in 2010* [pdf]. Scottish Natural Heritage: Inverness. Available at: http://www.snh.gov.uk/docs/B811968.pdf [Accessed 03 December 2013]

include land use pressures (i.e. loss or damage of natural habitats), nutrient deposition, exploitation of natural resources, pollution of air, water and land, increases in invasive non-native species, and the effects of climate change[25]. The importance of protecting our wildlife and unique habitats, and actions undertaken to conserve and enhance our biodiversity on the global and national levels is well documented.

4.19 Changes in the climate could result in loss of certain habitats and species, changes in species, impact on species migration, breeding cycles and food supplies. Risks from pests, invasive species and diseases may increase, leading to increased competition for resources. While the majority (84%) of the 867 non-native species for which comparative records of geographical distribution were available in 2004 showed no change, some 14% had increased and just 2% had decreased[26]. This can influence food availability, particularly for seabirds in the marine environment where declines in the breeding success of some species have been linked to climate change[27].

4.20 Climate change may also favour certain species and lead to an increase in abundance. For example, squid are becoming more abundant off North-East Scotland, creating new opportunities for Scottish fisheries[28]. Similarly, increased diversity of seabed marine life may occur due to the warming of the air and seawater temperatures[29]. Research has shown that many species need to disperse within sufficient 'climate space' to survive.

4.21 Over half of Scotland's administrative territory is marine[30] and whilst this environment is subject to some of the same pressures as Scotland's terrestrial areas, there are also some distinctive issues. The Scottish coast and marine environment includes many areas which are internationally important for bird species including seabirds and a number of designated areas. Like soils in terrestrial ecosystems, the seabed plays a key role in the complex marine ecosystem with a variety of protected species and habitats designated in Scottish waters. The priorities and designations identified in Scotland's marine waters include a wide range of range of seaweeds, plants, fish, reefs, mud habitats and mussel beds. Key pressures include climate change and acidification, source and diffuse pollution (particularly coastal and transitional waters), marine litter and invasive species are key pressures on the marine environment.

4.22 Changes in land use can create direct or indirect pressures on biodiversity. Changes such as energy generation, infrastructure enhancement, land and flood management, agricultural and forestry practices and expansion, each have potential for impacts to Scotland's biodiversity. Settlement growth or expansion and other types of built development can negatively affect biodiversity through the reduction, fragmentation or isolation of semi-natural habitats.

4.23 Over half of Scotland's land area is upland, with a third of this bog habitat[31]. This includes around 1.1 million hectares of blanket bog, a globally rare habitat[32]. Heaths and grasslands are other examples of common upland habitat, with less extensive habitats including mountain heath and inland rock. Heathland is extensive, covering between 21% and 31% of the area of Scotland[33]. Biodiversity losses across the uplands occur as a result of a

[25] Scotland's Environment, 2014. *Wildlife* [online]. Available at: http://www.environment.scotland.gov.uk/our_environment/wildlife.aspx [Accessed 09 April 2014]
[26] Mackey, E.C. and Mudge, G.P., 2010. *Scotland's Wildlife: An assessment of biodiversity in 2010* [pdf]. Scottish Natural Heritage: Inverness. Available at: http://www.snh.gov.uk/docs/B811968.pdf [Accessed 03 December 2013]
[27] Baxter, J.M., Boyd, I.L., Cox, M., Donald, A.E., Malcolm, S.J., Miles, H., Miller, B., Moffat, C.F., et al. (Eds), 2011. *Scotland's Marine Atlas: Information for the National Marine Plan.* Marine Scotland: Edinburgh.
[28] Baxter, J.M., Boyd, I.L., Cox, M., Donald, A.E., Malcolm, S.J., Miles, H., Miller, B., Moffat, C.F., et al. (Eds), 2011. *Scotland's Marine Atlas: Information for the National Marine Plan.* Marine Scotland: Edinburgh.
[29] Scottish Natural Heritage and The Marine Biological Association (undated). *Impacts of climate change on seabed wildlife in Scotland* [online]. Available at: www.marlin.ac.uk/PDF/Climate_change_brochure.pdf [Accessed 09 April 2014]
[30] Scotland's Environment, 2014. *Scotland's environment, estuaries and seas.* [online] Available at: http://www.environment.scotland.gov.uk/our_environment/wildlife/estuaries_and_seas.aspx [Accessed 09 April 2014]
[31] Scotland's Environment, 2014. *Description of upland wildlife*. [online]. Available at: http://www.environment.scotland.gov.uk/our_environment/wildlife/mountains_and_uplands/description.aspx [Accessed 21 February 2014]
[32] Scotland's Environment, 2014. *Description of upland wildlife*. [online]. Available at: http://www.environment.scotland.gov.uk/our_environment/wildlife/mountains_and_uplands/description.aspx [Accessed 21 February 2014]
[33] Scottish Natural Heritage, 2014. *Mountains, heaths and bogs - Heaths* [online]. Available at: http://www.snh.gov.uk/about-scotlands-nature/habitats-and-ecosystems/mountains-heaths-and-bogs/heaths/ [Accessed 21 February 2014]

complex range of factors, including land management changes, atmospheric pollution and afforestation[34].

4.24 Scotland's wetlands, including peatlands, are home to a range of plants and animals such as waders and waterfowl. They are important carbon stores and play a key role in sustaining clean water. Most protected bog sites are in a favourable condition, with the exception of lowland raised bogs[35], but there remains significant scope for wetland and peatland restoration at a national scale.

4.25 While Scotland's forests and woodlands occupy around 17% of our land at present (114,100,000 ha of woodland in 2013[36]), they support a disproportionately high share of our biodiversity[37]. There are a number of pressures on the woodland resource. Most of these are potentially negative, but some, such as habitat restoration and landscape improvement, are positive. Land use change, woodland loss, threats from pests and diseases, climate change and large-scale biomass electricity have been identified as pressures affecting timber and forestry products[38].

4.26 Agriculture remains the dominant land use in Scotland, covering 5.60 million hectares, equating to 73% of the land area[39]. The majority of this area comprises of rough grazing (55%). Almost a quarter (24%) was taken up by grass, with 10% used for crops or left fallow. The remainder consisted of woodland (8%) and 'other land' (3%) comprising roads, yards, buildings and other such non-cultivated land[40].

4.27 Agriculture is a key source of diffuse pollutants, potentially impacting on the quality of our rivers, lochs, coastal and transitional waters. The use of chemicals in crop production (i.e. fertilisers, herbicides and pesticides), wastes from livestock production (i.e. faecal pathogens) and sediments (i.e. organics and metals) from land disturbances such as trampling, cultivation or forestry have the potential to enter water bodies, and adversely affect both water quality and biodiversity[41].

4.28 Transport projects have the potential to reduce, fragment or isolate natural areas and negatively impact on the biodiversity they contain. Other impacts can include pollution to watercourses, both during construction or operation phases, and increased disturbance to wildlife, particularly from transport infrastructure. However, infrastructure works can also create opportunities to aid biodiversity by creating new habitats and, if appropriately designed, by linking wildlife areas with crossing points, wildlife corridors, planting hedges and trees.

Spatial distribution

4.29 The spatial distribution of designated natural heritage sites across Scotland illustrates the concentration of many important sites in rural areas, particularly in the north and west of the country, but also more widely around Scotland's coasts. Many river systems and water bodies are protected as nature conservation sites, as well as parts of the islands and upland areas. Overall, this emphasises the importance of taking into account biodiversity sites across the country.

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[34] Scotland's Environment, 2014. *Pressures affecting upland wildlife* [online]. Available at: http://www.environment.scotland.gov.uk/our_environment/wildlife/mountains__uplands/pressures.aspx [Accessed: 21 February 2014]
[35] Scotland's Environment, 2014. *Wetlands* [online]. Available at: http://www.environment.scotland.gov.uk/our_environment/wildlife/wetlands.aspx [Accessed 08 April 2014]
[36] Forestry Commission, 2013. *Forestry Facts & Figures 2013.* [pdf] Available at: http://www.forestry.gov.uk/pdf/FCFS213.pdf/$FILE/FCFS213.pdf [Accessed 08 April 2014]
[37] Forestry Commission, 2014. *Biodiversity* [online]. Available at: http://www.forestry.gov.uk/woodsfornature [Accessed 08 April 2014]
[38] Scotland's Environment, 2014.*Pressures affecting land use and management.* [online] Available at: http://www.environment.scotland.gov.uk/our_environment/land/land_use_and_management/pressures.aspx [Accessed 08 April 2014]
[39] Scottish Government, 2013. *Statistical Publication Agricultural Series – Results from the June 2013 Scottish Agricultural Census.* [pdf] Available at: http://www.scotland.gov.uk/Resource/0043/00436133.pdf [Accessed 08 April 2014]
[40] Scottish Government, 2013. *Statistical Publication Agricultural Series – Results from the June 2013 Scottish Agricultural Census.* [pdf] Available at: http://www.scotland.gov.uk/Resource/0043/00436133.pdf [Accessed 08 April 2014]
[41] SEPA, 2014. *Diffuse Pollution.* [online] Available at: http://www.sepa.org.uk/water/diffuse_pollution.aspx [Accessed 08 April 2014]

Key issues

Biodiversity - Key issues

- Biodiversity loss has been documented over the last 50 years and today a range of pressures including the effects of climate change, have the potential to impact on Scotland's wildlife and biodiversity.
- Biodiversity plays an important role in providing ecosystem services, but is also vulnerable to the impacts of climate change, i.e. through fragmentation of habitats, industrialisation, transport, changes in land use and loss of habitat.
- Scotland's forests and woodlands support a disproportionately high share of our biodiversity. Key pressures on both, in addition to the effects of climate change, include changes in land use, amongst others.
- Proposals should not have a detrimental impact on biodiversity or ecosystem habitats. In addition, they should support the maintenance of high quality ecosystems and the protection and enhancement of protected biodiversity resources.

Population and human health

Existing environmental protection objectives

4.30 A range of environmental protection objectives are relevant to population and health, including aspirations for greenspace and sustainable transport in and around settlements. Access to the outdoors, green infrastructure and encouragement of physical activity are also key aims. Key environmental objectives relating to this topic also include ongoing commitments to reducing pollution, hazards and avoiding loss of residential amenity. Wider policy addressing child poverty, reducing inequalities and improving health form an important context for the ESIF.

Overview

4.31 Human health depends on a number of environmental factors, including access to services including health and education, employment, safety, access to good quality outdoor recreational facilities and a high quality environment, with good air, soil and water quality. Homes also need to support good health, being adequately heated and ventilated. Climate change poses a number of threats to human health including increased likelihood of pests and associated diseases, and impacts on the resilience of homes, but may also make a positive contribution, for example by increasing opportunities for active travel and outdoor recreation.

4.32 The population of Scotland in 2012 was estimated at 5,313,600, an increase of 13,700 from the previous year[42]. The population of Scotland is projected to rise from 5.31 million in 2012 to 5.52 million in 2022, and to continue to rise to 5.78 million in 2037 – an increase of 9% over the 25 year period[43].

4.33 The majority of people live in central Scotland, whilst the lowest population density is in the Highlands and Western Isles. Areas experiencing the highest population increases are East Lothian (+33%) and Perth and Kinross (+32%), with Inverclyde (-17%) and Eilean Siar (-11%) having the largest projected decreases[44].

[42] General Register Scotland, 2013. *High level summary of statistics: Population and Migration.* [pdf] Available at: http://www.gro-scotland.gov.uk/files2/stats/high-level-summary/HLSS-population-migration.pdf [Accessed 09 April 2014]
[43] General Register Scotland, 2014. *Projected Population of Scotland (2012 based).* [pdf] Available at: http://www.gro-scotland.gov.uk/files2/stats/population-projections/2012-based/2012-pop-proj-publication.pdf [Accessed 09 April 2014]
[44] General Register Scotland, 2014. *Projected Population of Scotland (2012 based).* [pdf] Available at: http://www.gro-scotland.gov.uk/files2/stats/population-projections/2012-based/2012-pop-proj-publication.pdf [Accessed 09 April 2014]

4.34 The main findings from the **Scottish Health Survey 2012**[45], published in 2013, found:

- Three quarters of adults (74%) described their health as 'good' or 'very good';
- 62% of adults met the new physical activity guideline (150 minutes of moderate activity or 75 minutes of vigorous physical activity per week) with men more likely than women to do so (67% versus 58%);
- Just under two-thirds (64.3%) of adults were overweight or obese while over a quarter (27.1%) were obese.

4.35 The key points from the **Scottish Public Health Observatory (ScotPHO) Health and Well-being Profiles 2014**[46] are:

- Life expectancy for males in Scotland between 2008 and 2010 ranged from 71.6 years (Glasgow City) to 79.4 years (East Dunbartonshire). Life expectancy for females during the same period ranged from 78.0 years (Glasgow) to 82.7 years (East Dunbartonshire).
- The number of people discharged from hospital with coronary heart disease in 2010 to 2012 ranged from 350 per 100,000 per year in Shetland to 563 in West Dunbartonshire.

4.36 The **Scottish Index of Multiple Deprivation** (SIMD) ranks small areas (datazones)[47] from the most deprived to the least deprived. It analyses data for a number of indicators across the domains of income, employment, health, education, skills and training, housing, geographic access and crime. Key findings from the SIMD 2012[48] shows that multiple deprivation in Scotland has become less concentrated over time. In 2004, nearly half of all datazones in the most deprived 10% across Scotland were in Glasgow City. In 2012 this dropped to 35.8%, with corresponding rises in other local authorities. The most deprived datazones include parts of Renfrewshire, and Glasgow City. North Lanarkshire, Fife, Renfrewshire and East Ayrshire have seen relatively large increases in their share of datazones in the 15% most deprived areas in Scotland between 2009 and 2012. Glasgow City, Edinburgh City, West Lothian, Aberdeen City and South Lanarkshire have seen relatively large decreases in their share of datazones in the 15% most deprived areas in Scotland between 2009 and 2012. There were 742,200 people living in the 15% most deprived areas of Scotland, of these, just under a third were income deprived.

4.37 The number of households in Scotland has been increasing in recent years, although this annual rate of increase has slowed since 2007. Rates of new house building fluctuated over the period 1997 - 2008, with an average of 23,386 completions a year. Since 2008 these figures have reduced significantly, with the total number of completions in 2012 reaching 14,881[49]. The supply of new housing between 2012 and 2013 was highest in Glasgow City (1,333), Aberdeenshire (1,192), City of Edinburgh (1,152), Fife (1,054), and South Lanarkshire (1,005)[50].

4.38 According to **Scottish House Condition Survey 2012**[51], 647,000 households are in fuel poverty in Scotland. Numerous studies and research has been conducted into the complex issue of fuel poverty and human health. Presently, analysis of Scottish fuel poverty data

[45] Scottish Government, 2013. *The Scottish Health Survey 2012.* [online] Available at: http://www.scotland.gov.uk/Topics/Statistics/Browse/Health/scottish-health-survey/Publications#a1 [Accessed 09 April 2014]
[46] The Scottish Public Health Observatory, 2014. *Health and Well-being Profiles 2014* [online]. Available at: http://www.scotpho.org.uk/comparative-health/profiles/online-profiles-tool [Accessed 27 March 2014]
[47] Datazones have roughly the same population; however the boundaries of datazones are kept constant although the populations may change over time. Scottish Government, 2013. *SIMD FAQs* [online]. Available at: http://www.scotland.gov.uk/Topics/Statistics/SIMD/FAQs [Accessed 09 April 2014]
[48] Scottish Government, 2013. *SIMD 2012 Results* [online]. Available at: http://simd.scotland.gov.uk/publication-2012/simd-2012-results/overall-simd-results/key-findings/ [Accessed 09 April 2014]
[49] Scottish Government, 2014. *Housing Statistics for Scotland – Key information and summary tables (last updated March 2014).* [online] Available at: http://www.scotland.gov.uk/Topics/Statistics/Browse/Housing-Regeneration/HSfS [Accessed 09 April 2014]
[50] Scottish Government, 2014. *Housing Statistics for Scotland –All build summary.* [online] Available at: http://www.scotland.gov.uk/Topics/Statistics/Browse/Housing-Regeneration/HSfS/NewBuildSummary [Accessed 09 April 2014]
[51] Scottish Government, 2013. *Scottish House Conditions Survey 2012.* [online] Available at: http://www.scotland.gov.uk/Publications/2013/12/3017/downloads#res440375 [Accessed 09 April 2014]

fails to show a clear and direct link between fuel poverty and diminished health[52]. Furthermore, there are 349,000 homes in Scotland affected by damp or condensation posing a significant health risk for Scotland.

4.39 Access to the outdoors can provide opportunities for exercise with benefits for physical and mental health and well-being, including reducing obesity and combating stress. The percentage of adults who made at least one recreational visit to the outdoors was 78% between 2005 and 2008, with the most commonly visited areas being parks and open spaces (37% of visits). Whilst some 50% of people overall have local greenspace within five minutes of their home, this figure is much less at 39% in deprived areas[53]. Greenspace provides a key opportunity for direct contact with the natural environment, particularly in urban areas, and this has measurable physical and psychological benefits.

Evolution of the baseline – Pressures, trends and key environmental problems

4.40 Life expectancy (LE) at birth has improved over the long term, and healthy life expectancy (HLE) has also increased, but at a slower rate. The LE for boys born in 2012 is 76.9 years on average, with 59.4 of these in a 'healthy' stage. Girls born in 2012 would expect to live 80.9 years on average, 62.0 of these years being 'health'. In deprived areas healthy life expectancy is considerably lower than that for Scotland overall. The life expectancy is significantly worse (lower) in Scotland than in the UK as a whole for both males and females. HLE is significantly worse (lower) in Scotland than in the UK for males, by similar for females[54].

4.41 The potential risks and benefits of climate change on population and health will not be evenly spread. Pockets of dense urban development, for example, will be more at risk of surface water flooding and summer heat stress. In addition, the effects to human health from climate change may have the greatest impact on vulnerable people. The negative health effects are likely to be disproportionately severe in areas of high deprivation because of the ability of individuals and communities to prepare, respond and recover. The elderly population are also less resilient to changes in climate and associated weather events, and their number as a share of the population as a whole will increase during the 21st century[55].

4.42 With summer temperatures very likely to increase in the future, this may have a consequent effect on the number of premature deaths and additional hospital admissions as a result of heat related illnesses. Based on current population figures, the numbers of additional premature deaths due to higher summer temperatures are projected to be approximately 100 by 2050 and 200 by 2080[56]. The numbers of premature deaths avoided due to milder winters was projected to be approximately 550 to 890 by the 2050s and 800 to 1310 by the 2080s[57]. Evidence presented in the **Climate Change Risk Assessment 2012** indicated that heat and cold related hospital admissions were in the order of 100 times greater than the number of deaths and the effects were reported to be particularly felt by the elderly, the very young and sick[58]. Warmer weather may also result in a net immigration into Scotland which would result in an increased demand for all services including water, food, energy, education and healthcare[59].

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[52] Scottish Government, 2012. *Fuel Poverty Evidence Review – Defining, measuring and analysing fuel poverty in Scotland.* [pdf] Available at: http://www.scotland.gov.uk/Resource/0039/00398798.pdf [Accessed 10 April 2014]
[53] Greenspace Scotland, 2011. *Greenspace Use and Attitude Survey 2011* [online]. Available at: http://www.greenspacescotland.org.uk/1greenspace-survey-2011.aspx [Accessed 10 April 2014]
[54] The Scottish Public Health Observatory, 2014. *Healthy life expectancy: key points.* [online] Available at: http://www.scotpho.org.uk/population-dynamics/healthy-life-expectancy/key-points [Accessed 10 April 2014]
[55] SEPA, undated. *National Flood Risk Assessment.* [online] Available at: http://www.sepa.org.uk/flooding/flood_risk_management/national_flood_risk_assessment.aspx [Accessed 10 April 2014]
[56] HR Wallingford, AMEC Environment & Infrastructure UK Ltd, The Met Office, Collingwood Environmental Planning, Alexander Ballard Ltd, Paul Watkiss Associates, and Metroeconomica, 2012. *A Climate Change Risk Assessment for Scotland* [pdf]. Available at: http://randd.defra.gov.uk/Document.aspx?Document=CCRAforScotland.pdf [Accessed 16 April 2014]
[57] Ibid.
[58] HR Wallingford, AMEC Environment & Infrastructure UK Ltd, The Met Office, Collingwood Environmental Planning, Alexander Ballard Ltd, Paul Watkiss Associates, and Metroeconomica, 2012. *A Climate Change Risk Assessment for Scotland* [pdf]. Available at: http://randd.defra.gov.uk/Document.aspx?Document=CCRAforScotland.pdf [Accessed 16 April 2014]
[59] Ibid.

4.43 There is a clear relationship between death rates and the outside temperature, with more deaths in colder months[60]. There were 19,908 deaths registered in Scotland in the four months of winter 2012/13 (December to March) compared with 19,119 in winter 2011/12[61]. Evidence supports the association of cold homes and fuel poverty[62].

4.44 From 2002 levels (293,000 or 13%) fuel poverty increased to a peak in 2009 (770,000 or 33%). This rate decreased slightly between 2009 and 2011 before increasing once more in October 2011 to 721,000 or 30.5% following the sharp fuel price increase in autumn 2011, and decreasing once again to 647,000 or 27.1% in 2012. The trends in the number and percentage of households in extreme fuel poverty follow a very similar pattern, with the latest estimate of 170,000 or 7% in 2012[63].

4.45 Just over 1 in 10 dwellings had condensation in at least one room in 2001, whilst in 2012, around 1 in 30 dwellings suffered from some degree of penetrating damp. Some 0.3% (7,000) of households were reported to have some degree of rising damp in 2012, down from 0.7% (15,000) in 2011. These figures are largely unchanged from those reported between 2002 and 2011[64].

Spatial distribution

4.46 The Scottish Index of Multiple Deprivation shows the spatial concentration of disadvantage in urban areas of Scotland, particularly west central Scotland, but also other areas. Rural areas are also potentially disadvantaged in some places, particularly when the criterion focusing on access to services is taken into account.

Key issues

Population and human health - Key issues

- Proposals should promote access to services, and provide good public transport links.
- Proposals should support improvements to environmental quality. This includes providing good quality greenspace, remediation of derelict and vacant land and in relation to air quality avoiding increases in or reliance on the private car.
- Proposals should support outdoor recreation including walking and cycling access around and between communities.
- Access to services is an important issue in the remote island communities and more rural mainland local authorities. Proposals should support local services provision and improvements to transport links and locating new services in sustainably accessible locations.
- Proposals should support climate change adaptation.

Climatic factors

Existing environmental protection objectives

4.47 Many recent plans and policies seek to reduce the rate of climate change, not least the **Climate Change (Scotland) Act 2009**[65]. There are important targets and key policies

[60] General Register Office for Scotland, 2013. *Increased Winter Mortality Background*. [pdf] Available at: http://www.gro-scotland.gov.uk/files2/stats/increased-winter-mortality/increased-winter-mortality-background-info.pdf [Accessed 09 April 2014]
[61] General Register Office for Scotland, 2013. *Winter mortality in Scotland 2012/13.* [online] Available at: http://www.gro-scotland.gov.uk/statistics/theme/vital-events/deaths/winter-mortality/2012-13/index.html [Accessed 09 April 2014]
[62] Marmot Review Team, 2011. *The Health Impacts of Cold Homes and Fuel Poverty.* [pdf] Available at: file:///C:/Users/mcginley_m/Downloads/the-health-impacts-of-cold-homes-and-fuel-poverty-full-report.pdf [Accessed 09 April 2014]
[63] Scottish Government, 2013. *Scottish House Conditions Survey 2012*. [online] Available at: http://www.scotland.gov.uk/Publications/2013/12/3017/downloads#res440375 [Accessed 09 April 2014]
[64] Ibid.
[65] Climate Change (Scotland) Act 2009.

that aim to reduce greenhouse gas emissions from sectors including energy and transport. An updated framework for adaptation to climate change impacts has also been prepared.

Overview

4.48 Over the past 50 years it has become increasingly apparent that the world's climate is changing at an unprecedented rate. Evidence of an increase in average global temperatures, along with an increase in greenhouse gases in the atmosphere, has led to the conclusion that our use of carbon based fuels is the main reason for this increase[66]. The Intergovernmental Panel on Climate Change (IPCC) identifies four principal greenhouse gases which result from human activities[67]:

- Carbon dioxide (CO_2) has increased from fossil fuel use in transportation, building heating and cooling and the manufacture of cement and other goods. Deforestation releases CO_2 and reduces its uptake by plants. CO_2 is also released in natural processes such as the decay of plant matter.
- Methane has increased as a result of human activities related to agriculture, natural gas distribution and landfills. Methane is also released from natural processes that occur, for example, in wetlands. Methane concentrations are not currently increasing in the atmosphere because emissions have reduced over the last two decades.
- Nitrous oxide is also emitted by human activities such as fertilizer use and fossil fuel burning. Natural processes in soils and the oceans also release nitrogen dioxides.
- Halocarbon gas concentrations have increased primarily due to human activities. Natural processes are also a small source. Principal halocarbons include the chlorofluorocarbons (e.g., CFC-11 and CFC-12), which were used extensively as refrigeration agents and in other industrial processes before their presence in the atmosphere was found to cause stratospheric ozone depletion. Their abundance is decreasing as a result of international regulations.

4.49 The energy sector is one of the largest contributors to greenhouse gas emissions followed by transport, agriculture and related land use, and the domestic sector. The Climate Change (Scotland) Act 2009 made a commitment to reduce greenhouse gas emissions in Scotland by 80% of 1990 levels by 2050[68]. Mitigation (action to reduce greenhouse gas emissions) is required across a range of sectors and through changes in individual behaviour. This includes renewable energy generation, energy efficiency and changes in travel choices.

4.50 Despite action to reduce emissions, the effects of greenhouse gas emissions and therefore the effects of climate change will continue to be felt. Adaptation is about modifying our current activities and planning for the future based on the likely effects of climate change.

Evolution of the baseline – Pressures, trends and key environmental problems

4.51 The effects of climate change on different aspects of the environment have been described in the relevant sections. In broader terms, trends in emissions of greenhouse gases in Scotland show that there was an overall decrease (29.6%) in total greenhouse gas emissions between 1990 and 2011, with a 9.9% decrease in the six greenhouse gas emissions since 2010[69].

4.52 Some observed changes in Scotland's climate between 1961 and 2004 include higher temperatures, increased precipitation including as much as a 70% increase in winter precipitation for northern Scotland and increased heavy winter rainfall events particularly in

[66] Scotland's Environment, 2014. *Climate change* [online]. Available at: http://www.environment.scotland.gov.uk/our_environment/air_and_climate/climate_change.aspx [Accessed 17 April 2014]
[67] Intergovernmental Panel on Climate Change [undated]. *FAQ 2.1 How do human activities contribute to climate change and how do they compare with natural influences?* [online]. Available at: http://www.ipcc.ch/publications_and_data/ar4/wg1/en/faq-2-1.html [Accessed 17 April 2014]
[68] Climate Change (Scotland) Act 2009.
[69] Scottish Government, 2013. *Scottish Greenhouse Gas Emissions 2011.* [pdf] Available at: http://www.scotland.gov.uk/Resource/0042/00424034.pdf [Accessed 17 April 2014]

northern and western regions[70]. Furthermore, a longer growing season, a reduction in the number of winter days with snow cover and sea level rise were also observed[71].

4.53 The **2009 UK Climate Projections** (UKCP09) show likely climate change for Scotland and the UK. Under a high emissions scenario, summer and winter temperatures in the 2080s may be 4.3°C and 3.1°C higher, respectively[72]. Precipitation may become greater in winter months whilst summers will be drier. Changes to seasons, cloud cover, humidity, wind speeds and soil moisture are anticipated, though these effects will vary across Scotland. Climate change is predicted to result in increased water temperatures, sea level rise, ocean acidification and changes to the coastline. As the climate changes, Scotland will see more extreme weather events. There are likely to be more extended hot periods, increases in maximum temperatures nationwide, and fewer days of snow and frost. There are likely to be longer periods of dry weather in the summer and the wettest days of the year are likely to be considerably wetter than at present[73].

4.54 The projections also suggest that over the next century sea level around Scotland will rise, owing to global heating and expansion of ocean water, and melting from ice sheets and glaciers. In most of Scotland the land surface is rising due to post-glacial rebound, but this is not expected to be sufficiently rapid to negate sea level rise. The sea level in Edinburgh is projected to increase by between 10.5 to 18.0 cm by 2050 and 23.4 to 39.2 cm by 2095[74]. Sea level is anticipated to rise for almost the whole coastline with the lowest levels of change on the Inner Clyde and sea lochs of Argyll, and the highest levels of change on Shetland, Orkney and the Western Isles.

Spatial distribution

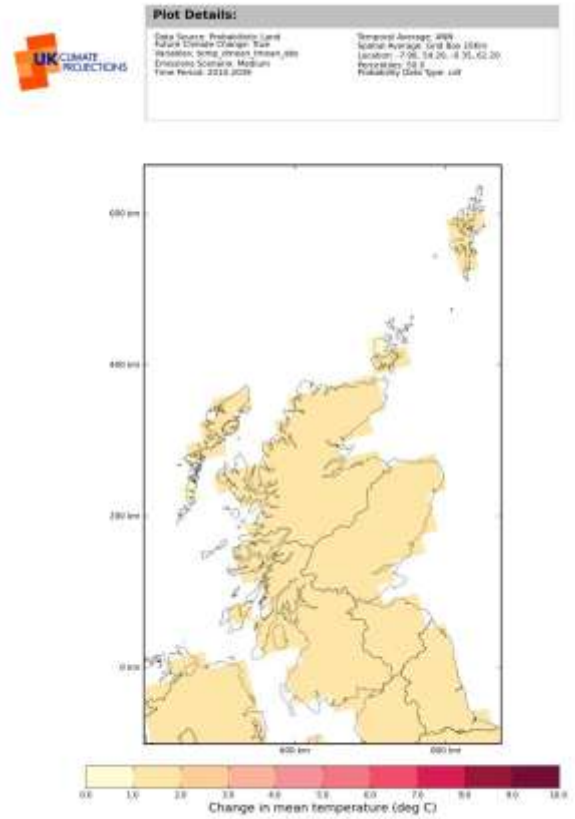
4.55 UKCP09 maps on the following pages show varying predicted impacts of climate change in different parts of the country.

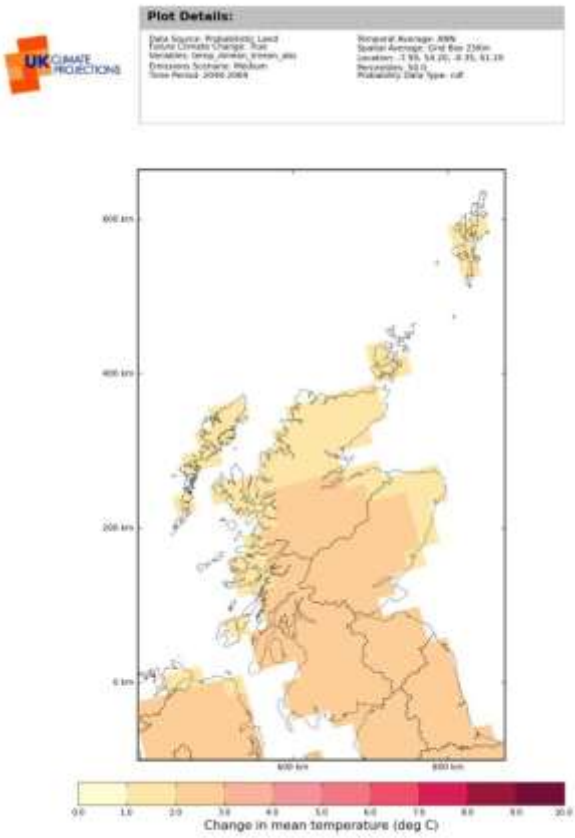
Key issues

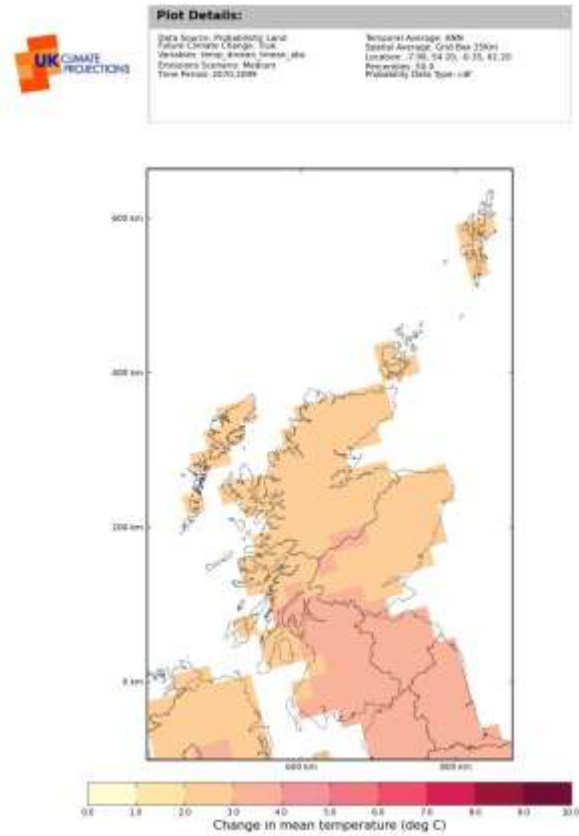
Climatic factors - Key issues

- Proposals should support climate change adaptation by incorporating adaptation measures where appropriate.
- Climate change mitigation can also be supported through the proposals, including through the development of renewable energy resources, reduced reliance on fossil fuels and wider support for the transition to a low carbon economy including providing public transport, walking and cycling infrastructure.

