

# Review of the Scottish Planning System – Planning Bill

Strategic Environmental Assessment  
Environmental Report

Report prepared by:



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# Non-Technical Summary

## Introduction

The Planning system is used to make decisions about future development and the use of land. It considers where development should happen, where it should not, and how development affects its surroundings. The system aims to balance different interests so that land is used and developed in a way that creates high quality, sustainable places.

Following an independent review of the Planning system, the Scottish Government intends to introduce a Planning Bill around the end of 2017. The Bill will make a range of – mainly procedural – changes intended to support sustainable economic development and inclusive growth, through a more responsive and flexible approach to planning in Scotland.

## What will be in the Planning Bill?

Places, People and Planning: A Consultation on the Future of the Scottish Planning System invited views on 20 proposals for improving Scotland's planning system, in light of recommendations from an independent review which reported in May 2016.

Following that consultation, the 'Position Statement' published alongside this SEA, provides an update on progress and sets out an integrated package of proposed improvements to the planning system. Not all of the package will require legislative change, and this SEA is concerned with those aspects of the proposals that would require changes to primary legislation, through a Planning Bill. No decisions on the content of the Planning Bill have been made at this stage. Where further changes emerge from the review process, we will continue to screen them for their environmental effects, and where these effects are considered to be significant, we will update the Environmental Report as required. Broadly, the proposals set out in the Consultation, and in the Position Statement, focus on four key areas of change:

- i. Making plans for the future - proposals to improve development planning, from the national to local level.
- ii. People make the system work - Empowering people to decide the future of their places and involving a wider range of people in the planning system.
- iii. Building more homes and delivering infrastructure - Enabling planning to help deliver more high quality homes and create better places where people can live healthy lives and developers are inspired to invest.
- iv. Stronger leadership and smarter resourcing - streamlining processes and improving skills and resources so that Scotland's planning system can focus on creating great places.

## What is Strategic Environmental Assessment (SEA)?

Strategic Environmental Assessment (SEA) is a means of systematically assessing the likely impact of a public plan on the environment and to seek ways to avoid, or minimise where possible adverse effects, if likely to be significant. SEA provides an opportunity for the public to consider this information and to use it to inform their views on the emerging proposals.

This Environmental Report sets out the findings of the assessment of the proposals for change that may form part of the future Planning Bill. The Environmental Report has been published alongside the Scottish Government's Position Statement setting out the changes that Scottish Ministers are considering taking forward through the Bill, secondary legislation under existing powers, and other, non-statutory approaches.

The Environmental Report has been prepared in accordance with the Environmental Assessment (Scotland) Act 2005. Views are invited on both the Environmental Report and the Position Statement.

## What is the current state of the environment?

Scotland's environment is rich in natural and cultural heritage. Its network of European protected sites supports many important and rare plants, birds and animals. Many biodiversity features are in good condition, but continuing efforts are needed to avoid the further decline of some species and habitats.

Scotland's air, soil and water are generally in good condition, but there are concentrations of pollution in some parts of the country. Some of this is historic, but there are also on-going challenges, including diffuse pollution from urban and rural areas. Current trends suggest that with continuing action, pollution will continue to reduce over time; but there will still be a need for behavioural change to achieve more significant progress in the long term.

Scotland has high quality landscapes, with many iconic views and scenic areas. Our National Scenic Areas (NSAs) and National Parks require special attention to ensure development does not erode their special qualities. Scotland's wild land areas are set out in the Scottish Natural Heritage (SNH) 2014 map of wild land. Many areas are recognised as being of regional and/or local importance; forming the backdrop for our settlements and attractive areas for recreation and tourism. Our historic environment includes World Heritage Sites, listed buildings, conservation areas, gardens and designed landscapes and archaeology (including scheduled monuments), with each seen as important relics of our history and past patterns of settlement. Many further archaeological resources remain undiscovered.

Scotland has many natural resources and material assets, not least its high quality agricultural land, and extensive areas of forestry and woodland. Scotland's transport infrastructure is also a key asset in connecting our urban and more remote rural areas, and supporting future growth.

It is widely held that climate change is one of the most serious threats facing the world today. It is already having an impact on weather patterns, increasing air and sea temperatures, and impacting on Scotland's unique biodiversity. Further changes in levels and timing of rainfall, temperatures, and more extreme weather events are expected; all of which have the potential to affect other aspects of the environment. Whilst progress is being made to reduce emissions that cause climate change, action continues with the preparation of the Climate Change Plan and Energy Strategy on-going at this time.

## What are the likely environmental effects arising from changes to the planning system?

A future Planning Bill is expected to make largely procedural changes and is unlikely to have significant direct environmental effects. Within the planning system, a range of existing statutory and non-statutory measures are in place to assess the likely environmental impacts arising from development proposals at plan and project level, and these will continue to operate. Future legislative change would not approve development or infrastructure. Rather, it would define the structure of planning and decision-making; streamlining the system and giving communities more influence in plans and decisions.

There is potential for indirect positive effects arising from the proposed changes, particularly those that aim to increase transparency and community engagement in planning. Aspects of the proposed changes intended to improve resources, grow skills and increase expertise for planning authorities, as well as the introduction of a 'Gatecheck' as part of the examination of local development plans, also have the potential to help to strengthen environmental consideration at the plan and project level.

There may be positive and negative indirect /secondary effects from proposals that are aiming to improve the delivery of development and infrastructure.

Where improvements to infrastructure planning are achieved, there are opportunities for environmental benefits if increased delivery of green infrastructure is recognised as a priority. There may be indirect, localised positive impacts from earlier identification of infrastructure requirements and support for infrastructure delivery.

Infrastructure can provide multiple benefits across a range of topic areas. For example, having the appropriate digital infrastructure in place could help to change travel behaviours and patterns, helping in turn to reduce greenhouse gas emissions and improve human health and wellbeing, through greater connectivity. Similarly, the provision of well-designed and sited green infrastructure can help to promote active travel and improve health and wellbeing, reduce emissions, assist in flood management, and enhance biodiversity.

The second stage assessment identified the potential for increased development to have indirect, localised adverse environmental effects on most of the SEA topic areas. Examples of negative indirect / secondary effects could include greater competition for land and increased pressures on existing land uses. Examples of impacts associated

with construction activities and development work include increased levels of noise, dust and vibration; disturbance from construction traffic; temporary visual impacts; sealing and loss of soil; increased sedimentation and soil erosion; potential for increased flooding and water pollution; and fragmentation or and loss of habitats, amongst others. However, there are existing mechanisms in place within Scotland's planning system to identify and manage the potential for adverse environmental impacts arising from proposed development, and the siting and design of development proposals will continue to be crucial in avoiding or mitigating many adverse effects; particularly on biodiversity features and the potential for impacts on landscape and setting.

## How have reasonable alternatives been considered?

The SEA does not assess individual changes or proposals, since they will not in themselves deliver the overarching objectives and many are inherently linked. Instead, two clear options are identified and considered in the SEA:

- Option 1: No change to the current planning system. This option has been considered in the assessment as a 'reasonable alternative' and represents the evolution of the baseline in the absence of the package of proposals.
- Option 2: To bring forward a programme of change through a future Planning Bill. This is considered in the assessment as the 'preferred option'.

## How can potential environmental effects be effectively managed, mitigated or enhanced and what proposals for monitoring have been identified?

The planning system will continue to play a crucial role in managing the impacts of development, and future legislative change is not expected to change that. Many of the potential secondary / indirect effects arising from the proposals for change will be addressed in development plans and through the development management process. Future iterations of the National Planning Framework, Scottish Planning Policy, and development plans will continue to be considered under the Environmental Assessment (Scotland) Act 2005 and subject to Habitats Regulations Appraisal. There is an opportunity for this package of proposals to build in stronger mitigation and enhancement. For example, increased community involvement in planning, as well as improved resources, skills and expertise within planning authorities could strengthen environmental consideration at the plan and project level.

The High Level Group on Planning Performance<sup>1</sup> has been tasked with investigating how performance of the planning system should be monitored. Performance of the planning system will be one of the key ways the implementation of the proposals is monitored. Monitoring of planning performance will be in addition to the raft of existing

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<sup>1</sup> The High Level Group on Performance is co-chaired by COSLA and the Minister for Housing and Local Government.

monitoring programmes targeting specific environmental topics (e.g. water quality through River Basin Management Planning, air quality at the local level, condition monitoring of biodiversity features). It is expected that further information on monitoring proposals will be set out in the Post Adoption SEA Statement.

## What does the SEA conclude?

The SEA concludes that there are no likely significant direct effects arising from the proposed changes to the planning system. There may however be some positive and negative indirect / secondary effects where legislative change leads to increased development and infrastructure delivery. Further positive indirect effects may also arise linked to increased resources, skills, and capacity within planning authorities, and from increased community engagement.

The SEA makes a number of important recommendations, including that consideration be given to the future alignment between SEA and Habitats Regulations Appraisal procedures and a revised development plan preparation process to ensure that their full benefits continue to be realised. It is also recommended that specific guidance be prepared on the application of SEA and Habitats Regulations Appraisal to local place plans, and that community groups are given sufficient guidance and information to support this.



## Next Steps

### When can I respond?

Respondents are asked to submit responses on this Environmental Report directly to the Scottish Government by **11 August 2017**.

### How can I respond?

- Online:

You can respond online using the Scottish Government's consultation platform, Citizen Space.

- By Email or Post:

Responses can be submitted by email to [Planningreview@gov.scot](mailto:Planningreview@gov.scot) or by mail to The Planning Review, Planning and Architecture Division, The Scottish Government, Area 2-H (South), Victoria Quay, Edinburgh EH6 6QQ.

### Suggested Questions for responses on this Environmental Report

Consultees may find the following questions helpful to provide a focus for their responses on the Environmental Report. Please note that responses do not need to be confined to these questions, and more general comments on the Environmental Report are also invited.

1. What are your views on the accuracy and scope of the information used to describe the SEA environmental baseline set out in the Environmental Report? (Please give details of additional relevant sources)
2. What are your views on the predicted environmental effects as set out in the Environmental Report?
3. What are your views on the findings of the SEA and the proposals for mitigation and monitoring of the environmental effects set out in the Environmental Report?

### How will responses be considered?

Following the conclusion of the consultation period, the responses received on the proposals and this Environmental Report will be analysed and reported. Key messages from respondents will be highlighted and the findings of the analysis will be taken into account as the proposals are taken forward; either in the development of a Planning Bill, through secondary legislation or where possible, directly implemented within the current planning system.

A Post-adoption SEA Statement will be prepared and published following implementation of the proposals. This will reflect on the findings of the SEA assessment and views expressed in the consultation, and will explain how the issues raised have been considered and addressed in the preparation of the finalised documents.

# 1 Changing Scotland's Planning System

## 1.1 Introduction

- 1.1.1 Scotland's Planning system is used to make decisions about the future development and use of land. It considers where development should happen, where it should not, and how development affects its surroundings. The system aims to balance different interests so that land is used and developed in a way that creates high quality, sustainable places.
- 1.1.2 There are three main parts to the planning system: development plans set out how places should change into the future; development management is the process for making decisions on planning applications; finally, enforcement aims to ensure development is carried out correctly and can be used to take action when it is not. The planning system in Scotland is plan-led, and decisions on planning applications must be made in accordance with the development plan unless material considerations indicate otherwise.

## 1.2 The Independent Review of the Scottish Planning System

- 1.2.1 In 2015, Scottish Ministers commissioned an independent panel to undertake a 'root and branch' review of Scotland's planning system. The panel looked at the system as a whole and focused in on six key themes:

- i. Development planning.
- ii. Housing delivery.
- iii. Infrastructure.
- iv. Development management.
- v. Community engagement.
- vi. Leadership, resources and skills.

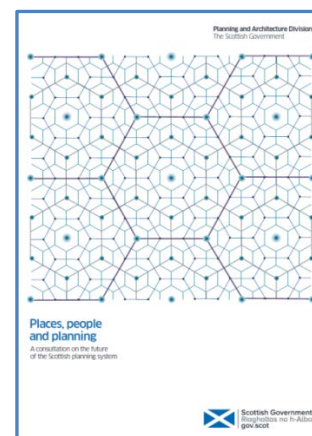
- 1.2.2 The independent panel received written and oral evidence from communities, developers, professional planners and a wide range of organisations with an interest in planning. The panel's report<sup>2</sup>, published in May 2016, detailed the findings of the review and set out 48 recommendations for change.



<sup>2</sup> Beveridge C., Biberbach P. and Hamilton J. (2016) Empowering planning to deliver great places: An independent review of the Scottish planning system, May 2016 [online] Available at: <http://www.gov.scot/Resource/0050/00500946.pdf> (accessed 21/06/2017)

## 1.3 Places, People and Planning – A Consultation on the Future of the Scottish Planning System

1.3.1 Following publication of the panel’s report, the Scottish Government engaged in discussions with a wide range of stakeholders, including community representatives and the public and private sectors, to explore potential changes to the planning system. This process led to the development of 20 proposals for improving Scotland’s planning system, which were set out in ‘Places, People and Planning: A Consultation on the Future of the Scottish Planning System’<sup>3</sup> (‘Places, People and Planning’) which invited comments from 10 January 2017 until 4 April 2017.