[70] Ibid.
[71] Ibid.
[72] DEFRA, 2009. *UK Climate Projections* [online]. Available at: http://ukclimateprojections.defra.gov.uk/ [Accessed 10 April 2014]
[73] Scottish Government, 2009. *Scotland's Climate Change Adaptation Framework* [pdf]. Available at: http://www.scotland.gov.uk/Resource/Doc/295110/0091310.pdf [Accessed 10 April 2014]
[74] Ibid.

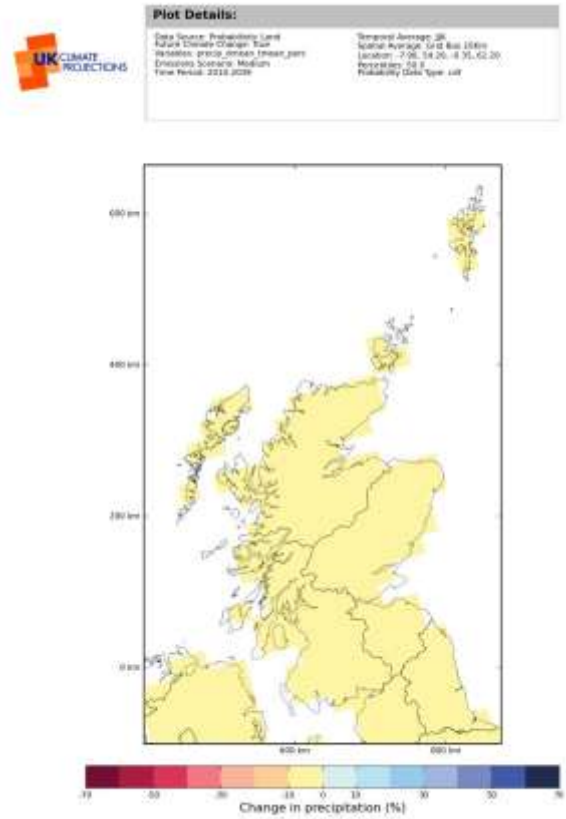


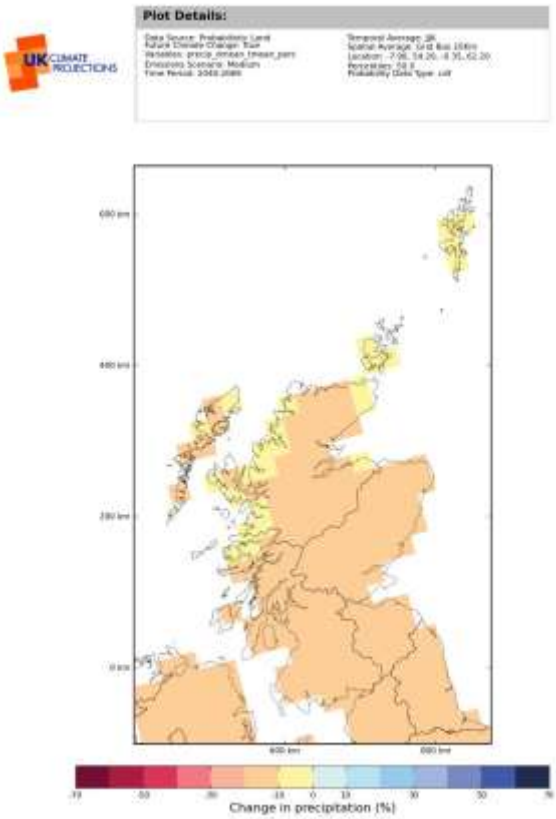


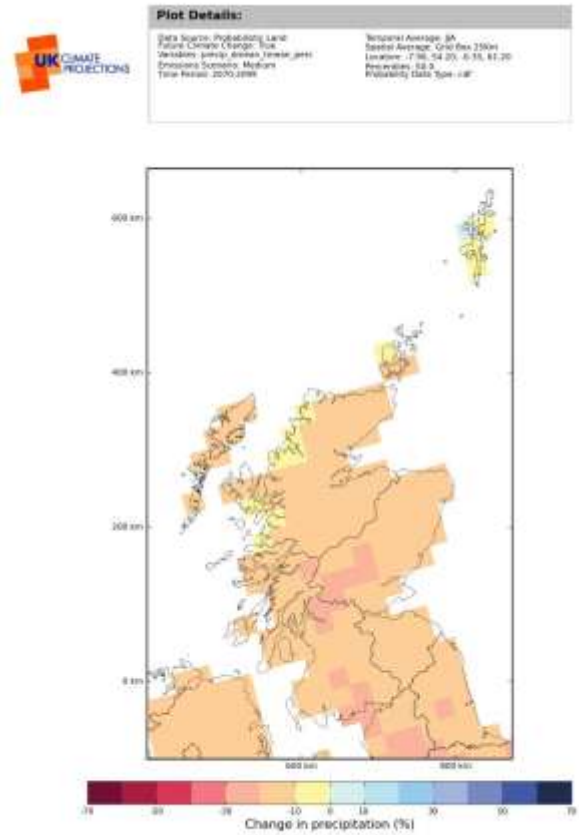


4.56 This series of maps shows the possible annual mean temperature change (^{0}C) for the medium emissions scenario and 50% probability level for the 2020s, 2050s and 2080s[75]. This shows an overall increase in temperature for the whole of Scotland through the 2020s and 2050s. By the 2080s the temperature increase is greater throughout southern and central Scotland.

[75] DEFRA, 2009. *Medium emission scenario* [online]. Available at: http://ukclimateprojections.defra.gov.uk/22278 [Accessed 17 April 2014]

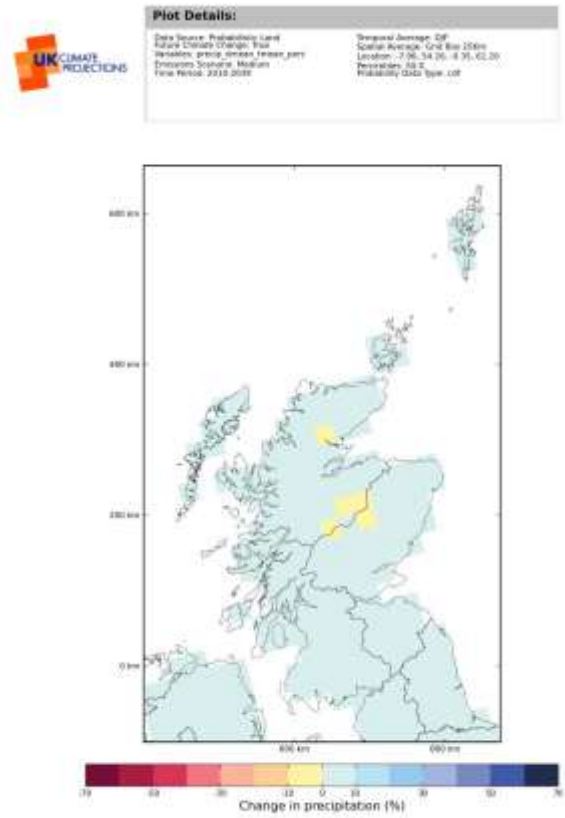


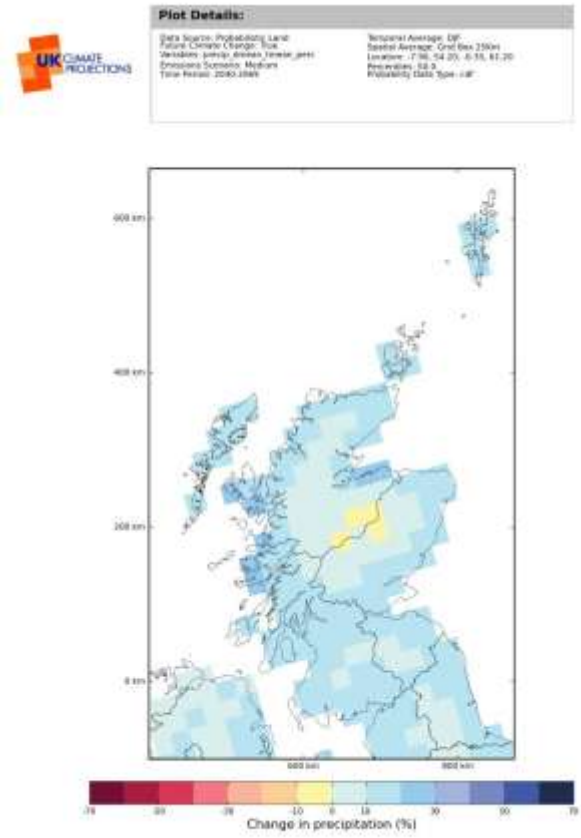


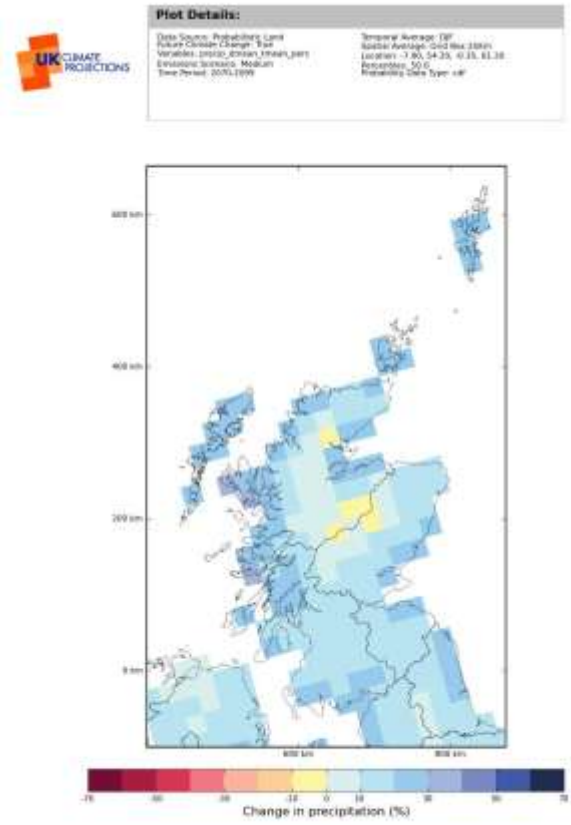


4.57 This series of maps shows the possible change in summer precipitation (%) for the medium emissions scenario 50% probability level for the 2020s, 2050s and 2080s[76]. This shows a decrease in precipitation across the whole of Scotland for 2020s and 2050s, with parts of the central highlands and Dumfries and Galloway experiencing greater decreases in the 2080s.

[76]DEFRA, 2009. *Medium emissions scenario* [online]. Available at: http://ukclimateprojections.defra.gov.uk/22284 [Accessed 17 April 2014]







4.58 This series of maps shows the possible change in winter precipitation (%) for the medium emissions scenario and 50% probability level for the 2020s, 2050s and 2080s[77]. This shows that the majority of Scotland is likely to experience an increase in winter precipitation with greater increases around the coast, through the central belt and into southern Scotland into the 2050s and 2080s. A slight decrease in precipitation may occur within the central uplands of the Cairngorm plateau through all time periods.

[77] DEFRA, 2009. *Medium emission scenario* [online]. Available at: http://ukclimateprojections.defra.gov.uk/22286 [Accessed 17 April 2014]

Air

Existing environmental protection objectives

4.59 Air quality objectives aim to reduce emissions which are potentially harmful to health and the environment. There are also requirements for monitoring, with a particular focus on areas where air pollution is concentrated (Air Quality Management Areas).

Overview

4.60 Air quality is important for long and short term human health and can have particular impacts on people with existing health issues. Air pollution can also affect sensitive plants and habitats through acidification, which also impacts on water quality. Sulphur dioxide (SO_2), nitrogen dioxide (NO_2), particulates and low level ozone are generally considered to be of most importance in relation to human health and the environment[78]. Emissions of carbon dioxide ($CO_{2)}$ are discussed under *climatic factors*.

4.61 SO_2 is emitted as a result of burning coal and heavy oil, mainly by power stations but also domestic coal burning. High concentrations affect the respiratory tract, and are particularly significant for asthmatics. In relation to the wider environment, it reacts with water in the atmosphere to form sulphuric acid, and this pollutes soil and water causing acidification, detriment to habitats and damage to buildings. NO_2 is formed as a result of the oxidation of nitric oxide in the atmosphere. The main sources are road transport emissions and other combustion processes. It is irritating to the eyes, throat and lungs, can affect the respiratory tract. In relation to the wider environment it increases the potential for the formation of ground level ozone, and this pollutes soil and water causing eutrophication, detriment to habitats and damage to buildings.

4.62 Particulate matter (particles of less than 10 micrometres and particles of less than 2.5 micrometres) are released primarily from road traffic, but also from chemical reactions in the atmosphere. These can have a significant effect on people with heart and lung diseases, and may carry carcinogenic compounds into the lungs. Deposition on plants can cause physical and toxic effects, and their distribution in the air can reduce visibility.

4.63 Ozone (O_3) is a secondary pollutant formed in the lower atmosphere from sunlight oxidising volatile organic compounds (VOCs) in the presence of nitrogen oxides. VOCs arise from similar sources as NO_2 and also solvents and petrol. Concentrations of low level ozone may arise from VOCs and NOx emissions some distance away. Low level ozone irritates the lungs, exacerbating the symptoms of people with lung conditions. It also damages plants, reducing crop yields.

Evolution of the baseline – Pressures, trends and key environmental problems

4.64 Scotland's air today is cleaner than at any time since before the Industrial Revolution. This has been achieved through tighter controls on pollutant emissions from industry, transport and domestic sources[79]. Despite improvements in air quality it continues to have an impact on the environment and human health. Transport is the most significant source of emissions[80].

4.65 Of the 32 local authorities in Scotland, 14 have declared an Air Quality Management Area (AQMA) [81] (see **Table 4.2** for more details on AQMAs within each local authority).

[78] Scotland's Environment, 2014. *Air quality* [online]. Available at: http://www.environment.scotland.gov.uk/our_environment/air_and_climate/air_quality.aspx [Accessed 09 April 2014]
[79] Scotland's Environment, 2014. *Air and climate* [online]. Available at: http://www.environment.scotland.gov.uk/our_environment/air_and_climate.aspx [Accessed 09 April 2014]
[80] Scotland's Environment, 2014. *Air quality* [online]. Available at: http://www.environment.scotland.gov.uk/our_environment/air_and_climate/air_quality.aspx [Accessed 09 April 2014]
[81] Air Quality in Scotland [undated]. *Local air quality management (LAQM)* [online]. Available at: http://www.scottishairquality.co.uk/laqm.php?a=l&la_id=i [Accessed 09 April 2014]

Table 4.2 Air Quality Management Areas

Local Authority	AQMAs
Aberdeen City Council	3
City of Edinburgh Council	5
Dundee City Council	1
East Dunbartonshire	2
East Lothian Council	1
Falkirk Council	5
Fife Council	2
Glasgow City Council	3
Midlothian Council	1
North Lanarkshire Council	6
Perth and Kinross Council	1
Renfrewshire Council	1
South Lanarkshire Council	1
West Lothian Council	1

4.66 In general these have been applied due to unregulated traffic emissions and relate to small geographical areas within each local authority, with the exception of Dundee which covers the whole administrative area.

4.67 In 2013, the Scottish Government published a summary of statistics relating to air pollutant emissions between 1990 and 2011[82] (the source of the data is from the UK National Atmospheric Emissions Inventory). Since 1990, there have been decreases of 23% for ammonia, 65% for nitrogen oxides, 58% for PM_{10}, 70% for Non-Methane Volatile Organic Compounds (NMVOCs), 79% for sulphur dioxide, 79% for carbon monoxide and 99% for lead. Further decreases are predicted up to 2020.

4.68 Annual mean trends for ground level ozone up to and including 2012[83] indicate that, on average, the concentrations of ozone in urban areas appear to be gradually increasing, and are higher in rural locations. The reduction of ozone concentrations is largely outside of Scottish and local authority controls, but it should be recognised as an important pollutant in terms of health impacts.

4.69 Air pollution often originates from the same activities that contribute to climate change, notably transport and energy generation. Some measures to reduce the impacts of climate change can also have a negative impact on air quality. The burning of biomass for example, leads to emissions of various air pollutants, and specifically particulates[84]. Although biomass still makes a relatively small contribution to overall emissions, if the trend of increased adoption continues as currently forecast it is likely to become an increasingly significant source[85].

Spatial distribution

4.70 Nitrogen oxides emissions data for 2011 indicate higher levels throughout the main urban areas of Scotland, extending into the rural hinterland[86]. SO_2 emissions in 2011 are again focused in the urban areas with higher concentrations across the Central Belt, the North East coast and Inverness and the surrounding areas. The main shipping areas of the Forth and Clyde also show

[82] Scottish Government, 2013. *Air Quality - Air Pollutant Emissions.* [online] Available at: http://www.scotland.gov.uk/Topics/Statistics/Browse/Environment/trendairpollutants [Accessed 14 April 2014]
[83] Air Quality in Scotland [undated]. *Air Quality Trends for Scotland.*[online] Available at: http://www.scottishairquality.co.uk/trends.php [Accessed 14 April 2014]
[84] Air Quality in Scotland, 2014. *Local air quality management (LAQM).* [online] Available at: http://www.scottishairquality.co.uk/laqm.php?a=l&la_id=i [Accessed 14 April 2014]
[85] Scotland's Environment, 2014. *Pressures affecting air quality.* [online] Available at: http://www.environment.scotland.gov.uk/our_environment/air_and_climate/air_quality/pressures.aspx [Accessed 14 April 2014]
[86] National Atmospheric Emissions Inventory, 2011. *Emissions Maps 2011 - Nitrogen Oxides as NO_2.* [online] Available at: http://naei.defra.gov.uk/data/map-uk-das [Accessed 14 April 2014]

higher concentrations[87]. The emissions data for PM_{10} in 2011 shows higher concentrations across the major urban areas, with highest concentrations in the larger towns and cities and along major roads such as the A9. $PM_{2.5}$ show a similar distribution, although this is less widespread with greater Glasgow, Edinburgh and the Lothians, Dundee and Aberdeen showing the highest levels[88].

Key issues

Air - Key issues

- Air quality in Scotland is generally good, but there are concentrations of pollution, particularly in urban areas.
- Proposals should help to support low carbon transport options, such as public transport, cycling and walking opportunities, to help address transport emissions.
- Proposals should support renewable energy generation, to reduce emissions from fossil fuel burning and ensure adverse effects on air quality are avoided.

Water

Existing environmental protection objectives

4.71 Water, coastal and marine policies include Scotland's two River Basin Management Plans (**Scotland River Basin Management Plan**[89], and **Solway Tweed River Basin Management Plan**[90]) which aim to improve the overall condition of water bodies inland and on the coast, and marine policies, not least Scotland's emerging National Marine Plan. Protection of relatively undeveloped coastal areas and management of both coastal and inland flood risk are also key objectives.

Overview

4.72 Scotland's water provides a wide range of benefits, supporting our health and prosperity. These include providing drinking water, water for use in industry and agriculture, energy from waves, tides and hydropower and recreation opportunities (such as bird watching, angling and kayaking). Our water supports a diverse array of habitats and contains nationally and internationally important species[91]. Around the coast, the water quality of the marine environment is important for beaches, bathing water, fish and shellfish production. Our water environment is generally in good condition, with significant improvements to water quality having occurred over the last 20 years.

4.73 Impounding reservoirs (and their supporting sources) provide 82% of our raw water. Direct river sources provide a further 10%, with lochs and groundwater accounting for 4% each[92]. Between 2011/12 and 2012/13, estimated raw water abstractions by Scottish Water decreased by 5%. Between 2011/12 and 2012/13, domestic water consumption and non-domestic consumption both decreased by 1% and 2% respectively. In 2012/13, leakage of public water supplies amounted to 618 million litres per day, a decrease of 7% in the previous year figure. Reductions in leakage will

[87] National Atmospheric Emissions Inventory, 2011. *Emissions Maps 2011 - Sulphur dioxide.* [online] Available at: http://naei.defra.gov.uk/data/map-uk-das [Accessed 14 April 2014]
[88] National Atmospheric Emissions Inventory, 2011. *Emissions Maps 2011 - PM_{10}.* [online] Available at: http://naei.defra.gov.uk/data/map-uk-das [Accessed 14 April 2014]
[89] Scottish Government, 2009. *The River Basin Management Plan for the Scotland River Basin District 2009-2015.* Edinburgh: Scottish Government.
[90] Scottish Government, 2009. *The River Basin Management Plan for the Solway Tweed River Basin District 2009-2015.* Edinburgh: Scottish Government.
[91] Scotland's Environment, 2014. *Water* [online]. Available at: http://www.environment.scotland.gov.uk/our_environment/water.aspx [Accessed 14 April 2014]
[92] Scottish Water, 2010. *Water Resource Plan 2009 Summary Document* [pdf]. Available at: http://www.scottishwater.co.uk/assets/about%20us/files/key%20publications/adoptedwrp09summarydoc.pdf [Accessed 14 April 2014]

provide benefits both to customers, by reducing the risk of drought impact, and to the environment, by reducing raw water abstraction[93].

4.74 Flooding can have significant impacts on people, communities and businesses. When floods happen, they disrupt day-to-day lives and their impacts can be long lasting. Climate change is likely to increase the risk of flooding in coming years. There are many areas in Scotland at risk from flooding. Approximately one in 22 of all residential properties and one in 13 of all non-residential or business properties in Scotland are at risk from flooding. The average annual damage to homes, businesses and agriculture from all sources of flooding is estimated to amount to between £720 million and £850 million. In addition to the personal and health impacts of flooding, this represents a significant impact on the Scottish economy[94].

4.75 The main causes of flooding in Scotland are:

- River flooding that occurs when a watercourse cannot cope with the water draining into it from the surrounding land. This can happen, for example, when heavy rain falls on an already waterlogged catchment. River flooding accounts for approximately 45% of all predicted impacts in Scotland.
- Coastal flooding that results from a combination of high tides and stormy conditions. If low atmospheric pressure coincides with a high tide and strong winds, a tidal surge may happen which can cause serious flooding. Coastal flooding accounts for approximately 17% of all predicted impacts in Scotland.
- Surface water flooding which occurs when heavy rainfall overwhelms the drainage capacity of the local area. It is difficult to predict, much more so than river or coastal flooding. Current estimates are that surface water flooding accounts for approximately 38% of all impacts in Scotland[95]. Action to reduce drainage in urban areas includes the use of Sustainable Urban Drainage Systems (SUDS) which reduce the rate of surface run-off and improve water quality and amenity. Under the Water Environment (Controlled Activities) (Scotland) Regulations 2011 new developments are required to ensure that surface water drainage discharges will pass through SUDS[96].

Evolution of the baseline – Pressures, trends and key environmental problems

4.76 Scottish Water anticipates that by 2014, only 1% of customers (65,000) will have a Supply Demand Balance deficit[97].

4.77 A large proportion of the waters of the Scotland river basin district are of high quality. However, around 35% are under significant pressure from human activity and are not in good condition. The main pressures on water bodies include:

- Pollution from agriculture, sewage disposal and other sources (including acidification and abandoned mines);
- Abstraction and impoundment from drinking water supply, agricultural irrigation, hydropower and other sources such as aquaculture and drinks manufacture;
- Alterations to beds, banks and shores from urban land uses and flood protection, agriculture, forestry and the legacy of past engineering activities[98].

4.78 Many water bodies are also part of protected areas, including shellfish, bathing, and drinking water resources and biodiversity sites. Management objectives for these focus on purposes for which the designated area was established. The overall aim is for 98% of all the Scottish River

[93] Scottish Government, 2013. *Scottish Environment Statistics Fact Card 2013.* [pdf] Available at: http://www.scotland.gov.uk/Resource/0043/00434061.pdf [Accessed 14 April 2014]
[94] SEPA, 2011. *The National Flood Risk Assessment* [pdf]. Available at: http://www.sepa.org.uk/flooding/flood_risk_management/idoc.ashx?docid=cbbf7c88-b41e-4ba0-bbaf-c51d676ca36a&version=-1 [Accessed 14 April 2014]
[95] Ibid.
[96] SEPA, 2014. *Sustainable Urban Drainage Systems* [online]. Available at: http://www.sepa.org.uk/water/water_regulation/regimes/pollution_control/suds.aspx [Accessed 14 April 2014]
[97] Scottish Water, 2010. *Water Resource Plan 2009 Summary Document* [pdf]. Available at: http://www.scottishwater.co.uk/assets/about%20us/files/key%20publications/adoptedwrp09summarydoc.pdf [Accessed 14 April 2014]
[98] Scottish Government, 2009. *The River Basin Management Plan for the Scotland River Basin District 2009-2015.* Edinburgh: Scottish Government.

Basin District waters to be in a good condition by 2027[99]. A small proportion of waters will not achieve this, including groundwater that is recovering from the effects of past mining activity and lochs that are recovering from acidification or the effects of nutrient enrichment. The overall aim is for 100% of protected areas to achieve the goals for which they were established by 2020[100]. Fewer than 64% of water bodies are in good or better condition[101]. Coastal waters and estuaries have a higher proportion of water bodies in good or better condition than rivers and lochs. Water quality within the Solway Tweed River Basin District faces further challenges, and the targets for 2027 of 92% of surface waters and 93% of ground waters reaching good status reflects the progress required[102].

4.79 Climate change adds a further dimension to the challenge of improving water quality, with potentially substantial reductions in river and ground water flows in the east of the country and increased water temperatures putting further pressure on their ecological status and increasing their susceptibility to pollution. Increased winter precipitation will lead to an increase in flooding as well as more frequent and extended periods of waterlogging, providing both opportunities and threats to other environmental receptors including biodiversity. Increased winter precipitation will also lead to further diffuse pollution, greater soil erosion and run off of nutrients and faecal matter[103].

Spatial distribution

4.80 Mapped analysis condition of our rivers, lochs estuaries and coastal waters in 2014[104] illustrates a number of areas with poorer water quality, most significantly through Dumfries and Galloway, the Central Belt, Ayrshire, the Lothians, Fife, Dundee and Angus and the North East. This is illustrated, for example, in the classification of groundwater bodies. In addition, mapping of coastal water bodies shows varying status with issues concentrated around firths where levels of population and development are higher. The National Flood Risk Assessment takes account of the likelihood of flooding from all sources, together with the potential impact of flooding on human health, economic activity, the environment and cultural heritage. Potentially Vulnerable Areas are identified where the total impact of floods in a given area is considered nationally significant, and will be the basis for the development of Flood Risk Management Plans. Some 243 areas contain 92% of the total number of properties at risk within Scotland, and they are generally located around the main settlements, focused throughout the central belt, to Fife the east coast, Dumfries and Galloway and the Borders. Island communities are also identified including large parts of Shetland, Orkney, Mull and the Uists.

Key issues

Water - Key issues

- Good water quality is an important factor for economic development in Scotland, flood management is also important to avoid adverse impacts on business growth and economic development.
- Proposals must help support the sustainable use of natural resources, including the water resource and as a source of renewable energy.

[99] Scottish Government, 2009. *The River Basin Management Plan for the Scotland River Basin District 2009-2015.* Edinburgh: Scottish Government.
[100] Ibid.
[101] Ibid.
[102] Scottish Government, 2009. *The River Basin Management Plan for the Solway Tweed River Basin District 2009-2015.* Edinburgh: Scottish Government.
[103] HR Wallingford, AMEC Environment & Infrastructure UK Ltd, The Met Office, Collingwood Environmental Planning, Alexander Ballard Ltd, Paul Watkiss Associates, and Metroeconomica, 2012. *A Climate Change Risk Assessment for Scotland* [pdf]. Available at: http://randd.defra.gov.uk/Document.aspx?Document=CCRAforScotland.pdf [Accessed 16 April 2014]
[104] SEPA, 2014. *Flood Maps*. [online] Available at: http://map.sepa.org.uk/floodmap/map.htm [Accessed 16 April 2014]

Soil

Existing environmental protection objectives

4.81 Soil objectives include European level recognition of the importance of soil resources, and national commitments to sustainable soil management that protect valued soils including prime quality agricultural land (the land most suitable for farming) and those with a high carbon content, such as peat. Some objectives take this further, such as guidance on the development of wind farms on peat, commitments to remediation of contaminated land and prevention of soil pollution.

Overview

4.82 Soil is essentially a non-renewable resource. It supports a wide range of functions and provides a wide range of environmental, economic and societal benefits. According to the **Scottish Soil Framework** (2009)[105], the term *soil quality* is conventionally defined as the ability or fitness of a specific kind of soil to carry out one or several of the following functions:

- Providing the basis for food, forestry and other biomass production;
- Controlling and regulating environmental interactions - regulating water flow and quality;
- Storing carbon and maintaining the balance of gases in the air;
- Providing valued habitats and sustaining biodiversity;
- Preserving cultural and archaeological heritage;
- Providing raw material; and
- Providing a platform for buildings and roads.

4.83 The majority of soils in Scotland are acidic with low inherent fertility, and many soils are naturally very poorly drained. Due to our colder and wetter climate, our soils are in general more organic, wetter and more leached than soils elsewhere in the UK and Europe. Around 25% of soils are cultivated for agriculture (including improved grassland), with 45% used for rough grazing and 17% of soils are forested[106].

4.84 Scottish soils are estimated to contain approximately 3,000 million tonnes of carbon, the majority (50%)[107] of the soil carbon stock of the whole of the UK[108]. In particular, peat soils hold over 70% of Scotland's soil carbon while only accounting for around 11% of its land area[109]. Semi-natural vegetation, such as heather moorland, native woodland, blanket bog and montane habitats are dominant in upland Scotland. Many of these have soils that are classed as rare in a UK, European, and in some cases, a global context[110].

Evolution of the baseline – Pressures, trends and key environmental problems

4.85 Scotland's soils are generally in good health, but there is a lack of national trend data from which evidence of change or damage to soils might be determined. The most significant threats to Scottish soils are climate change and loss of organic matter. Both affect most soil functions with national impacts, which are difficult to reverse. In the case of greenhouse gas emissions, the impacts are global. Significant threats to soils in Scotland include construction leading to sealing, loss of biodiversity and deposition of acidifying and eutrophying air pollutants[111].

4.86 Threats most commonly associated with cultivation, including erosion, loss of structure and compaction do not pose high risks at the national scale. However, they can generate locally significant issues, for example, loss of peatland habitat, damage to subsurface archaeological features and impacts on water quality[112]. There is a lack of information on threats to soil functions

[105] Scottish Government, 2009. *The Scottish Soil Framework.* Edinburgh: Scottish Government.
[106] Scottish Government, 2011. *The State of Scotland's Soils.* [pdf] Available at: http://www.sepa.org.uk/land/idoc.ashx?docid=f200543f-cb74-426f-bbf8-6e72f8fc0555&version=-1 [Accessed 16 April 2014]
[107] Ibid.
[108] Scottish Government, 2009. *The Scottish Soil Framework.* Edinburgh: Scottish Government.
[109] SNH, 2009. *The main soil types in Scotland.* [online] Available at: http://www.snh.gov.uk/about-scotlands-nature/rocks-soils-and-landforms/scotlands-soils/soil-types/ [Accessed 16 April 2014]
[110] Scottish Government, 2009. *The Scottish Soil Framework.* Edinburgh: Scottish Government.
[111] Ibid.
[112] Ibid.

including the extent of soil sealing, changes in soil biodiversity and compaction. Estimates of soil sealing suggest figures of approximately 1000 hectares a year[113].

4.87 The status and change in the soil organic matter stock, an important carbon store[114], is also uncertain, and data on the extent and nature of soil contamination is limited. There is some evidence that some contaminant inputs and their impacts are reducing, for example, from atmospheric acid deposition. However, many other potential soil contaminants such as organic chemicals are not routinely measured. Landslide and debris flow activity is reported to have increased over the last 200 – 500 years. It is difficult to predict future trends in this issue, but as they are associated with increased rainfall, and this is anticipated under the UKCP09 climate change scenarios, it may become a more significant issue in the future[115].

4.88 Data on the amount of vacant and derelict land (VDL) in local authorities' areas is collected annually. The following main points emerged from the 2013 survey[116]:

- The amount of derelict and urban vacant land in Scotland decreased by 187 hectares or 1.7 per cent, to 11,114 hectares in 2013. Of the 11,114 ha of derelict and urban vacant land.
- Of the 11,114 hectares of derelict and urban vacant land recorded in the 2013 survey, 2,355 hectares (21%) were classified as urban vacant and 8,759 hectares were classified as derelict (79%).
- The local authority with the highest amount of recorded derelict and urban vacant land is Highland, containing 1,376 hectares (12% of Scotland total). North Ayrshire has the second highest amount with 1,333 hectares (12%) North Lanarkshire is third with 1,300 hectares (12%), followed by Glasgow with 1,195 hectares (11%).
- In total, 402 hectares of previously derelict and urban vacant land was brought back into use, up from 285 hectares in the previous year. The redevelopment of such areas requires careful planning. Contaminated soils and other materials may be present, derelict infrastructure may need to be removed, and there is a need to ensure safe restoration for alternative uses whilst preventing further soil and groundwater pollution.

Spatial distribution

4.89 Soil organic carbon content is higher in the North West Highlands and Islands and Shetland, and the uplands of southern Scotland[117]. Higher quality agricultural land, which is suitable for crops, is distributed throughout the Lothians, Fife, Tayside and the eastern Scottish Borders, as well as Ayrshire, the Clyde Valley, the lowlands of Dumfries and Galloway and the north east of Scotland, including the coastal areas surrounding the Moray and Cromarty Firths. Land which is only suitable for grazing extends through the southern uplands, the northwest highlands and islands[118]. Mapping of vacant and derelict land by local authority in 2013 shows the highest amount of recorded VDL is in Highland, with significantly large areas of VDL within the central belt through North Ayrshire, North Lanarkshire, Glasgow City, Renfrewshire and Fife.

[113] Scottish Government, 2011. *The State of Scotland's Soils.* [pdf] Available at: http://www.sepa.org.uk/land/idoc.ashx?docid=f200543f-cb74-426f-bbf8-6e72f8fc0555&version=-1 [Accessed 16 April 2014]
[114] Scottish Government, 2011. *The State of Scotland's Soils.* [pdf] Available at: http://www.sepa.org.uk/land/idoc.ashx?docid=f200543f-cb74-426f-bbf8-6e72f8fc0555&version=-1 [Accessed 16 April 2014]
[115] Ibid.
[116] Scottish Government, 2014. *Statistical Bulletin Scottish Vacant and Derelict Land Survey 2013 (PLG/2014/1).* [pdf] Available at: http://www.scotland.gov.uk/Resource/0044/00444542.pdf [Accessed 16 April 2014]
[117] The Macaulay Land Use Research Institute, 2014. *Distribution of Organic Soils.* [online] Available at: http://www.macaulay.ac.uk/explorescotland/organic_soils2.html [Accessed 16 April 2014]
[118] The Macaulay Land Use Research Institute, 2014. *Soils and indicators of sustainability – Land capability for agriculture.* [online] Available at: http://www.macaulay.ac.uk/explorescotland/lcfa1.html [Accessed 16 April 2014]

Key issues

Soil - Key issues

- Soil supports a range of economic activities within Scotland, and sustainable management of the soil resource is important to support this. Proposals which encourage the redevelopment of previously used land should be encouraged. Development on peatlands and other sensitive soils with high carbon content should be avoided.
- Significant threats to soil include climate change, loss of organic soil matter, and contamination/erosion from construction.
- Regeneration/restoration is an important aspect of sustainable soil management, including bringing derelict land back into productive use.
- Proposals can contribute to climate change mitigation and adaptation, although some activities undertaken to achieve this can also have direct local effects on soils. In general, development impacts including soil sealing, erosion and pollution risk may arise but can be mitigated through project design and good practice during construction.

Cultural Heritage

Existing environmental protection objectives

4.90 Cultural heritage objectives focus on protecting sites, townscapes (places, buildings and open spaces), buildings, archaeological sites, battlefields, wrecks and landscapes which have been recognised and internationally, nationally or locally designated for protection. Policy also emphasises the importance of recognising and avoiding negative impacts on the wider setting of recognised sites, and enhancement where appropriate. Key objectives also extend to taking into account, and avoiding loss of currently unknown archaeology. Policies on architecture and place aim to improve the quality of our settlements and built environment.

Overview

4.91 While cultural heritage is commonly viewed as buildings and artefacts, it is also communicated in less tangible ways, such as language, music and festivals[119]. Scotland's many historical sites define its sense of place and time, at both the local and national levels. Beyond this, our historic environment plays an important role in supporting communities and generating income for local economies. The thousands of historic buildings and monuments, both on land and in Scotland's coastal and marine areas, attract millions of visitors each year: an estimated 83% of visitors primarily come to Scotland to visit historic sites[120]. With such importance placed on these irreplaceable assets, their ongoing care and conservation is necessary to ensure future generations continue to enjoy and benefit them.

4.92 Scotland has five world heritage sites, 645 conservation areas, with a further 390 sites identified in the Inventory of Gardens and Designed Landscapes[121]. There are two national parks and 40 National Scenic Areas (NSAs), covering around one-fifth of the total land area[122]. The most recent update to the Inventory of Battlefields identifies 39 battlefield sites and 11 researched sites which did not meet one or more criteria[123]. The actual extent of archaeological remains in Scotland is not known, with the 8,205 scheduled monuments representing only a small proportion of the 295,784 records held by the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) and 283,238 records held by local authority Sites and Monuments Records

[119] UNESCO [undated]. *Documenting Intangible Cultural Heritage (ICH) in Scotland.* [online] Available at: http://www.unesco.org.uk/documenting_intangible_cultural_heritage_(ich)_in_scotland [Accessed 16 April 2014]
[120] Historic Scotland, 2014. *Why is the Historic Environment Important?* [online]. Available at: http://www.historic-scotland.gov.uk/index/heritage/valuingourheritage/why-is-the-historic-environment-important.htm [Accessed 16 April 2014]
[121] Scotland's Environment, 2014. *Historic Environment.* [online] Available at: http://www.environment.scotland.gov.uk/our_environment/built_environment/historic_environment.aspx [Accessed 16 April 2014]
[122] SHEA, 2012. *Scotland's Historic Environmental Audit 2012 – Key Facts and Summary.* [pdf] Available at: http://www.historic-scotland.gov.uk/sheasummaryreport2012.pdf [Accessed 16 April 2014]
[123] Historic Scotland, 2012. *Inventory Battlefields*. [online] Available at: http://www.historic-scotland.gov.uk/index/heritage/battlefields/inventorybattlefields.htm [Accessed 16 April 2014]

(SMRs)[124]. It is likely that many more unrecorded sites and unknown resources remain throughout the country.

4.93 There are some 47,672 listed buildings in Scotland, a net increase of 507 listings since 2008[125]. These are divided into three categories (A, B and C) based on the level of importance, be it national or international, regional or more than local, and local respectively; and on building style, period and type. Some of these buildings are listed on the Buildings at Risk Register (BARR) developed in 1990 to highlight properties of architectural or historic merit in Scotland that are considered to be at risk or under threat. In 2011, the percentage of A-listed buildings at risk was 8.2%, representing a small decrease from the 8.7% recorded in 2009[126]. In 2011, some 87% of scheduled monuments were in an optimal or generally satisfactory condition[127].

4.94 As at March 2012, RCAHMS held 295,784 architectural records with half of all records relating to architecture (140,197), and the remaining 6% to maritime (20,690)[128]. In addition, there are many older buildings that have not been designated but are considered to make a valuable contribution to the local historic environment, and face similar conservation and maintenance issues to those of listed buildings. It is estimated that approximately 19% of dwellings in Scotland (around 455,000) were constructed prior to 1919[129]. Historic Scotland has responsibility for 345 ancient monuments. These properties cover a wide geographical and period spread, and range from historic castles such as Muness Castle in Shetland and Edinburgh Castle, to other assets such as New Abbey Corn Mill in Dumfries and Calanais Standing Stones on the Outer Hebrides. Less than a quarter of these properties are owned by Scottish Ministers, with the remainder in guardianship and held under an individual arrangement with the monument's owner[130].

4.95 Scotland's marine and coastal heritage is demonstrated by historic ships, maritime museums, festivals of the sea and some 20,000 heritage assets located around the coastline. As of April 2011, of the 20,000 records of potential cultural heritage features, c. 15,000 represent documentary records of a casualty at sea and c. 1,600 are identified sites where demonstrable remains have been located[131]. Many of these assets, such as harbours, are still in commercial use[132]. In 2014, seven Historic Marine Protected Areas were designated as significant wreck sites around the coast, in addition to eight sites identified as protected wrecks.

Evolution of the baseline – Pressures, trends and key environmental problems

4.96 The historic environment can be pressured by a range of natural and man-made sources[133]. Many of Scotland's historic assets are currently considered to be either deteriorating or at risk of deterioration. There is an increasing trend of monuments assessed as being at high or immediate risk of further deterioration. Currently, around 12% of monuments fall into this category[134]. While many of our historic assets are subject to similar pressures, the scale and nature of these threats depends on the specific value and the vulnerability of each site.

4.97 The potential impacts of climate change on the historic environment are considered to be wide ranging. Rising sea levels and increased storm events may increase coastal erosion, endangering our historic landscapes, structures, buildings and archaeology in the coastal zone. Some of Scotland's unique and special sites, such as Skara Brae in Orkney, are at most risk[135]. This threat will grow in the future, given the future predictions of the likely effects of global warming and

[124] Scotland's Environment, 2014. *Historic Environment.* [online] Available at: http://www.environment.scotland.gov.uk/our_environment/built_environment/historic_environment.aspx [Accessed 16 April 2014]
[125] SHEA, 2012. *Scotland's Historic Environmental Audit 2012 – Key Facts and Summary.* [pdf] Available at: http://www.historic-scotland.gov.uk/sheasummaryreport2012.pdf [Accessed 16 April 2014]
[126] Historic Scotland, 2011. *Buildings at Risk Register.* [online] Available at: http://www.historic-scotland.gov.uk/barr [Accessed 16 April 2014]
[127] SHEA, 2012. *Scotland's Historic Environmental Audit 2012 – Key Facts and Summary.* [pdf] Available at: http://www.historic-scotland.gov.uk/sheasummaryreport2012.pdf [Accessed 16 April 2014]
[128] Ibid.
[129] Ibid.
[130] Ibid.
[131] Historic Scotland, 2012. *The Marine Historic Environment – Strategy for the protection, management and promotion of marine heritage 2012-15.* [pdf] Available at: http://www.historic-scotland.gov.uk/marine-strategy-2012-15.pdf [Accessed 16 April 2014]
[132] Ibid.
[133] Historic Scotland, 2011. *Scottish Historic Environment Policy* [online]. Available at: http://www.heritageaudit.org.uk/ [Accessed 16 April 2014]
[134] SHEA, 2012. *Scotland's Historic Environmental Audit 2012 – Key Facts and Summary.* [pdf] Available at: http://www.historic-scotland.gov.uk/sheasummaryreport2012.pdf [Accessed 16 April 2014]
[135] Historic Scotland, 2014. *The Effect on the Historic Environment* [online]. Available at: http://www.historic-scotland.gov.uk/index/heritage/climatechange/effectonenvironment.htm [Accessed 16 April 2014]

climate change for the remainder of this century. Increases in storm intensity and frequency are also likely to increase flood risk in both coastal and inland areas, potentially damaging historic settlements and archaeological sites located in vulnerable areas. Similar risks have been identified for historic buildings. More rainfall will mean that traditional buildings will be wetter for longer periods of time, with increased water penetration into masonry, weathering of stone, algal and fungal growth, and corrosion of metals[136]. In many cases, this could undermine conservation efforts and, in the worst case, lead to structural damage.

4.98 Increases in extremes of wetting and drying may also damage historic buildings and monuments, by accelerating the decay of stonework and other traditional building materials. Changes to hydrology and vegetation could also threaten the integrity and visibility of archaeological sites and Scotland's many historic landscapes, particularly preserved wetland archaeology and designed landscapes and gardens. Secondary impacts may also occur through the expected changes in climate and temperatures. In particular, the introduction of invasive non-native species or changes to the distribution of pests and biogenic growth (i.e. lichen) may increasingly threaten the integrity of historic sites.

4.99 Development is potentially a pressure on cultural heritage sites, in the absence of appropriate planning policy. Scottish Government Planning Performance Statistics indicate that local authorities decided 39,826 planning applications in 2011/12. Of these, around 9% (3,593 in 2012) involved listed building and conservation area consents[137]. In addition, Historic Scotland received 153 scheduled monument consent applications in 2011/12[138]. Inappropriate development, loss of viable use, changes in population and neglect are potential threats to historical sites[139]. Changes in land use can also have significant impacts, including increases in or changes to forestry and agriculture activities, or new uses in previously undeveloped areas.

Spatial distribution

4.100 Cultural heritage assets are distributed throughout the country. There are clusters of sites in and around settlements, and also throughout the coast. Key battlefields include those around Edinburgh, the Scottish Borders and in Central and Northern Scotland.

Key issues

Cultural Heritage - Key issues

- Proposals should protect and promote the conservation of Scotland's historical assets by ensuring new development is sensitive to the impacts on the historic environment, and consider opportunities to promote the use and maintenance of historic buildings to support proposals.

Landscape and Geodiversity

Existing environmental protection objectives

4.101 Landscape objectives, including the European Landscape Convention, recognise and protect special landscapes but also aim to improve degraded landscapes and reflect the importance of all landscapes. Key national objectives include the National Scenic Areas Programme. Policies include a continuing commitment to protecting the special qualities of nationally important landscapes, with planning also recognising and protecting regional and locally important landscapes. Geological sites are protected, including through geological Sites of Special Scientific Interest (SSSIs).

[136] Historic Scotland, 2012. *The Marine Historic Environment – Strategy for the protection, management and promotion of marine heritage 2012-15.* [pdf] Available at: http://www.historic-scotland.gov.uk/marine-strategy-2012-15.pdf [Accessed 16 April 2014]
[137] Scotland's Environment, 2014. *Response by society.* [online] Available at: http://www.environment.scotland.gov.uk/our_environment/built_environment/historic_environment/response.aspx [Accessed 16 April 2014]
[138] Ibid.
[139] SHEA, 2012. *Scotland's Historic Environmental Audit 2012 – Key Facts and Summary.* [pdf] Available at: http://www.historic-scotland.gov.uk/sheasummaryreport2012.pdf [Accessed 16 April 2014]

Overview

4.102 Scotland's diverse and distinctive landscapes are a significant part of the country's natural and cultural heritage, making an important and positive contribution to the economic, cultural and social wellbeing of the nation. Landscape and geodiversity are inextricably linked, and the influences of geology underpin the character of the landscape around us.

4.103 Scotland's landscape provides many different benefits[140]. Accessible attractive landscapes support health and well-being by encouraging physical activity, providing a huge range of opportunities for enjoyment and recreation. The restoration of degraded landscapes is an important aspect of regeneration and landscapes provide a resource for learning about wider natural and cultural heritage. Tourism is vital to the economy, contributing around £4.3 billion in 2012[141]. The economic benefits of tourism are important for rural areas, in turn relying on landscape quality.

4.104 The 40 National Scenic Areas (NSAs) in Scotland, with their outstanding scenery, represent Scotland's finest landscapes and cover 13% of the land area[142]. They include spectacular mountain areas such as the Cuillins on Skye, Ben Nevis and Glencoe, and dramatic island landscapes within the Hebrides and the Northern Isles. They also extend to some of the more scenic and picturesque landscapes that can be found in Perthshire, the Borders and in Dumfries and Galloway.

4.105 Scotland's two National Parks, namely Loch Lomond & The Trossachs, and the Cairngorms, are central to rural economic development and recreation, sustainability, and the conservation of their diverse natural habitats. Their landscapes, wildlife and cultural heritage are of particularly high value. Regional parks also form important landscape and recreation resources. Galloway Forest Park has been awarded the status of a Dark Sky Park, covering around 75,000 hectares of land[143]. Biosphere reserves are designated by the United Nations which are designated for the three main functions of conservation, learning/research and sustainable development. There are Biosphere Reserves in Galloway and Southern Ayrshire, South Uist and Beinn Eighe. They include core areas of biospheres, a buffer zone protecting the biosphere and a broad transitional area which promotes sustainable development[144].

4.106 Geoparks are a UNESCO designation, identifying areas of outstanding geological heritage, and geology is the foundation of landscape character. Geoparks recognise where this heritage value can benefit local people, including by developing the economy through tourism and education initiatives. Scotland's three Geoparks are in the North West Highlands, Shetland, and Lochaber[145] which operates as a Geopark without the UNESCO accolade[146]. Together they cover 10% of Scotland's land area[147]. The geological features selected by the GCR range from rocks, minerals and fossils, to landform features formed during the Ice Age, modern rivers and coasts. These are features of national and international importance that are considered to qualify for designation in SSSIs.

4.107 SNH was asked by the Scottish Government to advise on the extent and location of the wild land resource in Scotland as part of the Main Issues Report for the National Planning Framework 3 (NPF3) and draft revised Scottish Planning Policy (SPP). In 2013, SNH published the 'Core Areas of Wild Land Map 2013'[148] and issued a consultation paper[149]. SNH identified 43 core areas of wild land based on four attributes:

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[140] Scottish Landscape Forum, 2007. *Scotland's Living Landscapes - The Scottish Landscape Forum's Report to Scottish Ministers* [pdf]. http://www.snh.gov.uk/docs/B173495.pdf [Accessed 16 April 2014]
[141] Visit Scotland, 2013. *Scotland – The key facts on tourism in 2012*. [pdf] Available at: http://www.visitscotland.org/pdf/VS%20Insights%20Key%20Facts%202012%20(2).pdf [Accessed 16 April 2014]
[142] SHEA, 2012. *Scotland's Historic Environmental Audit 2012 – Key Facts and Summary*. [pdf] Available at: http://www.historic-scotland.gov.uk/sheasummaryreport2012.pdf [Accessed 16 April 2014]
[143] Forestry Commission Scotland [undated]. *Dark Skies in Galloway Forest Park* [online]. Available at: http://scotland.forestry.gov.uk/forest-parks/galloway-forest-park/dark-skies [Accessed 16 April 2014]
[144] Galloway and Southern Ayrshire Biosphere [undated]. *Galloway and Southern Ayrshire Biosphere* [online]. Available at: http://www.gallowayandsouthernayrshirebiosphere.org.uk/ [Accessed 16 April 2014]
[145] Scottish Natural Heritage [undated]. *Geoparks.* [online] Available at: http://www.snh.gov.uk/enjoying-the-outdoors/what-can-i-see/geology-rocks/geoparks/ [Accessed 16 April 2014]
[146] Ibid.
[147] Ibid.
[148] Scottish Natural Heritage, 2013. *Core Areas of Wild Land Map 2013*. [pdf] Available at: http://www.snh.gov.uk/docs/A916597.pdf [Accessed 16 April 2014]
[149] Scottish Natural Heritage, 2013. *SNH Core Areas of Wild Land Map 2013 Consultation Paper*. [pdf] Available at: http://www.snh.gov.uk/docs/A1104206.pdf [Accessed 16 April 2014]

- Perceived naturalness of land cover;
- Ruggedness of the terrain;
- Remoteness from public roads or ferries; and
- Lack of buildings, roads, pylons and other modern artefacts.

4.108 The majority of the core areas of wild land are found in the north and west, particularly on areas of higher ground, although additional areas of wild land are present in other areas of Scotland.

Evolution of the baseline – Pressures, trends and key environmental problems

4.109 Three broad types of change that influence landscape character[150]:

- Changes relating to land use, such as forestry expansion and the decline in agricultural incomes;
- Changes brought about by incremental and ongoing development such as housing, the expansion of settlements, quarrying and widening of roads and new built structures, such as wind turbines, hydro schemes and telecommunications masts; and,
- Changes in perception, brought about for example, by awareness and experience of landscapes elsewhere, faster journey times, increased access and higher expectations in relation to recreation and visitor experience.

4.110 Changes in land use since the 1950s, which have influenced Scotland's landscapes, include intensification of agriculture, and expansion of forestry. Research into the potential effects of climate change[151] found that direct effects on landscapes are likely to include loss of land to the sea, increased flooding and changing patterns of natural and semi-natural habitats. Human responses to mitigate climate change including renewable energy development and carbon sequestration, and adaptation responses will also result in landscape change. The combined effects of these changes are likely to be most noticeable in lowland and coastal areas, and may have a more significant effect than the direct effects of climate change.

Spatial distribution

4.111 National Scenic Areas are located predominantly across the north west of Scotland, and are largely focused on upland and coastal landscapes, although they also include lochs, estuaries and river valleys. Although there is some overlap, Geoparks are significantly more extensive and Scotland's two national parks extend beyond NSA boundaries. The Galloway and Southern Ayrshire biosphere reserve and the Galloway Dark Skies Park are the largest national landscape related designations in southern Scotland. The majority of the identified 43 core areas of wild land are found in the north and west, particularly on areas of higher ground, although additional areas of wild land are present in other areas of Scotland.

Key issues

Landscape and Geodiversity - Key issues

- Proposals should avoid adverse impacts on landscapes, particularly areas which have been designated for protection as a result of their special characteristics, and should seek to enhance landscapes, in particular degraded landscapes.

[150] Scotland's Environment, 2014. *Pressures affecting landscape*. [online] Available at: http://www.environment.scotland.gov.uk/our_environment/land/landscape/pressures.aspx [Accessed 16 April 2014]
[151] Scottish Natural Heritage, 2011. *Summary of the effects of climate change on landscape and quality of life in Scotland* [pdf]. Available at: http://www.snh.gov.uk/docs/B988942.pdf [Accessed 16 April 2014]

Material Assets

Existing environmental protection objectives

4.112 'Material assets' is a broad topic area, encompassing a range of environmental objectives that partly overlap with those impacted on by the ESI. Under this heading, the assessment has focused particularly on issues arising from agriculture, forestry, transport and waste. Policies relating to these assets are wide-ranging, but aim to contribute to core planning objectives of sustainable development, contribute to the low carbon economy and make best use of existing resources and infrastructure.

Overview

4.113 Material assets cover a wide range of topics relating to infrastructure, resources and production. All of these topic areas are important in supporting the economy, and have links to environmental quality.

4.114 Agriculture remains the dominant land use in Scotland, covering 5.60 million hectares, equating to 73% of the land area[152]. The majority of this area comprises of rough grazing (55%). Almost a quarter (24%) was taken up by grass, with 10% used for crops or left fallow. The remainder consisted of woodland (8%) and 'other land' (3%) comprised of roads, yards, buildings and other such non-cultivated land[153]. Fruit and vegetable production is mainly restricted to fertile areas such as Tayside and Angus[154]. Agricultural livestock numbers show an overall decline from 2002 to 2013 for sheep, cattle, pigs, and poultry since the previous survey[155]. Trends in wheat, potatoes, and the oilseed rape harvest for 2013 show decreases of 13.7%, 1.4% and 8.1% respectively. Spring barley and spring oat production show increases of 2.5% and 43.3 % respectively[156].

4.115 Provisional figures for 2013 show that woodland in Scotland was 18.1% of the total land area (1.4 million hectares)[157] with the forestry sector trading 50% more forestry property in 2013, to the value of £97.3 million, 8.5 times the value traded in 2000[158]. Scotland's forests are the most productive in the UK and it is forecast that timber availability will continue to rise[159]. Its biodiversity value has already been discussed above.

4.116 In 2011, there were 55,427 kilometres of public road in Scotland[160]. The total volume of traffic on Scotland's roads was 43, 488 million vehicle kilometres in 2010 - a decrease of 1.7% on 2009[161]. Estimates for major roads show that the volume of traffic has doubled between 1983 and 2010[162]. Motorways accounted for 15 per cent of all traffic in 2010, trunk A roads for 22 per cent, local authority A roads for 28 per cent, B roads for 9 per cent, C roads for 6 per cent and unclassified roads for 19 per cent[163]. Our rail network has 2800 km of track, 23% of which is electrified[164]. Around 78.3 million rail passenger journeys are made each year within Scotland[165]. Rail freight has also increased slightly from the mid-1990s to around 9-14 million tonnes in recent years[166]. Scottish ports handle around 96 million tonnes of cargo every year and over 9.5 million

[152] Scottish Government, 2013. *Statistical Publication Agricultural Series – Results from the June 2013 Scottish Agricultural Census.* [pdf] Available at: http://www.scotland.gov.uk/Resource/0043/00436133.pdf [Accessed 08 April 2014]
[153] Ibid.
[154] Ibid.
[155] Ibid.
[156] Ibid.
[157] Scottish Government, 2013. *Key Scottish Environment Statistics 2013.* [online] Available at: http://www.scotland.gov.uk/Publications/2013/08/1634/46 [Accessed 08 April 2014]
[158] Savills, 2013. *Most active year for forestry – Savills UPM Tillhill Forest Market Report launches*. [online] Available at: http://www.savills.co.uk/_news/newsitem.aspx?intSitePageId=72418&intNewsSitePageId=171328-0&intNewsMonth=11&intNewsYear=2013 [Accessed 08 April 2014]
[159] Scottish Government, 2011. *Agriculture fisheries and rural* [online]. Available at: http://www.scotland.gov.uk/Topics/Statistics/Browse/Agriculture-Fisheries/TrendTimberHarvested [Accessed 10 April 2014]
[160] Scottish Government, 2011. *Private Transport – Road Network Statistics* [online]. Available at: http://www.scotland.gov.uk/Topics/Statistics/Browse/Transport-Travel/TrendRoadNetwork [Accessed 17 April 2014]
[161] Scottish Government, 2011. *Private Transport–Road traffic* [online] Available at: http://www.scotland.gov.uk/Topics/Statistics/Browse/Transport-Travel/TrendRoadTraffic [Accessed 17 April 2014]
[162] Ibid.
[163] Ibid.
[164] Scottish Government, 2011. *Public transport – Rail passenger services* [online]. Available at: http://www.scotland.gov.uk/Topics/Statistics/Browse/Transport-Travel/TrendRailServices [Accessed 17 April 2014]
[165] Ibid.
[166] Scottish Government, 2011. *Freight transport - Road and rail freight* [online]. Available at: http://www.scotland.gov.uk/Topics/Statistics/Browse/Transport-Travel/TrendRailFreight [Accessed 17 April 2014]

passengers per annum pass through them[167]. Shipping tonnage has fluctuated over the past 20 years but remains important, and lifeline ferry services are vital to island communities[168]. There are also five main airports, four of which accounting for around 94% of total passengers and thirteen other airports mainly serving the islands[169].

4.117 The disposal of waste to landfill can result in the loss of many tonnes of valuable materials, release pollutants into the soil and watercourses, and emit methane, a greenhouse gas. In Scotland, 7.4 million tonnes were landfilled in 2007 and Biodegradable Municipal Waste (BMW) accounted for 1.4 million tonnes (19%) of this total. Between 2000 and 2007 the total waste sent to landfill decreased by 34%, while the amount of BMW sent to landfill decreased by 28%. In 2008/09 BMW sent to landfill fell further to 1.26 million tonnes. BMW items such as paper and card, textiles, food and garden waste decompose and release the greenhouse gases methane and carbon dioxide[170].

Evolution of the baseline – Pressures, trends and key environmental problems

4.118 Agricultural livestock numbers show an overall decline from 2002 to 2013 for sheep, cattle, pigs, and poultry since the previous survey[171]. Trends in wheat, potatoes, and the oilseed rape harvest for 2013 show decreases of 13.7%, 1.4% and 8.1% respectively. Spring barley and spring oat production show increases of 2.5% and 43.3 % respectively[172].

4.119 The Scottish Forest Strategy set out plans to increase woodland cover to 25%[173]. In general, projected climate change is likely to increase productivity, markedly in the case of Sitka spruce, (Scotland's forestry's principle commercial species), Scots and lodgepole pine.

4.120 Roads, railways, airport runways, shipping terminals, canals and bridges are examples of the facilities and structures that are required to provide transportation, enabling the movement of people and freight. This infrastructure may be increasingly affected adversely by climate change impacts, including increased flooding, extreme weather conditions and landslides, causing disruption. Road and rail transport are generally more vulnerable to a changing climate than air and water transport and flooding is anticipated to be the most significant impact[174].

4.121 According to the National Transport Survey, on average, Scots travelled 7,056 miles per person per year in the two-year period 2007/2008. The car was the main mode for three-quarters of the distance travelled. There has been a large rise in the distance travelled between 1985/86 and 2007/2008, with most of the increase being due to travel by car[175]. Census results show that, between 1966 and 2001, there was a large rise in the percentage who commute by car (up from 21% to 68%), and large falls in the percentages who use the bus (down from 43% to 12%) and who walk to work (down from 24% to 12%). Over the same period, there was little change in the percentages travelling to work by train and by bicycle, remaining at around 3-4 per cent and 1-2 per cent respectively[176]. The railways also play an important role for freight transport, and coal and minerals was the most significant commodity (million tonne kilometres) moved in 2006-2007.

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[167] Scottish Government, 2011. *Adaptation framework transport sector action plan* [online] Available at: http://www.scotland.gov.uk/Topics/Environment/climatechange/scotlandsaction/adaptation/AdaptationFramework/SAP/Transport/TheChallenge [Accessed 17 April 2014]
[168] Scottish Government, 2011. *Freight transport - Coastwise shipping and inland waterway and pipeline* [online]. Available at: http://www.scotland.gov.uk/Topics/Statistics/Browse/Transport-Travel/TrendWaterwaysPipelines [Accessed 17 April 2014]
[169] Scottish Government, 2011. *Adaptation framework transport sector action plan* [online] Available at: http://www.scotland.gov.uk/Topics/Environment/climatechange/scotlandsaction/adaptation/AdaptationFramework/SAP/Transport/TheChallenge [Accessed 17 April 2014]
[170] Scottish Government, 2014. *Key Waste Statistics* [online]. Available at: http://www.scotland.gov.uk/Topics/Environment/waste-and-pollution/Waste-1/wastestrategy/key-facts [Accessed 17 April 2014]
[171] Ibid.
[172] Ibid.
[173] Scottish Executive, 2006. *The Scottish Forestry Strategy* [online] Available at: http://www.forestry.gov.uk/sfs [Accessed 17 December 2014]
[174] HR Wallingford, AMEC Environment & Infrastructure UK Ltd, The Met Office, Collingwood Environmental Planning, Alexander Ballard Ltd, Paul Watkiss Associates, and Metroeconomica, 2012. *A Climate Change Risk Assessment for Scotland* [pdf]. Available at: http://randd.defra.gov.uk/Document.aspx?Document=CCRAforScotland.pdf [Accessed 16 April 2014]
[175] Scottish Government, 2011. *High level Summary of Statistics Trend 2011 - How people travel* [online]. Available at: http://www.scotland.gov.uk/Topics/Statistics/Browse/Transport-Travel/TrendHowPeopleTravel [Accessed 17 December 2014]
[176] Scottish Government, 2011. *High level Summary of Statistics Trend 2011 - Travel to work* [online]. Available at: http://www.scotland.gov.uk/Topics/Statistics/Browse/Transport-Travel/TrendTraveltoWork [Accessed 17 December 2014]

Rail haulage of other commodities was slowly declining from 1996-2006 but recovered in 2006/07[177].

4.122 The amount of controlled waste landfilled in Scotland in 2010 (4.56 million tonnes) was 37% less than that in 2006. Scottish local authorities recycled and composted 38.2% of the municipal waste they managed in 2010-2011. Although the recycling rate continued to grow over the five year period, the speed of the increase has slowed[178]. Research carried out by DEFRA (2006)[179] investigated the carbon flows, energy and greenhouse gas benefits and impacts associated with alternative management routes for the predominant waste materials arising in the UK. The findings identified particular potential for reducing carbon flows, energy and greenhouse gas benefits and impacts for waste management through:

- energy recovery via anaerobic digestion of agricultural manures/slurries;
- energy recovery via combustion of waste wood;
- recovery of both resources (through recycling) and energy (through combustion) from waste paper and card; and
- recycling of non-ferrous metals.

4.123 Waste management facilities have been associated with a number of health and environmental effects. Evidence suggests that these effects are generally minor, although further research and monitoring is required to clarify this further [180].

Key issues

Material Assets - Key issues

- Agricultural change can result in impacts on landscape character, and the viability of rural communities. The proposals should aim to support economic development in rural areas, whilst protecting the qualities of the environment which support other activities.
- Trends in the transport sector show increases in road traffic and journey distances. The proposals should seek to support low carbon travel choices and a reduction in journey distances.
- Trends in waste disposal and recycling show a significant decline in the quantity of waste sent to landfill and an increase in the proportion of waste recycled. The proposals should support the sustainable management of waste.