1.3.2 ‘Places, People and Planning’ focused on four key areas of change:

- i. Proposals to improve development planning, from the national to local level.
- ii. Empowering people to decide the future of their places and involving a wider range of people in the planning system.
- iii. Enabling planning to help deliver more high quality homes and create better places where people can live healthy lives and developers are inspired to invest.
- iv. Reducing bureaucracy and smarter resourcing so that Scotland’s planning system can focus on creating great places.

1.3.3 Since then, the consultation responses have been analysed and have informed an updated package of proposals change set out in the Position Statement published alongside this Strategic Environmental Assessment (SEA) Environmental Report. The Position Statement sets out the changes that Scottish Ministers are now considering taking forward through the forthcoming Planning Bill, as well as through changes to secondary legislation and other, non-statutory approaches. Views are now being sought on the additional details provided in the Position Statement.

## 1.4 What is in the Planning Bill?

1.4.1 The Position Statement published alongside this report sets out an integrated package of proposed improvements to the planning system. Whilst not all of the package will require legislative change, this SEA is concerned with those aspects that will require changes to primary legislation and which will be developed into the Planning Bill and introduced to Parliament around the end of

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<sup>3</sup> The Scottish Government (2017) Places, People and Planning: A consultation on the future of the Scottish planning system [online] Available at: <http://www.gov.scot/Resource/0051/00512753.pdf> (accessed 21/06/2017)

2017. The Bill will make a range of mainly procedural changes intended to support sustainable economic development and inclusive growth through a more responsive and flexible approach to planning in Scotland for the future.

1.4.2 The proposals set out in the Position Statement broadly include the following:

- **Changes to spatial planning and regional partnership working (Proposals 2 and 3)** – including the removal of Strategic Development Plans (SDPs) and an enhanced role for Scottish Planning Policy (SPP) and the National Planning Framework (NPF). SDPs would be replaced with new duties and powers to facilitate and support more proactive regional partnership working. The role of both NPF and SPP would be strengthened, so that in future the development plan would comprise the NPF, SPP and the Local Development Plan (LDP), rather than the SDP and LDP. Future NPFs would reflect regional as well as national priorities, allowing regionally distinct approaches to be embedded as part of a single, cohesive national strategy.
- **Stronger local development plans (Proposal 4)** – a new ‘Gatecheck’ process to deal with significant issues at an earlier stage in the examination of LDPs; the removal of main issues reports and supplementary guidance; and an extended plan period of 10 years.
- **Enhancing the role of communities in spatial planning (Proposals 1 and 6)** – greater alignment of development plans and wider community planning; a new right for communities to plan their own place, with those plans forming part of the statutory development plan.
- **Keeping decisions local and improved community engagement (Proposals 7,8, and 9)** – including a range of statutory and non-statutory changes to increase transparency; encourage more people to get involved in planning and to improve public trust e.g. through improvements to planning enforcement, and training for elected members serving on a planning committee or Local Review Body.
- **A stronger focus on delivery (Proposals 5, 10, 11, and 12)** – comprising a range of statutory and non-statutory changes to actively help deliver development, including housing. This would include proposals for statutory changes to increase the scope and use of Simplified Planning Zones (SPZs) to release more ‘development ready’ land for housing. The latter could include the removal of restrictions on the use of SPZs in certain designated areas.
- **Changes to support infrastructure delivery (Proposals 13, 14, and 15)** – including scope for the introduction of an infrastructure levy, and improved partnership working to provide support for significant stalled sites, as well as more innovative infrastructure planning.
- **Increased fees and options for discretionary charging – investing in a better service (Proposal 17)** – Whilst changes will not be made until after it has been considered by parliament, it is expected that the planning

bill could include additional enabling powers that provide scope to extend the range of services for which fees can be charged.

- **Digital transformation, Skills development, sharing of resources, and a new approach to improving performance (Proposals 16, 18, and 20)** – including non-statutory measures to improve and broaden skills, and strengthen the overall performance of the planning system.
- **More efficient decision making (Proposal 19)** – including an increase in permitted development rights to reduce the need to apply for planning permission in a wider number of cases. These changes would be progressed through secondary legislation.

## 1.5 The Relationship of the Bill with other Plans, Programmes and Strategies

### Introduction

- 1.5.1 A wide range of objectives relating to planning and environmental protection are detailed within existing legislation, plans, programmes and strategies set at the EU, UK and Scottish levels. The following sections of this report provide an overview of the legislative and policy context considered most relevant to the current Scottish planning system.
- 1.5.2 An overview of relevant Environmental Protection Objectives is set out in Appendix A.

### Scotland's Planning System

- 1.5.3 The Town and Country Planning (Scotland) Act 1997 (the 1997 Act) is the primary legislation for Scotland's planning system. Alongside a range of secondary legislation, this Act, together with the Planning etc. (Scotland) Act 2006, sets out how planning processes are currently managed in Scotland.
- 1.5.4 The proposed Planning Bill would amend the 1997 Act and build on previous changes made through the Planning etc. (Scotland) Act 2006 (the 2006 Act) to modernise the planning system and to make the system more inclusive. The 2006 Act introduced measures to increase consultation across a number of planning processes and it is anticipated that the Planning Bill will further add to these changes.
- 1.5.5 The planning system in Scotland is 'plan' led, and individual developments must be made in accordance with the development plan unless material considerations indicate otherwise. The third National Planning Framework (NPF3)<sup>4</sup> is a spatial expression of the Scottish Government's Economic

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<sup>4</sup> The Scottish Government (2014) National Planning Framework 3: A Plan for Scotland: Ambition, Opportunity, Place and Scottish Planning Policy [online] Available at: <http://www.gov.scot/Publications/2014/06/3539> (accessed 21/07/2017)

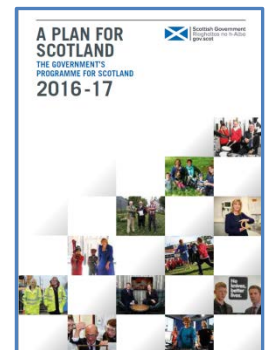
Strategy and statutory development plans must have regard to NPF3. The planning system as a whole has a key role to play in delivering Scotland's Economic Strategy. The SPP<sup>5</sup> sets out Scottish Government policy on how nationally important land use planning matters should be addressed across the country. As a statement of Ministers' priorities, SPP carries significant weight and is a material consideration in planning decisions. Together, these documents focus on four principle themes, all of which share an overarching theme of supporting sustainability and protecting natural and cultural assets:



- i. A successful sustainable place – supporting economic growth, regeneration and the creation of well-designed places.
- ii. A low carbon place – reducing our carbon emissions and adapting to climate change.
- iii. A natural resilient place – helping to protect and enhance our natural cultural assets and facilitating their sustainable use.
- iv. A connected place – supporting better transport and digital connectivity.

1.5.6 The SPP and NPF3 sit alongside Creating Places<sup>6</sup>, the policy statement on architecture and place, and Designing Streets<sup>7</sup> which is a policy statement on putting street design at the centre of placemaking. Finally, planning circulars<sup>8</sup> contain guidance on the implementation of legislation or procedures. The current legislative and policy context for planning in Scotland is illustrated in Figure 1.1.

1.5.7 The introduction of a Planning Bill will fulfil a commitment set out in A Plan for Scotland<sup>9</sup> to “bring forward a Planning Bill ... which will maintain our commitment to a strong, high-performing system that enables housing and infrastructure delivery and supports quality of life of all our communities by promoting quality of place and the public interest.”



<sup>5</sup> The Scottish Government (2014) Scottish Planning Policy [online] Available at: <http://www.scotland.gov.uk/Topics/Built-Environment/planning/Policy> (accessed 21/06/2017)

<sup>6</sup> The Scottish Government (2013) Creating Places – A policy statement on architecture and place for Scotland [online] Available at: [www.scotland.gov.uk/Publications/2013/06/9811/0](http://www.scotland.gov.uk/Publications/2013/06/9811/0) (accessed 21/06/2017)

<sup>7</sup> The Scottish Government (2013) Designing Streets: A Policy Statement for Scotland [online] Available at: [www.scotland.gov.uk/Publications/2010/03/22120652/0](http://www.scotland.gov.uk/Publications/2010/03/22120652/0) (accessed 21/06/2017)

<sup>8</sup> The Scottish Government (2016) Planning Circulars [online] Available at: <http://www.gov.scot/Topics/Built-Environment/planning/publications/circulars> (accessed 21/06/2017)

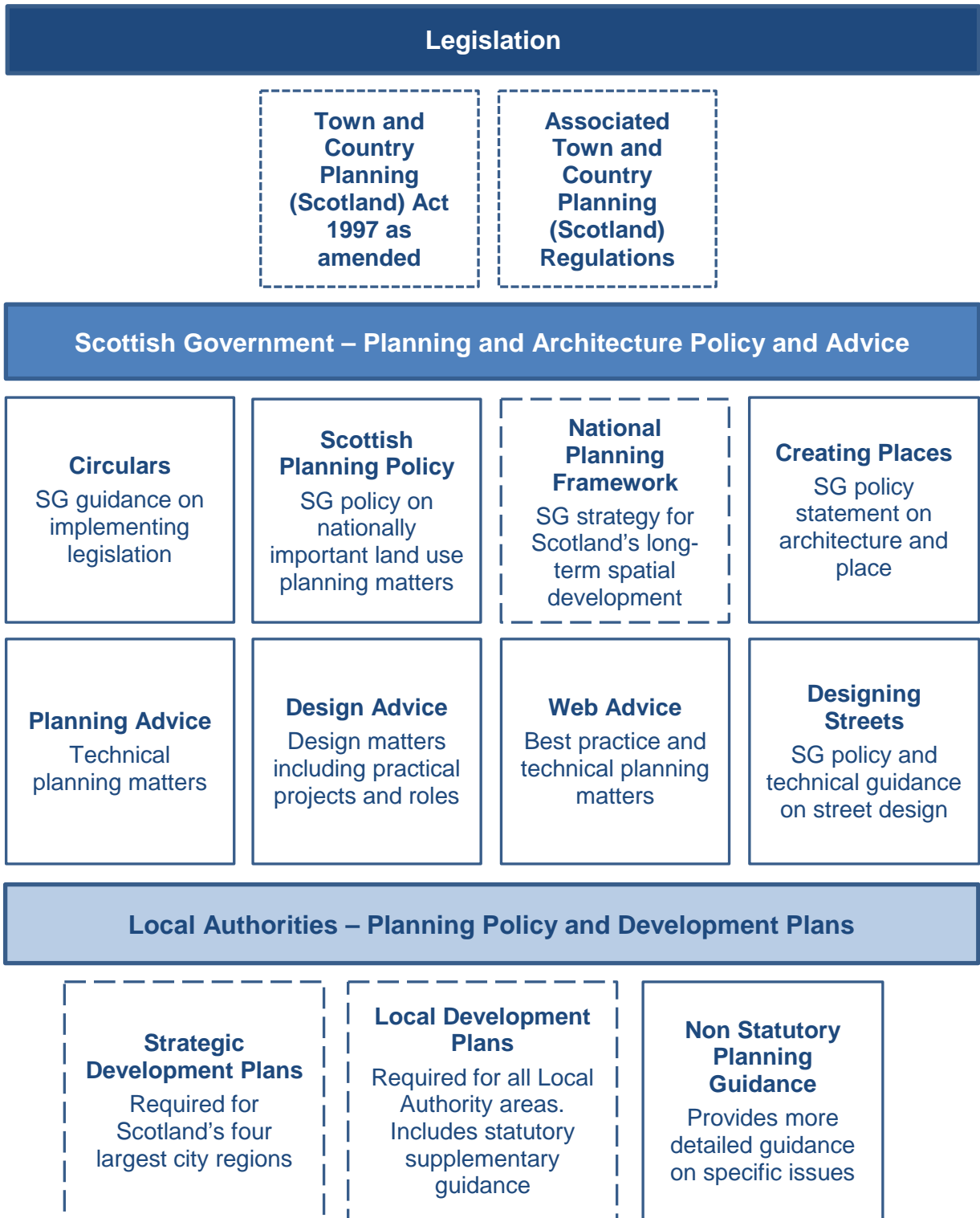
<sup>9</sup> The Scottish Government (2016) A Plan for Scotland<sup>9</sup>: The Government's programme for Scotland 2016-17 [online] Available at: <http://www.gov.scot/Resource/0050/00505260.pdf> (21/06/2017)

## The Role of Environmental Assessment in the Scottish Planning System

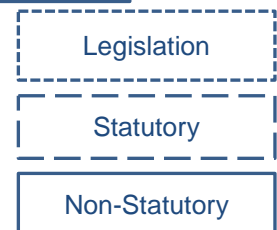
- 1.5.8 Environmental assessment at both plan and individual project level contributes to environmental protection objectives by supporting the usual consideration of environmental factors within the planning process. For development plans and statutory supplementary guidance, SEA and Habitats Regulations Appraisal (HRA)<sup>10</sup> obligations apply.
- 1.5.9 For individual planning applications, the planning process provides a means of assessing the environmental effects of all proposals. Planning authorities have at their disposal wide ranging duties and powers to collect and evaluate information before determining any planning application. In cases where a proposal is likely to have a significant environmental effect by virtue of factors such as its nature, scale or location, these powers are further supplemented by Environmental Impact Assessment (EIA) requirements. Where a proposal is likely to have a significant adverse effect on a European Designated Site, an 'Appropriate Assessment' may also be required.
- 1.5.10 Figure 1.2 illustrates the statutory environmental assessment obligations in the Scottish Planning System.

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<sup>10</sup> The term 'Habitats Regulations Appraisal' is used here to encompass both the 'screening' process for determining whether an 'Appropriate Assessment' is required, as well as any 'Appropriate Assessment' under regulation 85B [of The Conservation (Natural Habitats, &c.) Regulations 1994.



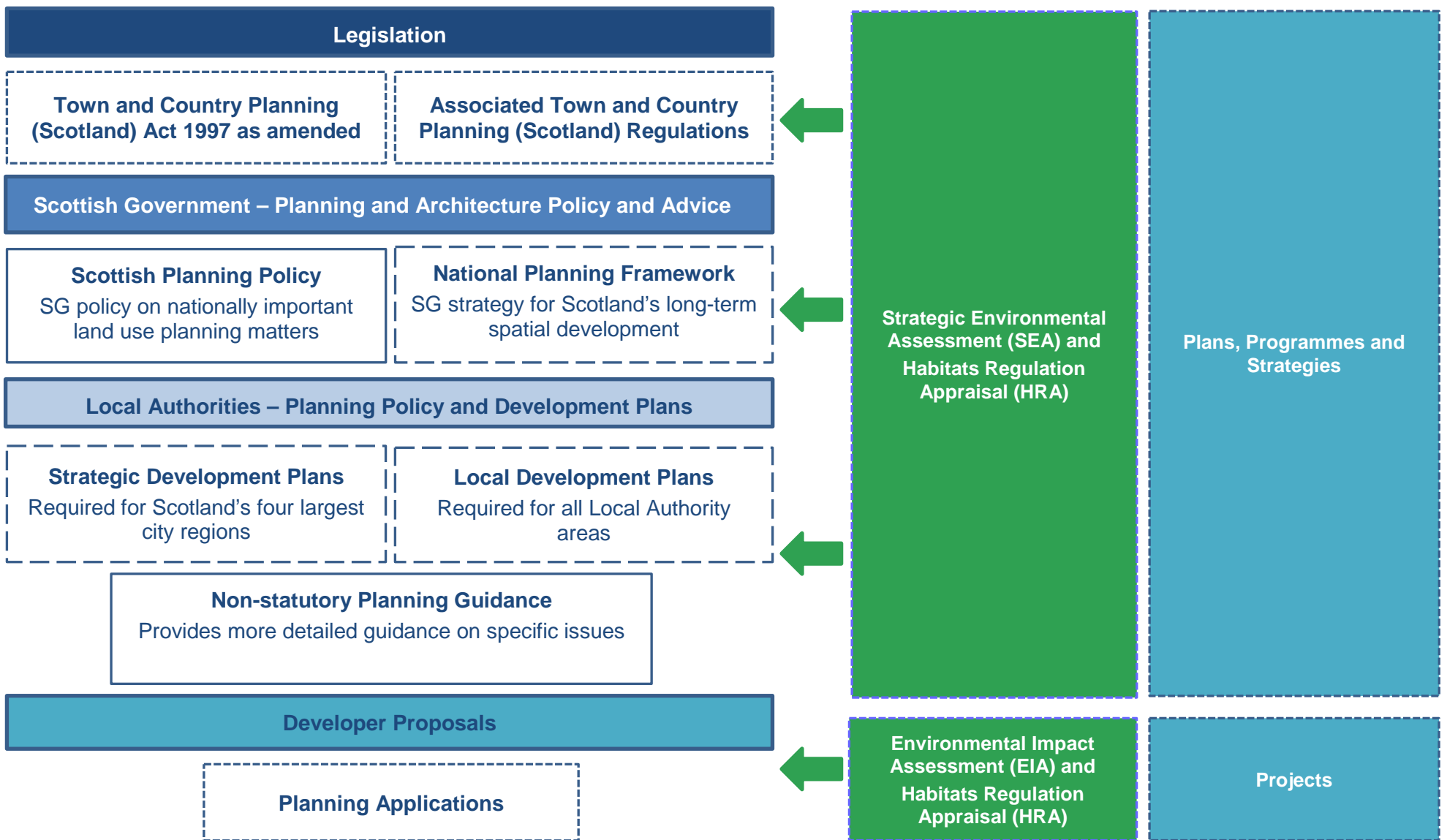
**Figure 1.1 Legislative and Policy Context for Planning in Scotland<sup>11,12</sup>**



<sup>11</sup> The Scottish Government (2016) Development Planning [online] Available at: <http://www.gov.scot/Topics/Built-Environment/planning/Development-Planning> (accessed 21/06/2017)

<sup>12</sup> The Scottish Government (2016) Legislation [online] Available at: <http://www.gov.scot/Topics/Built-Environment/planning/Development-Management/Introduction> (accessed 21/06/2017)





**Figure 1.2 Statutory Environmental Assessment in the Planning System**

## 2 The Approach to the Assessment

### 2.1 Strategic Environmental Assessment (SEA)

2.1.1 The development of the Planning Bill is considered to fall under Section 5(3) of the Environmental Assessment (Scotland) Act 2005 (the 2005 Act), and an SEA has been undertaken in accordance with the 2005 Act.

2.1.2 This report sets out the findings of the SEA undertaken on the package of proposals being considered for inclusion in an upcoming Bill. This SEA has been undertaken by the Scottish Government's Environmental Assessment Team and carried out in accordance with the requirements of the 2005 Act.

#### What is Strategic Environmental Assessment (SEA)?

SEA is the assessment of the likely significant environmental effects that a public plan, programme, or strategy will have on the environment if implemented.

### 2.2 Scoping of Environmental Topics

2.2.1 The Scoping Report submitted to the SEA Gateway on 3 April 2017 set out initial information on the likelihood of significant effects arising from the package of proposals expected to be included in the Planning Bill. It also provided an initial view on the proposed evidence base that would be used to inform the assessment (the Environmental Baseline).

2.2.2 The Report considered that while the proposals were unlikely to have significant direct environmental impacts, the implementation of some proposals for change could have the potential to generate in-direct or secondary environmental effects; for example, those with the potential to result in increased development and infrastructure requirements. Further, it was considered that as an SEA is required under Section 5(3) of the 2005 Act, there was scope for the assessment to add value to the consultation process by exploring the broad relationships between planning and the environment.

2.2.3 As a consequence, all environmental topic areas were scoped into the assessment<sup>13</sup>.

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<sup>13</sup> Biodiversity, Flora, and Fauna; Population and Human Health; Soil; Air; Water; Climatic Factors; Cultural Heritage; Landscape and Visual Impacts; and Material Assets.

## 2.3 The Assessment Methodology

### Overview

- 2.3.1 The SEA was undertaken alongside the development of the proposals and the Position Statement. This iterative process enabled the SEA to inform and influence their development, and ensure consideration of the potential for both positive and negative environmental impacts were an integral part of this process.
- 2.3.2 The Scoping Report outlined a proposed methodology for undertaking the assessment based around the collation of detailed Environmental Baseline information to aid the assessment process and use of ‘assessment questions’ to focus findings. As the development of the proposals and the SEA evolved, this methodology was refined and a two-staged process of assessment was developed. This two-staged process helped to reflect the strategic-level focus of the proposals, while also exploring the potential for the package of proposals to have in-direct and secondary environmental effects.

### The Environmental Baseline and Previous Assessments

- 2.3.3 Building on the information included in the Scoping Report, detailed Environmental Baseline information was collected for each of the environmental topic areas scoped into the assessment. This included gathering information on the Environmental Protection Objectives considered relevant to the SEA and the package of proposals, and the consideration of the findings of previous relevant assessments; notably the SEA work undertaken for the NPF3 and SPP. Key trends and pressures were identified to provide information on the likely evolution of the baseline in the absence of the package of proposals.
- 2.3.4 This information was used to inform the assessment process and identify key environmental issues relevant to the development of the proposals. Both were revised as the SEA evolved.
- 2.3.5 The Environmental Baseline and relevant Environmental Protection Objectives are presented in Appendix A, with short summaries of each provided in Section 3.

### First Stage Assessment

- 2.3.6 An initial (or first stage) assessment was undertaken to broadly consider the likely effects of the package of proposals, and explore the potential for significant environmental effects. This approach reflected the broad and procedural nature of the Planning Bill and consequently the high level nature of the assessment it required.
- 2.3.7 The findings of the first stage assessment are presented in a narrative style, based on the proposals set out in the Position Statement. A summary of the findings of the first stage assessment are presented in Table 3.1.

## Second Stage Assessment

- 2.3.8 The findings from the first stage assessment, particularly that some proposals have the potential for in-direct and secondary environmental effects, were taken forward to a second assessment stage to allow for further assessment in relation to SEA topic
- 2.3.9 The findings are set out in a narrative style and common themes and effects were identified. On this basis, the findings for some topic areas have been consolidated, rather than presented in separate sections. This has enabled a focused and proportionate discussion reflecting on key issues in each topic area, whilst also drawing together the potential for cumulative and in-combination effects from the various aspects of Scotland's planning system.
- 2.3.10 A summary of the findings of the second stage assessment are presented in Table 3.2.

## 2.4 Identifying Mitigation and Monitoring Proposals and Opportunities for Enhancement

- 2.4.1 SEA provides an opportunity to identify how any adverse environmental effects can be mitigated, as well as scope to enhance positive effects. It can also set out proposals for monitoring post adoption. Undertaking an iterative assessment process has enabled the dissemination of opportunities for mitigation, enhancement and monitoring identified in the SEA process, to feed into the development of the proposals themselves.
- 2.4.2 Recommendations for mitigation, enhancement and monitoring are set out in Section 5.

## 2.5 Consideration of Reasonable Alternatives

- 2.5.1 The Planning Bill will progress an integrated package of changes to primary legislation. When taken together with the wider legislative and non-legislative changes proposed alongside the Bill, the package is intended to deliver the overarching objectives of delivering sustainable economic development and inclusive growth. With this in mind, it is not considered reasonable in this SEA to assess individual changes or proposals, since they will not in themselves deliver the overarching objectives and because many of the individual proposals are inherently linked.

### **Requirement under the 2005 Act**

The potential for significant environmental effects of reasonable alternatives of a plan, programme or strategy are to be assessed as part of the SEA process.

- 2.5.2 Rather, the SEA has considered alternatives to the development of the package of proposals as a whole, in light of the recommendations of the Independent

Review, and following the public consultation on People, Places and Planning. Two clear options were identified:

- Option 1: No change to the current planning system. This option has been considered in this assessment as a 'reasonable alternative' and represents the evolution of the baseline in the absence of the package of proposals.
- Option 2: To bring forward a package of amendments through the Planning Bill. This has been considered in this assessment as the 'preferred option'.

2.5.3 The consideration of environmental effects associated with the reasonable alternatives is discussed further in Section 4.

## 3 Findings of the Assessment

### 3.1 Environmental Protection Objectives

- 3.1.1 Many established environmental protection objectives form the context for the assessment. A summary of established and relevant objectives and commitments is set out in Appendix A; a broad overview is also presented below.
- 3.1.2 Policies and strategies aiming to protect and enhance our environment are in place at both the international and national level. Objectives for water, soil and air seek to reduce pollution, and to reverse the effects of past emissions. Environmental protection objectives for biodiversity, flora and fauna are largely aimed at protecting habitats and species from damage and disturbance.
- 3.1.3 Landscape objectives protect our most scenic areas, reflect the importance of the interaction between people and the land, and aim to enhance areas where landscape qualities have been eroded over time. Cultural heritage objectives range from protection of internationally important World Heritage Sites to the recognition and management of more locally important buildings and archaeology, and that of their wider setting.
- 3.1.4 Cutting across all of these objectives, international and national climate change objectives are expressed not just in policy, but in targets for reducing greenhouse gas (GHG) emissions, and also in supporting adaptation to changing weather patterns.

### 3.2 Relevant aspects of the Environmental Baseline

- 3.2.1 Scotland's environment is rich in natural and cultural heritage. Its network of European protected sites supports many important and rare plants, birds and animals. Many biodiversity features are in good condition, but continuing efforts are needed to avoid the further decline of some species and habitats.
- 3.2.2 Scotland's air, soil and water are generally in good condition, but there are concentrations of pollution in some parts of the country. Some of this is historic, arising from past industrial activities, but there are also on-going challenges, including emissions of pollutants from energy generation and diffuse pollution from urban and rural areas. Current trends suggest that with continuing action pollution will continue to reduce over time; but there will be a further need for behavioural change to achieve more significant progress in the long term.
- 3.2.3 Scotland has high quality landscapes, with many iconic views and scenic areas. Our National Scenic Areas (NSAs) and National Parks require special attention to ensure development does not erode their special qualities. Scotland also has extensive areas of relatively remote and inaccessible wild land, particularly in the north and west of the country. Beyond this, many other areas are recognised as being of regional and/or local importance; forming the backdrop

for our settlements and attractive areas for recreation and tourism. Our historic environment includes World Heritage Sites, listed buildings, conservation areas, gardens and designed landscapes and archaeology, with each seen as important relics of our history and past patterns of settlement. Many further archaeological resources remain undiscovered.