[177] Scottish Government, 2009. *Preparing for Tomorrow, Delivering Today, Freight in Scotland* [pdf]. Available at: http://www.scotland.gov.uk/Resource/Doc/280731/0084582.pdf [Accessed 17 December 2014]
[178] SEPA, 2012. *Waste Data Digest 12: Key Facts and Trends* [online]. Available at: http://www.sepa.org.uk/waste/waste_data/waste_data_digest.aspx [Accessed 17 December 2014]
[179] DEFRA, 2006. *Carbon Balances and Energy Impacts of the Management of UK Wastes* [pdf]. Available at: http://randd.defra.gov.uk/Document.aspx?Document=WR0602_4750_FRP.pdf [Accessed 17 December 2014]
[180] DEFRA, 2004. *Review of Environmental and Health Effects of Waste Management: Municipal Solid Waste and Similar Wastes* [pdf]. Available at: http://www.defra.gov.uk/publications/files/pb9052a-health-report-040325.pdf [Accessed 17 December 2014]

5 Assessment Approach

5.1 An assessment matrix has been used to assess the proposals for the Operational Programmes. The matrix is structured around high level strategic objectives. An illustrative assessment matrix and scoring symbology is provided below:

++ Significant positive effect	-/ - Significant negative effect
+ Minor positive effect	/- Minor negative effect
0 Neutral effect	? Uncertain effect

SEA objectives

Table 5.1 SEA Objectives

SEA topic	Objectives
BIODIVERSITY	Avoid adverse effects on protected habitats and species
	Enhance biodiversity, restore habitats and create habitat networks
	Avoid adverse effects on all habitats and species
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions
	Support actions which contribute to targets for reducing greenhouse gas emissions
	Support adaptation to climate change
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA
	Improve air quality
	Avoid adverse effects on air quality
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies
	Avoid and reduce flood risk
	Avoid adverse impacts on sensitive coastal areas and the marine environment
	Improve the water environment
SOIL	Avoid adverse impacts on soil
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.
	Enhance, where appropriate, the historic environment and wider built environment.
	Avoid adverse effects on the historic environment
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity
	Avoid adverse effects on all landscapes
	Enhance landscape quality

MATERIAL ASSETS	Avoid adverse impacts on material assets
	Support sustainable use of natural resources

5.2 The completed individual assessment matrices are located in **Appendices 3 and 4**.

Scoping in environmental topics

5.3 In response to comments from the consultation authorities, all SEA topics have been scoped in for both ESF and ERDF proposals.

Assessing environmental impacts of the Framework proposals

5.4 There are five main parts to assessing the environmental impact of the Programme and concluding what alternative or additional action might be taken:

- The environmental effects of the proposals on each SEA topic area;
- The identification of any cumulative and inter-related effects that may occur;
- Identification of ways in which the Programme could contribute more positively to environmental protection and enhancement;
- Impact of alternative proposals; and,
- Mitigation of environmental impacts.

Environmental effects

5.5 This assesses and summarises how the proposals affect the key issues identified under each of the SEA topics. These effects may be positive or negative, short term or long term, temporary or permanent, continuous or intermittent.

Cumulative and inter-related effects

5.6 This identifies and assesses any cumulative or inter-related effects, by looking across all the SEA topics and key issues.

Positive contribution of the programme

5.7 This identifies opportunities to include further actions to enhance some of the environmental opportunities and objectives identified.

Alternative proposals

5.8 The Environmental Assessment (Scotland) Act 2005 requires the Environmental Report to identify, describe and evaluate reasonable alternatives to the consultation proposals. The SEA examines alternatives considered during the preparation of the new programme.

Mitigation of environmental impacts

5.9 The Environmental Report identifies measures to prevent, reduce and as fully as possible offset any significant adverse effects of proceeding with the Programme proposals.

Assessing impacts on/by other PPS

5.10 The Environmental Report also assesses how a number of relevant PPS (see**9.2Appendix 1**), may be impacted by, or have an impact on the Programme. These effects may be positive (supportive) or negative (conflicting).

6 Likely Significant Effects on the Environment

Introduction

6.1 The following paragraphs summarise the likely significant effects on the environment relating to the three proposal groupings under the SEA topic headings. A summary table (**Table 8.1**, **Table 8.2**, and **Table 8.3**) of mitigation for environmental effects, and enhancement opportunities is included in the 'Mitigation and monitoring' chapter.

6.2 In addition the horizontal themes of promotion of equality between men and women, non-discrimination and accessibility, and sustainable development have informed the proposals which are included in the Consultation document. Where additional benefits could be secured in relation to these themes, this is highlighted in the summary of assessment findings.

'Assumed mitigation'

6.3 It must be noted that, while the ESF and ERDF operational programmes set the framework for decision-making with regard to investment priorities and strategic intervention proposals, they have no significant influence on the nature, scale or location of any physical works that could have adverse environmental effects. Wherever development, within the meaning of the planning acts, is required, environmental effects will be understood and avoided, reduced or offset through the relevant project-specific assessment processes. Similarly, existing forestry, marine consents and pollution control regulations provide appropriate safeguards for physical works in other contexts.

6.4 The capacity of the operational programmes to have adverse environmental effect in themselves is therefore relatively slight as they cannot legally be applied without recourse to appropriate regulatory and policy frameworks.

Note on prediction of effects

For the majority of proposals under ERDF, the location, nature and scale of physical works cannot be predicted effectively.

However, in relation to broadband deployment (Investment Priority 2a) the 'Digital Scotland' project [established in part through the previous iteration of ERDF] has mapped projected delivery dates of fibre-optic broadband across the whole of Scotland. It is therefore assumed that, as a 'maximum case' scenario, roll-out will require laying new terrestrial and sub-sea cables to service these areas. This accounts for the apparent focus on cabling, as one of the few investment priorities that will necessitate physical works and that can be broadly located.

Scotland's Digital Future – Infrastructure Action Plan 'Step Change 2015' Procurement Plan indicates that fibre will be the primary technology deployed, where this is technically feasible, and that mobile (3/4G), wireless links (microwave) and satellite links will play a supporting role in more isolated areas. See Figure 6.1 and Figure 6.2 for roll-out programme mapping

Permitted development for telecommunications

It should be noted that the Scottish Government is currently consulting on amendments to the Town and Country Planning (General Permitted Development) (Scotland) Order 1992, as amended ('the GPDO'), to expand permitted development (PD) rights for 'Telecommunications Code Operators' under Classes 67 and 68 of the GPDO.

These changes are explicitly intended to support 'super-fast' broadband roll-out in rural Scotland, and comprise:

- Increasing heights/base area of existing masts, and allowing attachment of additional equipment
- Changing references to 'antenna' to 'antenna systems' to allow additional equipment to be attached to buildings
- Standardising PD rights that apply to antennae and apparatus on buildings, regardless of height;
- Increasing the height of antennae on buildings
- Amending definitions of antenna, and increasing the number of small antennae permitted on domestic buildings

The changes are intended to bring PD rights into line with those in England.

NB. The Scottish Government is of the opinion that, although the consultation falls within the scope of Section 5(4) of the 2005 Act, it can be viewed as exempt per Section 7 as it is likely to have no or minimal effects on the environment.

It is anticipated that this assessment will be largely be the case, although there is some potential for adverse effects on the character and setting of historic buildings – although these will generally be of no more than local significance (external equipment is unlikely to be fixed to Listed Buildings – as Listed Building Consent is still required – and Article 4 Directions covering Conservation Areas are likely to rule out inappropriate development under PD rights).

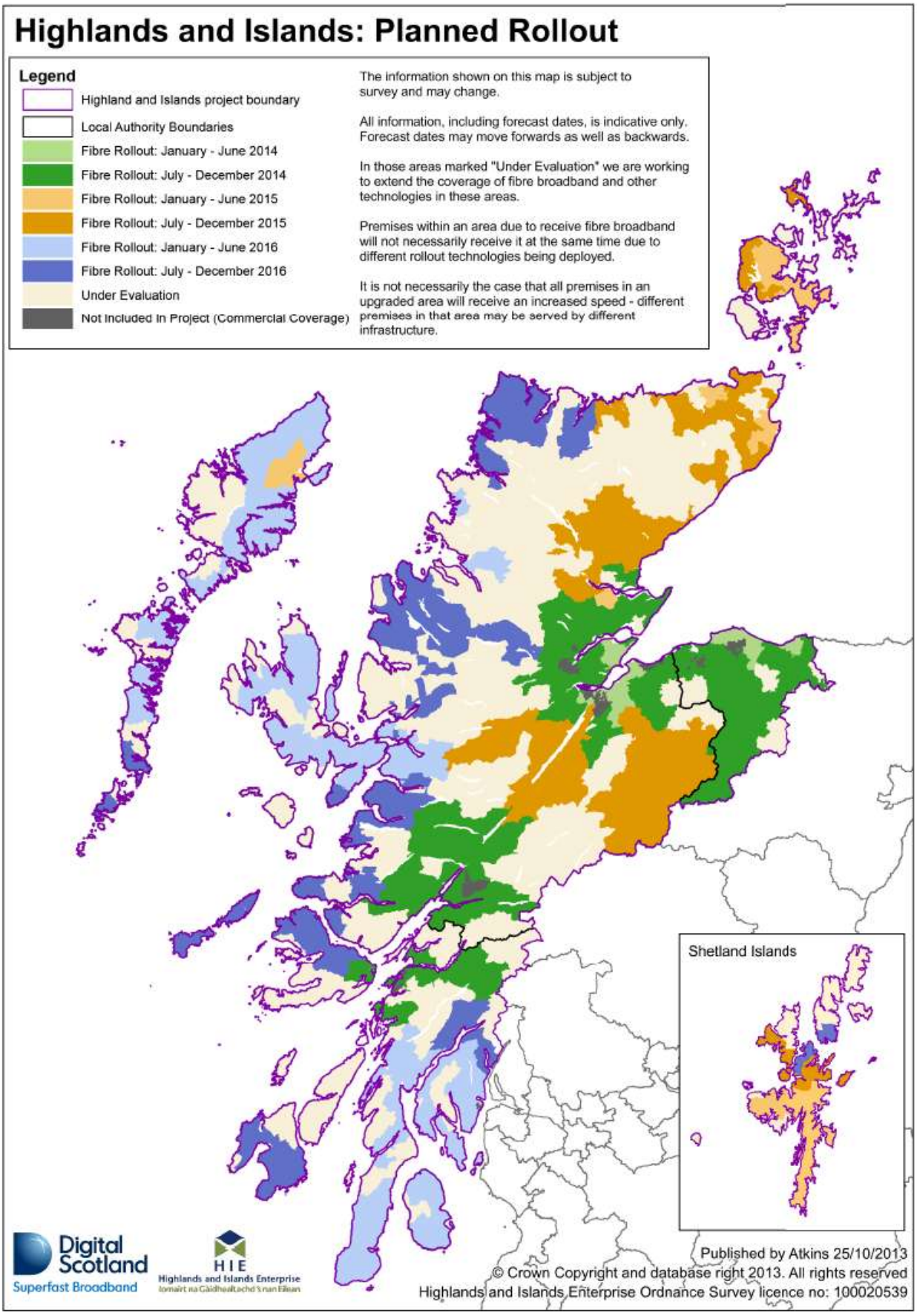

Figure 6.1: Highlands and Islands projected broadband roll-out (Source: Digital Scotland / HIE)

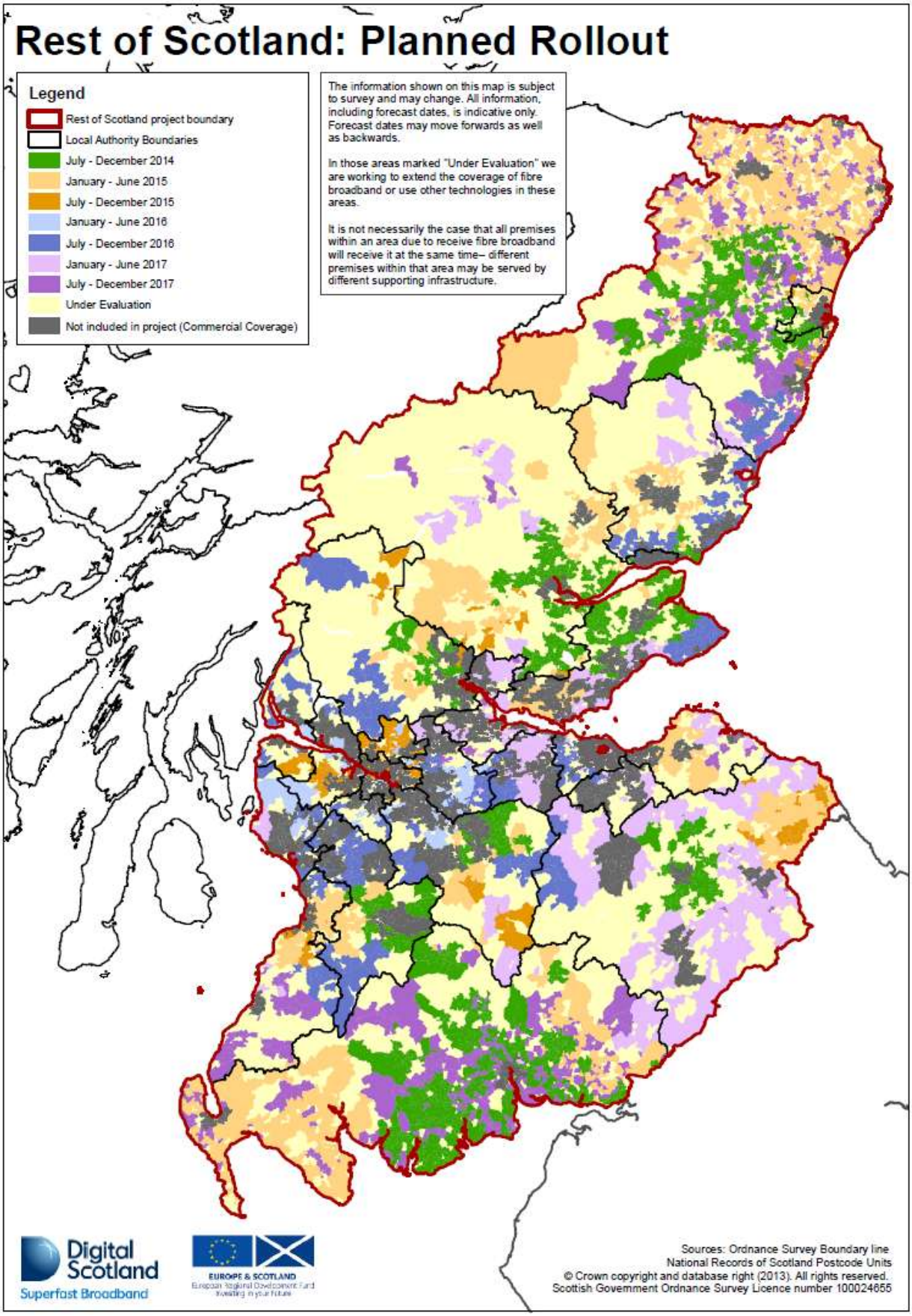

Figure 6.2: Rest of Scotland projected broadband roll-out (Source: Digital Scotland / HIE)

6.5 **Biodiversity, flora and fauna:** Minor negative effects are possible resulting from localised impacts of cable laying to support digital connectivity, but no other positive or negative impacts are identified.

6.6 Potential minor negative effects are identified in relation to laying of marine cables, although these can be mitigated through appropriate route selection and timing of activity. Similarly, where environmental conditions indicate against subsea cabling, alternative approaches – such as microwave and satellite links – can be explored, providing connectivity without affecting seabed biodiversity. No opportunities for enhancement are identified.

6.7 **Population and human health:** Overall minor positive effects resulting from employment creation as a result of business growth and skills enhancement and digital connectivity. Positive effects on groups at risk from social exclusion are also likely through some of the proposals being targeted towards tackling disadvantage and social exclusion and improved access to services. Very minor localised negative effects could result from cable laying to improve broadband connections, which can be mitigated through timing of cable laying works.

6.8 **Climatic factors:** Potential minor negative effects could result from the focus of the proposals on increasing export from Scottish business and associated impacts on carbon emissions. Minor positive effects are possible from enhanced business connectivity, improved efficiencies in city heating and lighting, support for low carbon projects. Opportunities for enhancement include:

- Adding explicit reference to improving energy efficiency in business would contribute to reducing greenhouse gas emissions from businesses.
- Promoting investment in innovation and research to explicitly support efficiencies in business operation with associated reductions in greenhouse gas emissions.
- Applying technology and innovation within cities through new applications to bring benefits for climate change adaptation.

6.9 **Air:** No positive or negative impacts on air quality are identified. Opportunities for enhancement include using intelligent city management to inform traffic management to reduce adverse effects on air quality within AQMA.

6.10 **Water, coastal, marine:** The majority of proposals have no impact on the water environment however cable laying activities to support digital connections could have short term temporary local negative effects on the terrestrial and marine water environment. Opportunities for enhancement include using intelligent city management to manage flood risk through monitoring water levels and blockages.

6.11 **Soil:** The majority of proposals have no impact on the water environment however cable laying activities could have short term temporary local negative effects on the soil resource.

6.12 **Cultural heritage:** The majority of proposals have no impact on cultural heritage however cable laying activities could have potential minor negative localised impacts on unknown archaeological resources. Mitigation: Appropriate route selection should be undertaken to avoid areas where greater concentrations of archaeological resources are likely to occur.

6.13 **Landscape:** No impacts on landscape are identified.

6.14 **Material assets:** Increased broadband speeds and availability positively contribute to the provision of telecommunication infrastructure. Support for resource efficiency contributes to the sustainable use of natural resources. Opportunities for enhancement include:

- Support for innovation could support sustainable use of natural resources;
- Intelligent city management could also be used to help to ensure sustainable use of natural resources, for example through minimising transport of goods.

Local development and social inclusion

6.15 **Biodiversity, flora and fauna:** The majority of proposals are typically neutral in relation to biodiversity, flora and fauna. Strong positive effects are identified in relation to improvements to green infrastructure, and parks and open spaces, with positive effects on habitat networks.

6.16 **Population and human health:** There are overall positive effects identified in relation to training and education, including targeted proposals for those experiencing social exclusion, improvements to employability, regeneration and development of the green network.

6.17 **Climatic factors:** There is a minor positive effect overall in relation to avoiding increases and contributing to reductions in greenhouse gas emissions from active travel and support for low carbon projects. Opportunities for enhancement are that regeneration should include a focus on integrating renewable energy provision, reducing the carbon footprint of new development, sustainable transport and supporting climate change adaptation.

6.18 **Air:** Some minor positive effects on air quality are identified in relation to support for access and recreation, contributing to active travel and reducing air quality impacts, in addition the provision of greenspace helps to improve air quality. Opportunities for enhancement include ensuring regeneration focuses on supporting sustainable travel to improve air quality.

6.19 **Water, coastal and marine:** Although largely neutral, minor positive effects will result from improvements to urban water courses through the development of green infrastructure and regeneration with resulting positive effects on flood management and water quality. Opportunities for enhancement include ensuring that physical improvements to public realm, parks and open spaces should also deliver benefits to improve the ecological status of water bodies (by reducing culverting and avoiding flood risk).

6.20 **Soil:** The majority of proposals are neutral in relation to effects on soil, with some minor positive effects resulting from restoration of vacant and derelict land.

6.21 **Cultural heritage:** Regeneration initiatives could result in positive or negative effects on the historic environment depending on the nature, scale and sensitivity of the design in relation to the historic environment. Mitigation for these impacts could be secured by ensuring regeneration initiatives seek to enhance the setting of the historic environment and avoid adverse impacts.

6.22 **Landscape:** The majority of proposals are neutral in effect; however there are minor positive effects for urban landscapes through the development of green infrastructure improvements and regeneration.

6.23 **Material assets:** The majority of proposals are neutral in effect; however there are minor positive effects through improving green infrastructure which supports the ecosystem services provided by this.

Environment, low carbon and resource efficiency

6.24 **Biodiversity, flora and fauna**: The proposals are largely neutral in effect on biodiversity, flora and fauna, with some minor potential negative effects arising from project level construction on the ground. These effects should be mitigated at project level.

6.25 **Population and human health:** The proposals are largely positive in their effect on population and human health, in particular contributing to improvements in health and living environments, and helping to tackle social exclusion. The proposals support employment opportunities, availability of low carbon fuel, and support social inclusion through improving public transport and supporting community empowerment.

6.26 **Climatic factors:** The proposals are largely positive for climate change, contributing to measures which help to avoid increases in future energy use and greenhouse gas emissions, and actively contribute to reductions in greenhouse gas emissions through supporting low carbon technologies and renewable energy. The key area for enhancement of the proposals is to provide greater support to climate change adaptation activities.

6.27 **Air:** Similar to the effects on climatic factors, the proposals are also largely positive in relation to avoiding increases to air pollution and improving air quality. This results from actions which reduce emissions by providing alternative transport and cleaner fuel options, and more efficient use of the transport network.

6.28 **Water coastal and marine:** Reduced environmental effects of air pollution can help contribute towards improvements to water quality. There may be localised short term impacts on the water

environment arising from construction of new low carbon facilities, such as renewable energy projects or hydrogen fuel stations. There are limited impacts on reducing flood risk.

6.29 **Soil:** Impacts on soil are largely neutral, with some minor positive effects arising from reduced air pollution and some minor adverse effects arising from construction of new low carbon facilities.

6.30 **Cultural heritage:** The proposals are largely neutral in effect, with minor localised adverse effects potentially arising from the development of low carbon infrastructure such as renewable energy projects.

6.31 **Landscape:** The proposals are largely neutral in effect, with minor positive effects arising from a potential reduction in the need for new waste disposal sites as a result of using waste as a resource.

6.32 **Material assets:** Minor positive effects are anticipated from improvements to transport infrastructure and increasing re-use of materials.

Cumulative and synergistic effects

Biodiversity, flora and fauna

6.33 The assessment identifies minimal effects on biodiversity, flora and fauna, with some positive effects resulting from regeneration and development of the green network and potential minor localised negative effects resulting from development of projects. No cumulative or synergistic effects are identified.

Population and human health

6.34 The proposals have a number of positive effects on population and human health through supporting skills, training and employment opportunities addressing issues of deprivation and social exclusion. In addition the proposals for resource efficiency and low carbon help to improve environmental quality, reducing adverse impacts on health and resulting in positive cumulative effects on this topic.

Climatic factors

6.35 A number of the proposals have cumulative positive effects in relation to avoiding increases in, and reducing overall greenhouse gas emissions. This results from increased efficiency, support for renewable energy and low carbon alternatives.

Air

6.36 Some of the proposals will result in minor positive effects on air quality as a result of reduced transportation, increased active travel and use of low carbon fuel.

Water, coastal, marine

6.37 Minimal impacts on the water environment are identified from the proposals, with only indirect positive effects arising from improved resource efficiency, the use of low carbon fuel and improvements to the green network and regeneration. Minor negative effects are identified from project level developments associated with renewable energy developments, cable laying

Soil, cultural heritage and landscape

6.38 Very limited direct effects are identified on soil, cultural heritage and landscape. Minor impacts are possible from project level development such as renewable energy, low carbon refuelling stations but these are not anticipated to be significant cumulatively.

Material assets

6.39 Overall the proposals have a minor positive effect on material assets through measures to support resource efficiency and sustainable use of natural resources.

7 Assessment of Alternatives

Alternatives

7.1 The Environmental Assessment (Scotland) Act 2005 requires the consideration of reasonable alternatives to the PPS through the assessment process. **Table 7.1** sets out some of the potential alternatives considered and the rationale for selecting the chosen alternative

Table 7.1 Summary of alternatives considered and rationale for chosen alternative

Alternatives	Discussion
Do not proceed with ERDF and ESF	This is not a 'reasonable' alternative because the UK has been allocated European funds which will support people and businesses, contributing to economic growth and competitiveness.
Continue with ERDF and ESF as current	This is not a 'reasonable' alternative because the rules and purpose of the funds has changed considerably for the period 2014 – 2020. (In any case, the funds and programme are time-limited by EU regulations and could not practically nor lawfully continue.)
Consider proposals brought forward through early drafting with a greater emphasis on skills development, social inclusion, employment and low carbon development	This includes strategic interventions proposed through the development process, but which were not included in the final proposals due to lack of development, lack of strategic fit with EU 2020 and other funding available, did not represent value for money or should be merged with other proposals. These proposals had a greater emphasis on skills development, social inclusion, employment and low carbon development. **These are considered to form a reasonable alternative because they were developed alongside the other strategic proposals at the earlier drafting stages.**

7.2 The identification of alternatives has been based on the iterations of the proposals which have been developed through the partnership work. **Table 7.2** shows how the content of the proposals for the three themes has evolved through their development.

Table 7.2 Summary of iterations to ERDF and ESF Strategic Intervention Proposals which informed the development of alternatives

1st Iteration	2nd Iteration	3rd iteration
Competitiveness, innovation and jobs		
Developing Scotland's Young Workforce	Developing Scotland's Workforce	*Moved into 'Local Development and Social Inclusion'*
Innovation centres		
Addressing skills gaps in growth sectors		
Graduate employment: supporting business growth		
Competitiveness	Business Competitiveness	**1) Business competitiveness**
Digital exploitation		
Internationalisation for business growth		
Business gateway accelerator		
Innovation	Innovation	**2) Innovation**
Design led business innovation		

1st Iteration	2nd Iteration	3rd iteration
Scottish Local Authority	Scottish Local Authority Loan Fund	*Merged with Access to finance / FEI*
(previously under LDSI)	*(previously under LDSI)*	**3) Next Generation Broadband investment (previously under LDSI)**
Scotland's 8th city – the smart city	Scotland's 8th city – the smart city	**4) Scotland's 8th city – the smart city (previously under LDSI)**
Financial instruments	*Not included*	**5) Financial Engineering Instruments**
Environment, Low Carbon and Resource Efficiency		
Active travel hubs	Active travel hubs	**7) Low Carbon travel and transport**
Low carbon transport hubs	Low carbon transport hubs	
National smart ticketing scheme	National smart ticketing scheme	
Low carbon infrastructure transition development fund	Low carbon infrastructure transition programme	**8) Low Carbon Infrastructure Transition Development Fund**
A circular economy approach to waste	Waste as a resource	*Not included*
	Resource efficient circular economy accelerator Programme	**9) Resource efficient circular economy accelerator programme**
Building Scotland's hydrogen economy	Building Scotland's hydrogen economy	Merged with low carbon transition fund
Intelligent transport systems	Intelligent transport systems/ managed motorways	Not included
Low carbon innovation	*Referenced but not included*	
Low carbon communities	*Merged with low carbon transition fund*	
Low carbon renewables business supply chain	*Merged with low carbon transition fund*	
Green infrastructure	Green infrastructure	*Now under LDSI*
Scotland's 8th city – the smart city – open data	*Within LDSI although cross referenced as a LCERE proposals*	
Scotland's 8th City – the smart city	*Within LDSI although cross referenced as a LCERE proposals*	
Local Development and Social Inclusion		
Enhanced employability pipelines and Youth employment Scotland	Enhanced employability pipelines and Youth employment Scotland	**10) Enhanced employability pipelines and Youth employment Scotland**
		11) Poverty and social inclusion
Scottish Regeneration	Scottish Regeneration	**12) Scottish Regeneration Capital Fund**

1st Iteration	2nd Iteration	3rd iteration
Capital Fund	Capital Fund	
Green infrastructure	*Placed under ELCRE*	**13) Green Infrastructure**
Next Generation Broadband investment	Next Generation Broadband investment	*Now under business, competitiveness and growth*
		1) Developing Scotland's workforce *Moved from 'Competitiveness, Innovation and Jobs'*
(under LCRE)	Scotland's 8th city – the smart city – open data	*Included in Smart Cities*
Digital Skills and participation	Digital Skills and participation	*Not included*
Scotland's 8th city – the smart city	Scotland's 8th city – the smart city	*Now under, competitiveness, innovation and jobs*
	Scotland's Cultural Heritage Initiative	*Not included*
Community Action Scotland	Community Action Scotland	*Not included; actions possible as part of pipeline*
Youth employability and inclusion	Third sectors: Supporting disadvantaged groups across Scotland	*Not included; actions possible as part of pipeline*
Changeworks	*Not included*	
Social Enterprise Development in Rural and Fragile Communities	*Not included*	
Community led local development National support service	*Not included*	
Third Sector European Support	*Not included*	
Citizenship, Equalities, Human Rights	*Not included*	
National Support service	*Not included*	
Micro global grants	*Not included*	
Low carbon communities	*Included in Low Carbon and the resource efficient circular economy*	

7.3 Based on the information in **Table 7.2**, **Table 7.3** sets out the content of the chosen alternative based on earlier proposals identified, and summarises the environmental impacts. It should be noted that earlier iterations of the proposals typically had greater levels of detail which allowed the identification of effects not possible from the level of information provided in the final iteration in addition to a greater emphasis on skills development, employability, social inclusion and low carbon development.

Table 7.3 Assessment of alternatives

Alternative: *Include the strategic interventions for Structural funds with a greater emphasis on skills development, employability, social inclusion and low carbon development*
Scottish Local Authority Loan Fund: *supporting growth of SME to support business growth and job creation*
Building Scotland's Hydrogen Economy: *developing the hydrogen economy across Scotland's 7 cities*

through providing hydrogen refuelling facilities

Intelligent Transport Systems: *Using IT and telecommunications to make existing transport systems more efficient and effective.*

Low carbon innovation: *translating ideas into products, services or business models which offer a low carbon or resource efficiency impact.*

Low carbon communities: *supporting community scale low carbon infrastructure including renewable energy generation, energy efficiency, food mile savings and reducing waste.*

Low carbon renewables business supply chain: *range of initiatives to increase awareness of the opportunities presented by the renewable energy industry.*

Scotland's 8th city the smart city – open data: *Strategic support for Scotland's cities to help make their data publically available via a single platform to allow people make more informed business and personal choices.*

Digital skills and participation: *improving access to digital skills and devices for vulnerable people, improving skills and reducing inequality and social exclusion.*

Scotland's cultural heritage initiative: *developing a collaborative approach to development and promotion of cultural heritage across Scotland.*

Community Action Scotland*: providing opportunities for unemployed people to contribute to community based projects to improve the local community and their skills base.*

Youth employability and inclusion/Third sectors supporting disadvantaged groups across Scotland*: to engage and progress vulnerable people into employment, through helping them overcome barriers.*

Community led local development National support service*: Guidance and training to ensure third sector delivery of public services under contracts is more efficient.*

Third sector European support: *establishing a support unit for the third sector to engage in the 2014-2020 programme and access funding support.*

Citizenship, equalities, human rights: *a national programme to improve employers practices and reducing the risk of discrimination towards employees and job applicants*

Micro global grants: *grant fund to provide seed corn investment to community led social enterprises, reducing social exclusion and providing new local employment.*

SEA topic area	Implications
Biodiversity, flora and fauna	Building Scotland's hydrogen economy: Minor negative effects resulting from construction of hydrogen refuelling stations. Low carbon renewables business supply chain: mixed effects resulting from increased renewable energy development.
Population and human health	Scottish Local Authority Loan Fund: Minor positive effects on population and human health resulting from support for business growth in areas at risk of social exclusion and deprivation, and associated job creation. Citizenship, Equalities, Human Rights: A positive effect on population and human health as a result of reduced employment discrimination. Building Scotland's hydrogen economy: Positive effects on population and human health resulting from a reduction in air pollution from using hydrogen fuel, in place of conventional fossil fuels and the creation of jobs in the hydrogen fuel sector. Intelligent transport systems: Positive effects on population and human health resulting from reduced emissions and improved access to an integrated public transport system. Low carbon innovation: Minor positive effects in relation to population and human health resulting from improvements to buildings to improve energy efficiency and reduce fuel poverty. Low carbon renewables business supply chain: mixed effects resulting from increased renewable energy development.

	Scotland's 8th city – the smart city – open data: Positive effects in relation to population and human health resulting from improved access to services and employment. Digital Skills and participation: Strong positive effects in relation to population and human health through action to tackle inequality and social exclusion Scotland's Cultural Heritage Initiative: Positive effect on population and human health as a result of increased community involvement, skills and learning opportunities, and employment. Community Action Scotland: Strong positive effects on population and human health through improving the skills and opportunities of the unemployed, and providing community benefit through projects. Youth employability and inclusion/third sectors supporting disadvantaged groups across Scotland: Positive effect on population and human health through supporting employment for vulnerable people. Community led local development national support service: A positive effect on population and human health resulting from training to support social inclusion and employment Micro global grants: Minor positive effect on population and human health as a result of reducing social exclusion and providing new local employment. Low carbon communities: Minor positive effects on population and human health resulting from community level carbon reduction.
Soil	Low carbon renewables business supply chain: mixed effects resulting from increased renewable energy development.
Water	Low carbon innovation: Minor positive effects on the water environment as a result of projects improving water supply and recycling, and linked minor positive effects for the soil environment. Low carbon renewables business supply chain: mixed effects resulting from increased renewable energy development.
Air	Building Scotland's hydrogen economy: Strong positive effects on air quality resulting from reduced emissions from hydrogen fuelled vehicles Low carbon innovation: Minor positive effects on air quality as a result of increased use of low carbon technologies. Low carbon communities: Minor positive impacts on air quality are likely to be achieved as a result of the low carbon projects.
Climatic factors	Building Scotland's hydrogen economy: Strong positive effects in relation to climatic factors resulting from use of hydrogen fuel. Intelligent transport systems: Positive effects in relation to climatic factors and air quality as a result of reduced greenhouse gas emissions from more efficient traffic management Low carbon innovation: Strong positive effects in relation to climatic factors as a result of mitigation of greenhouse gas emissions. Low carbon renewables business supply chain: strong positive effects resulting from increased renewable energy development. Scotland's 8th city – the smart city – open data: Minor

	positive effects on climatic factors resulting from improved access to information on energy efficiency and public transport. Low carbon communities: Strong positive effects on climatic factors resulting from development of low carbon projects.
Material assets	Building Scotland's hydrogen economy: Positive effects on material assets resulting from improvements to transport infrastructure. Low carbon innovation: Significant positive effects on material assets resulting from sustainable use of existing resources.
Cultural heritage	Low carbon innovation: Potential minor negative impacts on cultural heritage as a result of installation of energy efficiency measures on buildings of historic or cultural value. Low carbon renewables business supply chain: mixed effects resulting from increased renewable energy development. Scotland's Cultural Heritage Initiative: Indirect positive effects on cultural heritage resulting from increased awareness and engagement with culture and the arts.
Landscape	Low carbon renewables business supply chain: mixed effects resulting from increased renewable energy development.
Summary Potential mixed effects on biodiversity, flora and fauna from new renewable energy development or hydrogen fuel stations, however impacts will depend on project level implementation. Positive effects on population and human health resulting from actions which reduce air pollution and road traffic, and improve access to public transport. The proposals also reduce fuel poverty, improve access to services and employment, reduce inequality and social exclusion and promote community involvement. Strong positive effects overall in relation to climatic factors as a result of reduced greenhouse gas emissions through low carbon technology, and increased efficiencies. Positive effects on air quality resulting from low carbon technologies, including use of hydrogen fuel. Mixed effects on the water environment resulting from potential impacts from new renewable energy development and positive effects from proposals to increase efficiencies in water use. Minor negative effects on soil possible from new renewable energy development. Positive effects on material assets resulting from improvements to existing infrastructure and sustainable use of existing resources. Cultural heritage: potential negative effects resulting from new renewable energy development and installation of energy efficiency measures, with indirect positive effects from the cultural heritage initiative. Landscape: mixed effects possible from new renewable energy development.	