- 3.2.4 Scotland has many natural resources and material assets, not least its high quality agricultural land, and extensive areas of forestry and woodland. Scotland's transport infrastructure is also a key asset in connecting our urban and more remote rural areas, and supporting future growth.
- 3.2.5 It is widely held that climate change is one of the most serious threats facing the world today. It is already having an impact on weather patterns, increasing air and sea temperatures, and impacting on Scotland's unique biodiversity. Further changes in levels and timing of rainfall, temperatures, and more extreme weather events are all expected; all of which have the potential to affect other aspects of the environment. Whilst progress is being made to reduce emissions that cause climate change, further action is needed to meet Scotland's ambitious climate change targets.
- 3.2.6 Further detail for each environmental topic area is presented in the Environmental Baseline set out in Appendix A.

### 3.3 What are the likely effects of a future Planning Bill? (the First Stage Assessment)

- 3.3.1 The integrated package of proposals set out in the Position Statement is largely procedural in nature. Taken together, they are intended to support sustainable economic development and inclusive growth by adopting a more responsive and flexible approach to planning in Scotland.
- 3.3.2 The Bill itself, if enacted, would not approve development or infrastructure delivery. Rather, it would define the structure of planning and decision-making; streamlining the system and giving communities more influence in plans and decisions. With this in mind, the assessment has considered how environmental impacts will be taken into account within the improved system.

#### [Changes to spatial planning, regional partnership working and improvements to local development plan procedures \(Proposals 2, 3, and 4\)](#)

- 3.3.3 A shift to more proactive, cross-boundary regional partnerships can help to inform consideration of infrastructure requirements, including transport infrastructure, with the potential for in-direct benefits arising from more connected places which help to reduce GHG emissions. The Central Scotland Green Network is an example of 'green' infrastructure for which SDPs have been the vehicle for strategic level delivery. This type of initiative could in future be considered through regional partnership working, with coverage extending

beyond the current SDP Authority areas; providing an opportunity for broader benefits and a more joined up approach across Scotland.

- 3.3.4 Proposals for an enhanced role for Scottish Planning Policy could bring greater clarity through clear and consistent environmental policy in local development plans, whilst allowing for local departures to reflect distinctive local environments.
- 3.3.5 Changes to the planning process will have implications for statutory environmental assessment requirements. Under the current process the NPF and development plans are subject to SEA and HRA requirements. Although the consultation has discussed the scope for removing strategic development plans, regional spatial priorities would still be considered in the local development plan and/or the NPF as appropriate. All development plans including any modifications to them, are subject to SEA / HRA and those responsible for preparing the plan must consider their statutory requirements. Continued regional evidence gathering, including on cross-boundary infrastructure requirements as proposed, could help to better inform assessments at all levels.
- 3.3.6 The proposed new 'Gatecheck' process for LDP examinations could provide opportunities to embed important environmental considerations at this early stage of the plan's preparation and can help to strengthen and focus the SEA 'scoping' stage. Early engagement before any Gatecheck can also help to shape the plan and will be an opportunity for stakeholders to feed in evidence, including on environmental capacity. The move from producing a main issues report to a draft plan for public consultation will ensure there is still a clear stage at which an Environmental Report, including reasonable alternatives, can be prepared and published for consultation. At the same time, the proposed move to a 10 year plan period may be better placed to reflect the pace of environmental change; allowing for the review of local development plans between cycles can provide a further opportunity to address environmental issues. Finally, further consideration of alignment between SEA / HRA procedures and the new local development plan preparation process would provide clarity to all concerned. This could also help to support a proportionate approach to meeting statutory assessment obligations as well as helping to ensure the full benefits of SEA / HRA are realised.
- 3.3.7 Planning applications for individual development proposals would continue to be brought forward following largely the same procedures and scrutiny as at present. The planning process provides a means of assessing the environmental effects of all proposals, and planning authorities have at their disposal wide ranging duties and powers to collect and evaluate information before determining any planning application. In cases where a proposal is likely to have a significant environmental effect by virtue of factors such as its nature, scale or location, these powers are further supplemented by statutory Environmental Impact Assessment.



- 3.3.8 Aligning community planning and spatial planning (position statement proposal 1): The proposals include a new requirement for development plans to take account of wider community planning; the process by which public service providers and communities work together to identify local priorities and plan to deliver improved outcomes. Whilst this would not in itself have any environmental effects, greater alignment and fuller public involvement in the planning system has the potential to improve awareness of the planning system in the community, and the identification of priorities for improving Scotland's communities and living spaces, amongst others. This is discussed further in the second tier assessment.
- 3.3.9 Any individual proposals would be incorporated in the relevant local development plan and subject to consideration of the likely environmental effects within their mandatory SEA and HRA requirements.

#### [Giving people an opportunity to plan their own place \(position statement proposal 6\)](#)

- 3.3.10 The proposals include introduction of new 'local place plans' through which communities can plan their own place. It is proposed that provisions in the Planning Bill concerning the processes and procedures for these plans should be flexible, so that communities themselves can define the best way of preparing these. It is not therefore possible to set out at this stage the precise way in which SEA / HRA will be applied to such plans. Some key differences from neighbourhood plans in England might be expected, given that the proposal is for the local place plan only to have formal status when adopted into the local development plan. The planning authority, as a responsible authority for the purposes of the 2005 Act, would be required to be confident that SEA requirements had been complied with before adopting a local place plan as part of the statutory development plan. It is recommended that guidance be prepared on the application of SEA / HRA to local place plans and that consideration is given to how these align with the SEA of the LDP.

#### [Keeping decisions local and improved community engagement \(position statement proposals 7, 8, and 9\)](#)

- 3.3.11 More upfront, earlier engagement can lead to better plans and more informed decision making at the local level. Communities also want confidence that the plans to which they have contributed will be upheld through effective enforcement and local decision-making.
- 3.3.12 Given that SEA requires 'early and effective' engagement in the planning process, these proposals could be viewed as strengthening opportunities for the public to contribute to plan-making, taking into account relevant environmental information. Improved community engagement and trust can help to more fully realise the benefits of SEA and EIA, through increased public participation, scrutiny, and transparency at all stages of the decision making

process. These opportunities are discussed further in the second tier assessment.

[A stronger focus on delivery \(position statement proposals 5, 10, 11 and 12\):](#)

- 3.3.13 The position statement sets out a package of wide ranging proposals to actively help deliver development on the ground, including housing development. These proposals would not, however, plan, approve or consent individual developments. Any proposals for development would continue to require planning permission, involving the relevant scrutiny and consideration. As a consequence, individual proposals would remain subject to statutory and non-statutory environmental assessment in the usual way.
- 3.3.14 One specific proposal includes greater use of a zoned approach to enabling development, potentially through amended legislation allowing for rebranded Simplified Planning Zones (SPZs) to be used in a wider range of circumstances. Currently, section 54 of the Town and Country Planning (Scotland) Act 1997, as amended, excludes the following areas from inclusion in a SPZ:
- i. land in a conservation area;
  - ii. land in a National Scenic Area;
  - iii. land identified in the development plan for the area as part of a green belt;
  - iv. land in a site of special scientific interest; and
  - v. land in respect of which a nature conservation order or land management order made under Part 2 of the Nature Conservation (Scotland) Act has effect.
- 3.3.15 As well as the restrictions on where SPZs can be used, there are also currently restrictions on the type of development SPZs can consent. Regulation 37 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (the EIA Regulations) requires that no SPZ may grant planning permission for development for which an EIA is required. Circular 18/1995: Simplified Planning Zones also sets out as a matter of policy certain further restrictions on the type of development, for example for certain industrial uses, for which an SPZ can be brought forward.
- 3.3.16 The potential options for amending and rebranding the SPZ provisions are still being explored. A rebranded SPZ would be an alternative procedure for granting planning permission (effectively a consenting masterplan). That procedure would include statutory public consultation requirements and would still require consideration by the planning authority of the likely environmental, economic and social impacts arising. Further, by taking a more strategic, proactive and longer-term approach to consenting, rebranded SPZs provide an opportunity to front-load consideration of design, infrastructure, and

environmental matters, and to more closely link consenting to the local development plan preparation and delivery processes.

- 3.3.17 The potential removal of the restrictions in section 54 of the Planning Act and in Regulation 37 of the EIA regulations could therefore afford rebranded SPZs the same opportunity for case by case consideration as currently applies to bringing forward planning applications generally, for which no equivalent statutory exclusions apply. If the restriction in Regulation 37 of the EIA regulations were to be removed, new provision would be required to provide that – where there are likely significant environmental effects associated with an SPZ – no planning permission may be granted until an EIA has been undertaken.
- 3.3.18 Where the need for an SPZ is identified through the local development plan preparation process, the SEA and HRA of the plan could help to guide and inform the siting of the SPZ and where relevant can help to inform any EIA or lower-tier HRA undertaken.
- 3.3.19 No significant environmental effects are likely to arise from the potential changes to SPZs. These are procedural changes which would remove the restrictions on bringing forward SPZs in certain circumstances, allowing decision making on a case by case basis as is the case for planning applications generally. There may be indirect / secondary environmental benefits where rebranded SPZs are used to support town centre renewal.

#### [Changes to support infrastructure delivery \(position statement proposals 13, 14, and 15\)](#)

- 3.3.20 An ‘infrastructure first’ approach can support the delivery of development and lead to better place making, ensuring that places function properly so that development improves, rather than detracts from, quality of life. National and regional scale partnership working provides an opportunity to help improve infrastructure governance and co-ordination, with possible in-direct environmental benefits arising from a more co-ordinated approach, particularly if it is applied to green infrastructure and opportunities for a more innovative approach to low carbon infrastructure. The potential for such effects is discussed further in the second tier assessment.
- 3.3.21 With the exception of any further changes to permitted development rights, for example on telecommunications infrastructure, which are discussed under proposal 19, such changes would not plan, approve or consent individual infrastructure provision. This would still require appropriate scrutiny of potential effects as part of the relevant consenting process, and individual proposals would be subject to statutory and non-statutory environmental assessment in the usual way. However, in broad terms, increased infrastructure delivery could give rise to associated positive and negative environmental impacts. These are considered to be secondary impacts from the proposals set out in the Position Statement and are discussed further in the second tier assessment.

3.3.22 Views were invited through the Places, People and Planning consultation on the possible removal of Section 3F of the Town and Country Planning (Scotland) Act 1997 requiring development plan policies to require new developments to install and operate low and zero-carbon generating technologies. An independent study 'Effectiveness of greenhouse gas emission policies in local development plans'<sup>14</sup> has found no evidence that there is any added value from this requirement – instead, building standards are driving down emissions. However, having taken into account views, and mindful of the high priority attached to climate change mitigation across the Scottish Government, the Position Statement sets out that this proposal will not be progressed further at this stage.

[Digital transformation, investing in a better service, skills development, sharing resources and a new approach to improving performance \(position statement proposals 16, 17, 18, and 20\):](#)

- 3.3.23 Improving resources and making better use of digital technology will allow Scotland's planning system to provide a more effective and transparent service. By improving efficiency, these changes can also help to ensure that planning authorities can focus more on creating great places. A requirement to undertake SEA, HRA and/or EIA can have resource implications for planning authorities over and above those required as part of the usual development management or plan preparation process, and may require specialist skills and expertise. The independent planning review panel identified SEA, EIA, and HRA as priority areas for making better use of shared services.
- 3.3.24 There are no direct environmental effects likely to arise from these proposals. However, there is the potential for in-direct positive effects to occur through increased transparency, as well as improved resources, skills, and expertise available for planning authorities in undertaking their environmental assessment obligations. It is recommended that opportunities for sharing skills and expertise in environmental assessment across planning authorities is considered further.

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<sup>14</sup> ClimateXchange (2012) Effectiveness of greenhouse gas emission policies in local development plans [online] Available at: <http://www.climateexchange.org.uk/reducing-emissions/effectiveness-greenhouse-gas-emission-policies-local-development-plans/> (accessed 20/06/2017)

### Making better use of resources (position statement proposal 19):

- 3.3.25 Proposals to expand permitted development rights – a general planning permission granted by Parliament rather than by individual local authorities - will need to be considered carefully to ensure appropriate environmental safeguards are in place. In removing certain types of planning applications from the system, particular consideration would need to be given to ensuring EIA obligations continue to be met.
- 3.3.26 Specific proposals for increasing permitted development rights will not, however, be progressed through the planning bill, but would be the subject of secondary legislation, to be brought forward in due course. This secondary legislation would need to be considered for its own SEA requirements. Such proposals are therefore outwith the scope of this SEA.

### Summary of Findings from the First Tier Assessment

- 3.3.27 Whilst the package of proposals itself is considered unlikely to have significant environmental effects, the potential for in-direct or secondary effects was identified. The consideration of any such effects and implications for the respective SEA topic areas has been taken forward in the second tier assessment (see Section 3.4). A summary of the findings of the first tier assessment is set out in Table 3.1.