Comparison of environmental effects of chosen proposals and alternative proposals

7.4 **Biodiversity, flora and fauna:** Both the chosen proposals and the alternative proposals have mixed effects.

7.5 **Population and human health:** The chosen proposals and alternative proposals would together secure a greater range of benefits for population and human health resulting from additional improvements to environmental quality, and more targeted actions to reduce inequality and secure social inclusion.

7.6 **Climatic factors:** Both the chosen proposals and alternative proposals have positive effects on climatic factors, and the inclusion of the alternative proposals would have resulted in a greater positive effect on climatic factors.

7.7 **Air:** The positive effects on air quality would have been greater as a result of including the alternative proposals. More intensive research into, and adoption of, hydrogen-powered vehicles in particular could have had a strong positive effect on levels of air pollution – although these benefits would likely only have been experienced in the longer term.

7.8 **Water, coastal, and marine:** Mixed effects would occur with both the alternative and preferred option.

7.9 **Soil, cultural heritage and landscape**: Minor negative project level impacts would be likely under both the alternative and preferred options.

7.10 **Material assets:** Both the alternative and preferred option result in minor positive effects on material assets.

8 Mitigation and Monitoring

8.1 A number of environmental issues are identified which should be addressed through mitigation. Due to the nature of projects emerging from ERDF and ESF, the majority of the environmental issues will require to be addressed at project level. In addition a number of opportunities for enhancing the proposals under ERDF and ESF have been identified. The following tables summarise mitigation and enhancement identified under each of the three groupings.

Table 8.1 Summary of mitigation and enhancement opportunities for competitiveness, innovation and jobs

SEA topic	Issues / impact identified in ER	Mitigation / enhancement measure	Lead authority and mechanism	Proposed timescale
Biodiversity, flora and fauna	4) Next generation broadband investment: Mitigation of impacts of cable laying.	Appropriate route selection should be undertaken to reduce potential impacts on habitats and species. Timing of cable laying should also be undertaken to reduce impacts on habitats and species, particularly at landfall of sub-sea cables.		
Population and human health	4) Next generation broadband investment: Timing of cable laying	Timing of cable laying works to avoid impacts during peak tourist season to minimise travel disruption from cable laying.		
Climatic factors	2) Business Competitiveness: Supporting export growth could increase greenhouse gas emissions	This should be mitigated through the use of low carbon transport, and efficiencies in transport networks. Supporting business efficiencies which also deliver climate change mitigation and adaptation measures. Climate change adaptation should be an area where business innovation is being targeted to avoid future vulnerability to climate change. Climate change adaptation within cities is a key area where application of technology and innovation through new applications could bring benefits.		
Air quality	Scotland's 8th City – the Smart City : Intelligent city management could be used to inform traffic management	This should be used to inform traffic management to reduce adverse effects on air quality within AQMA		
Water, coastal and	4) Next generation broadband investment:	Appropriate route selection should be undertaken to		

marine	Mitigation of impacts of cable laying.	reduce potential impacts on sensitive coastal areas and sensitive marine environments. 5) Scotland's 8th City – the Smart City: Intelligent city management could be used to help to manage flood risk through monitoring water levels and blockages.		
Soil	4) Next generation broadband investment: Mitigation of impacts of cable laying.	Appropriate route selection should be undertaken to reduce potential impacts on sensitive soil resources.		
Cultural heritage	4) Next generation broadband investment: Mitigation of impacts of cable laying.	Appropriate route selection should be undertaken to avoid areas where greater concentrations of archaeological resources are likely to occur.		
Material assets		3) Innovation: The programme could include focus on supporting design and innovation to support the sustainable use of natural resources. 5) Scotland's 8th City – the Smart City: Intelligent city management could also be used to help to ensure sustainable use of natural resources, for example through minimising transport of goods.		

Table 8.2 Summary of mitigation and enhancement opportunities for local development and social inclusion

SEA topic	Mitigation	Enhancement
Climatic factors		12) Scottish Regeneration Capital Grant Fund: Regeneration should include a focus on integrating renewable energy provision, reducing the carbon footprint of new development, sustainable transport and supporting climate change adaptation.
Air quality		12) Scottish Regeneration Capital Grant Fund: Regeneration should focus on supporting sustainable travel to help reduce air pollution.
Water, coastal and marine		12) Scottish Regeneration Capital Grant Fund: Physical improvements to public realm, parks and open spaces should also deliver benefits to improve the ecological status of water bodies (by reducing culverting) and avoiding flood risk).
Cultural heritage	12) Scottish Regeneration Capital Grant Fund: Regeneration initiatives should seek to enhance the setting of the historic environment and avoid adverse impacts.	

Table 8.3 Summary of mitigation and enhancement opportunities for environment, low carbon and resource efficiency

SEA topic	Mitigation	Enhancement
Biodiversity, flora and fauna, water, coastal and marine, soil, landscape and **cultural heritage**	2) Low carbon travel and transport: Development of low carbon refuelling hubs could have localised construction impacts which would need to be mitigated at the project level.	

Monitoring

8.2 Monitoring the significant environmental effects for any unforeseen adverse environmental effects is a statutory requirement within the 2005 Act. The purpose of monitoring is to inform future review of the PPS and monitoring should be linked to the significant environmental effects identified through the assessment process.

8.3 It is useful for the SEA monitoring to tie in with existing monitoring frameworks where appropriate, however the monitoring procedures for ERDF and ESF have not yet been developed. It should be noted that SEA monitoring will be integrated with the monitoring requirements of the programmes.

8.4 No significant adverse environmental effects are identified from the proposals. Based on the findings from the environmental assessment, impacts which should be monitored will be population and human health and climatic factors.

Table 8.4 Potential indicators for monitoring issues raised by the assessment

SEA topic	Potential indicators for monitoring
Population and human 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 drinking and smoking; % of adults with cardiovascular disease, hypertension or diabetes.
Climatic factors	MW of renewable energy installed Number of vehicle charging locations and hydrogen fuelling station Number of businesses supported in which energy efficiency was improved

9 Next Steps

9.1 This Environmental Report has been published for consultation alongside the update on the proposals for the Partnership Agreement and Operational Programmes and implementation of the 2014-2020 European Structural Funds.

9.2 **Table 9.1** below sets out the timetable for the development and assessment of the ESF and ERDF Operational Programme 2014-20. Timings are indicative and will be subject to change according with the emerging Programme Strategy and Scottish, UK and EU intergovernmental negotiations.

Table 9.1 Timetable of ESF and ERDF Operational Programme 2014-20

Indicative timing	Operational Programme Stage	Ex-ante evaluation requirements for SEA	SEA Stage
December 2013 – February 2014	6 week consultation on the proposals for the Partnership Agreement and operational programmes and implementation of the 2014-2020 European Structural Funds		Consultation on Environmental Report
February 2014		Analysis of consultation responses and summary of how environmental considerations and results of the consultation have been taken into account	
March 2014	Submission of the UK Partnership Agreement and Operational Programme to the European Commission	Submission of ex-ante evaluation to the European Commission (SEA elements include NTS, description of monitoring measures, information on the public consultation and consultation with the consultation authorities, summary of how environmental considerations and consultation opinions have been taken into account)	
April 2014			Revision of the programme after submission to the Commission and updated SEA
Summer 2014			Consultation on revised Environmental Report
2014	Adoption of the Operational Programme		
2014			Post Adoption Statement

Appendix 1

Analysis of relevant environmental objectives of plans, programmes or strategies

Table 9.2 PPS – Biodiversity, Flora and Fauna

BIODIVERSITY, FLORA AND FAUNA	
Name of PPS	**Environmental requirements of PPS**
GLOBAL CONTEXT	
The Convention on Wetlands of International Importance especially as Waterfowl Habitat (1971) Convention on Biological Diversity	Aims to halt and reverse the worldwide loss of wetlands through wise use and management. Objectives are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources. Refers to environmental impact assessment and to the ecosystem approach.
EUROPEAN COMMUNITY/UNION CONTEXT	
EC Directive 2009/147/EC[181] (the 'Birds Directive')	The Birds Directive aims to protect all European wild birds and the habitats of listed species, in particular through the designation of Special Protection Areas.
EC Directive 92/43/EEC[182] (the 'Habitats Directive')	The main aim of the Habitats Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species listed on the Annexes to the Directive to a favourable conservation status. The Directive introduced robust protection for those habitats and species of European importance.
UK CONTEXT	
The Wildlife and Countryside Act 1981[183] (as amended)	This legislation offers protection to many specified plants and animals, as well as broad protection to unspecified plants and animals such as nesting birds. An important development for forestry was the Wildlife and Countryside (Amendment) Act 1985. This amended the Forestry Act 1967 which required Forestry Commissioners to endeavour to achieve a reasonable balance between afforestation, timber production, the conservation and enhancement of natural beauty, and the conservation of flora, fauna and geological and physiographical features of special interest.
UK Post-2010 Biodiversity Framework[184]	The UK Post-2010 Biodiversity Framework succeeds the UK BAP although the UK BAP lists of priority species and habitats remains valid.
SCOTLAND CONTEXT	
Nature Conservation (Scotland) Act 2004[185]	Introduced a 'duty to further the conservation of biodiversity' for all pubic bodies, and sets out more specific provisions within this (e.g. for SSSIs). Also states a requirement for the preparation of a Scottish Biodiversity Strategy, to which all public bodies should pay regard.
Scotland's Biodiversity: It's In Your Hands[186] 2020 Challenge for Scotland's Biodiversity – A Strategy for the Conservation and Enhancement of Biodiversity in Scotland[187]	Scotland's Biodiversity Strategy sets out how the Scottish Government will conserve biodiversity for the health, enjoyment and well-being of the people of Scotland now and in the future. The Strategy sets out the aim of halting biodiversity loss by 2010 and of Scotland being recognised as a world leader in biodiversity by 2030. The 2020 Challenge is a supplement to the Scottish Biodiversity Strategy (2004), focused on desired outcomes for 2020 including achieving the 'Aichi Targets' (2010) and the new European Biodiversity Strategy (2011) targets. The 2020 Challenge aims to: • Increase the general level of biodiversity on land in our seas, and support healthy, well-functioning ecosystems • Engage people with the natural world, for the health and well-being benefits that this brings, and empower them to have a say in decisions about their environment

[181] EC Council Directive 2009/147/EC.
[182] EC Council Directive 92/43/EEC.
[183] The Conservation of Wildlife Scotland Act 1981.
[184] JNCC and DEFRA (on behalf of the Four Countries' Biodiversity Group), 2012. *The UK Post-2010 Biodiversity Framework*. [pdf] Available at: http://jncc.defra.gov.uk/pdf/UK_Post2010_Bio-Fwork.pdf [Accessed 09 April 2014]
[185] Nature Conservation (Scotland) Act 2004.
[186] Scottish Executive, 2004. *Scotland's Biodiversity: It's In Your Hands.* Edinburgh: Scottish Executive.
[187] Scottish Government, 2013. *2020 Challenge for Scotland's Biodiversity – A Strategy for the Conservation and Enhancement of Biodiversity in Scotland.* Edinburgh: Scottish Government.

	• Maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth.
Scottish Planning Policy[188] Draft Scottish Planning Policy[189]	Protection of international and national environmental designations complemented by local designations are key policies in both the SPP and Draft SPP.
The Conservation (Natural Habitats, & c.) Regulations 1994[190] (as amended)[191]	The Conservation (Natural Habitats, & c.) Regulations 1994 (as amended) provides for the designation and protection of 'European sites' – SPAs, SACs and Ramsar wetland sites. The Regulations also provide for the protection of 'European Protected Species' (EPS).
Wildlife and Natural Environment (Scotland) Act 2011[192]	This Act makes the law on wildlife and the natural environment in Scotland more efficient, effective and proportionate. It introduced new provisions governing the introduction of non-native species in Scotland, the protection of birds, hares, and rabbits and associated poaching.
IMPLICATIONS: • The SEA has assessed the extent to which the proposals of the ERDF and ESF will contribute to the core aims of protection and enhancement of biodiversity. • Proposals should aim to conserve Scotland's biodiversity for future generations by conserving habitats and species and raising public awareness on the importance of biodiversity. The structural funds will also support the improvement of management and environmental protection of natural resources which supports the management of biodiversity. • The structural funds also recognise the role of nature as a contributor to Scotland's economic growth.	

Table 9.3 PPS – Population and Human Health

POPULATION AND HUMAN HEALTH	
Name of PPS	**Environmental requirements of PPS**
LEGISLATION, NATIONAL POLICY AND GUIDANCE	
Achieving a Sustainable Future: Regeneration Strategy[193]	Sets out the vision for regeneration, where Scotland's most disadvantaged communities are supported, in the context of devolved responsibility for local regeneration. Aims to achieve a holistic approach to regeneration, delivering solutions to the economic, physical and social needs of communities. Calls for a co-ordinated approach across all sectors and communities to achieve this. Overall aims are: • Putting communities first and involving local people • A holistic approach, linking physical, social and economic dimensions • A long term vision, focusing on safety and quality of places • Linking regeneration with economic strategies • Addressing worklessness • Funding streams that are simple and integrated • Strong leadership, making use of partnership working. Aims to break the cycle and transform Scotland's poorest places by improving delivery, working together and ensuring the public sector has a key role to play. Also emphasises the importance of local people delivering local change through community led regeneration, supported by the establishment of the People and Communities Fund. The Strategy refers to the importance of links between environmental quality. Key initiatives include the Central Scotland Green Network Development Fund, support for heritage projects and targeting investment in renewable energy as a mechanism for skills and employment creation. A review of town centres is highlighted, and action is also proposed to improve housing and provide 30,000 affordable homes over 5 years. Placemaking is also emphasised, with the Strategy noting the importance

[188] Scottish Government, 2010. *Scottish Planning Policy.* Edinburgh: Scottish Government.
[189] Scottish Government, 2013. *Scottish Planning Policy Consultation Draft.* Edinburgh: Scottish Government.
[190] The Conservation (Natural Habitats, &c.) Regulations 1994.
[191] The Conservation of Habitats and Species Regulations 2010.
[192] Wildlife and Natural Environment (Scotland) Act 2011.
[193] Scottish Government, 2011. *Achieving a Sustainable Future: Regeneration Strategy.* Edinburgh: Scottish Government.

POPULATION AND HUMAN HEALTH	
	of efficient planning, quality design and the SSCI programme in achieving this.
Better Heath, Better Care: Action Plan[194]	The Scottish Government's Action Plan aims to deliver a healthier Scotland by helping people to sustain and improve their health, especially in disadvantaged communities, ensuring better, local and faster access to health care. It endeavours to shift care into communities, raise quality and reduce inequality.
Child Poverty Strategy for Scotland – Our Approach – 2014-2017[195]	The 2014 revision of the Child Poverty Strategy continues to focus on the same key areas as the Child Poverty Strategy for Scotland, describing outcomes around maximising household resources, improving children's wellbeing and life chances and well designed, sustainable places.
Draft Scottish Planning Policy[196]	Access to good quality open spaces and opportunities for sport and recreation make important contributions to a healthier Scotland. The planning system has a role in helping to create an environment where physical well-being is improved and activity made easier. In relation to population and human health, the Draft SPP explicitly states that *"green infrastructure is important to the health and well-being of our communities…"* (Paragraph 155).
Environmental Noise Directive[197]	The Directive provides a strategic approach to controlling environmental noise including drawing up strategic noise maps and action plans.
Getting the best from our land: A land use strategy for Scotland[198]	Community woodland ownership under the National Forest Land Scheme has helped to build community participation and capacity. The Government will continue to encourage and give appropriate guidance on land ownership models that give local communities a stake in their future, and which support sustainable land use.
Good Places, Better Health: A New Approach to Environment and Health in Scotland[199]	Good Places, Better Health (GPBH) was launched in 2008 as the Scottish Government's Strategy on health and the environment. The document recognises that, to achieve the Government's purpose, themes and national outcomes, there is a need for greater connections around how physical environment influences health.
Homes fit for the 21st Century: The Scottish Government's Strategy and Action Plan for Housing in the Next Decade: 2011-2020[200]	Notes that more homes are needed as household sizes fall and stock requires renewal. Includes numerous objectives, with some focusing across all tenures and others focusing on the needs of specific sectors. Emphasises the need for quality and fitness for purpose. Strategic objectives are: • To build new, high quality, affordable homes (including social housing) to meet current need and the demand arising from our growing and ageing population. • To maximise the sustainable housing options available across all tenures, including for people living on lower incomes, and to significantly improve the quality of the existing housing stock and the places we create. Explores the role of planning and notes the need for land availability to be addressed, to facilitate development. Emphasises the need for a more flexible and responsive approach to identifying sites. Notes that planning conditions and agreements are being reviewed to ensure they remain fair and effective, and also refers to work on compulsory purchase and infrastructure investment. Also notes the work being undertaken on the SSCI.
Let's Make Scotland More Active – A strategy for physical activity[201]	Aims to ensure Scotland's people benefit from a physically active life, with the goal of increasing and maintaining the proportion of physically active people in Scotland. Strategic objectives include developing and maintaining long-lasting, high quality physical environments to support

[194] Scottish Government, 2007. *Better Heath, Better Care: Action Plan*. Edinburgh: Scottish Government.
[195] Scottish Government, 2014. *Child Poverty Strategy for Scotland – Our Approach – 2014-2017.* Edinburgh: Scottish Government.
[196] Scottish Government, 2013. *Scottish Planning Policy Consultation Draft.* Edinburgh: Scottish Government.
[197] EC Council Directive 2002/49/EC.
[198] Scottish Government, 2011. *Getting the best from our land: A land use strategy for Scotland.* Edinburgh: Scottish Government.
[199] Scottish Government, 2008. *Good Places, Better Health: A New Approach to Environment and Health in Scotland.* Edinburgh: Scottish Government.
[200] Scottish Government, 2011. *Homes fit for the 21st Century: The Scottish Government's Strategy and Action Plan for Housing in the Next Decade: 2011-2020.* Edinburgh: Scottish Government.
[201] Scottish Executive, 2003. *Let's Make Scotland More Active – A strategy for physical activity*. Edinburgh: Scottish Executive.

POPULATION AND HUMAN HEALTH	
	inactive people to become active.
Making the Links: Greenspace for a More Successful and Sustainable Scotland[202]	In 2009, Greenspace Scotland responded to the Scottish Government's Programme for Scotland by publishing this document which demonstrates that greenspace can make an important contribution to quality of life, access, health and well-being, education, community cohesion, biodiversity and enterprise.
Mental Health Strategy for Scotland: 2012-2015[203]	The Scottish Government's mental health strategy to 2015 sets out a range of key commitments across the full spectrum of mental health improvement, services and recovery to ensure delivery of effective, quality care and treatment for people with a mental illness, their carers and families.
Scottish Government various Health Action Plans (Scottish Government, various years)	Health and well-being are fundamental to quality of life. Improving health and addressing health inequality involves wide-ranging action across not just health and care services but also public services including education, employment, housing, community safety and environment.
Scottish Planning Policy[204]	Access to good quality open spaces and opportunities for sport and recreation make important contributions to a healthier Scotland. The planning system has a role in helping to create an environment where physical well-being is improved and activity made easier.
IMPLICATIONS: • The SEA has assessed the extent to which the proposals of the ERDF and ESF will impact on the population and health of communities. • There are numerous ongoing commitments to improving mental and physical health & wellbeing, and commitments to addressing poverty which are supported by the structural funds.	

Table 9.4 PPS – Climatic Factors

CLIMATIC FACTORS	
Name of PPS	**Environmental requirements of PPS**
LEGISLATION, NATIONAL POLICY AND GUIDANCE	
2020 Renewable Routemap for Scotland - Update[205]	Scottish Government is adopting the interim target of 50% of Scottish demand for electricity by the end of 2015, and 100% by 2020. The update provides a progress report on developments across the sector and towards the targets, as well as considering the further collective actions needed to unlock Scotland's full renewable energy potential.
Biomass Action Plan for Scotland[206]	The Biomass Action Plan sets out a coordinated programme for the development of the biomass sector in Scotland and aims to: • to provide a summary of the wide range of existing activities, actions and initiatives; • to provide a focus for a strategic coordinated approach to developing biomass for energy production across the heat, electricity and transport sectors; • to identify roles and responsibilities for government, industry and public stakeholders to develop a vibrant bio-energy industry in Scotland; and, • to identify future actions and gaps.
Electricity Generation Policy Statement[207]	The Statement is constructed around a number of targets and requirements including: • delivering the equivalent of at least 100% of gross electricity consumption from renewables by 2020;

[202] Greenspace Scotland, 2009. *Making the Links: Greenspace for a More Successful and Sustainable Scotland.* [pdf] Available at: http://www.greenspacescotland.org.uk/SharedFiles/Download.aspx?pageid=133&mid=129&fileid=86 [Accessed 09 April 2014]
[203] Scottish Government, 2012. *Mental Health Strategy for Scotland: 2012-2015.* Edinburgh: Scottish Government.
[204] Scottish Government, 2010. *Scottish Planning Policy.* Edinburgh: Scottish Government.
[205] Scottish Government, 2013. *2020 Renewable Routemap for Scotland – Update.* Edinburgh: Scottish Government.
[206] Scottish Government, 2007. *Biomass Action Plan for Scotland.* Edinburgh: Scottish Government.
[207] Scottish Government, 2013. *Electricity Generation Policy Statement.* Edinburgh: Scottish Government.

CLIMATIC FACTORS	
	• sourcing 11% of heat demand and 10% of transport fuels from renewables by 2020; • ensuring a largely decarbonised electricity system by 2030; • enabling local and community ownership of over 500MW of renewable energy by 2020; • lowering energy consumption in Scotland by 12%; • demonstrating the possibility of carbon capture and storage at commercial scale by 2020; and • providing interconnection and transmission upgrades to support the projected growth of renewable energy.
Climate Change (Scotland) Act 2009[208]	Sets targets for reducing greenhouse gas emissions, including a 42% reduction target by 2020, and an 80% reduction by 2050, and requires the setting of annual targets for 2010-2050.
Climate Change Adaptation Framework[209]	Climate Change Adaptation Framework presents a national, co-ordinated approach to ensure that Scotland understands the risks and opportunities these changes present and is adapting in a sustainable way. It sets out: • The overarching model for adapting to climate change in Scotland; and, • Summaries of climate change adaptation in key sectors. The aim of the Adaptation Framework is to lead planned adaptation across all sectors, including the forestry sector, to increase the resilience of Scotland's communities, and the natural and economic systems on which they depend, to the impacts of climate change.
Climate Change Delivery Plan Meeting Scotland's Statutory Climate Change Targets[210]	To meet the highly ambitious targets set out in the Climate Change (Scotland) Act, the Scottish Government has prepared a delivery plan to target investment and effort across a range of relevant sectors, and renewable energy has a fundamental place in this strategy. The plan aims to achieve four transformational outcomes: • A largely decarbonised electricity generation sector by 2030; • A largely decarbonised heat sector by 2050 with significant progress by 2030; • Almost complete decarbonisation of road transport by 2050, with significant progress by 2030; • A comprehensive approach to ensure that carbon is factored into land use decisions.
Climate Change Programme[211]	The Climate Change Programme describes what the Forestry Commission will do to increase the contribution and response of Scottish forestry to the challenges of climate change.
Four Agency Statement – Action on Climate Change[212]	Four key agencies (Forestry Commission Scotland, SEPA, SNH, and Historic Scotland) have come together to make a joint statement on climate change. The statement sets out each organisations role and actions to help Scotland adapt and mitigate against climate change.
Low Carbon Scotland: Meeting the Emissions Reduction Targets	**Low Carbon Scotland: Meeting the Emissions Reduction Targets 2010-2022**[213], published on 14 March 2011, describes the measures identified to meet the emissions reduction targets established by the Climate Change (Scotland) Act 2009, over the period 2010-2022. By 2020 renewable electricity generation must account for at least 80% of gross electricity consumption.

[208] Climate Change (Scotland) Act 2009.
[209] Scottish Government, 2009. *Climate Change Adaptation Framework.* Edinburgh: Scottish Government.
[210] Scottish Government, 2009. *Climate Change Delivery Plan Meeting Scotland's Statutory Climate Change Targets*. Edinburgh: Scottish Government.
[211] Forestry Commission Scotland, 2013. *Climate Change Programme.* Edinburgh: Forestry Commission Scotland.
[212] Forestry Commission Scotland, SEPA, SNH, and Historic Scotland, 2013. *Four Agency Statement – Action on Climate Change*. [pdf] Available at: http://www.sepa.org.uk/idoc.ashx?docid=612faddc-acdf-42a8-a08e-1744db65befa&version=-1 [Accessed 09 April 2014]
[213] Scottish Government, 2011. *Low Carbon Scotland: Meeting the Emissions Reduction Targets 2010-2022*. Edinburgh: Scottish Government.

CLIMATIC FACTORS	
	On 27 June 2013 the Scottish Government published the **Low Carbon Scotland: Meeting the Emissions Reduction Targets 2013-2027: The Second Report on Proposals and Policies (RPP2)**[214]. The report sets a decarbonisation target of 50 gCO2/kWh by 2030 to meet overall emissions targets. The Ministerial Foreword notes that the target set is challenging and that the decarbonisation of electricity is a key driver in the progress towards a low carbon economy. The report highlights that Scotland missed its annual carbon reduction target for 2011 by 0.8 million tonnes of carbon dioxide equivalent (CO_{2e}) having also missed its targets in 2010 by 1.1 million tonnes of CO_{2e}.
Scottish Planning Policy – Online Renewables Advice[215]	The Scottish Government has published and regularly updates the online renewables planning advice on topics such as onshore wind turbines, wind farm development on peat land, hydro schemes; energy from waste, woody biomass, etc.
IMPLICATIONS: • The SEA has assessed the extent to which the proposals of the ERDF and ESF delivers on both climate change mitigation, and adaptation. • The funds are central for the delivery of climate change policies, and should support renewable energy and energy efficiency, and a low carbon economy.	

Table 9.5 PPS - Air

AIR	
Name of PPS	**Environmental requirements of PPS**
LEGISLATION, NATIONAL POLICY AND GUIDANCE	
Directive 2008/50/EC Air Quality Framework Directive[216]	Brings together existing legislation on air quality, including objectives for key pollutants: SO_2, NO_x, particulates, lead, benzene and ozone. Sets new objectives for fine particulates ($PM_{2.5}$) including reduction target. Aims to combat emissions to meet World Health Organization standards.
Local Air Quality Management Act (Part of the Environmental Act 1995)[217]	Sets out duties requiring local authorities to review and assess air quality in their area from time to time, the reviews forming the cornerstone of the system of local air quality management.
The Air Quality Standards (Scotland) Regulations 2010[218]	The Air Quality Standards (Scotland) Regulations 2010 transpose into law the requirements of Directives 2008/50/EC and 2004/107/EC on ambient air quality.
The Air Quality Strategy for England, Scotland, Wales and Northern Ireland[219]	Aims to improve and protect ambient air quality in the UK, with overall aim of health protection. Sets objectives for specific emissions, against which monitoring is undertaken.
IMPLICATIONS: • The SEA has assessed the extent to which the proposals of the ERDF and ESF could help to reduce, or may increase emissions of pollutants to air at a strategic level. • Air quality is an issue highlighted in the priorities for the funds. Proposals should contribute to a reduction in air pollution e.g. by encouraging sustainable transport choices.	

Table 9.6 PPS - Water

WATER	
Name of PPS	**Environmental requirements of PPS**
LEGISLATION, NATIONAL POLICY AND GUIDANCE	

[214] Scottish Government, 2013. *Low Carbon Scotland: Meeting the Emissions Reduction Targets 2013-2027: The Second Report on Proposals and Policies (RPP2).* Edinburgh: Scottish Government.
[215] Scottish Government, 2013. *Online renewables planning advice.* [online] Available at: http://www.scotland.gov.uk/Topics/Built-Environment/planning/Policy/Subject-Policies/Utilities/Delivering-heat-electricity/renewables-advice [Accessed 09 April 2014]
[216] Directive 2008/50/EC Air Quality Framework Directive.
[217] Part IV of the Environmental Act 1995.
[218] The Air Quality Standards (Scotland) Regulations 2010.
[219] Department for Environment Food and Rural Affairs, 2007. *The Air Quality Strategy for England, Scotland, Wales and Northern Ireland.* Edinburgh: Scottish Executive.

WATER	
Draft Scottish Planning Policy: Managing Flood Risk and Damage[220]	The draft SPP states that the planning system should promote the protection and improvement of the water environment, and should incorporate a precautionary approach to flood risk from all sources through flood avoidance and flood reduction.
Flood Directive 2007/60/EC[221]	EU Directive 2007/60/EC on the assessment and management of flood risks aims to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity.
Flood Risk Management (Scotland) Act 2009[222]	The Act provides a framework for a modernised approach to flood management, taking into account the impact of climate change and improved management processes. Aims to achieve co-ordinated approaches to flood management and requires the preparation of flood risk management plans. Sets out processes and responsibilities, including for flood protection schemes and public engagement in the process.
Marine (Scotland) Act 2010[223]	The Marine (Scotland) Act provides a framework which will help balance competing demands on Scotland's seas. It introduces a duty to protect and enhance the marine environment.
Scottish Planning Policy: Coastal Planning[224]	Development plans should identify coastal areas likely to be suitable for development, areas subject to significant constraints and areas which are considered unsuitable for development such as the isolated coast. The identification of coastal locations which are suitable for development should be based on a clear understanding of the physical, environmental, economic and social characteristics of the coastal area and the likely effects of climate change.
Scottish Planning Policy: Flooding and Drainage[225]	The SPP states that development which would have a significant probability of flooding or which would increase the probability of flooding elsewhere should not be permitted.
The National Flood Risk Assessment[226]	In the National Flood Risk Assessment, SEPA identifies geographical areas across Scotland, called Local Plan Districts, which include whole river catchments and cross local authority boundaries. The Assessment identifies potentially vulnerable areas where the potential impact of flooding justified further assessment and appraisal of actions to address flooding. This will be taken forward in the Flood Risk Management Strategies which are due to be published in December 2015, and the Local Flood Risk Management Plans which will be produced and published by each local authority in June 2016.
The River Basin Management Plan for the Scotland River Basin District 2009-2015[227] Solway Tweed River Basin Management Plan 2009-2015[228]	Key measures include: • Identifying areas of the water environment for protection and improvement; • Identifying where current or historic activities are constraining the quality of the water environment and the biodiversity it supports; • Details the actions required to ensure waters of special value (e.g. drinking, biodiversity, shellfish, bathing) are up to standard and maintain the quality where they already meet those standards; • Sets out actions needed to deliver environmental improvements to 2015 and longer to 2027.
Water Environment and Water Services (Scotland) Act 2003[229]	The Act took forward the provisions of the Water Framework Directive. Set out the systems for developing River Basin Management Plans for

[220] Scottish Government, 2013. *Scottish Planning Policy Consultation Draft.* Edinburgh: Scottish Government.
[221] Flood Directive 2007/60/EC.
[222] Flood Risk Management (Scotland) Act 2009.
[223] Marine (Scotland) Act 2010.
[224] Scottish Government, 2010. *Scottish Planning Policy.* Edinburgh: Scottish Government.
[225] Scottish Government, 2010. *Scottish Planning Policy.* Edinburgh: Scottish Government.
[226] SEPA, 2011. *The National Flood Risk Assessment.* Stirling: SEPA.
[227] Scottish Government, 2009. *The River Basin Management Plan for the Scotland River Basin District 2009-2015.* Edinburgh: Scottish Government.
[228] Scottish Government, 2009. *The River Basin Management Plan for the Solway Tweed River Basin District 2009-2015.* Edinburgh: Scottish Government.
[229] Water Environment and Water Services (Scotland) Act 2003.

WATER	
	Scotland. These plans aim to improve the environmental status of water bodies, and reduce adverse impacts on the water environment as a whole.
Water Framework Directive 2000/60/EC[230]	Introduced in 2000, the Directive provided a framework approach to managing the water environment. Covers all water bodies including Shellfish and Bathing Waters. The Directive was transposed into Scots law by the Water Environment and Water Services Act (2003)
Water Resources (Scotland) Bill[231]	The Bill (as introduced) makes provision for the development of water resources. Sets out responsibilities of Scottish Water and Scottish Ministers. Key elements relate to water abstraction, water quality, water supplies and sewerage services.
IMPLICATIONS: • The SEA has assessed the extent to which the proposals of the ERDF and ESF will impact, both positively and negatively, on the water environment. • The structural funds should ensure management of flood risk and protection and improvement of water quality are part of the management and environmental protection of natural resources.	

Table 9.7 PPS - Soil

SOIL	
Name of PPS	**Environmental requirements of PPS**
LEGISLATION, NATIONAL POLICY AND GUIDANCE	
European Soil Charter (Council of Europe Committee of Ministers, 1972) https://wcd.coe.int/ViewDoc.jsp?id=654589	In 1972 the European Commission Committee of Government Ministers, including the UK, recognised the increasing biological deterioration of the soil in many parts of Europe and adopted a charter for soil protection. Among other things the charter recognises that: • soil is a precious asset; • soil is a limited resource which is easily destroyed; • farmers and foresters must preserve the soil's quality; and, • soil must be protected from erosion and pollution.
Getting the best from our land: A Land Use Strategy for Scotland[232]	Recognises the importance and value of land resources. Aims to ensure decisions on land use provide benefits. Targets land based businesses and stewardship of land, and seeks to achieve better connections between both urban and rural communities and the land. Highlights the importance of ecosystems and taking into account climate change. Notes that restoration of derelict and vacant land to productive use should continue to be a priority. Also recognises the importance of safeguarding land which is suitable for food production, flood management, water catchment management and carbon storage.
Management of carbon rich soils[233]	The Scottish Government's discussion paper notes the importance of peatlands and other carbon-rich soils in holding carbon. Emphasises the multiple benefits of peatland in particular, and the complexity of restoration.
PAN 33: Development of Contaminated Land[234]	This PAN provides advice with regards to the development of contaminated land, which any developments will need to adhere to.
Pesticides: Code of Practice for Using Plant Protection Products in Scotland[235]	The Code of Practice reflects the Scottish Government's policy to reduce to the lowest possible level the effect of pesticide use on people, wildlife, plants and the environment while making

[230] Water Framework Directive 200/60/EC.
[231] Water Resources (Scotland) Bill 2012.
[232] Scottish Government, 2011. *Getting the best from our land: A land use strategy for Scotland.* Edinburgh: Scottish Government.
[233] Scottish Government, 2013. *Management of carbon rich soils.* [pdf] Available at: http://www.scotland.gov.uk/Resource/Doc/921/0109512.pdf [Accessed 10 April 2014]
[234] Scottish Government, 2000. *PAN 33: Development of Contaminated Land*. Edinburgh: Scottish Government.
[235] Scottish Executive, 2006. *Pesticides: Code of Practice for Using Plant Protection Products in Scotland.* Edinburgh: Scottish Executive.

SOIL	
	sure pests, diseases, and weeds are effectively controlled.
Pollution Prevent and Control (Scotland) Regulations 2000[236]	Set out a regime for preventing and controlling pollution. Identifies activities that are subject to pollution control.
The Contaminated Land (Scotland) Regulations 2005[237]	The Regulations which amend Part IIA of the Environmental Protection Act 1990 details activities that are prohibited to prevent the contamination of land and watercourses.
The Scottish Soil Framework[238]	The Framework aims to raise awareness of the services soils provide to society and the pressures they face. Scotland's soils are generally in good health but the most significant pressures are climate change and loss of soil organic matter. Both affect most soil functions with national impacts which are difficult to reverse. In the case of greenhouse gas emissions, the impacts are global. The Framework identifies a wide range of activities that will contribute to thirteen soil outcomes.
The Waste Management Licensing Regulations 1994[239]	The Regulations bring into force the waste management licensing system under Part II of the Environmental Protection Act 1990, which is designed to control the disposal of waste materials, including sewage sludge, waste soil, and waste wood, bark and other plant material.
Thematic Strategy for Soil Protection[240]	The European Commission adopted the Thematic Strategy for Soil Protection, including proposals for a 'Framework Directive for Soils', in 2006. The proposed Directive (not yet in force) lays down a framework for the protection and sustainable use of soil.
IMPLICATIONS: • The SEA has assessed the extent to which the proposals of the ERDF and ESF will impact, both positively and negatively, on the soil resource. • Structural fund proposals should adhere to the guidelines and regulations outlined and should safeguard carbon rich soils from development.	

Table 9.8 PPS – Cultural Heritage

CULTURAL HERITAGE	
Name of PPS	**Environmental requirements of PPS**
LEGISLATION, NATIONAL POLICY AND GUIDANCE	
Draft Scottish Planning Policy: Valuing the Historic Environment[241]	The Draft SPP states that the planning system should promote the care and protection of the designated and non-designated historic environment, including the individual assets, related settings and the wider cultural landscape.
Managing Change in the Historic Environment Guidance Notes[242]	The series 'Managing Change in the Historic Environment Guidance Notes' explain how to apply the principles contained in SHEP 2011 and SPP 2010. Topics covered by guidance notes include battlefields, setting, etc.
PAN 2/2011 Planning and Archaeology[243]	This PAN informs the day-to-day work of a range of local authority advisory services and other organisations that have a role in the handling of archaeological matters within the planning process.

[236] Pollution Prevent and Control (Scotland) Regulations 2000.
[237] The Contaminated Land (Scotland) Regulations 2005.
[238] Scottish Government, 2009. *The Scottish Soil Framework.* Edinburgh: Scottish Government.
[239] The Waste Management Licensing Regulations 1994.
[240] European Commission, 2006. *Thematic Strategy for Soil Protection* [online] Available at: http://ec.europa.eu/environment/soil/three_en.htm [Accessed 09 April 2014]
[241] Scottish Government, 2013. *Scottish Planning Policy Consultation Draft.* Edinburgh: Scottish Government.
[242] Historic Scotland, 2010. *Managing Change in the Historic Environment Guidance Notes.* [online] Available at: http://www.historic-scotland.gov.uk/managingchange [Accessed 07 April 2014]
[243] Scottish Government, 2011. *Planning Advice Note: PAN 2/2011: Planning and Archaeology.* Edinburgh: Scottish Government.

PAN 71 Conservation Area Management[244]	This provides further advice on the management of conservation areas. It identifies good practice for managing change, sets out a checklist for appraising conservation areas and provides advice on funding and implementation.
Scotland's Woodlands and the Historic Environment[245]	Forestry Commission Scotland policy setting out how the forestry sector can tap into Scotland's rich cultural heritage and help develop historic sites - including designed landscapes and ancient woodlands.
Scottish Historic Environment Policy (SHEP)[246]	SHEP is the overarching policy statement for the historic environment. It provides a framework for more detailed strategic policies and operational policies that inform the day-to-day work of a range of organisations that have a role and interest in managing the historic environment.
Scottish Planning Policy: Historic Environment[247]	The historic environment is a vital contribution to Scotland's cultural heritage and contributes to our understanding of the past and present. The Development Plan should set the framework for the protection, conservation and enhancement of all elements of the historic environment (World heritage Sites, Scheduled Monuments, Designated Wrecks, Conservation Areas, Listed Buildings, Gardens & Designed Landscapes, etc.) to allow the assessment of the impact of proposed development on the historic environment and its setting.
IMPLICATIONS: • The SEA has assessed the extent to which the proposals of the ERDF and ESF will impact on cultural heritage assets. • The priorities for the funds respect and enhance the historic environment, including the protection of known and unknown historic environment resources. Therefore, proposals should safeguard and, where appropriate, enhance the historic environment.	

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9 PPS - Landscape and Geodiversity

LANDSCAPE	
Name of PPS	**Environmental requirements of PPS**
LEGISLATION, NATIONAL POLICY AND GUIDANCE	
Designing Places: A Policy Statement for Scotland[248]	Planning policy statement sets out Government aspirations for design and the role of the planning system in delivering these. It aims to demystify urban design and demonstrate how it can contribute to quality of life.
Designing Streets: A Policy Statement for Scotland[249]	Policy statement on street design changing the emphasis of guidance on street design towards place-making and away from a system focused upon the dominance of motor vehicles.
Draft Scottish Planning Policy: Enhancing Green Infrastructure[250]	The Draft SPP states that the planning system should: • Protect and enhance green infrastructure, including open space and green networks to provide multiple benefits. • Promote integrated, long-term management of green infrastructure, assessing current and future needs and opportunities and preventing fragmentation; and • Promote and protect easy and safe access to green infrastructure, including core paths and other important routes, having regard to statutory access rights under the Land Reform (Scotland) Act 2003.
National Scenic Areas Programme[251]	Scotland has 40 National Scenic Areas, covering 13% of the total area. SNH published information on the special qualities of each area, with

[244] Scottish Government, 2004. *Planning Advice Note: PAN 71: Conservation Area Management.* Edinburgh: Scottish Government.
[245] Forestry Commission Scotland, 2008. *Scotland's Woodlands and the Historic Environment.* Edinburgh: Forestry Commission Scotland.
[246] Historic Scotland, 2011. *Scottish Historic Environment Policy December 2011.* Edinburgh: Historic Scotland.
[247] Scottish Government, 2010. *Scottish Planning Policy.* Edinburgh: Scottish Government.
[248] Scottish Government, 2010. *A Policy Statement for Scotland: Designing Places.* Edinburgh: Scottish Government.
[249] Scottish Government, 2010. *A Policy Statement for Scotland: Designing Streets.* Edinburgh: Scottish Government.
[250] Scottish Government, 2013. *Scottish Planning Policy Consultation Draft.* Edinburgh: Scottish Government.
[251] Scottish Natural Heritage, 2010. *The special qualities of the National Scenic Areas: Commissioned Report No. 374*. [online] Available at: http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/national-designations/nsa/special-qualities/ [Accessed 08 April 2014]

LANDSCAPE	
	further guidance expected on how protection of these characteristics can be achieved.
PAN 65 Planning and Open Space[252]	Provides advice on the role of the planning system in protecting and enhancing existing open spaces and providing high quality new spaces.
Scotland's Landscape Charter[253]	Produced by the Scottish Landscape Forum and SNH, the Charter sets an agenda for landscape planning and management. Reflects the key principles of the European Landscape Convention and emphasises the need to maintain distinctiveness and sense of place within Scotland. Calls on public bodies to recognise the importance of landscape in decision making, encourage involvement of communities in managing landscape change, recognise the need for landscape expertise within planning, raise awareness of the role of local and national designations in safeguarding landscapes.
Scottish Planning Policy :Rural Developments[254]	Support and promote opportunities for environmental enhancement and regeneration in rural areas to maintain and improve the viability of communities and to support rural businesses.
Scottish Planning Policy: Green Belts[255]	The purpose of green belt designation in the development plan as part of the settlement strategy for an area is to: • direct planned growth to the most appropriate locations and support regeneration, • protect and enhance the quality, character, landscape setting and identity of towns and cities, and • protect and give access to open space within and around towns and cities.
SNH Wild Land Policy Review of Status and Conservation of Wild Land in Europe / Mapping Scotland's Wildness Project[256]	Notes the potential impact of a range of activities and developments on the essential qualities of wild land. The Review focuses on wild land in Europe and Scotland, referring to the wilderness quality index. Mapping project identifies the areas where wildness is a key quality
SNH's Landscape Policy Framework[257]	The overarching aim of the framework is *"to safeguard and enhance the distinct identity, the diverse character and the special qualities of Scotland's landscapes as a whole, so as to ensure tomorrow's landscapes contribute positively to people's environment and are at least as attractive and valued as they are today".*
The European Landscape Convention[258]	Highlights the importance of all landscapes and five key principles: • Our landscape – where people are involved in their management. • All landscape – recognising the importance of areas which are not formally designated, whether intact or degraded. • Changing landscapes – reflecting the continuous evolution of landscape and the need to manage change. • Understanding landscapes – the need to improve awareness of landscapes and their benefits. • Tomorrow's landscapes – supporting a forward-looking approach that reflects past evolution of landscapes and shapes new ones.
Woods In and Around Towns 'WIAT' Phase III[259]	The WIAT programme objectives are to regenerate the woodland environment close to centres of population and thereby improving the quality of the landscape.
IMPLICATIONS:	

[252] Scottish Government, 2008. *Planning Advice Note: PAN 65: Planning and Open Space.* Edinburgh: Scottish Government.
[253] Scottish Natural Heritage, and Scottish Landscape Forum, 2010. *Scotland's Landscape Charter*. [pdf] Available at: http://www.snh.gov.uk/docs/B721956.pdf [Accessed 07 April 2014]
[254] Scottish Government, 2010. *Scottish Planning Policy.* Edinburgh: Scottish Government.
[255] Scottish Government, 2010. *Scottish Planning Policy.* Edinburgh: Scottish Government.
[256] Scottish Natural Heritage, 2013. *Mapping Scotland's wildness and wild land.* [online] Available at: http://www.snh.gov.uk/protecting-scotlands-nature/looking-after-landscapes/landscape-policy-and-guidance/wild-land/mapping/ [Accessed 07 April 2014]
[257] Scottish Natural Heritage, 2005. *SNH's Landscape Policy Framework: Policy Statement No. 05/01.* [pdf] Available at: http://www.snh.gov.uk/docs/A147583.pdf Accessed 08 April 2014]
[258] Council of Europe, 2000. European Landscape Convention. CETS No.176. Treaty Office.
[259] Forestry Commission Scotland, 2011. *Woods In and Around Towns Phase III Next Steps.* Edinburgh: Forestry Commission Scotland.

LANDSCAPE

- The SEA has assessed the extent to which the proposals of the ERDF and ESF will impact on landscape quality and diversity.
- The priorities for the funds recognise improvement in the management and environmental protection of natural resources which encompass landscape and geodiversity.

Table 9.10 PPS – Material Assets

MATERIAL ASSETS	
Name of PPS	**Environmental requirements of PPS**
LEGISLATION, NATIONAL POLICY AND GUIDANCE	
Draft Scottish Planning Policy: Movement[260]	The Draft SPP promotes sustainable patterns of transport and travel as part of the transition to a low carbon economy.
Infrastructure Investment Plan 2011: Progress Report for 2013[261]	Sets out short, medium and long term investment in a range of infrastructure projects including transport, water, waste, health, education, housing, digital, energy, culture, sport, regeneration and justice. Progress report sets out key activities since the IIP was published, including delivery of a number of priorities set out in NPF2.
Rail 2014: Public Consultation[262]	The Consultation on the Rail programme aimed to inform the framework for contracting rail passenger services and financial arrangements for Network Rail, which are due for renewal in 2014 (High Level Output Specification). The consultation noted the importance of the rail industry in delivering sustainable economic growth. Reference is made to the Government Economic Strategy and the aim of delivering high quality rail infrastructure and services which: reflect needs, are efficient and represent good value for money, support businesses and communities by connecting settlements and rural areas, and provide a more sustainable personal and freight transport option.
Scotland's National Transport Strategy[263]	The NTS aims to promote economic growth by building, enhancing managing and maintaining transport services, infrastructure and networks to maximise their efficiency. Its key themes include connecting remote and disadvantaged communities, increasing accessibility, protecting the environment and improving health through investment in public transport, improving safety and integrating different modes of transport.
Scottish Planning Policy: Transport[264]	The SPP supports the reduction of emissions from transport sources as a contribution to achieving Scottish Government greenhouses gas emission targets requires a shift to more sustainable modes of transport.
Strategic Transport Projects Review (STPR)[265]	STPR complements the National Transport Review and sets out a range of projects that aim to improve journey times and connections, reduce emissions and improve quality, accessibility and affordability.
Waste Management Zero Waste Plan for Scotland[266]	The Zero Waste Plan aimed to achieve a significant shift in the way waste is managed. Its key measures included waste prevention, reducing landfill, improving management, and contributing to renewable energy. The Plan set new targets of 70% of waste to be recycled and a maximum of 5% to be sent to landfill, by 2025. Measures also relate to improving information to inform future decisions, and measuring the carbon impacts of waste to prioritise recycling for resources which could provide the most significant benefits.
IMPLICATIONS: • The SEA has assessed the extent to which the proposals of the ERDF and ESF will impact on the material assets. • In line with policy, the structural funds should support investment in transport infrastructure which contributes to the competitiveness of the business sector. • Meeting waste targets fits within the priority of promoting an environmentally friendly and resource efficient economy. • The priorities for the funds include reducing air pollutants particularly from transport, and promoting sustainable transport, which aligns strongly with the National Transport Strategy.	

[260] Scottish Government, 2013. *Scottish Planning Policy Consultation Draft.* Edinburgh: Scottish Government.
[261] Scottish Government, 2014. *Infrastructure Investment Plan 2011: Progress Report for 2013.* Edinburgh: Scottish Government.
[262] Transport Scotland, 2011. *Rail 2014: Public Consultation.* Glasgow: Transport Scotland.
[263] Scottish Executive, 2006. *Scotland's National Transport Strategy.* Edinburgh: Scottish Executive.
[264] Scottish Government, 2010. *Scottish Planning Policy.* Edinburgh: Scottish Government.
[265] Transport Scotland, 2009. *Strategic Transport Projects Review.* Glasgow: Transport Scotland.
[266] Scottish Government, 2010. *Scotland's Zero Waste Plan.* Edinburgh: Scottish Government.

Table 9.11 PPS – Economic, Planning, and General

ECONOMIC, PLANNING, AND GENERAL	
Name of PPS	**Environmental requirements of PPS**
ECONOMY	
Skills for Scotland: Accelerating the Recovery and Increasing Sustainable Economic Growth[267]	The Strategy is an update to the Skills for Scotland: A Lifelong Skills Strategy published in 2007. It identifies four priority themes: empowering people, supporting employers, simplifying the skills system and strengthening partnerships.
Supporting Business Development Strategy: The role of Forestry Commission Scotland[268]	This document provides a strategic framework for supporting business development on the Forestry Commission Scotland estate, and for stimulating wider economic development in the Scottish forest industries.
The Government Economic Strategy[269]	The Government Economic Strategy reaffirms the Scottish Government's commitment to delivering faster sustainable growth. It focuses on six Strategic Priorities: Supportive Business Environment; Learning, Skills and Well-being; Effective Government; Transition to a Low Carbon Economy; Infrastructure, Development and Place; Equity. Forestry has an important role to play across all six of these objectives.
PLANNING	
National Planning Framework 2[270]	NPF2 takes forward the spatial aspects of the Scottish Government's policy commitments on sustainable economic growth and climate change, which will see Scotland move towards a low carbon economy. It focuses strongly on priorities for the improvement of infrastructure to support long-term development, and identifies a number of National Developments.
National Planning Framework 3[271]	NPF3 sets out a vision for Scotland based around four key priorities: A low carbon place: • Infrastructure supporting offshore renewables; • Carbon capture and storage; • Grid reinforcement; • Infrastructure to support decarbonising head; • Onshore wind energy; • Oil and gas infrastructure; • Transition to lower carbon more energy efficient built environment. A natural place to invest: • Environmental protection and an ecosystem approach; • Improved understanding of natural and cultural assets and their benefits; • Support tourism; • Supports long distance paths and routes; • Local waste management; • Management of water resources. A successful , sustainable place: • Supporting business development; • Growth of areas supporting low carbon economy; • High quality, distinctive, sustainable and healthy places;

[267] Scottish Government, 2010. *Skills for Scotland: Accelerating the Recovery and Increasing Sustainable Economic Growth*. Edinburgh: Scottish Government.
[268] Forestry Commission Scotland, 2009. *Supporting Business Development – The role of Forestry Commission Scotland.* Edinburgh: Forestry Commission Scotland.
[269] Scottish Government, 2011. *The Government Economic Strategy.* Edinburgh: Scottish Government.
[270] Scottish Government, 2009. *National Planning Framework for Scotland 2.* Edinburgh: Scottish Government.
[271] Scottish Government, 2014. *Scotland's Third National Planning Framework: Proposed Framework*. Edinburgh: Scottish Government.

ECONOMIC, PLANNING, AND GENERAL	
	• Cities as drivers of the economy; • Economic growth at key locations; • National developments of Dundee Waterfront, Ravenscraig, the CSGN; • Flexible approach to housing provision. A connected place: • Digital infrastructure; • Building on existing infrastructure; • Decarbonising transport; • Links to rural areas; • Enhancements to port facilities; • Improvements to main airports and high speed rail to London.
Scottish Planning Policy[272]	The SPP currently contains: • An overview of the key components and overall aims and principles of the planning system. • Cross-cutting policies on sustainable economic growth, community engagement and sustainable development. • Subject specific policies on: economic development, town centres and retailing, housing, rural development, coastal planning, fish farming, historic environment, landscape and natural heritage, open space and physical activity, green belts, transport, renewable energy, flooding and drainage, waste management, minerals, on-shore oil and gas, surface coal mining and communications infrastructure. • Sets out the desired outcomes from the planning system, including the creation of high quality sustainable places, and increased sustainable economic growth.
Draft Scottish Planning Policy[273]	The SPP identifies 3 planning outcomes: • Outcome 1: Planning improves quality of life by helping to create well-designed sustainable places for Scotland's people. • Outcome 2: Planning protects and enhances Scotland's built and natural environments as valued national assets. • Outcome 3: Planning supports sustainable economic growth and the transition to a low carbon economy.
GENERAL	
The Scotland Rural Development Programme[274]	The Scotland Rural Development Programme (SRDP) is a programme of economic, environmental and social measures. Individuals and groups may seek funding to help deliver the Government's strategic objectives in rural Scotland. SRDP brings together a wide range of formerly separate support schemes including those covering the farming, forestry and primary processing sectors, rural enterprise and business development, diversification and rural tourism. It includes measures to support and encourage rural communities and delivers the LEADER initiative for local innovation in rural areas. The SRDP 2007-2013 has now finished and replacement programme is due in 2014. ☐
Common Agricultural Policy (CAP)[275] The CAP towards 2020: Meeting the food, natural resources and	The Common Agricultural Policy (CAP) is the main form of support to farmers in Europe. Historically the objectives of the CAP aim to ensure the availability of sufficient food at reasonable and stable prices, to contribute to the viability of farming and rural areas and to compel environmentally friendly farming practices. Key issues highlighted for

[272] Scottish Government, 2010. *Scottish Planning Policy*. Edinburgh: Scottish Government.
[273] Scottish Government, 2013. *Scottish Planning Policy Consultation Draft.* Edinburgh: Scottish Government.
[274] Scottish Government, 2014. *The Scotland Rural Development Programme.* [online] Available at: http://www.scotland.gov.uk/Topics/farmingrural/SRDP [Accessed 10 April 2014]
[275] EUROPA, 2012. *Policy Areas - Agriculture*. [online] Available at: http://europa.eu/pol/agr/index_en.htm [Accessed 10 April 2014]

ECONOMIC, PLANNING, AND GENERAL	
territorial challenges of the future [276]	CAP to 2020 include: • Supporting food production to guarantee long term food security for European citizens; • Supporting farming communities that produce food sustainably, maintaining the landscape, supporting biodiversity and mitigating and adapting to climate change; • To maintain viable rural communities, delivering economic, social, environmental and territorial benefits.
IMPLICATIONS: • There is potential strong synergy between the aims of the SRDP and ESF and ERDF in supporting economic, environmental and social measures. It should be noted that SRDP is also under revision and a 2014 - 2020 programme is being developed in parallel with Scottish Government's work on ESF/ERDF. This will help to ensure synergy between funding programmes. • NPF2/SPP and NPF3/Draft SPP support sustainable economic growth and the continued development of the low carbon economy, central themes of the ESF/ERDF programmes.	

[276] European Commission, 2010. *The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future*. [online] Available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0672:FIN:en:PDF [Accessed 14 April 2014]

Appendix 2

Outline of how views of consultation authority views at consultation have been taken into account

Table 9.12 Consultation - Scoping Stage

	Scoping stage comment	How comment has been taken into account during preparation of the ER
SNH	Note that regionally specific environmental information will focus on the CSGN. Other areas of Scotland have been identified as fragile areas and Areas of Employment Deficit by HIE. It may be useful to extend any regional analysis to other areas outside CSGN where data allows, as the potential environmental impacts of the programmes could be felt across the country.	The proposals are not regionally specific, and no detail is available at this stage with regard to how the funds may be deployed, therefore regional level analysis has not be possible as part of the assessment.
Historic Scotland	In relation to the summary of the relationship with other PPS: • Include reference to enhancement of the historic environment (where appropriate) in addition to protection.	Included in the ER.
	In relation to baseline information: • Recommend this should include the National Monuments Record of Scotland and or local authority sites and monuments Records, to provide a basis on which to assess potential effects on undesignated historic environment features.	The proposals contained in the Operational Programmes are not regionally specific, therefore no reasonable assumptions can be made with regard to likely effects on undesignated historic environment features. Where proposals involve development within the meaning of the planning acts, likely effects on the historic environment will be identified and mitigated at the site-specific level.
	Recommend clarification of the three SEA objectives which appear similarly worded.	The SEA objectives are worded similarly across all SEA topic areas. They are designed to distinguish between aspects of a PPS which • Avoid harm to protected resources. • Provide enhancement. • Avoid harm to undesignated resources. This structure allows the relative severity of impacts on the historic environment to be easily identified from the assessment process.
	Appreciate that the environmental effects on the historic environment are likely to be uncertain, very high level and generic and recommend use of baseline information to establish likely issues, trends and historic environment characteristics at national/regional level. Assessment could usefully focus on identifying potential for more detailed assessment and/or mitigation measures at a lower level.	The nature of the proposals has not been specific enough to allow identification of impacts at this level.
	Analysis of relevant environmental objectives of plans programmes or strategies, note the consultation on the new Historic Environment Strategy for Scotland.	Document added to the review of PPS.
SEPA	Recommend that biodiversity flora and fauna, cultural heritage and material assets are scoped into the ESF assessment.	All SEA topics have been scoped into the assessment for all elements of the ESI.

Table 9.13 Consultation – Environmental Report Stage

	Environmental Report comment	How comment has been taken into account during the revision of the ER
SNH	Key issues boxes do not adequately reflect the previous discussion identifying potential impacts: **Biodiversity:** Recommend statement is expanded to summarise some of the other key impacts that biodiversity is vulnerable to which would include industrialisation, transport, fragmentation of habitats, changes in land use and loss of habitat. The Key Issues section should also contain a statement that proposals should not have a detrimental impact on biodiversity and ecosystem services. **Population and Human Health:** Suggest the wording is strengthened where possible, 'should' support outdoor recreation, 'should' support climate change adaptation. **Climatic Factors and Water:** Use stronger terminology such as 'should' or the 'proposal must'. **Soil:** Key issues facing soils could be summarised from sections 4.66 – 4.68, identifying particularly sensitive soils such as peatland and soils with high carbon content. The most significant threats to Scottish soils are climate change and loss of organic matter. Other significant threats to Scottish soils include construction (section 4.65) and this should be highlighted in the key issues section. **Landscape**: Recommend that the final sentence should read 'seek to enhance landscapes, in particular degraded landscapes.'	The key issues boxes have been revised and updated to accurately reflect the previous discussions identifying potential impacts in line with SNH's comments.
	Indicators used are not sufficient. Other indicators may be more appropriate including, for example, the proportion of adults in Scotland visiting the outdoors for leisure or recreation at least once a week (from the Scottish Recreation Survey); and other indicators from the Scottish Health Survey (e.g. % of adults physically active at recommended levels; % of obese adults etc.).	The indicators for population and human health have been revised to include more appropriate indicators form Scottish Recreation Survey, and Scottish Health Survey.
	Refer to Scottish Government's strategy on Good Places Better Health.	Referred to in Appendix 1.
	Low Carbon Infrastructure Transition Development Fund: record negative impacts for biodiversity.	Assessment updated in line with SNH's comments.
	Resource Efficient Circular Economy Accelerator Programme: Might be some residual landscape impacts.	Assessment updated in line with SNH's comments.
	Scottish Regeneration Capital Grant Fund: Regeneration projects have a major positive impact on biodiversity and landscape if they incorporate green infrastructure. However, such projects could potentially have negative impacts on the natural heritage at a local level, if natural vegetation or habitats are removed or 'tidied up'.	Assessment updated in line with SNH's comments.

	Environmental Report comment	How comment has been taken into account during the revision of the ER
	Baseline Environmental Information: Regionally specific information focuses on the Central Scotland Green Network, other areas should also be identified as fragile areas. It may be useful to extend any regional analysis to other areas outside CSGN where data allows as the potential environmental impacts of the Programmes could be felt across the country.	The nature of the proposals has not been regionally specific and therefore regional level analysis has not be possible as part of the assessment.
Historic Scotland	• Welcome that the comments provided at Scoping Stage have been taken into account during the preparation of the Environmental Report. • Content to agree with the conclusions of the ER. • Suggested that the **Post Adoption Statement** could include a clear commitment to delivering any recommendations, such as in depth assessments or scheduled monument consent (SMC), for lower level plans and actions that fall from this process as the Programme is implemented.	Statement will be included in **Post Adoption Statement**.
SEPA	SEPA are content with scoping stage; methodology, baseline information and policy context; and identification of significant environmental effects. SEPA suggest expanding the table in **Chapter 8: Mitigation and Monitoring** to include columns on lead authority and mechanism and proposed timescales. SEPA suggest including a sentence in paragraph 8.3 confirming that SEA monitoring will be integrated with the monitoring requirements of the programmes.	New columns added to table in **Chapter 8: Mitigation and Monitoring.** Included sentence which states that SEA monitoring will be integrated with the monitoring requirements of the programmes.

Appendix 3
Assessment matrices: ERDF

Structure of the appendix

The following section of the ER is structured as follows:

ESIF fund

- Operational Programme thematic objective
  - Investment priorities under this objective
    - Proposals under this Investment Priority

Where Proposals cut across ESIF Funds or investment priorities, this is clearly indicated with hyperlinks to relevant tables/locations.

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) OPERATIONAL PROGRAMME			
Thematic Objective	Strengthening research, technological development and innovation		
Investment Priority	1(b). Promoting business investment in innovation and research and developing links and synergies between enterprises, R&D centres and higher education in particular 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, advanced manufacturing capabilities and first production, in particular key enabling technologies and diffusion of general purpose technologies.		
SEA topic	**Objectives**	**Assessment**	**Comments**
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	Insufficient information on the types and locations of projects to allow accurate predictions of impacts. However, the horizontal theme of environmental sustainability should ensure that projects granted funding would not have a negative environmental effect. Any development arising from implementation of this proposal would be subject to relevant assessment procedures through the planning system, identifying and mitigation site-specific effects
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	0	Improved business development and innovation will support business growth and employment opportunities, indirectly contributing to improved health and living environments in the benefitting communities.
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	+	Promoting investment and innovation is likely to result in some downstream benefits (through employment, contributions to regeneration etc) that will positively influence economic and social conditions
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	0	Promoting investment in innovation and research could support efficiencies which avoid increases in or reduce greenhouse gas emissions, or support climate change adaptation. Enhancement: This could be made explicit in order to achieve these environmental benefits.
	Support actions which contribute to targets for reducing greenhouse gas emissions	0/+	Potential to contribute to the development / improvement and roll-out of renewable energy and low carbon technologies.

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) OPERATIONAL PROGRAMME			
Thematic Objective	Strengthening research, technological development and innovation		
Investment Priority	1(b). Promoting business investment in innovation and research and developing links and synergies between enterprises, R&D centres and higher education in particular 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, advanced manufacturing capabilities and first production, in particular key enabling technologies and diffusion of general purpose technologies.		
SEA topic	**Objectives**	**Assessment**	**Comments**
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	Adverse effects on environmental assets unlikely, due to assumed mitigation provided by existing regulatory processes covering development and industrial processes. Insufficient information to understand likely distribution, nature or scale of investment activity.
	Improve air quality	0	
	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	?	**Enhancement**: The actions under the proposal could support sustainable use of natural resources; however this is not explicit within the proposal, which would allow benefits to be identified.

SMART GROWTH: Competitiveness, Innovation and Jobs	
Proposal	1) Innovation
Lead Organisation	HIE, SE, SFC
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Strengthening research, technological development and innovation
Investment Priority	Promoting business investment in R&I, developing links and synergies between enterprises, research and development centres and the higher education sector, in particular 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, advanced manufacturing capabilities and first production, in particular in key enabling technologies and diffusion of general purpose technologies.