**Table 3.1 Summary of Findings from the First Stage Assessment**

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Summary of Likely Environmental Impacts</p>	<ul style="list-style-type: none"> <li>• The proposals set out in the Position Statement are primarily procedural, seeking to improve the flexibility of Scottish planning, by streamlining the current system. The proposals themselves are unlikely to result in direct significant environmental effects.</li> <li>• The assessment identified the potential for positive and negative indirect/ secondary environmental effects from aspects of the proposals; particularly those likely to lead to increased delivery of development and infrastructure. This may include benefits providing that opportunities for example for low carbon and green infrastructure are recognised as a priority. There is potential for impacts at the local level associated with development and infrastructure works that would be considered further through continuing requirements for environmental assessment at the plan and project level.</li> <li>• The proposals could have indirect positive effects in relation to population and health and the environment more generally, particularly those proposals seeking to increase transparency, and greater community engagement in planning.</li> <li>• The inclusion of proposals to improve resources, grow skills and expertise for planning authorities, and the development of a ‘Gatecheck’ process for local development plans, could also help in strengthening environmental consideration at the plan and project level.</li> <li>• While the potential for environmental effects from the expansion of permitted development rights was noted, this proposal will be the subject of secondary legislation to be brought forward in the future, and at that time, would require consideration under SEA.</li> </ul>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Key Points and Recommendations</p>	<ul style="list-style-type: none"> <li>• Further consideration of alignment between SEA / HRA procedures and a revised plan preparation process could provide further clarity to all concerned. In particular, it will be important to ensure support is in place for a proportionate approach to SEA and HRA, whilst maintaining statutory assessment obligations. This will also be crucial in ensuring that the full benefits of applying SEA and HRA are realised. It is recommended that guidance be prepared on the application of SEA and HRA to local place plans and that consideration is given to alignment with the SEA of the local development plan. The guidance should seek to ensure that SEA adds value to plan-making by identifying and mitigating significant environmental impacts.</li> <li>• It is also recommended that community groups be provided with sufficient guidance and information to produce sustainable local place plans that are in line with environmental objectives, and that they are afforded flexibility in defining their own approaches to engaging with the local development planning process.</li> <li>• In removing certain types of planning applications from the system through an expansion of permitted development rights, particular consideration will need to be given to ensuring that environmental assessment obligations continue to be met under terms of the SEA Act. There may be opportunities to prioritise development which will generate positive environmental effects, if an SEA of the proposals is undertaken at an early stage in the development of secondary legislation.</li> <li>• Any amendment or replacement of the provisions enabling simplified planning zones will need to ensure environmental obligations (and associated requirements for public consultation) will be met, with appropriate guidance available to guide their use.</li> <li>• It is recommended that opportunities for sharing skills and expertise in environmental assessment across Planning Authorities are considered further.</li> </ul>

### 3.4 What are the likely in-direct or secondary environmental effects? (The Second Stage Assessment)

#### Biodiversity, Flora and Fauna, Water, Soil and Air

- 3.4.1 In general terms, development has the potential for largely localised adverse environmental effects on each of these topic areas. Impacts associated with construction activities and development work such as increased levels of noise, dust and vibration; increased disturbance from construction traffic; temporary visual impacts; sealing and loss of soil; increased sedimentation and soil erosion; potential for increased flooding and water pollution; and fragmentation or and loss of habitats, amongst others, can occur. However, under the proposals, the potential for any such impacts would continue to be assessed and mitigated through existing mechanisms including through the development management process, and supplemented where appropriate by relevant statutory environmental assessment obligations (e.g. EIA), and via site controls and Environmental Management Plans. At development plan level, the inclusion of a 'gate check' could be beneficial in identifying potential environmental impacts early.
- 3.4.2 Positive impacts could also arise particularly for urban biodiversity, flora and fauna where a sharper focus on infrastructure planning recognises the value of a co-ordinated approach to low carbon and green infrastructure. For example, benefits in enhancing biological diversity, linking areas through wildlife corridors, and contributing towards greater ecosystem resilience against invasive non-native species, could occur. Increased development of green infrastructure could also facilitate greater levels of active travel in new developments. In-combination with policies in the transport and health sectors, this can also have positive impacts – particularly for urban air quality, in addition to reducing greenhouse gas emissions and benefits for human health and wellbeing.
- 3.4.3 Depending on the extent to which infrastructure planning addresses green and low carbon priorities, positive effects for soils and soil management may also arise – for example through the development of well-planned and designed greenspaces. If appropriately designed and maintained, greater vegetation cover can reduce rainfall run-off, afford improved resistance to flooding, and help to buffer water courses against diffuse pollution; in the urban environment in particular. A more effective and efficient planning system may also help to facilitate an increase in remediation/development of brownfield sites, with the potential for associated benefits for both soil and water quality. However, most of these benefits will depend on future policy and the extent to which wider activities take into account environmental priorities.

## Population and Human Health

- 3.4.4 The identification of the potential for localised in-direct impacts associated with increased development in the first tier assessment could have implications for population and human health. Construction activities in particular can lead to increased levels of disturbance (e.g. noise, dust, vibration) and impact on visual amenity; at least temporarily. However, the potential for environmental effects arising from individual development proposals would continue to be assessed and mitigated through existing mechanisms, including through the development management process
- 3.4.5 Improving digital connectivity has the potential to bring significant benefits for health and wellbeing. In particular, greater connectivity could help to change travel behaviours, reduce travel journeys and associated vehicle emissions; complementing wider Scottish policies relating to the transport sector, with clear benefits for human health in urban areas. The extent to which digital initiatives address the risk of digital exclusion will need to be considered to ensure these benefits are realised across all members of society.
- 3.4.6 The proposed hierarchical changes to planning and the much fuller alignment of planning with community planning, also has the potential to deliver in-direct benefits for public health. The quality of the external environment has been shown to play an important role in supporting health and wellbeing and meaningful social interaction. Improved decision-making that supports the creation of places that encourage walking and cycling can positively influence the options available to act in healthy, sustainable ways. As well as encouraging physical activity and cardiovascular fitness, the quality of the environment can also help to provide communities and individuals with a sense of understanding and control over their circumstances. Lack of a proper sense of control and influence on our environment has been linked to poor health outcomes. Approaches that better involve local communities in decision-making can create co-production models, providing positive influence and control for individuals. In this way, creating better places where communities can input positively to future changes can help to create and enhance social capital and cohesion, with resulting benefits for population health. An integrated approach to place-making has the potential to identify opportunities for public health issues to be better evaluated and ensure good outcomes from policies and decisions.

## Climatic Factors, Landscape and Cultural Heritage

- 3.4.7 The potential for localised in-direct impacts associated with increased development identified in the first tier assessment could have implications for climatic factors, landscape and cultural heritage. For example, the development of greenfield land can have negative visual impacts and adversely affect landscape; both in the construction stage and from land use change. Adverse environmental impacts may arise from the initial development phase of



infrastructure works, whether through the provision of new roads or new green infrastructure. However, at this stage, it is not possible to define the significance of these effects as much will depend on future policy, rather than the procedures through which the policy is applied. In broad terms, the development planning and development management processes will continue to be the primary vehicles for the consideration of environmental effects. Given the emphasis on a plan-led approach to development, development planning at the local level will also play a key role in place-scale mitigation of the impacts of planned development.

- 3.4.8 A strong planning process can play an important role in supporting the delivery of better outcomes for Scotland's communities and environment, and greater alignment of development and community planning has the potential to play a key role in this. In terms of climatic factors for example, local place plans could identify or raise the profile of green infrastructure and place-making opportunities, and drive the delivery of benefits (e.g. reducing greenhouse gas emissions through increased opportunities for active travel, improved flood management or renewable heat solutions). If increased delivery of green infrastructure and innovative low carbon infrastructure solutions in particular are an outcome of the changed processes, this could make an important contribution to Scotland's transition towards a low carbon economy and delivering on climate change commitments. Many of these solutions are likely to be beneficial for other topic areas (e.g. air quality and human health, landscape, biodiversity).

### Material Assets

- 3.4.9 Embedding an infrastructure first approach in the planning system can ensure that places function properly and development improves, rather than detracts from quality of life. Promoting greater coordination of infrastructure works and planning, at both the regional and local scales, could help to minimise the potential for indirect and cumulative effects associated with these activities (e.g. reduced disturbance during construction stages, reduced fragmentation of green infrastructure and urban biodiversity).
- 3.4.10 As set out in the SPP, infrastructure can also play an important role in facilitating the delivery of multiple benefits. For example, having the appropriate digital infrastructure in place could help to improve human health and wellbeing through greater connectivity, and the provision of well-designed green infrastructure can help to promote active travel and assist in flood management. Further alignment of development and community planning, alongside streamlined development planning could help identify opportunities such as these and provide an indication of suitable locations for potential deployment; particularly if these changes result in a greater focus on spatial planning at the local level.
- 3.4.11 An increase in development, particularly for housing, could lead to increased pressures on existing land uses. For example, more development on greenfield

sites could increase competition between current land uses such as agriculture, forestry or recreation, and provide further competition with other forms of development (e.g. renewable energy projects, commercial development, road and waste infrastructure). However, the potential for such conflicts would remain key considerations in planning system, particularly through development plans where key decisions on sites and delivery are made. The potential for environmental impacts will continue to be considered through SEA and HRA of development plans, as well as through the development management process at individual project level.

### Summary of Findings from the Second Tier Assessment

3.4.12 A summary of the findings is set out in Table 3.2.

**Table 3.2 Summary of Findings from the Second Stage Assessment**

Summary of Likely Environmental Impacts	<ul style="list-style-type: none"> <li>• The potential for in-direct or secondary effects are primarily likely to be associated with increased development and associated infrastructure works; not least of which being increased competition for land and increased pressures on existing land uses. However, there are existing mechanisms in place within Scotland’s planning system at both the strategic and project levels to identify and manage the potential for adverse environmental impacts.</li> <li>• Increased development can have indirect, localised adverse environmental effects on most topic areas. Impacts associated with construction activities and development work such as increased levels of noise, dust and vibration; increased disturbance from construction traffic; temporary visual impacts; sealing and loss of soil; increased sedimentation and soil erosion; potential for increased flooding and water pollution; and fragmentation or and loss of habitats, amongst others, can occur. Siting and design of development will continue to be crucial in avoiding or mitigating many adverse effects, particularly on biodiversity features and the potential for impacts on landscape and setting of settlements and protected sites.</li> <li>• The assessment identified the potential for indirect, localised positive impacts associated with a strong focus on early identification of infrastructure requirements and supporting infrastructure delivery. The development of strong and resilient networks for example for active travel, biodiversity and digital infrastructure, can be seen as a positive, particularly in helping to meet increased demand for existing services as a consequence of increased development.</li> <li>• Infrastructure can also play an important role in facilitating the delivery of multiple benefits across a range of topic areas. For example, having the appropriate digital infrastructure in place could change travel behaviours and patterns, and help to improve human health and wellbeing, through greater connectivity. Similarly, the provision of well-designed and sited green infrastructure can help to promote active travel and improve health and wellbeing, contribute to reducing greenhouse gas emissions, assist in flood management, and contribute to the enhancement of urban biodiversity.</li> <li>• Greater community engagement and buy-in to the planning system could help to identify opportunities to achieve benefits across many topic areas, including health and wellbeing.</li> </ul>
Key Points and Recommendations	<ul style="list-style-type: none"> <li>• Further consideration of alignment between SEA / HRA procedures and a revised local development plan preparation process could provide further clarity and help to identify and manage the potential for environmental effects at the strategic level. Having a ‘Gatecheck’ in place for local development plans could help to identify the potential for adverse effects at an early stage in their development, and aid the selection of more suitable sites for development. Updated planning advice on the new development plan process can aid clarity.</li> <li>• The promotion of opportunities to ‘link’ up development and infrastructure works could help to reduce the potential for in-direct impacts; for example, to reduce the period of disturbance during construction, and aid the consideration of cumulative or in-combination effects.</li> <li>• A more straightforward and accessible process for community engagement could help to maximise opportunities for involvement in a revised local development plan preparation process. In turn, this could aid the development of opportunities to deliver environmental benefits.</li> </ul>

## 4 Assessment of the Reasonable Alternative – Retention of Current Planning System

- 4.1.1 The proposed package of changes primarily comprises procedural changes to the current planning system, intended to support sustainable economic development and inclusive growth. However, the proposals do not in themselves adopt any new plans, programmes, or strategies. If the existing system remains unchanged, planning procedures continue to be governed by the procedures set under Scotland’s current legislative and policy framework.
- 4.1.2 In terms of this alternative, the Policy Context (Section 1.5) and Environmental Baseline (Appendix A), set out the relevant environmental effects of the current planning system. Together, this information provides a snapshot of Scotland’s current planning system and key relationships, key environmental issues, and both an overview of current trends and the likely evolution of the Baseline in the absence of the package of proposals.
- 4.1.3 They demonstrate that many of the environmental trends identified in the collation of the baseline are independent of the planning system and of the proposed changes. For example, Scotland’s population is expected to continue to rise and age in the coming years<sup>15</sup>, impacts of resource availability, and increased competition for land are expected to continue in the future. Due to the carbon already released into the atmosphere, the predicted effects of climate change are also expected to continue. They also demonstrate the potential for adverse impacts associated with development, regardless of whether the proposed changes are implemented; and that existing mechanisms within Scotland’s planning system will continue to be the primary vehicles at both the strategic and project levels to identify and manage the potential for adverse environmental impacts.
- 4.1.4 Electing not to progress this package of proposals, is likely to be a missed opportunity to improve the current system and deliver the greater responsiveness and flexibility required in a changing world. Equally, the associated environmental benefits would not be realised. For example, whilst community engagement is at the forefront of planning, the potential for added benefit from further aligning development planning and community planning or introducing local place plans, would be unlikely to materialise. Additionally, opportunities for improvements to infrastructure planning would be missed, and with them, opportunities for associated environmental benefits identified in the assessment.

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<sup>15</sup> The Scottish Government (2015) Summary: Age Demographics [online] Available at: <http://www.gov.scot/Topics/People/Equality/Equalities/DataGrid/Age/AgePopMig> (accessed 21/06/2017)

## 5 Recommendations for Mitigation, Enhancement and Monitoring

- 5.1.1 The package of proposals set out in the Position Statement will themselves provide an opportunity to further establish in-built mitigation and opportunities for enhancing the Scottish planning system. For example a new ‘Gatecheck’ process for LDP examinations could provide opportunities to embed environmental considerations at this early stage of the plan’s preparation; more upfront, earlier engagement can lead to better plans and more informed decision making at the local level; Local Place Plans could help to raise the profile of local issues and identify opportunities to enhance Scotland’s living places; and, a shift to more proactive, cross-boundary regional partnership working could help to better inform consideration of infrastructure requirements, with the potential for in-direct benefits arising from more connected places which help to reduce GHG emissions. Finally, improved efficiency and resources can help to ensure that planning authorities can focus more on creating great places. Community buy-in and trust in these ambitions will however be essential to the realisation in full of such benefits.
- 5.1.2 The SEA identified the importance of existing environmental assessment mechanisms in managing the potential for in-direct or secondary environmental impacts associated with the proposed changes. In particular, the potential for significant environmental effects associated with the delivery of Scotland’s ambitions through planning, such as the development of future iterations of the NPF, SPP, and development plans, will continue to be considered for SEA and/or HRA.
- 5.1.3 Individual development proposals would continue to be subject to the usual consideration through the development management process, supplemented where appropriate by EIA, HRA, and via site controls and Environmental Management Plans.
- 5.1.4 The assessment has identified a need to consider how SEA and HRA procedures would align with a new LDP preparation process. Further clarity on this, including through the preparation of guidance on the application of SEA and HRA to Local Place Plans, could help to ensure that the full benefits of these processes can be realised, adding value to plan-making. Guidance on producing sustainable Local Place Plans could also help the development planning process, and deliver positive environmental effects.
- 5.1.5 Many respondents to the consultation expressed their support for proposals for focusing more in future on monitoring outcomes from planning rather than procedures. Amongst other suggestions, the Place Standard was identified as a potential measure to consider how a place has changed. SEA and HRA of the NPF and SPP at the national level and LDPs at the local level, should also aid the identification of environmental objectives. Finally, Local Place Plans could

play an important role in identifying and raising the profile of place-making opportunities, including opportunities for delivering environmental benefits.

5.1.6 The partial Business and Regulatory Impact Assessment<sup>16</sup> which accompanied the Places, People and Planning consultation states ‘The High Level Group on Planning Performance<sup>17</sup> has been tasked with investigating how performance of the planning system should be monitored. Performance of the planning system will be one of the key ways the implementation of the proposals is monitored.’ Monitoring of planning performance will be in addition to the raft of existing monitoring programmes targeting specific environmental topics (e.g. water quality through River Basin Management Planning, air quality at the local level, condition monitoring of biodiversity features). It is expected that further information on monitoring proposals will be set out in the Post Adoption SEA Statement.

5.1.7 The next steps in the process are set out in Table 5.1.

**Table 5.1 Table of Proposals for Mitigation and Monitoring**

Action	Responsible Authority
Prepare guidance on alignment of SEA / HRA procedures and the new LDP preparation process. This should take into account the findings of research currently being undertaken on behalf of the Consultation Authorities and the Scottish Government, to review the relationship between development plans and SEA and to identify examples of good practice and proportionate reporting.	Scottish Government
Prepare guidance on the application of SEA/ HRA to Local Place Plans and alignment of this with the SEA/HRA of the LDP. Publish updated planning advice on the new development plan process.	Scottish Government
Continue to work with the High Level Group on arrangements for monitoring the performance of the amended planning system.	Scottish Government
Greater and more meaningful community engagement in development planning; for example, via Local Place Planning and links to LDP.	Planning Authorities and Communities
Consider opportunities for sharing skills and expertise in environmental assessment across Planning Authorities.	Scottish Government and Planning Authorities

<sup>16</sup> The Scottish Government (2017) Partial Business and Regulatory Impact Assessment, Planning, People and Place – A Consultation on the Future of Planning in Scotland [online] Available at: <https://beta.gov.scot/publications/places-people-planning-consultation-bria/Review%20of%20the%20Planning%20System%20-%20Project%20Documentation%20-%20Partial%20BRIA.pdf?inline=true> (accessed 21/06/2017)

<sup>17</sup> The High Level Group on Performance is co-chaired by COSLA and the Minister for Housing and Local Government.

## 6 Conclusions and Recommendations

- 6.1.1 A future Planning Bill is expected to make largely procedural changes and is considered unlikely to have significant direct environmental effects. Within the planning system a range of existing statutory and non-statutory measures are in place to assess the likely environmental impacts arising from development proposals at plan and project level, and these will continue to operate. With the exception of any changes to Permitted Development Rights, which will not be progressed through the planning bill and are outwith the scope of this SEA, future legislative change would not approve development or infrastructure. Rather, it would define the structure of planning and decision-making; streamlining the system and giving communities more influence in plans and decisions.
- 6.1.2 There is potential for indirect positive effects arising from the proposed changes, particularly those that aim to increase transparency and community engagement in planning. Aspects of the proposed changes intended to improve resources, grow skills and increase expertise for planning authorities, as well as the development of a 'Gatecheck' process for local development plan examinations, could also help in strengthening environmental consideration at the plan and project level.
- 6.1.3 There may also be positive and negative indirect /secondary effects from proposals that are aiming to improve the delivery of development and infrastructure.
- 6.1.4 Where improvements to infrastructure planning are achieved, there are opportunities for environmental benefits if increased delivery of green infrastructure is recognised as a priority. The second stage assessment identified the potential for indirect, localised positive impacts from earlier identification of infrastructure requirements and support for infrastructure delivery, which can provide multiple benefits across a range of topic areas.
- 6.1.5 The second stage assessment identified the potential for increased development to have indirect, localised adverse environmental effects on most of the SEA topic areas. Examples of negative indirect / secondary effects could include greater competition for land and increased pressures on existing land uses. Examples of impacts associated with construction activities and development work include increased levels of noise, dust and vibration; increased disturbance from construction traffic; temporary visual impacts; sealing and loss of soil; increased sedimentation and soil erosion; potential for increased flooding and water pollution; and fragmentation or and loss of habitats, amongst others. However, existing mechanisms are in place within Scotland's planning system to identify and manage the potential for adverse environmental impacts arising from proposed development, and the siting and design of development proposals will continue to be crucial in avoiding or

mitigating many adverse effects, particularly on biodiversity features and the potential for impacts on landscape and setting.

- 6.1.6 It also recommended the provision of support for community groups in engaging with Planning Authorities, and that the process be straightforward and accessible to maximise opportunities for public involvement. In particular, it was recommended that community groups be provided with sufficient guidance and information to produce sustainable plans that are in line with environmental objectives, and that they be afforded flexibility in defining their own approaches in influencing the local development planning process.
- 6.1.7 The assessment considered the alignment of environmental assessment processes with development planning to be crucial in ensuring that the full benefits of applying SEA and HRA are realised; including the early consideration of alternatives. The development of guidance for proportionate and effective consideration of environmental issues in local place plans would also be beneficial.



## 7 Next Steps

### 7.1 Consultation Timescales

- 7.1.1 Public views and comments are invited on both this Environmental Report and the proposals set out in the Position Statement to which it relates.
- 7.1.2 We ask that all comments be submitted via the Scottish Government consultation web site or to the following address by the close of the consultation period on **11 August 2017**:

[Planningreview@gov.scot](mailto:Planningreview@gov.scot) or  
The Planning Review  
Planning and Architecture Division  
The Scottish Government  
Area 2-H (South)  
Victoria Quay  
Edinburgh EH6 6QQ

### 7.2 Questions for Consultees

- 7.2.1 Consultees may find the following questions helpful to provide a focus for their responses on the Environmental Report.
- 7.2.2 Please note that responses do not need to be confined to these questions, and more general comments on the Environmental Report are also invited.

#### Figure 7.1 Consultation Questions on the Environmental Report

##### Questions:

1. What are your views on the accuracy and scope of the information used to describe the SEA environmental baseline set out in the Environmental Report? (Please give details of additional relevant sources)
2. What are your views on the predicted environmental effects as set out in the Environmental Report?
3. What are your views on the findings of the SEA and the proposals for mitigation and monitoring of the environmental effects set out in the Environmental Report?

### 7.3 Analysis and Use of Responses

- 7.3.1 Following the conclusion of the consultation period, the responses received on the proposals and this Environmental Report will be analysed and reported. Key messages from respondents will be highlighted and the findings of the analysis will be taken into account as the proposals are taken forward; either in the

development of a Planning Bill, through secondary legislation or where possible, directly implemented within the current planning system.

- 7.3.2 A Post-adoption SEA Statement will be prepared and published following implementation of the proposals. This will reflect on the findings of the SEA assessment and views expressed in the consultation, and will explain how the issues raised have been considered and addressed in the preparation of the finalised documents.

# Appendix A: Environmental Protection Objectives and Environmental Baseline

## 1 Introduction

- 1.1 Schedule 3 of the Environmental Assessment (Scotland) Act 2005 (the 2005 Act) 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.
  - Relevant environmental protection objectives at the international, European or national level.
- 1.2 Many objectives for environmental protection and improvement are set out within existing legislation, policies, strategies, and plans that form the context for this SEA. A summary of the key environmental protection objectives for each environmental topic area is set out in this Appendix alongside the Environmental Baseline information considered relevant to the proposals for change.
- 1.3 A broad summary of both is presented in Section 3 of this Environmental Report.

## 2 Biodiversity, Flora and Fauna

### Environmental Protection Objectives

- 2.1 Environmental protection objectives for biodiversity, flora and fauna are largely aimed at protecting habitats and species from damage and disturbance; principally through the identification and conservation of areas of particular value. The policies define a hierarchy of protection and include a range of international conventions, including the development of the Aichi Targets for 2020 and the Convention on Biological Diversity.
- 2.2 At European level, the Natura 2000 network of sites affords protection to key natural assets under the European Commission (EC) Habitats and Birds Directives; both of which have been transposed into UK and Scottish regulations. The Natura 2000 network is made up of Special Areas of Conservation (SAC) and Special Protection Areas (SPA). The majority of SPAs and SACs are also underpinned by Site of Special Scientific Interest (SSSI) legislation.
- 2.3 The designation of European protected species and identification of species and habitats as being the most threatened and requiring conservation action in the UK also demonstrates the prioritisation of conservation ambitions at

European and national levels. The 2020 Challenge for Scotland's Biodiversity is Scotland's response to the 20 Aichi Targets set by the United Nations Convention on Biological Diversity, and the European Union's Biodiversity Strategy for 2020. The 2020 Challenge supplements the 2004 Scottish Biodiversity Strategy and focuses on the importance of healthy ecosystems and an outcome that "Scotland's ecosystems are restored to good ecological health so that they provide robust ecosystem services and build on our natural capital".

- 2.4 Beyond site and species designations there are also longer term aspirations for enhancing biodiversity, improving landscape-scale ecological networks and addressing the impacts of climate change on the natural environment.

### Overview

- 2.5 Biodiversity plays a key role in the functioning of ecosystems and supports life through the provision of crucial resources like fresh air, clean water and food<sup>18</sup>. 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. These include the regulation of air and water, soil formation, nutrient cycling, climate and disease regulation, carbon cycling, pollination, flood regulation and water purification<sup>19</sup>.
- 2.6 While it is difficult to assign values to ecosystem services, fully functioning ecosystems and healthy biodiversity provide significant benefits for Scotland's communities and their economies<sup>20</sup>.

### Scotland's Biodiversity

- 2.7 Scotland is rich in biodiversity with up to 89,000 native species found within our land and seas. Scotland hosts the majority of the world population of several birds, animal and plant species and there are a number of species with wider distributions whose UK and/or European populations are concentrated in Scotland<sup>21</sup>.
- 2.8 The UK Biodiversity Action Plan (UK BAP)<sup>22</sup>, prepared in 2008, identified 39 priority habitats and 197 priority species, for which action plans were developed, that were either occurring, or known to have occurred until recently,

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<sup>18</sup> SNH (2012) Safeguarding Biodiversity [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/safeguarding-biodiversity/> (accessed 21/06/2017)

<sup>19</sup> Mackey E.C. and Mudge G.P. (2010) Scotland's Wildlife: An assessment of biodiversity in 2010, Scottish Natural Heritage, Inverness [online] Available at: <http://www.snh.gov.uk/docs/B811968.pdf> (accessed 21/06/2017)

<sup>20</sup> Scotland's Environment (2012) Benefits from Nature [online] Available at: [http://www.environment.scotland.gov.uk/our\\_environment/society/benefits\\_from\\_nature.aspx](http://www.environment.scotland.gov.uk/our_environment/society/benefits_from_nature.aspx) (accessed 21/06/2017)

<sup>21</sup> Mackey E.C. and Mudge G.P. (2010) Scotland's Wildlife: An assessment of biodiversity in 2010, Scottish Natural Heritage, Inverness [online] Available at: <http://www.snh.gov.uk/docs/B811968.pdf> (accessed 21/06/2017)

<sup>22</sup> JNCC (2010) The UK Biodiversity Action Plan: Highlights from the 2008 reporting round [online] Available at: [http://jncc.defra.gov.uk/pdf/pub2010\\_UKBAPHighlightsReport2008.pdf](http://jncc.defra.gov.uk/pdf/pub2010_UKBAPHighlightsReport2008.pdf) (accessed 21/06/2017)

in Scotland<sup>23</sup>. The value and importance of Scotland's biodiversity is also represented through a range of designations set at the national and international levels. These include SACs, SPAs, Ramsar sites and Biosphere Reserves amongst other international designations, and supported by a network of SSSI, National Nature Reserves, and Marine Protected Areas (MPAs) identified, at least in part, for their biodiversity interests.