Aim:

- To help businesses commercialise and capitalise on research and to promote centres of excellence for that research. The proposal aims to increase business R& D expenditure by £300milltion and for Scottish companies to be 'born global'.

Delivery / What this means in practice:

- Increasing business R&D expenditure.

SEA topic	Objectives	Assessment	Comments
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	0	Improved business development and innovation will support business growth and employment opportunities, indirectly contributing to improved health and living environments in the benefitting communities. Short-term benefits unlikely to directly affect at-risk communities, but downstream benefits of bringing technologies to market likely to enhance employment opportunities
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	+	
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	0	Promoting investment in innovation and research could support efficiencies which avoid increases in or reduce greenhouse gas emissions, or support climate change adaptation. Enhancement: This could be made explicit in order to achieve these environmental benefits.
	Support actions which contribute to targets for reducing greenhouse gas emissions	0	
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	Adverse effects on environmental assets unlikely, due to assumed mitigation provided by existing regulatory processes covering development and industrial processes.
	Improve air quality	0	
	Avoid adverse effects on air quality	0	
WATER, COASTAL,	Avoid adverse impacts on the ecological status of waterbodies	0	

SMART GROWTH: Competitiveness, Innovation and Jobs	
Proposal	1) Innovation
Lead Organisation	HIE, SE, SFC
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Strengthening research, technological development and innovation
Investment Priority	Promoting business investment in R&I, developing links and synergies between enterprises, research and development centres and the higher education sector, in particular 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, advanced manufacturing capabilities and first production, in particular in key enabling technologies and diffusion of general purpose technologies.

Aim:

- To help businesses commercialise and capitalise on research and to promote centres of excellence for that research. The proposal aims to increase business R& D expenditure by £300milltion and for Scottish companies to be 'born global'.

Delivery / What this means in practice:

- Increasing business R&D expenditure.

SEA topic	Objectives	Assessment	Comments
MARINE	Avoid and reduce flood risk	0	Insufficient information to understand likely distribution, nature or scale of investment activity.
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	?	**Enhancement**: The actions under the proposal could support sustainable use of natural resources; however this is not explicit within the proposal, which would allow benefits to be identified.

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) OPERATIONAL PROGRAMME			
Thematic Objective	Enhancing access to, and use and quality of, ICT		
Investment Priority	2(a). Extending broadband deployment and the roll out of high speed networks and supporting the adoption of emerging technologies and networks for the digital economy		
SEA topic	**Objectives**	**Assessment**	**Comments**
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	0	
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	0/+	Potential for minor positive effects where improved deployment / quality of ICT can help to offset need for commuting/business travel; reducing air pollution-related ill health (potential improvement in mental health where significant reductions in unnecessary travel)
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	0/+	Potential for minor positive effects where improved deployment / quality of ICT can help to offset need for commuting/business travel, reducing GHG emissions
	Support actions which contribute to targets for reducing greenhouse gas emissions	0/+	
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	
	Improve air quality	0/+	Potential for minor positive effects where improved deployment / quality of ICT can help to offset need for commuting/business travel
	Avoid adverse effects on air quality	0/+	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	Very unlikely to result in any significant direct or indirect effects on environmental assets. Potential for short term, localised effects related to cable laying
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	Any aspects of delivery involving development will be regulated through the planning system. Insufficient detail regarding location, nature and scale of infrastructure required – but unlikely to result in significant adverse effects that will not be identified and
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) OPERATIONAL PROGRAMME			
Thematic Objective	Enhancing access to, and use and quality of, ICT		
Investment Priority	2(a). Extending broadband deployment and the roll out of high speed networks and supporting the adoption of emerging technologies and networks for the digital economy		
SEA topic	**Objectives**	**Assessment**	**Comments**
			avoided or mitigated through existing regulatory processes (particularly as cable routes to follow existing roads)
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	Short-term, insignificant effects of cable-laying
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	0	

SMART GROWTH: Competitiveness, Innovation and Jobs	
Proposal	2) Next Generation Broadband Investment
Lead Organisation	Scottish Government Digital Directorate
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Enhancing access to, and use and quality of ICT
Investment Priority	Extending broadband deployment and the roll out of high speed networks and supporting the adoption of emerging technologies and networks for the digital economy.

Aim:

- To supply Next Generation Superfast Broadband to Highlands and Islands and other rural areas of Scotland with limited coverage.

Delivery / What this means in practice:

- Delivery in partnership with local authorities and Community Broadband Scotland, using contracting and procurement.
- New land based cable laying (along roads) and sub-sea cables (connecting islands). This means temporary disruption to road traffic during cable laying and impacts on marine and coastal habitats for sub-sea cables.
- Improved access to education, employability through more effective job-hunting and flexible working arrangements, and reduced isolation resulting from improved connections to family and friends.

SEA topic	Objectives	Assessment	Comments
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0/-	Short term temporary **negative** impacts resulting from seabed disturbance and damage, displacement or disturbance of flora and fauna, increased turbidity, remobilisation of contaminants from sediments and alteration of sediments[277]. **Mitigation**: appropriate route selection should be undertaken to reduce potential impacts on habitats and species. Timing of cable laying should also be undertaken to reduce impacts on habitats and species, particularly at landfall of sub-sea cables. Effects likely to be of only local significance, and temporary, if properly planned.
	Enhance biodiversity, restore habitats and create habitat networks	0/-	
	Avoid adverse effects on all habitats and species	0/-	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	+/-	Direct and **positive** long term impact on local business development and quality of life of individuals in remote and rural communities. Provides enhanced opportunities for economic development, and homeworking. Directly promotes inclusion through widening availability of training and education, access to and delivery of services. It also promotes greater community and individual participation in wider society. Potential **negative** effects include short term, temporary impacts resulting from
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	++	

[277] www.ospar.org OSPAR Commission Agreement 2012/2 Guidelines on Best Environmental Practice (BEP) in Cable Laying and Operation

SMART GROWTH: Competitiveness, Innovation and Jobs	
Proposal	2) Next Generation Broadband Investment
Lead Organisation	Scottish Government Digital Directorate
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Enhancing access to, and use and quality of ICT
Investment Priority	Extending broadband deployment and the roll out of high speed networks and supporting the adoption of emerging technologies and networks for the digital economy.

Aim:

- To supply Next Generation Superfast Broadband to Highlands and Islands and other rural areas of Scotland with limited coverage.

Delivery / What this means in practice:

- Delivery in partnership with local authorities and Community Broadband Scotland, using contracting and procurement.
- New land based cable laying (along roads) and sub-sea cables (connecting islands). This means temporary disruption to road traffic during cable laying and impacts on marine and coastal habitats for sub-sea cables.
- Improved access to education, employability through more effective job-hunting and flexible working arrangements, and reduced isolation resulting from improved connections to family and friends.

SEA topic	Objectives	Assessment	Comments
			disruption during cable laying activities which may adversely affect local communities and local businesses **Mitigation**: Timing of cable laying works to avoid impacts during peak tourist season to minimise travel disruption from cable laying.
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	+	Enhanced connectivity can support more efficient delivery of services and promote employment opportunities in remote areas thereby reducing the need for long commutes and having a **positive** effect on reducing greenhouse gas emissions.
	Support actions which contribute to targets for reducing greenhouse gas emissions	0	
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	
	Improve air quality	0	
	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0/-	Potential short term temporary local **negative** effects on the terrestrial and marine water environment from cable laying. Cable laying in the marine environment could result in negative impacts on sensitive coastal areas. **Mitigation**: appropriate route selection should be undertaken to reduce potential impacts on sensitive coastal areas and sensitive marine environments.
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0/-	
	Improve the water environment	0/-	
SOIL	Avoid adverse impacts on soil	0/-	Potential minor negative

SMART GROWTH: Competitiveness, Innovation and Jobs	
Proposal	2) Next Generation Broadband Investment
Lead Organisation	Scottish Government Digital Directorate
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Enhancing access to, and use and quality of ICT
Investment Priority	Extending broadband deployment and the roll out of high speed networks and supporting the adoption of emerging technologies and networks for the digital economy.

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Delivery / What this means in practice:

- Delivery in partnership with local authorities and Community Broadband Scotland, using contracting and procurement.
- New land based cable laying (along roads) and sub-sea cables (connecting islands). This means temporary disruption to road traffic during cable laying and impacts on marine and coastal habitats for sub-sea cables.
- Improved access to education, employability through more effective job-hunting and flexible working arrangements, and reduced isolation resulting from improved connections to family and friends.

SEA topic	Objectives	Assessment	Comments
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0/-	effects on soil during cable laying. **Mitigation**: appropriate route selection should be undertaken to reduce potential impacts on sensitive soil resources.
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	Potential minor negative localised impacts on unknown archaeological resources during cable laying. **Mitigation**: Appropriate route selection should be undertaken to avoid areas where greater concentrations of archaeological resources are likely to occur.
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0/-	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	+	Increased broadband speeds and availability positively contribute to the provision of telecommunication infrastructure.
	Support sustainable use of natural resources	0	

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) OPERATIONAL PROGRAMME			
Thematic Objective	Enhancing the competitiveness of SMEs		
Investment Priority	3(d). Supporting the capacity of SME's to engage in growth in regional, national and international markets, and in innovation processes		
SEA topic	**Objectives**	**Assessment**	**Comments**
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	Unlikely to have any significant effect on biodiversity. Development and industrial activity regulated through existing systems
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	0	
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	+	Potential for positive effects, as SMEs major employers; improvements in competitiveness should result in additional benefit delivered to communities particularly where businesses are able to expand. Short-term benefits unlikely to target at-risk communities, as jobs and markets centred on skilled and professional services
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	0/+	Potential for minor positive effects through innovation in the low carbon sector
	Support actions which contribute to targets for reducing greenhouse gas emissions	0	
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	
	Improve air quality	0	
	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) OPERATIONAL PROGRAMME			
Thematic Objective	Enhancing the competitiveness of SMEs		
Investment Priority	3(d). Supporting the capacity of SME's to engage in growth in regional, national and international markets, and in innovation processes		
SEA topic	**Objectives**	**Assessment**	**Comments**
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	0/-	Potential for minor adverse impact, where success of high-tech businesses results in increased consumption of scarce or high embodied energy commodities

SMART GROWTH: Competitiveness, Innovation and Jobs	
Proposal	3) Scotland's 8th City – the Smart City[278]
Lead Organisation	Scottish Cities Alliance and SG Digital Directorate
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Enhancing the competitiveness of SMEs
Investment Priority	Supporting the creation and the extension of advanced capacities for products and service development.

Aim:

- To help Scotland's cities, industry and urban communities build on the testing by Glasgow of smart city technologies, to use this to innovate using new technologies and transform the delivery of city services including a services of 'smart infrastructure and services' projects across Scotland's Cities.

Delivery / What this means in practice:

- Projects selected and procured through Cities Alliance network to fit with policy direction from Digital Directorate.
- Increased economic growth and job creation, increased efficiency of city management to improve delivery and access of city services (including smart management of city lighting and heating).

SEA topic	Objectives	Assessment	Comments
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	+	There will be **positive** effects on health and quality of life through increased economic growth and job creation and improved efficiency in delivery and access to city services.
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	+	
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	0	Improved efficiency in city heating and lighting will contribute to reductions in greenhouse gas emissions.
	Support actions which contribute to targets for reducing greenhouse gas emissions	+	
	Support adaptation to climate change	0	**Enhancement**: Climate change adaptation within cities is a key area where application of technology and innovation through new applications could bring benefits.
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	**Enhancement**: Intelligent city management could be used to inform traffic management to reduce adverse effects on air quality within AQMA.
	Improve air quality	0	
	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	
	Avoid and reduce flood risk	0	**Enhancement**: Intelligent city management could also be used to help to manage flood risk through monitoring water levels and blockages.
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	

[278] Also discussed under Environmental, Low Carbon and Resource Efficiency.

SMART GROWTH: Competitiveness, Innovation and Jobs	
Proposal	3) Scotland's 8th City – the Smart City[278]
Lead Organisation	Scottish Cities Alliance and SG Digital Directorate
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Enhancing the competitiveness of SMEs
Investment Priority	Supporting the creation and the extension of advanced capacities for products and service development.

Aim:

- To help Scotland's cities, industry and urban communities build on the testing by Glasgow of smart city technologies, to use this to innovate using new technologies and transform the delivery of city services including a services of 'smart infrastructure and services' projects across Scotland's Cities.

Delivery / What this means in practice:

- Projects selected and procured through Cities Alliance network to fit with policy direction from Digital Directorate.
- Increased economic growth and job creation, increased efficiency of city management to improve delivery and access of city services (including smart management of city lighting and heating).

SEA topic	Objectives	Assessment	Comments
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	0	**Enhancement**: Intelligent city management could also be used to help to ensure sustainable use of natural resources, for example through minimising transport of goods.

SMART GROWTH: Competitiveness, Innovation and Jobs	
Proposal	4) Business competitiveness
Lead Organisation	Scottish Enterprise/HIE/Local Authorities/Visit Scotland
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Enhancing the competitiveness of SMEs
Investment Priority	Supporting the capacity of SMEs to grown in regional, national and international markets, and to engage in innovation processes

Aim:

- To improve the long term growth performance of companies by developing their capacity to improve competitiveness in particular exporting, innovation and entrepreneurship, also addressing issues such as leadership development, efficiency and growing the digital economy.

Delivery / What this means in practice:

- Aligned delivery between Local Authorities and SE/HIE.
- Providing advisory support to support business growth and competitiveness and identifying 700 -1000 high growth companies capable of that growth within 5 years.

SEA topic	Objectives	Assessment	Comments
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	0	
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	0/+	Supporting business growth, skills and jobs has a minor positive effect on improving health through increasing employment opportunities.
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	0	Enhancement: No explicit reference is made to improving energy efficiency which would contribute to reducing greenhouse gas emissions from businesses.
	Support actions which contribute to targets for reducing greenhouse gas emissions	0/-	The programme seeks to increase exports, with potential negative effects on greenhouse gas emissions. **Mitigation**: Supporting the use of low carbon transport, and efficiencies in transport networks would reduce greenhouse gas emissions.
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	
	Improve air quality	0	
	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal	0	

SMART GROWTH: Competitiveness, Innovation and Jobs	
Proposal	4) Business competitiveness
Lead Organisation	Scottish Enterprise/HIE/Local Authorities/Visit Scotland
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Enhancing the competitiveness of SMEs
Investment Priority	Supporting the capacity of SMEs to grown in regional, national and international markets, and to engage in innovation processes

Aim:

- To improve the long term growth performance of companies by developing their capacity to improve competitiveness in particular exporting, innovation and entrepreneurship, also addressing issues such as leadership development, efficiency and growing the digital economy.

Delivery / What this means in practice:

- Aligned delivery between Local Authorities and SE/HIE.
- Providing advisory support to support business growth and competitiveness and identifying 700 -1000 high growth companies capable of that growth within 5 years.

SEA topic	Objectives	Assessment	Comments
	areas and the marine environment		
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	0	

CROSS-CUTTING PROPOSAL	
Proposal	5) Financial Engineering Instruments
Lead Organisation	*Not yet clear*
ESIF Programme	European Regional Development Fund (ERDF) and European Social Fund (ESF)
Thematic Objective	• Strengthening research, technological development and innovation ***(ERDF thematic objective)*** • Enhancing access to and use of and quality of ICT ***(ERDF thematic objective)*** • Enhance competitiveness of SMEs ***(ERDF thematic objective)*** • Supporting a shift towards a low carbon economy in all sectors ***(ERDF thematic objective)*** • Preserving and protecting the environment and promoting resource efficiency ***(ERDF thematic objective)*** • Promoting sustainable and quality employment and supporting labour market mobility ***(ESF thematic objective)*** • Promoting social inclusion, combating poverty and any discrimination ***(ERDF & ESF thematic objective)***

Aim:

- Expand access to finance funding both through Scottish Investment Bank and Local Authority Loan Funds;
- Funding low carbon transition fund;
- Supporting digital roll out; and;
- Ensuring financial inclusion.

Delivery / What this means in practice:

- Initial scoping work does not suggest this as the favoured option, and so these proposals may be delivered under other the relevant thematic objectives.

SEA topic	Objectives	Assessment	Comments
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	+	The proposal supports employment and labour market mobility, and promotes social inclusion and combats poverty, which are supportive of health and quality of life, and improving the health and living environment of people and communities.
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	+	
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	+	Funding for the low carbon transition fund will help to avoid increasing greenhouse gas emissions and reduce greenhouse gas emissions
	Support actions which contribute to targets for reducing greenhouse gas emissions	+	Support for market failures in development of marine renewables will contribute to increased growth and investment in this sector.
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	
	Improve air quality	0	

	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	0/+	The proposal supports resource efficiency.

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) OPERATIONAL PROGRAMME			
Thematic Objective	Supporting the shift towards a low carbon economy in all sectors		
Investment Priority	4(e). Promoting low-carbon strategies for all types of territories, in particular for urban areas, including the promotion of sustainable multi-model urban mobility and mitigation relevant adaption measures		
SEA topic	**Objectives**	**Assessment**	**Comments**
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	0	
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	+	May have positive effects on health through reduction in transport / industrial emissions (e.g. diesel and industry-derived PM_{10} particulate emissions) Where adoption is successful, active travel likely to have significant positive effects on physical and mental health of participants
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	+	Active travel offsetting short, high emission, trips by private car
	Support actions which contribute to targets for reducing greenhouse gas emissions	+	
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0/+	May have positive effects on health through reduction in transport / industrial emissions (e.g. diesel and industry-derived PM_{10} particulate emissions)
	Improve air quality	0/+	
	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	
LANDSCAPE	Avoid adverse impacts on protected	0	

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) OPERATIONAL PROGRAMME			
Thematic Objective	Supporting the shift towards a low carbon economy in all sectors		
Investment Priority	4(e). Promoting low-carbon strategies for all types of territories, in particular for urban areas, including the promotion of sustainable multi-model urban mobility and mitigation relevant adaption measures		
SEA topic	**Objectives**	**Assessment**	**Comments**
	landscape, wild land and geodiversity		
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	0	

SUSTAINABLE GROWTH: Environment, Low Carbon and Resource Efficiency	
Proposal	6) Low carbon travel and transport
Lead Organisation	Transport Scotland
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Supporting the shift towards a low carbon economy in all sectors
Investment Priority	Promoting low carbon strategies for all types of territories, in particular for urban areas, including the promotion of sustainable multi-modal urban mobility and mitigation relevant adaptation measures.

Aim: To support low carbon travel and transport:

- ***Active Travel Hubs:*** local facilities to link affordable bike hire and parking; safe, secure and convenient cycling and walking routes, and public transport as an alternative to taking the car.
- ***National Smart ticketing Scheme:*** A national Smart Transport Card acting as a catalyst for increased public transport use, reducing emissions and congestion from road travel.
- ***Low Carbon Transport Hubs:*** trialling low carbon transport hubs at strategic sites to act as a catalyst for a step change in the take up of low carbon vehicles and the market for alternative fuels. Hubs will provide reliable low carbon refuelling services.

Delivery / What this means in practice:

- Active travel - Delivery likely to be a hybrid of Transport Scotland and locally promoted schemes, e.g. via community organisations or local authorities.
- National Smart Ticketing Scheme – delivered by Transport Scotland via procurement where required.
- Hubs – TS to manage process for selecting sites and mix of alternative fuels with partners. Local authorities likely to play a role. Any building work must go through procurement.

SEA topic	Objectives	Assessment	Comments
BIODIVERSITY, FLORA AND FAUNA	Avoid adverse effects on protected habitats and species	0	Development of low carbon refuelling hubs could result in localised construction impacts, however the number, nature and location of these is not known, and therefore it is not possible to identify any scale of potential impact on this topic area.
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	+	Active travel will have a positive effect on health and quality of life through increasing levels of physical activity. It will also improve the health and living environment of people and communities through helping to reduce air pollution from transport. Supports social inclusion by encouraging those without access to a car to utilise a more integrated public transport system.
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	+	
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	++	An improved, better integrated public transport system encourages reduced reliance and use of cars, and the proposal is strongly positive in avoiding increases in greenhouse gas emissions from travel and transport and reducing greenhouse gas emissions from road transport.
	Support actions which contribute to targets for reducing greenhouse gas emissions	++	
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	?	The proposal will have a positive effect on reducing adverse effects and contributing to improvements to air quality. It is not possible to quantify potential impacts on the air quality of AQMA.
	Improve air quality	+	
	Avoid adverse effects on air quality	+	
WATER, COASTAL,	Avoid adverse impacts on the ecological status of waterbodies	0	Minor positive effects on water or the marine environment could result from

SUSTAINABLE GROWTH: Environment, Low Carbon and Resource Efficiency	
Proposal	6) Low carbon travel and transport
Lead Organisation	Transport Scotland
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Supporting the shift towards a low carbon economy in all sectors
Investment Priority	Promoting low carbon strategies for all types of territories, in particular for urban areas, including the promotion of sustainable multi-modal urban mobility and mitigation relevant adaptation measures.

Aim: To support low carbon travel and transport:

- ***Active Travel Hubs:*** local facilities to link affordable bike hire and parking; safe, secure and convenient cycling and walking routes, and public transport as an alternative to taking the car.
- ***National Smart ticketing Scheme:*** A national Smart Transport Card acting as a catalyst for increased public transport use, reducing emissions and congestion from road travel.
- ***Low Carbon Transport Hubs:*** trialling low carbon transport hubs at strategic sites to act as a catalyst for a step change in the take up of low carbon vehicles and the market for alternative fuels. Hubs will provide reliable low carbon refuelling services.

Delivery / What this means in practice:

- Active travel - Delivery likely to be a hybrid of Transport Scotland and locally promoted schemes, e.g. via community organisations or local authorities.
- National Smart Ticketing Scheme – delivered by Transport Scotland via procurement where required.
- Hubs – TS to manage process for selecting sites and mix of alternative fuels with partners. Local authorities likely to play a role. Any building work must go through procurement.

SEA topic	Objectives	Assessment	Comments
MARINE	Avoid and reduce flood risk	0	reduced emissions to air from the transport sector (potential for less acid rain). Development of low carbon refuelling hubs could result in localised construction impacts, however the number, nature and location of these is not known, and therefore it is not possible to identify any scale of potential impact on this topic area.
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	Development of low carbon refuelling hubs could result in localised construction impacts, however the number, nature and location of these is not known, and therefore it is not possible to identify any scale of potential impact on this topic area, and these should be mitigated at project level and monitored through the SEA.
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	Development of low carbon refuelling hubs could result in localised construction impacts, however the number, nature and location of these is not known, and therefore it is not possible to identify any scale of potential impact on this topic area, and these should be mitigated at project level and monitored through the SEA.
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	Development of low carbon refuelling hubs could result in localised construction impacts, however the number, nature and location of these is not known, and therefore it is not possible to identify any scale of potential impact on this topic area, and these should be mitigated at project level and monitored through the SEA.
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	0	
MATERIAL	Avoid adverse impacts on material	0	The proposal supports low carbon refuelling

SUSTAINABLE GROWTH: Environment, Low Carbon and Resource Efficiency	
Proposal	6) Low carbon travel and transport
Lead Organisation	Transport Scotland
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Supporting the shift towards a low carbon economy in all sectors
Investment Priority	Promoting low carbon strategies for all types of territories, in particular for urban areas, including the promotion of sustainable multi-modal urban mobility and mitigation relevant adaptation measures.

Aim: To support low carbon travel and transport:

- ***Active Travel Hubs:*** local facilities to link affordable bike hire and parking; safe, secure and convenient cycling and walking routes, and public transport as an alternative to taking the car.
- ***National Smart ticketing Scheme:*** A national Smart Transport Card acting as a catalyst for increased public transport use, reducing emissions and congestion from road travel.
- ***Low Carbon Transport Hubs:*** trialling low carbon transport hubs at strategic sites to act as a catalyst for a step change in the take up of low carbon vehicles and the market for alternative fuels. Hubs will provide reliable low carbon refuelling services.

Delivery / What this means in practice:

- Active travel - Delivery likely to be a hybrid of Transport Scotland and locally promoted schemes, e.g. via community organisations or local authorities.
- National Smart Ticketing Scheme – delivered by Transport Scotland via procurement where required.
- Hubs – TS to manage process for selecting sites and mix of alternative fuels with partners. Local authorities likely to play a role. Any building work must go through procurement.

SEA topic	Objectives	Assessment	Comments
ASSETS	assets		services, which supports the sustainable use of natural resources.
	Support sustainable use of natural resources	0/+	

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) OPERATIONAL PROGRAMME			
Thematic Objective	Supporting the shift towards a low carbon economy in all sectors		
Investment Priority	4(f). Promoting research in, innovation in and adoption of low-carbon technologies		
SEA topic	**Objectives**	**Assessment**	**Comments**
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	It is unlikely that nationally / regionally significant impacts will occur, as any development will require the proper assessment and, where required, mitigation through the planning system. The potential for effects is likely to be highly project and location-specific, but existing regulatory processes should provide suitable assumed mitigation (ERDF itself does not set the framework for decision-making in this respect)
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	There is potential for localised adverse effects at the project scale, but these will be understood and mitigated through existing regulatory processes.
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	+	There is potential for increased investment in R&D, and particularly as low carbon technologies come to market and generate employment, that there will be consequent improvements in health and quality of life of employees; overall reductions in emissions as a consequence of adopting lower carbon energy
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	0/+	It is likely that some benefit will be delivered over the medium term, but most likely to professional/technical people employed in R&D and marketization of low carbon technologies; over the longer term, there is the potential for increased employment opportunities in the manufacturing and distribution sectors to make a wider contribution to the economy and employment in at-risk communities. (This is, however, highly dependent on the location, nature and scale of the technologies coming to market)
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	+	Wider adoption of low carbon technology should result in an overall reduction of GHG emissions

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) OPERATIONAL PROGRAMME			
Thematic Objective	Supporting the shift towards a low carbon economy in all sectors		
Investment Priority	4(f). Promoting research in, innovation in and adoption of low-carbon technologies		
SEA topic	**Objectives**	**Assessment**	**Comments**
	Support actions which contribute to targets for reducing greenhouse gas emissions	+	Development of low carbon industries will be a key means of contributing to the achievement of international targets for GHG emissions reduction.
	Support adaptation to climate change	0/+	There is some potential for investment in technology that can assist in the development of industrial resilience to the effects of climate change
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	Uncertain – likely that investment and roll-out of technologies will not be in areas currently covered by AQMA (i.e. generally city centre locations)
	Improve air quality	0/+	There is some potential for low carbon industrial processes to replace existing – and more polluting – equivalents, however the effects are likely to be relatively localised.
	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	+	Likely that technological development will require the use of scarce / energy-intensive materials (particularly for electronics etc.) – however, overarching

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) OPERATIONAL PROGRAMME			
Thematic Objective	Supporting the shift towards a low carbon economy in all sectors		
Investment Priority	4(f). Promoting research in, innovation in and adoption of low-carbon technologies		
SEA topic	**Objectives**	**Assessment**	**Comments**
			theme of resource efficiency is a key priority and ERDF investment is likely to be targeted to ensure achievement of this aim
	Support sustainable use of natural resources	0	

SUSTAINABLE GROWTH: Environment, Low Carbon and Resource Efficiency	
Proposal	7) Low Carbon Infrastructure Transition Development Fund
Lead Organisation	Scottish Government
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Supporting the shift towards a low carbon economy in all sectors
Investment Priority	• Promoting research and innovation in and adoption of low carbon technologies. • Supporting industrial transition towards a resource efficient economy, promoting green growth, eco-innovation and environmental performance management in the public and private sectors

Aim:

- To establish a low carbon programme to understand and support the economic opportunities arising from the transformation of Scotland's infrastructure including electricity and heat generation and energy efficiency, transport, resource efficiency and re-use, food production and distribution.

Delivery / What this means in practice:

- Investment in low carbon infrastructure;
- Support to accelerate build rates of new renewable energy generation;
- De-carbonisation of heat and transport fuels;
- Increased resource efficiency and energy demand reduction;
- Increased regional skills base and effective indigenous supply chain for low carbon infrastructure; and
- Increased income generated and retained within the regional economy from low carbon products and services.

SEA topic	Objectives	Assessment	Comments
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	There may be effects on biodiversity but this will depend on the specific proposals for development. Project level assessment and mitigation should avoid / limit the significance of these impacts. No nationally or regionally significant effects should occur
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	+	Supports skills relating to low carbon infrastructure and supply chain which will have a positive effect on people and communities. The proposal has a strong community angle for supporting low carbon development which can help to reduce fuel poverty.
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	++	
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	+	**Significantly positive** effects in relation to climate change are expected from an increase in low carbon technologies and support for renewable energy development.
	Support actions which contribute to targets for reducing greenhouse gas emissions	++	
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	Support for low carbon infrastructure, increased resource efficiency and renewable energy generation will reduce air pollution from fossil fuels, resulting in improved air quality.
	Improve air quality	+	
	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	Potential for minor positive effects on the water or the marine environment. For example, an increase in the use of low carbon vehicles will reduce emissions from the transport sector (potential for less acid
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on	0	

SUSTAINABLE GROWTH: Environment, Low Carbon and Resource Efficiency	
Proposal	7) Low Carbon Infrastructure Transition Development Fund
Lead Organisation	Scottish Government
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Supporting the shift towards a low carbon economy in all sectors
Investment Priority	• Promoting research and innovation in and adoption of low carbon technologies. • Supporting industrial transition towards a resource efficient economy, promoting green growth, eco-innovation and environmental performance management in the public and private sectors

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- Investment in low carbon infrastructure;
- Support to accelerate build rates of new renewable energy generation;
- De-carbonisation of heat and transport fuels;
- Increased resource efficiency and energy demand reduction;
- Increased regional skills base and effective indigenous supply chain for low carbon infrastructure; and
- Increased income generated and retained within the regional economy from low carbon products and services.

SEA topic	Objectives	Assessment	Comments
	sensitive coastal areas and the marine environment		rain). Material recycling will reduce the amount of waste going to landfills thereby decreasing risks to the water environment. Impacts will have to be assessed at project level stage.
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	Depending on the nature of the project impacts on the soil environment may occur. For example, minor positive effects on soil quality might be expected as a result of reduced emissions to air from the transport sector as a result of the use of alternative fuels. Impacts will have to be assessed at project level stage.
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	There may be potential for effects on cultural heritage but this will depend on the specific proposals for development. Project level assessment and mitigation are expected to limit the significant of these impacts.
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	There may be potential for effects on the landscape but this will depend on the specific proposals for development. Project level assessment and mitigation are expected to limit the significant of these impacts.
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	**Significant positive** benefit as the proposal supports sustainable use of existing resources rather than extracting and using raw and finite materials. Low carbon technologies make a positive
	Support sustainable use of natural	++	

SUSTAINABLE GROWTH: Environment, Low Carbon and Resource Efficiency	
Proposal	7) Low Carbon Infrastructure Transition Development Fund
Lead Organisation	Scottish Government
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Supporting the shift towards a low carbon economy in all sectors
Investment Priority	• Promoting research and innovation in and adoption of low carbon technologies. • Supporting industrial transition towards a resource efficient economy, promoting green growth, eco-innovation and environmental performance management in the public and private sectors

Aim:

- To establish a low carbon programme to understand and support the economic opportunities arising from the transformation of Scotland's infrastructure including electricity and heat generation and energy efficiency, transport, resource efficiency and re-use, food production and distribution.

Delivery / What this means in practice:

- Investment in low carbon infrastructure;
- Support to accelerate build rates of new renewable energy generation;
- De-carbonisation of heat and transport fuels;
- Increased resource efficiency and energy demand reduction;
- Increased regional skills base and effective indigenous supply chain for low carbon infrastructure; and
- Increased income generated and retained within the regional economy from low carbon products and services.

SEA topic	Objectives	Assessment	Comments
	resources		contribution to the sustainable use of natural resources.

SUSTAINABLE GROWTH: Environment, Low Carbon and Resource Efficiency	
Proposal	8) Resource Efficient Circular Economy Accelerator Programme
Lead Organisation	Scottish Government, Zero Waste Scotland
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objectives	Supporting a shift towards a low carbon economy in all sectors Preserving and protecting the environment and promoting resource efficiency
Investment Priority	• Promoting research and innovation in and adoption of low carbon technologies • Supporting industrial transition towards a resource efficient economy, promoting green growth, eco-innovation and environmental performance management in the public and private sectors

Aim:

- To support an accelerator programme to significantly scale-up pilots and development projects in Scotland, delivering a transformative approach to supporting a resource efficient, circular economy.

Delivery / What this means in practice:

- Growth of reprocessing and remanufacturing industries.
- Redesigning supply chains to use waste as a resource, to reduce the use of raw materials. This will bring a range of opportunities for new job creation, reduced environmental impacts including carbon reductions.