- 2.9 Areas of biodiversity value are not only contained within this network of designated sites and recognised priority habitats and species. Many parts of Scotland also contain a wide range of habitats and species that have important functions and roles. For example, while Scotland's forests and woodlands occupy around 18.4% of our land at present, they support a disproportionately high share of our biodiversity<sup>24</sup>. There is over 1,000 km<sup>2</sup> of urban greenspace in Scotland, equating to around 28 hectares of greenspace per 1,000 people on average in each of Scotland's 32 local authority areas. Of this, 39% is classified as private gardens, with natural and semi-natural greenspace making up a further 22%, public parks and gardens 8%, amenity greenspace 16% and sports areas 10%<sup>25</sup>. These areas can provide habitats and ecosystems which are valuable to both flora and fauna in the urban context.

### Key Pressures and Trends

- 2.10 While many of the priority habitats and species identified by the UK BAP are stable or improving, others are either in decline or without sufficient information to identify performance (Figure A2.1 and Figure A2.2). Monitoring of the condition of designated sites undertaken by Scottish Natural Heritage (SNH) reported favourable conditions for 80.4% of designated sites at the end of March 2016<sup>26</sup>; a marginal increase from the 79.3% reported in 2015<sup>27</sup>. Together, these trends show that there is much work still to be done in conserving and improving Scotland's biodiversity.
- 2.11 Biodiversity loss has been documented over the last 50 years<sup>28</sup>. Key pressures on Scotland's wildlife and biodiversity include land use pressures (i.e. loss or damage of natural habitats); nutrient deposition; exploitation of natural

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<sup>23</sup> Scottish Government (2014) High Level Summary of Statistics Trend Last update: Thursday, August 21, 2014 BAP Species and Habitats [online] Available at: <http://www.gov.scot/topics/statistics/browse/environment/trendbap> (accessed 21/06/2017)

<sup>24</sup> Scottish Government (2016), Key Scottish Environment Statistics 2016 [online] Available at: <http://www.gov.scot/Resource/0050/00508344.pdf> (accessed 21/06/2017)

<sup>25</sup> Greenspace Scotland (2012) The Second State of Scotland's Greenspace Report [online] Available at: <http://greenspacescotland.org.uk/SharedFiles/Download.aspx?pageid=133&mid=129&fileid=278> (accessed 21/06/2017)

<sup>26</sup> Scottish Government (2016) Scotland Performs – National Indicator – Protected Nature Sites [online] Available at: <http://www.gov.scot/About/Performance/scotPerforms/indicator/naturesites> (accessed 21/06/2017)

<sup>27</sup> Mackey E.C. and Mudge G.P. (2010) Scotland's Wildlife: An assessment of biodiversity in 2010, Scottish Natural Heritage, Inverness [online] Available at: <http://www.snh.gov.uk/docs/B811968.pdf> (accessed 21/06/2017)

<sup>28</sup> Scotland's Environment (2014) Scotland's State of the Environment Report, 2014 [online] Available at: <http://www.environment.scotland.gov.uk/media/92572/state-of-environment-report-2014.pdf> (accessed: 21/06/2017)

resources; pollution of air, water and land; increases and spread of invasive non-native species; and the effects of climate change; amongst others. Indirect impacts can also occur through actions associated with adaptation to the predicted effects of climate change. For example, action taken in sectors such as agriculture, forestry, planning, water and coastal management in the face of a changing climate<sup>29</sup>.

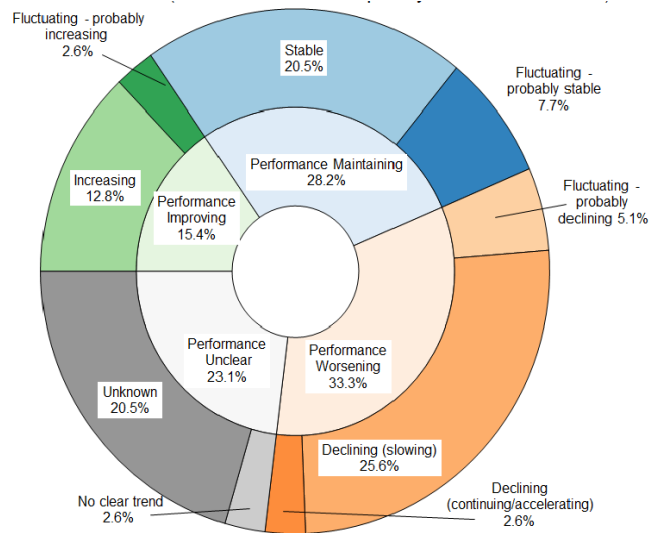
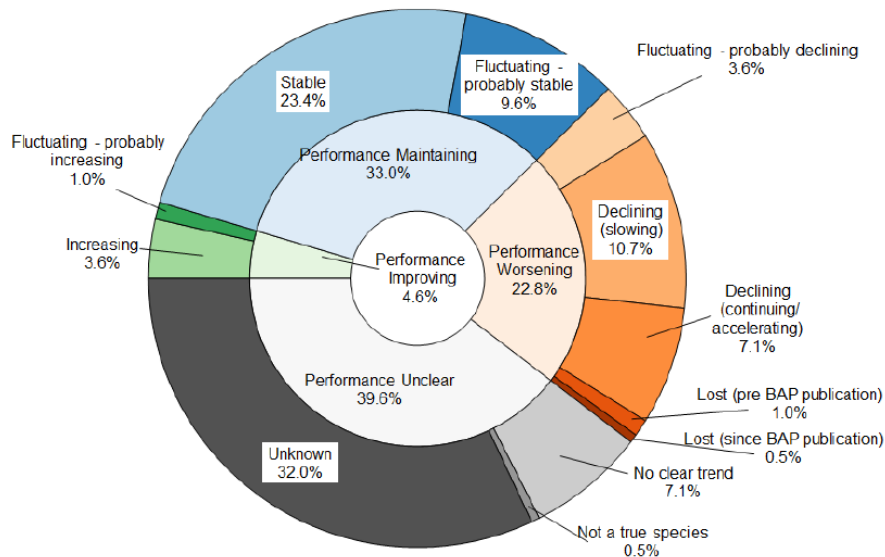


Figure 2.1

### Status of UK Biodiversity Action Plan (BAP) Habitats in Scotland: 2008<sup>30,31</sup>



<sup>29</sup> Scotland's Environment (2014) Scotland's State of the Environment Report, 2014 [online] Available at: <http://www.environment.scotland.gov.uk/media/92572/state-of-environment-report-2014.pdf> (accessed: 21/06/2017)

<sup>30</sup> Scottish Government (2016) Key Scottish Environment Statistics 2016 [online] Available at: <http://www.gov.scot/Resource/0050/00508344.pdf> (accessed 21/06/2017)

<sup>31</sup> Based on 39 UK BAP Priority Habitats in Scotland.

Figure 2.2

## Status of UK Biodiversity Action Plan (BAP) Species in Scotland: 2008<sup>32,33</sup>

- 2.12 The predicted effects of climate change can result in loss of certain habitats and species, changes in numbers of native species, impact on species migration, breeding cycles and food supplies<sup>34</sup>.
- 2.13 Habitat change due to increased and more intensive land management, urban development, pollution, nutrient enrichment, and over exploitation of natural resources is another known pressure. Settlement growth or expansion of the built environment, for example, can negatively affect biodiversity through the reduction, fragmentation or isolation of semi-natural habitats<sup>35</sup>. The intensification and modification of land use can also reduce the diversity, quality and connectivity of landscapes and habitats. Development can provide significant localised pressures in some areas<sup>36</sup>.
- 2.14 Development and infrastructure works can also have the potential to reduce, fragment or isolate natural areas; and this can negatively impact on the biodiversity interests they contain. However, these projects can also provide opportunities to aid biodiversity through the creation of new habitats. If appropriately designed, they can help to improve connectivity between wildlife areas via measures such as crossing points, wildlife corridors, planting hedges and trees, amongst others<sup>37,38</sup>.

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<sup>32</sup> Scottish Government (2016) Key Scottish Environment Statistics 2016 [online] Available at: <http://www.gov.scot/Resource/0050/00508344.pdf> (accessed 21/06/2017)

<sup>33</sup> Based on 197 UK BAP priority species.

<sup>34</sup> Baxter J.M., Boyd I.L., Cox M., Donald A.E., Malcolm S.J., Miles H., Miller B., Moffat C.F. (Editors) (2011) Scotland's Marine Atlas: Information for the National Marine Plan, Marine Scotland, Edinburgh, pg. 189 [online] Available at: <http://marine.gov.scot/datafiles/misc/MarineAtlas-Complete.pdf> (accessed 21/06/2017)

<sup>35</sup> Scotland's Environment (2015) Mountains and uplands-State- Pressures affecting upland wildlife. [online] Available at: [http://www.environment.scotland.gov.uk/our\\_environment/wildlife/mountains\\_and\\_uplands.aspx](http://www.environment.scotland.gov.uk/our_environment/wildlife/mountains_and_uplands.aspx) (accessed 21/06/2017)

<sup>36</sup> Scottish Government (2015) Scotland's Biodiversity a Route Map to 2020 [online] Available at: <http://www.gov.scot/Resource/0048/00480289.pdf> (accessed 21/06/2017)

<sup>37</sup> Scotland's Environment(2014) Farmland-State-Pressures affecting farmland wildlife [online] At: [http://www.environment.scotland.gov.uk/our\\_environment/wildlife/farmland\\_and\\_lowland.aspx](http://www.environment.scotland.gov.uk/our_environment/wildlife/farmland_and_lowland.aspx) (accessed 21/06/2017)

<sup>38</sup> Forest Research (2010) Benefits of green infrastructure [https://www.forestry.gov.uk/pdf/urgp\\_benefits\\_of\\_green\\_infrastructure\\_main\\_report.pdf/\\$FILE/urgp\\_benefits\\_of\\_green\\_infrastructure\\_main\\_report.pdf](https://www.forestry.gov.uk/pdf/urgp_benefits_of_green_infrastructure_main_report.pdf/$FILE/urgp_benefits_of_green_infrastructure_main_report.pdf) (accessed 21/06/2017)

- Scotland has a rich and diverse mix of biodiversity and hosts the majority of the world population of several species.
- Many biodiversity features have been designated at the national and international levels, including SACs, SPAs, Ramsar sites, National Parks, SSSIs and MPAs, amongst others. While there was a marginal increase in the proportion of designations in a favourable condition between 2015 and 2016, much work is needed to conserve and protect those features not considered to be in favourable condition.
- Climate change, urban development, intensive land management and pollution are the biggest pressures to Scotland's biodiversity.
- Through careful planning, development and infrastructure can be designed and implemented to aid biodiversity; for example through the creation of new habitats, habitat restoration and greater connectivity of wildlife areas.