SEA topic	Objectives	Assessment	Comments
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	+/-	Potential **positive** effects on all aspects of biodiversity resulting from increased reuse and recycling, and less extraction of raw materials. However reprocessing facilities for recycling and refurbishment could also result in local adverse impacts on biodiversity. Effects arising from development will be assessed and mitigated at the project level.
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	+/-	Improved resource efficiency, reduced waste production, reduced greenhouse gas emissions, and reduced transportation emissions will result in positive effects on health and quality of life. However reprocessing facilities for recycling and refurbishment could also result in local adverse impacts on health and amenity which would require mitigation at the project level.
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	0/+	
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	0/+	Improved resource efficiency will contribute to a low carbon economy, and help to avoid increases in greenhouse gas emissions anticipated from increased consumer demand for goods.
	Support actions which contribute to targets for reducing greenhouse gas emissions	0/+/?	The proposal will also reduce greenhouse gas emissions from existing production processes. However there is some uncertainty regarding the balance of greenhouse gas emissions resulting from reprocessing of waste materials versus extraction of raw materials
	Support adaptation to climate change	0	The proposal indirectly contributes to climate change adaptation through reducing the length of supply chains, and therefore reducing vulnerability of supply to climate

SUSTAINABLE GROWTH: Environment, Low Carbon and Resource Efficiency	
Proposal	8) Resource Efficient Circular Economy Accelerator Programme
Lead Organisation	Scottish Government, Zero Waste Scotland
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objectives	Supporting a shift towards a low carbon economy in all sectors Preserving and protecting the environment and promoting resource efficiency
Investment Priority	• Promoting research and innovation in and adoption of low carbon technologies • Supporting industrial transition towards a resource efficient economy, promoting green growth, eco-innovation and environmental performance management in the public and private sectors

Aim:

- To support an accelerator programme to significantly scale-up pilots and development projects in Scotland, delivering a transformative approach to supporting a resource efficient, circular economy.

Delivery / What this means in practice:

- Growth of reprocessing and remanufacturing industries.
- Redesigning supply chains to use waste as a resource, to reduce the use of raw materials. This will bring a range of opportunities for new job creation, reduced environmental impacts including carbon reductions.

SEA topic	Objectives	Assessment	Comments
			induced disruption.
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	
	Improve air quality	0/+	The proposal has a minor positive effect on air quality through reducing transportation distances, based on a circular economy. Reprocessing facilities could have a minor negative effect on local air quality.
	Avoid adverse effects on air quality	0/+	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0/+	The proposal increases resource efficiency, including water use, reducing demand for water and requirements for water treatment, this has positive effects on the quality of water bodies.
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	0/+	Increased resource efficiency has minor positive effects on improving the water environment through reducing demand, and increased efficiency.
SOIL	Avoid adverse impacts on soil	0/+	Reduced extraction of raw materials will result in reduce impacts on soils resulting from extraction of raw materials
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	It is not possible to identify any direct impacts on valuable soil resources or vacant and derelict land.
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	The location of new reprocessing facilities could result in adverse impacts on the historic environment, however these impacts should be assessed at a site specific level, and appropriate design and location would avoid adverse impacts on the designated and undesignated historic
	Enhance, where appropriate, the historic environment and wider built environment.	0	

SUSTAINABLE GROWTH: Environment, Low Carbon and Resource Efficiency	
Proposal	8) Resource Efficient Circular Economy Accelerator Programme
Lead Organisation	Scottish Government, Zero Waste Scotland
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objectives	Supporting a shift towards a low carbon economy in all sectors Preserving and protecting the environment and promoting resource efficiency
Investment Priority	• Promoting research and innovation in and adoption of low carbon technologies • Supporting industrial transition towards a resource efficient economy, promoting green growth, eco-innovation and environmental performance management in the public and private sectors

Aim:

- To support an accelerator programme to significantly scale-up pilots and development projects in Scotland, delivering a transformative approach to supporting a resource efficient, circular economy.

Delivery / What this means in practice:

- Growth of reprocessing and remanufacturing industries.
- Redesigning supply chains to use waste as a resource, to reduce the use of raw materials. This will bring a range of opportunities for new job creation, reduced environmental impacts including carbon reductions.

SEA topic	Objectives	Assessment	Comments
	Avoid adverse effects on the historic environment	0	environment.
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	
	Avoid adverse effects on all landscapes	0/-	The location of new reprocessing facilities could result in adverse impacts on the landscape, however these impacts should be assessed at a site specific level, and appropriate design and location would help avoid adverse impacts on the landscape (it is possible that there may be some residual negative impacts depending on the site chosen).
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	++	The proposal has a **strong positive** effect on material assets through conservation of existing resources, and sustainable use of assets.
	Support sustainable use of natural resources	++	

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) OPERATIONAL PROGRAMME			
Thematic Objective	Protecting the environment and promoting resource efficiency		
Investment Priority	6(d). Protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000 and green infrastructure		
SEA topic	**Objectives**	**Assessment**	**Comments**
BIODIVERSITY	Avoid adverse effects on protected habitats and species	+	Impact identification and avoidance / mitigation delivered through the planning system – ERDF has no direct bearing on decision-making in this context.
	Enhance biodiversity, restore habitats and create habitat networks	++	Efforts to improve biodiversity, safeguard and enhance ecosystem services and expand green infrastructure should have a strong positive effect
	Avoid adverse effects on all habitats and species	+	Impact identification and avoidance / mitigation delivered through the planning system – ERDF has no direct bearing on decision-making in this context.
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	++	Targeted delivery of green infrastructure in disadvantaged areas can make a strong positive impact on quality of life and contribute to inclusion and wider engagement
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	++	
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	+	Developing accessible green infrastructure can make a positive contribution to delivering active travel and encouraging exercise and outdoor recreation, reducing emissions by offsetting more carbon-intensive forms of travel
	Support actions which contribute to targets for reducing greenhouse gas emissions	+	
	Support adaptation to climate change	++	Green infrastructure can make a strong positive contribution to building local and regional resilience to the effects of climate change, particularly with regard to management of stormwater and summer temperature regulation (i.e. helping to mitigate the 'urban heat island' effect)
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	++	Green infrastructure, in the form of new trees and woodland in transport corridors, can make a strong positive contribution to intercepting air pollution, especially particulate matter. Where planting can be targeted in AQMAs (although generally unlikely given their mainly city centre locations), this could make a substantial contribution to local improvements in air quality
	Improve air quality	++	
	Avoid adverse effects on air quality	+	

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) OPERATIONAL PROGRAMME			
Thematic Objective	Protecting the environment and promoting resource efficiency		
Investment Priority	6(d). Protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000 and green infrastructure		
SEA topic	**Objectives**	**Assessment**	**Comments**
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	+/-	While green infrastructure can play a significant role in buffering diffuse pollution (e.g. by preventing agricultural runoff reaching watercourses etc.) there is the potential for adverse effects on water quality through acidification related to pollutant capture and runoff from woodland – however this risk should be identified and mitigated during the design phase.
	Avoid and reduce flood risk	++	Green infrastructure has a major role to play in managing flood risk in urban areas, particularly in the planning and delivery of new settlements
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	+	It is likely that widespread adoption of an ecosystems approach, and the use of green infrastructure, should result in an overall improvement in water quality as pollutant pathways are closed and mitigated through the use of SuDS etc.
SOIL	Avoid adverse impacts on soil	+	Adoption of an ecosystems approach to planning and managing the use and development of land should ensure that soil quality and integrity is more effectively taken into account in decision making. It should be noted that ERDF will have no direct effect on decision making at the project level
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils		
	Reduce vacant and derelict land		
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	+	The holistic view promoted by an ecosystems approach should help to ensure that heritage assets and intangible cultural heritage are considered equally
	Enhance, where appropriate, the historic environment and wider built environment.		
	Avoid adverse effects on the historic environment		
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	+	Adoption of an ecosystems approach should assist in helping proposals under ERDF take landscape values into account as part of the package of cultural ecosystem services delivered by the environment. Project-specific impacts will be identified and mitigated as required through the planning
	Avoid adverse effects on all landscapes	+	
	Enhance landscape quality	+	

EUROPEAN REGIONAL DEVELOPMENT FUND (ERDF) OPERATIONAL PROGRAMME			
Thematic Objective	Protecting the environment and promoting resource efficiency		
Investment Priority	6(d). Protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000 and green infrastructure		
SEA topic	**Objectives**	**Assessment**	**Comments**
			system.
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	0	

Cross-cutting Proposals: Resource-efficient circular economy dealt with in 'Low Carbon' above

SUSTAINABLE GROWTH: Environment, Low Carbon and Resource Efficiency	
Proposal	9) Green Infrastructure
Lead Organisation	Scottish Natural Heritage
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Preserving and protecting the environment and promoting resource efficiency *potentially* *Promoting social inclusion, combating poverty and any discrimination*
Investment Priority	• 6(d). Protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000 and green infrastructure • *9(b)(i) [Social inclusion] Active inclusion, including with a view to promoting equal opportunities, active participation and improving employability*

Aim:

- To identify and develop areas particularly in central Scotland to develop the green network.

Delivery / What this means in practice:

- SNH working with local authorities and community organisations to identify areas with, in particular, the central Scotland environment network, to develop;
- Improving existing and creating new greenspaces within cities;
- Regenerating the urban environment;
- Decontamination of brownfield sites;
- Reduced noise pollution and reduced air pollution;
- Improving opportunities for access and recreation based on greenspaces to achieve health benefits; and,
- Improving the integrated habitat network.

SEA topic	Objectives	Assessment	Comments
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	There is a strong **positive** effect on biodiversity resulting from active improvements to biodiversity and habitat networks within cities and major towns.
	Enhance biodiversity, restore habitats and create habitat networks	++	
	Avoid adverse effects on all habitats and species	++	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	++	There is a strong **positive** effect on population and human health through improvements to the living environment of urban communities, increased opportunities for access, community growing and community involvement in caring for greenspace.
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	++	
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	+	There is positive support for access and recreation, contributing to active travel and reducing greenhouse gas emissions.
	Support actions which contribute to targets for reducing greenhouse gas emissions	+	
	Support adaptation to climate change	+	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	There is **positive** support for access and recreation, contributing to active travel and reducing air quality impacts, in addition the provision of greenspace helps to improve air quality.
	Improve air quality	+	
	Avoid adverse effects on air quality	+	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	Improvements to urban water courses will result in **positive** effects on flood management
	Avoid and reduce flood risk	+	

SUSTAINABLE GROWTH: Environment, Low Carbon and Resource Efficiency	
Proposal	9) Green Infrastructure
Lead Organisation	Scottish Natural Heritage
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Preserving and protecting the environment and promoting resource efficiency *potentially* *Promoting social inclusion, combating poverty and any discrimination*
Investment Priority	• 6(d). Protecting and restoring biodiversity and soil and promoting ecosystem services, including through Natura 2000 and green infrastructure • *9(b)(i) [Social inclusion] Active inclusion, including with a view to promoting equal opportunities, active participation and improving employability*

Aim:

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Delivery / What this means in practice:

- SNH working with local authorities and community organisations to identify areas with, in particular, the central Scotland environment network, to develop;
- Improving existing and creating new greenspaces within cities;
- Regenerating the urban environment;
- Decontamination of brownfield sites;
- Reduced noise pollution and reduced air pollution;
- Improving opportunities for access and recreation based on greenspaces to achieve health benefits; and,
- Improving the integrated habitat network.

SEA topic	Objectives	Assessment	Comments
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	and water quality.
	Improve the water environment	+	
SOIL	Avoid adverse impacts on soil	+	Restoration of derelict land will have a **positive** effect on soil resources.
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	+	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.		Regeneration is likely to have positive effects on the cultural heritage resource resulting from improvements to the landscape setting
	Enhance, where appropriate, the historic environment and wider built environment.		
	Avoid adverse effects on the historic environment		
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	Green infrastructure improvements are likely to bring net benefits to urban landscapes, with **positive** effect.
	Avoid adverse effects on all landscapes	+	
	Enhance landscape quality	+	
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	Improving the green infrastructure resource supports the sustainable use of natural resources.
	Support sustainable use of natural resources	+	

Appendix 4
Assessment matrices: ESF

Structure of the appendix

The following section of the ER is structured as follows:

ESIF fund

- Operational Programme thematic objective
    - Investment priorities under this objective
        - Proposals under this Investment Priority

Where Proposals cut across ESIF Funds or investment priorities, this is clearly indicated with hyperlinks to relevant tables/locations.

EUROPEAN SOCIAL FUND (ESF) OPERATIONAL PROGRAMME			
Thematic Objective	Promoting sustainable and quality employment and supporting labour market mobility		
Investment Priority	8(a)(i). Access to employment for job-seekers and inactive people, including long-term unemployed and people who are far from the labour market, also through local employment initiatives and support for labour mobility		
SEA topic	**Objectives**	**Assessment**	**Comments**
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	++	Direct positive impacts by providing disadvantaged groups and young people with education and training which will enable them to gain motivation, confidence and skills to enter the labour market. Promotes social inclusion by specifically targeting groups most at risk of exclusion from the labour market.
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	++	
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	0	
	Support actions which contribute to targets for reducing greenhouse gas emissions	0	
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	
	Improve air quality	0	
	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	
	Avoid adverse effects on all landscapes	0	

EUROPEAN SOCIAL FUND (ESF) OPERATIONAL PROGRAMME			
Thematic Objective	Promoting sustainable and quality employment and supporting labour market mobility		
Investment Priority	8(a)(i). Access to employment for job-seekers and inactive people, including long-term unemployed and people who are far from the labour market, also through local employment initiatives and support for labour mobility		
SEA topic	**Objectives**	**Assessment**	**Comments**
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	0	

EUROPEAN SOCIAL FUND (ESF) OPERATIONAL PROGRAMME			
Thematic Objective	Promoting sustainable and quality employment and supporting labour market mobility		
Investment Priority	8(a)(ii). Sustainable integration of young people, in particular those not in employment, education or training, including young people at risk of social exclusion and young people from marginalised communities, into the labour market, including through the implementation of the Youth Guarantee		
SEA topic	**Objectives**	**Assessment**	**Comments**
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	0	Direct positive impacts by providing disadvantaged groups and young people with education and training which will enable them to gain motivation, confidence and skills to enter the labour market. Promotes social inclusion by specifically targeting groups most at risk of exclusion from the labour market.
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	0	
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	0	
	Support actions which contribute to targets for reducing greenhouse gas emissions	0	
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	
	Improve air quality	0	
	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	
	Avoid adverse effects on all landscapes	0	

EUROPEAN SOCIAL FUND (ESF) OPERATIONAL PROGRAMME	
Thematic Objective	Promoting sustainable and quality employment and supporting labour market mobility
Investment Priority	8(a)(ii). Sustainable integration of young people, in particular those not in employment, education or training, including young people at risk of social exclusion and young people from marginalised communities, into the labour market, including through the implementation of the Youth Guarantee

SEA topic	Objectives	Assessment	Comments
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	0	

INCLUSIVE GROWTH: Local Development and Social Inclusion	
Proposal	10) Enhanced Employability Pipelines (Activity 1) and Youth Employment Scotland (Activity 2)
Lead Organisation	CPPs (lead to be confirmed)
ESIF Programme	European Social Fund (ESF)
Thematic Objective	Promoting sustainable and quality employment and supporting labour market mobility
Investment Priority	• Access to Employment for job-seekers and inactive people, including long-term unemployed and people far from the labour market, also through local employment initiatives and support for labour market mobility. • Sustainable integration of young people, in particular those not in employment, education or training, including young people at risk of social exclusion and young people from marginalised communities, into the labour market, including through the implementation of the Youth Guarantee

Aim:

- To build on and improve the existing skill pipelines by providing disadvantaged people and young people with the skills & aptitudes to access and progress in the labour market.

Delivery / What this means in practice:

- Education and training to support employment particularly focused on disadvantaged groups (e.g. workless families, lone parents, etc.) and the long term unemployed.
- Encouraging young people into employment by providing pre-employment support, work experience, internships, etc.
- Increases employability skills, motivation and confidence of the unemployed.
- Less long term joblessness and less youth unemployment and the associated social issues this brings.

SEA topic	Objectives	Assessment	Comments
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	++	**Direct positive** impacts by providing disadvantaged groups and young people with education and training which will enable them to gain motivation, confidence and skills to enter the labour market. Promotes social inclusion by specifically targeting groups most at risk of exclusion from the labour
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	++	

INCLUSIVE GROWTH: Local Development and Social Inclusion	
Proposal	10) Enhanced Employability Pipelines (Activity 1) and Youth Employment Scotland (Activity 2)
Lead Organisation	CPPs (lead to be confirmed)
ESIF Programme	European Social Fund (ESF)
Thematic Objective	Promoting sustainable and quality employment and supporting labour market mobility
Investment Priority	• Access to Employment for job-seekers and inactive people, including long-term unemployed and people far from the labour market, also through local employment initiatives and support for labour market mobility. • Sustainable integration of young people, in particular those not in employment, education or training, including young people at risk of social exclusion and young people from marginalised communities, into the labour market, including through the implementation of the Youth Guarantee

Aim:

- To build on and improve the existing skill pipelines by providing disadvantaged people and young people with the skills & aptitudes to access and progress in the labour market.

Delivery / What this means in practice:

- Education and training to support employment particularly focused on disadvantaged groups (e.g. workless families, lone parents, etc.) and the long term unemployed.
- Encouraging young people into employment by providing pre-employment support, work experience, internships, etc.
- Increases employability skills, motivation and confidence of the unemployed.
- Less long term joblessness and less youth unemployment and the associated social issues this brings.

SEA topic	Objectives	Assessment	Comments
			market.
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	0	
	Support actions which contribute to targets for reducing greenhouse gas emissions	0	
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	
	Improve air quality	0	
	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	
	Enhance, where appropriate, the historic environment and wider built environment.	0	

INCLUSIVE GROWTH: Local Development and Social Inclusion	
Proposal	10) Enhanced Employability Pipelines (Activity 1) and Youth Employment Scotland (Activity 2)
Lead Organisation	CPPs (lead to be confirmed)
ESIF Programme	European Social Fund (ESF)
Thematic Objective	Promoting sustainable and quality employment and supporting labour market mobility
Investment Priority	• Access to Employment for job-seekers and inactive people, including long-term unemployed and people far from the labour market, also through local employment initiatives and support for labour market mobility. • Sustainable integration of young people, in particular those not in employment, education or training, including young people at risk of social exclusion and young people from marginalised communities, into the labour market, including through the implementation of the Youth Guarantee

Aim:

- To build on and improve the existing skill pipelines by providing disadvantaged people and young people with the skills & aptitudes to access and progress in the labour market.

Delivery / What this means in practice:

- Education and training to support employment particularly focused on disadvantaged groups (e.g. workless families, lone parents, etc.) and the long term unemployed.
- Encouraging young people into employment by providing pre-employment support, work experience, internships, etc.
- Increases employability skills, motivation and confidence of the unemployed.
- Less long term joblessness and less youth unemployment and the associated social issues this brings.

SEA topic	Objectives	Assessment	Comments
	Avoid adverse effects on the historic environment	0	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	0	

Financial Engineering Instruments covered under ERDF above

EUROPEAN SOCIAL FUND (ESF) OPERATIONAL PROGRAMME			
Thematic Objective	Promoting social inclusion and combating poverty		
Investment Priority	9(b)(i). Active inclusion, including with a view to promoting equal opportunities, active participation and improving employability		
SEA topic	**Objectives**	**Assessment**	**Comments**
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	++	Direct positive impacts by providing disadvantaged groups and young people with education and training which will enable them to gain motivation, confidence and skills to enter the labour market. Promotes social inclusion by specifically targeting groups most at risk of exclusion from the labour market.
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	++	
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	0	
	Support actions which contribute to targets for reducing greenhouse gas emissions	0	
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	
	Improve air quality	0	
	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	0	

EUROPEAN SOCIAL FUND (ESF) OPERATIONAL PROGRAMME			
Thematic Objective	Promoting social inclusion and combating poverty		
Investment Priority	9(b)(i). Active inclusion, including with a view to promoting equal opportunities, active participation and improving employability		
SEA topic	**Objectives**	**Assessment**	**Comments**
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	0	

INCLUSIVE GROWTH: Local Development and Social Inclusion	
Proposal	11) Poverty and Social Inclusion
Lead Organisation	*Not yet clear*
ESIF Programme	European Social Fund (ESF)
Thematic Objective	Promoting social inclusion, combating poverty and any discrimination
Investment Priority	Active inclusion, including with a view to promoting equal opportunities and active participation and improving employability.

Aim:

- To build on the existing P1 and P5 strategic skills pipeline approach that has been developed during the current Lowland and Uplands Scotland programme and incorporate a Youth Employer Recruitment Incentive programme

Delivery / What this means in practice:

- Active inclusion, equal opportunities, active participation and improving employability.
- No lead yet identified although likely to have a significant delivery role for the third sector.

SEA topic	Objectives	Assessment	Comments
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	+	Positive effects on health and quality of life as a result of social inclusion and improvements to employability.
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	+	
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	0	
	Support actions which contribute to targets for reducing greenhouse gas emissions	0	
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	
	Improve air quality	0	
	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	0	

INCLUSIVE GROWTH: Local Development and Social Inclusion	
Proposal	11) Poverty and Social Inclusion
Lead Organisation	*Not yet clear*
ESIF Programme	European Social Fund (ESF)
Thematic Objective	Promoting social inclusion, combating poverty and any discrimination
Investment Priority	Active inclusion, including with a view to promoting equal opportunities and active participation and improving employability.

Aim:

- To build on the existing P1 and P5 strategic skills pipeline approach that has been developed during the current Lowland and Uplands Scotland programme and incorporate a Youth Employer Recruitment Incentive programme

Delivery / What this means in practice:

- Active inclusion, equal opportunities, active participation and improving employability.
- No lead yet identified although likely to have a significant delivery role for the third sector.

SEA topic	Objectives	Assessment	Comments
SOIL	Avoid adverse impacts on soil	0	
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	0	

INCLUSIVE GROWTH: Local Development and Social Inclusion	
Proposal	12) Scottish Regeneration Capital Grant Fund
Lead Organisation	COSLA/Scottish Government
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Promoting social inclusion, combating poverty and any discrimination
Investment Priority	Providing support for physical, economic and social regeneration of deprived communities in urban and rural areas.

Aim:

- To focus on investment on delivering large scale transformational change. The focus will support economic and social activities that in turn will support sustainable towns and cities.

Delivery / What this means in practice:

- Land remediation;
- Enabling infrastructure;
- Investment in physical, economic and social regeneration projects with a focus on rural and urban areas with greatest disadvantage;
- Environmental and physical improvements to public realm, industrial and commercial areas;
- Revitalised town centres;
- Improvements to parks and open spaces; and,
- Improved community facilities.

SEA topic	Objectives	Assessment	Comments
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0/-	Regeneration projects could have a major **positive** impact on biodiversity if green infrastructure is incorporated. However, such projects could potentially have **negative** impacts on the natural heritage at a local level, if natural vegetation or habitats are removed or 'tidied up'.
	Enhance biodiversity, restore habitats and create habitat networks	++	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	++	Large scale regeneration projects will have a strong **positive** effect on improving the health and living environment of people and communities.
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	++	
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	0	**Enhancement**: Regeneration should include a focus on integrating renewable energy provision, reducing the carbon footprint of new development, sustainable transport and supporting climate change adaptation.
	Support actions which contribute to targets for reducing greenhouse gas emissions	0	
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	**Enhancement**: Regeneration should focus on supporting sustainable travel to help reduce air pollution.
	Improve air quality	0	
	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	**Enhancement**: Physical improvements to public realm, parks and open spaces should also deliver benefits to improve the ecological status of water bodies (by reducing
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	

INCLUSIVE GROWTH: Local Development and Social Inclusion	
Proposal	12) Scottish Regeneration Capital Grant Fund
Lead Organisation	COSLA/Scottish Government
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Promoting social inclusion, combating poverty and any discrimination
Investment Priority	Providing support for physical, economic and social regeneration of deprived communities in urban and rural areas.

Aim:

- To focus on investment on delivering large scale transformational change. The focus will support economic and social activities that in turn will support sustainable towns and cities.

Delivery / What this means in practice:

- Land remediation;
- Enabling infrastructure;
- Investment in physical, economic and social regeneration projects with a focus on rural and urban areas with greatest disadvantage;
- Environmental and physical improvements to public realm, industrial and commercial areas;
- Revitalised town centres;
- Improvements to parks and open spaces; and,
- Improved community facilities.

SEA topic	Objectives	Assessment	Comments
	Improve the water environment	0	culverting) and avoiding flood risk).
SOIL	Avoid adverse impacts on soil	0/+	Reducing vacant and derelict land will result in minor positive impacts on the soil resource
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	+	Regeneration is likely to result in development of vacant and derelict land.
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	+/-	Regeneration initiatives could result in positive or negative effects on the historic environment depending on the nature, scale and sensitivity of the design in relation to the historic environment. **Mitigation**: Regeneration initiatives should seek to enhance the setting of the historic environment and avoid adverse impacts.
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	+/-	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	++	Regeneration projects could have a major **positive** impact on landscape quality particularly if degraded landscapes are regenerated.

INCLUSIVE GROWTH: Local Development and Social Inclusion	
Proposal	12) Scottish Regeneration Capital Grant Fund
Lead Organisation	COSLA/Scottish Government
ESIF Programme	European Regional Development Fund (ERDF)
Thematic Objective	Promoting social inclusion, combating poverty and any discrimination
Investment Priority	Providing support for physical, economic and social regeneration of deprived communities in urban and rural areas.

Aim:

- To focus on investment on delivering large scale transformational change. The focus will support economic and social activities that in turn will support sustainable towns and cities.

Delivery / What this means in practice:

- Land remediation;
- Enabling infrastructure;
- Investment in physical, economic and social regeneration projects with a focus on rural and urban areas with greatest disadvantage;
- Environmental and physical improvements to public realm, industrial and commercial areas;
- Revitalised town centres;
- Improvements to parks and open spaces; and,
- Improved community facilities.

SEA topic	Objectives	Assessment	Comments
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	0	

Green Infrastructure (cross-cutting theme) dealt with under Environmental Protection above

EUROPEAN SOCIAL FUND (ESF) OPERATIONAL PROGRAMME			
Thematic Objective	Investing in education, skills and lifelong learning		
Investment Priority	10(c)(iv). Improving the labour market relevance of education and training systems, facilitating the transition from education to work, and strengthening vocational education and training systems and their quality, including through mechanisms for skills anticipation, adaptation of curricula and the establishment and development of work-based learning systems, including dual learning systems and apprenticeship schemes.		
SEA topic	**Objectives**	**Assessment**	**Comments**
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	+	Potential to reduce the adverse effects currently experienced by those affected by poor employment prospects including underemployment.
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	+	Potential to support the employment prospects of those at risk from unemployment, and underemployment which will have positive effects for population and human health.
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	0	
	Support actions which contribute to targets for reducing greenhouse gas emissions	0	
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	
	Improve air quality	0	
	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	

EUROPEAN SOCIAL FUND (ESF) OPERATIONAL PROGRAMME			
Thematic Objective	Investing in education, skills and lifelong learning		
Investment Priority	10(c)(iv). Improving the labour market relevance of education and training systems, facilitating the transition from education to work, and strengthening vocational education and training systems and their quality, including through mechanisms for skills anticipation, adaptation of curricula and the establishment and development of work-based learning systems, including dual learning systems and apprenticeship schemes.		
SEA topic	**Objectives**	**Assessment**	**Comments**
	Avoid adverse effects on all landscapes	0	
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	0	

INCLUSIVE GROWTH: Local Development and Social Inclusion	
Proposal	13) Developing Scotland's workforce
Lead Organisation	SDS and SFC
ESIF Programme	European Social Fund (ESF)
Thematic Objective	Investing in education, training and vocational training for skills and lifelong learning
Investment Priority	• Improving the labour market relevance of education and training systems, facilitating the transition from education to work, and strengthening vocational education and training systems and their quality, including through mechanisms for skill anticipation, adaptation of curricula and the establishment and development of work based learning systems, including dual learning systems and apprenticeship schemes. • Enhancing equal access to lifelong learning for all age groups in formal, non-formal and informal settings, upgrading knowledge, skills and competences of the workforce and promoting flexible learning pathways including through career guidance and validation of acquired competences.

Aim:

- To develop a coherent package of additional skills, training and workforce development support to develop a highly skilled and competitive workforce:
  - Advanced apprenticeships;
  - Sectoral and regional skills for future industry needs - respond to local and regional need;
  - Existing workforce development;
  - Developing vocational pathways through school and college in response to Wood Commission; and
  - Curriculum development for new areas/sectors/ developments.

Delivery / What this means in practice:

- Additional high level college and university places aimed at sectoral and regional need.
- Advanced apprenticeships and existing workforce development delivering in partnership with business.
- Vocational pathways developed in target areas with schools and colleges.

SEA topic	Objectives	Assessment	Comments
BIODIVERSITY	Avoid adverse effects on protected habitats and species	0	
	Enhance biodiversity, restore habitats and create habitat networks	0	
	Avoid adverse effects on all habitats and species	0	
POPULATION AND HEALTH	Avoid adverse effects on health and quality of life	+	The proposal reduces the adverse effects currently experienced by those affected by poor employment prospects including underemployment.
	Improve the health and living environment of people and communities, particularly those at greatest risk of social exclusion and deprivation	+	The proposal actively seeks to support the employment prospects of those at risk from unemployment, and underemployment which will have positive effects for population and human health.
CLIMATIC FACTORS	Avoid increasing greenhouse gas emissions	0	
	Support actions which contribute to targets for reducing greenhouse gas emissions	0	
	Support adaptation to climate change	0	
AIR	Avoid adverse effects on air quality where air quality is a known issue through AQMA	0	
	Improve air quality	0	

INCLUSIVE GROWTH: Local Development and Social Inclusion	
Proposal	13) Developing Scotland's workforce
Lead Organisation	SDS and SFC
ESIF Programme	European Social Fund (ESF)
Thematic Objective	Investing in education, training and vocational training for skills and lifelong learning
Investment Priority	• Improving the labour market relevance of education and training systems, facilitating the transition from education to work, and strengthening vocational education and training systems and their quality, including through mechanisms for skill anticipation, adaptation of curricula and the establishment and development of work based learning systems, including dual learning systems and apprenticeship schemes. • Enhancing equal access to lifelong learning for all age groups in formal, non-formal and informal settings, upgrading knowledge, skills and competences of the workforce and promoting flexible learning pathways including through career guidance and validation of acquired competences.

Aim:

- To develop a coherent package of additional skills, training and workforce development support to develop a highly skilled and competitive workforce:
  - Advanced apprenticeships;
  - Sectoral and regional skills for future industry needs - respond to local and regional need;
  - Existing workforce development;
  - Developing vocational pathways through school and college in response to Wood Commission; and
  - Curriculum development for new areas/sectors/ developments.

Delivery / What this means in practice:

- Additional high level college and university places aimed at sectoral and regional need.
- Advanced apprenticeships and existing workforce development delivering in partnership with business.
- Vocational pathways developed in target areas with schools and colleges.

SEA topic	Objectives	Assessment	Comments
	Avoid adverse effects on air quality	0	
WATER, COASTAL, MARINE	Avoid adverse impacts on the ecological status of waterbodies	0	
	Avoid and reduce flood risk	0	
	Avoid adverse impacts on sensitive coastal areas and the marine environment	0	
	Improve the water environment	0	
SOIL	Avoid adverse impacts on soil	0	
	Avoid adverse impacts on valuable soil resources e.g. prime agricultural land, carbon rich soils	0	
	Reduce vacant and derelict land	0	
CULTURAL HERITAGE	Avoid adverse impacts on the protected historic environment and its setting.	0	
	Enhance, where appropriate, the historic environment and wider built environment.	0	
	Avoid adverse effects on the historic environment	0	
LANDSCAPE	Avoid adverse impacts on protected landscape, wild land and geodiversity	0	
	Avoid adverse effects on all landscapes	0	

INCLUSIVE GROWTH: Local Development and Social Inclusion	
Proposal	13) Developing Scotland's workforce
Lead Organisation	SDS and SFC
ESIF Programme	European Social Fund (ESF)
Thematic Objective	Investing in education, training and vocational training for skills and lifelong learning
Investment Priority	• Improving the labour market relevance of education and training systems, facilitating the transition from education to work, and strengthening vocational education and training systems and their quality, including through mechanisms for skill anticipation, adaptation of curricula and the establishment and development of work based learning systems, including dual learning systems and apprenticeship schemes. • Enhancing equal access to lifelong learning for all age groups in formal, non-formal and informal settings, upgrading knowledge, skills and competences of the workforce and promoting flexible learning pathways including through career guidance and validation of acquired competences.

Aim:

- To develop a coherent package of additional skills, training and workforce development support to develop a highly skilled and competitive workforce:
  - Advanced apprenticeships;
  - Sectoral and regional skills for future industry needs - respond to local and regional need;
  - Existing workforce development;
  - Developing vocational pathways through school and college in response to Wood Commission; and
  - Curriculum development for new areas/sectors/ developments.

Delivery / What this means in practice:

- Additional high level college and university places aimed at sectoral and regional need.
- Advanced apprenticeships and existing workforce development delivering in partnership with business.
- Vocational pathways developed in target areas with schools and colleges.

SEA topic	Objectives	Assessment	Comments
	Enhance landscape quality	0	
MATERIAL ASSETS	Avoid adverse impacts on material assets	0	
	Support sustainable use of natural resources	0	