### 3 Population and Human Health

#### Environmental Protection Objectives

- 3.1 Many existing environmental protection objectives are relevant to population and human health, either directly or indirectly. For example, the Air Quality Standards (Scotland) Regulations 2010<sup>39</sup>, the Air Quality (Scotland) Regulations 2000<sup>40</sup>, the Air Quality (Scotland) Amendment Regulations 2002<sup>41</sup> and the Air Quality (Scotland) Amendment Regulations 2016<sup>42</sup>, help set out current objectives and requirements for air quality with clear relevance for human health. Protection is also afforded through existing legislation against noise and vibration nuisance at the both the European level through the Environmental Noise Directive (2002/49/EC)<sup>43</sup> and the national level through regulations such as the Environmental Noise (Scotland) Regulations 2006<sup>44</sup>.
- 3.2 The Pollution Prevention and Control (Scotland) Regulations 2012<sup>45</sup> (PPC Regulations) also seek to provide protection for human health. The Regulations introduce a consistent and integrated approach to environmental protection to

<sup>39</sup> The Air Quality Standards (Scotland) Regulations 2010 [online] Available at: [http://www.legislation.gov.uk/ssi/2010/204/pdfs/ssi\\_20100204\\_en.pdf](http://www.legislation.gov.uk/ssi/2010/204/pdfs/ssi_20100204_en.pdf) (accessed 21/06/2017)

<sup>40</sup> The Air Quality (Scotland) Regulations 2000 [online] Available at: <http://www.legislation.gov.uk/ssi/2000/97/introduction/made> (accessed 21/06/2017)

<sup>41</sup> The Air Quality (Scotland) Amendment Regulations 2002 [online] Available at: [http://www.legislation.gov.uk/ssi/2002/297/pdfs/ssi\\_20020297\\_en.pdf](http://www.legislation.gov.uk/ssi/2002/297/pdfs/ssi_20020297_en.pdf) (accessed 21/06/2017)

<sup>42</sup> The Air Quality (Scotland) Amendment Regulations 2016 [online] Available at: [http://www.legislation.gov.uk/sdsi/2016/9780111030837/pdfs/sdsi\\_9780111030837\\_en.pdf](http://www.legislation.gov.uk/sdsi/2016/9780111030837/pdfs/sdsi_9780111030837_en.pdf) (accessed 21/06/2017)

<sup>43</sup> Environmental Noise Directive 2002/49/EC [online] Available at: [http://ec.europa.eu/environment/noise/directive\\_en.htm](http://ec.europa.eu/environment/noise/directive_en.htm) (accessed 21/06/2017)

<sup>44</sup> Environmental Noise (Scotland) Regulations 2006 [online] Available at: [http://www.legislation.gov.uk/ssi/2006/465/pdfs/ssi\\_20060465\\_en.pdf](http://www.legislation.gov.uk/ssi/2006/465/pdfs/ssi_20060465_en.pdf) (accessed 21/06/2017)

<sup>45</sup> The Pollution and Prevention Control (Scotland) Regulations 2012 [online] Available at: <http://www.gov.scot/Topics/Environment/waste-and-pollution/Pollution-1/Industrial-Pollution/PPC> (accessed 21/06/2017)



ensure that industrial activities that may have a significant impact on the environment are strictly regulated. They were also designed to eliminate or minimise emissions to air, water and land and extended pollution controls to previously unregulated sectors.

## Overview

- 3.3 In 2015, the population of Scotland was estimated to be 5,373,000; the highest ever recorded<sup>46</sup>. Scotland's population is projected to continue to rise to around 5.7 million in 2039<sup>47</sup>.
- 3.4 Most population centres and industry are concentrated in highly urbanised areas across Scotland's Central Belt and along the east coast, with the lowest population density seen in the Highlands and Western Isles. Almost 70% of the population live in urban areas, in settlements of more than 10,000 people that cover just 2% of Scotland's land area. Some 12.4% live in small towns of between 3,000 and 10,000 people; of this, around 70% of these towns are located within a 30 minute drive of large urban settlements. The remainder of people in Scotland live in smaller settlements<sup>48</sup>.
- 3.5 Human health depends on a number of environmental factors. Having access to services such as health facilities and education, employment, safety, the condition of our homes and the provision of adequate heat and ventilation, access to good quality outdoor recreational facilities and a high quality environment, with good air, soil and water quality, are all important contributors to good health<sup>49</sup>. Cross cutting effects from the predicted effects of climate change can also affect health and wellbeing. For example, pockets of dense urban development will be more at risk of surface water flooding and summer heat stress whilst the most vulnerable in society are most at risk from these effects. Negative health effects are also likely to be disproportionately severe in areas of high deprivation due to the inability of individuals and communities to prepare, respond and recover<sup>50</sup>.

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<sup>46</sup> NRS (2016) High Level Summary of Statistics - Population and Migration [online] Available at: <https://www.nrscotland.gov.uk/files/statistics/high-level-summary/hlss-population-migration-jan17.pdf> [accessed 21/06/2017]

<sup>47</sup> NRS (2016) High Level Summary of Statistics: Population and Migration [online] Available at: <https://www.nrscotland.gov.uk/files/statistics/high-level-summary/j11198/j1119804.htm> (accessed 21/06/2017)

<sup>48</sup> Scotland's Environment (2014) Cities, towns and greenspace [online] Available at: <http://www.environment.scotland.gov.uk/get-informed/people-and-the-environment/cities-towns-and-greenspace/> (accessed 21/06/2017)

<sup>49</sup> Scotland's Environment (2015) Health and Wellbeing- Health and the environment Available at: <http://www.environment.scotland.gov.uk/get-informed/people-and-the-environment/health-and-wellbeing/> (accessed 21/06/2017)

<sup>50</sup> Scotland's Environment (2014) Air quality [online] Available at: [http://www.environment.scotland.gov.uk/our\\_environment/air\\_and\\_climate/air\\_quality.aspx](http://www.environment.scotland.gov.uk/our_environment/air_and_climate/air_quality.aspx) (accessed 21/06/2017)

## Key Pressures and Trends

- 3.6 Air quality has been identified as an important factor in both short and long-term human health, and poor air quality can have impacts on people with existing health issues. Research has shown that air pollution reduces average life expectancy and often leads to premature deaths<sup>51</sup>. In general, healthy people may not suffer serious health effects from exposure to the levels of pollution commonly experienced in urban environments (e.g. vehicle emissions). However, continual exposure can cause harm over the long-term. Those with existing health conditions such as heart disease, lung conditions and asthma can be adversely impacted by daily exposure to air pollutants<sup>52</sup>.
- 3.7 Persistent issues with air pollutants, particularly associated with traffic and congestion in many Scottish cities remain, even with air quality improving overall in Scotland. Emissions and congestion resulting from increasing volumes of traffic in urban areas are known to have a major effect on both air quality and human health<sup>53</sup>. This is discussed further in the Air Quality section of the Environmental Baseline.
- 3.8 Access to these areas and the outdoors can provide positive effects in terms of wellbeing and human health. For example, access and utilisation of these areas can provide opportunities for active travel and regular exercise, and help to deliver benefits for physical and mental health well-being (e.g. reducing obesity and stress)<sup>54</sup>. As such, the provision of readily accessible greenspace, particularly in urban areas, can have measurable physical and psychological benefits<sup>55</sup>.
- 3.9 Proximity to greenspace can also be a key factor in achieving positive results. Research indicates that people living near to greenspace are four times more likely to use it regularly, and see associated benefits. Other actions, such as planting trees and increasing vegetation cover in urban areas can help to reduce the effects of pollution and can reduce the “Urban Heat Island” effect;<sup>56</sup> both of which can have positive effects on human health.
- 3.10 The quality of greenspace is often the most critical factor in determining whether greenspace meets local needs and delivers a full range of benefits to

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<sup>51</sup> House of Commons Environmental Audit Committee (2010) ‘Air Quality, Fifth Report of Session 2009 – 10 Volume 1, <http://www.publications.parliament.uk/pa/cm200910/cmselect/cmenvaud/229/229i.pdf> (Accessed on 21/06/2017)

<sup>52</sup> Scotland’s Environment (2014) Air Quality [online] Available at: [http://www.environment.scotland.gov.uk/our\\_environment/air\\_and\\_climate/air\\_quality.aspx](http://www.environment.scotland.gov.uk/our_environment/air_and_climate/air_quality.aspx) (accessed 21/06/2017)

<sup>53</sup> Scotland’s Environment (2014) Air quality [online] Available at: [http://www.environment.scotland.gov.uk/our\\_environment/air\\_and\\_climate/air\\_quality.aspx](http://www.environment.scotland.gov.uk/our_environment/air_and_climate/air_quality.aspx) (accessed 21/06/2017)

<sup>54</sup> Greenspace Scotland (2011) Greenspace Use and Attitude Survey 2011 [online] Available At: <http://www.greenspacescotland.org.uk/1greenspace-survey-2011.aspx> (accessed 21/06/2017)

<sup>55</sup> SNH (2014) Attitudes to greenspace in Scotland [online] Available at: <http://www.snh.gov.uk/docs/A1413382.pdf> (accessed 21/06/2017)

<sup>56</sup> SNH (2014) Urban Green Infrastructure Benefits Factsheets [online] Available at: <http://www.snh.gov.uk/docs/A1413427.pdf> (accessed 21/06/2017)

local communities<sup>57</sup>. In more deprived areas, proximity of residential properties to greenspace areas tends to be lower than in other areas<sup>58</sup>, and these areas often had more limited facilities for physical activities and a higher number of physical incivilities; for example, greenspace areas are located near abandoned or boarded up buildings, and subject to locational drawbacks (e.g. located near multi-lane roads, bordered by industrial sites)<sup>59</sup>.

- 3.11 Key findings from the 2016 Scottish Index of Multiple Deprivation show that 14 areas have been consistently among the 5% most deprived in Scotland since the 2004 Index. Of these, half were in located in Glasgow City with a further four located in Inverclyde, Renfrewshire, North Lanarkshire and East Ayrshire. Eleven council areas now have a larger share of the 20% most deprived data zones in Scotland compared to four years ago, with the largest increases observed in West Dunbartonshire, Midlothian, North Ayrshire and South Ayrshire<sup>60</sup>.

Population and Human Health – Key Points

- In 2015, Scotland's population was 5.37 million people; the highest ever recorded. The population is expected to further rise to around 5.7 million by 2039.
- Most of Scotland's population is concentrated in high density urban environments located throughout the central belt and along Scotland's east coast.
- The Scottish Index of Multiple Deprivation shows that between 2004 and 2016, 14 areas were consistently in the lowest 5%. Eleven councils now have a larger share of the 20% most deprived data zones in Scotland compared to that in the 2004 index.
- Environmental factors such as air quality and climatic factors are key pressures on human health. In particular, urban air quality specifically from transport remains a major concern in many Scottish cities.
- Access to recreational facilities, green infrastructure and greenspaces can have benefits for physical and mental health (e.g. improving health and wellbeing by reducing obesity and stress). However, the most deprived areas of Scotland tend to have the poorest access to these areas, and in many cases, limited facilities.

<sup>57</sup> Greenspace Scotland (2012) The Second State of Scotland's Greenspace Report [online] Available at: <http://greenspacescotland.org.uk/SharedFiles/Download.aspx?pageid=133&mid=129&fileid=278> (accessed 21/06/2017)

<sup>58</sup> SNH (2014) Attitudes to greenspace in Scotland [online] Available at: <http://www.snh.gov.uk/docs/A1413382.pdf> (accessed 21/06/2017)

<sup>59</sup> Greenspace Scotland (2007) Greenspace Scotland Research Report - the links between greenspace and health: a critical literature review, October 2007 [online] Available at: <http://greenspacescotland.org.uk/SharedFiles/Download.aspx?pageid=133&mid=129&fileid=85> (accessed 21/06/2017)

<sup>60</sup> SIMD 2016 Results (2016) Introducing the Scottish Index of Multiple Deprivation 2016 [online] Available at: <http://www.gov.scot/Resource/0050/00504809.pdf> (accessed 21/06/2017)

## 4 Climatic Factors

### Environmental Protection Objectives

- 4.1 Scotland's ambition on tackling climate change is set out in the Climate Change (Scotland) Act 2009<sup>61</sup>. Through this legislation, Scotland contributes to international (EU and UN) efforts on climate change mitigation and adaptation. The 2009 Act creates the statutory framework for greenhouse gas (GHG) emissions reduction in Scotland, and set targets for reduction in emissions of the seven Kyoto Protocol GHG's<sup>62</sup> by 80% by 2050, with an interim 2020 target of 42%, compared to the 1990/1995 baseline level.
- 4.2 The 2009 Act also requires that annual GHG emissions targets are set, by Order, for each year in the period 2010 – 2050. The third and most recent batch of annual targets, covering the years 2028 – 2032, was agreed by the Scottish Parliament in October 2016.
- 4.3 The Scottish Climate Change Adaptation Programme (the Adaptation Programme)<sup>63</sup> addresses the impacts identified for Scotland in the UK Climate Change Risk Assessment (CCRA)<sup>64</sup>. The Adaptation Programme sets out Scottish Ministers' objectives in relation to adaptation to climate change, their proposals and policies for meeting these objectives, and the period within which these proposals and policies will be introduced. The Programme also sets out the arrangements for wider engagement in meeting these objectives. The recently published 2017 UK CCRA<sup>65</sup> sets out priorities for the next five years, and the impacts identified for Scotland are expected to be addressed by the second iteration of the Adaptation Programme which is due in 2019<sup>66</sup>.
- 4.4 At the Paris climate conference (COP 21) in December 2015, 195 countries adopted the first ever universal, legally binding global climate deal. The Agreement entered into force on 4 November 2016<sup>67</sup> and sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C<sup>68</sup>; but countries should aim for the

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<sup>61</sup> The Scottish Government (2012) Climate Change (Scotland) Act 2009 [online] Available at: <http://www.gov.scot/Topics/Environment/climatechange/scotlands-action/climatechangeact> (accessed 21/06/2017)

<sup>62</sup> The basket of Kyoto Protocol greenhouse gases comprises Carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and Nitrous oxide (N<sub>2</sub>O), for which the baseline is 1990; and hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and Sulphur hexafluoride (SF<sub>6</sub>), for which the baseline is 1995. Nitrogen trifluoride (NF<sub>3</sub>) has subsequently been added.

<sup>63</sup> Scottish Government (2014) Climate Ready Scotland Scottish Climate Change Adaptation Programme [online] Available at: <http://www.gov.scot/Publications/2014/05/4669> (accessed 21/06/2017)

<sup>64</sup> UK Government (2012) UK Climate Change Risk Assessment [online] Available at: <https://www.gov.uk/government/publications/uk-climate-change-risk-assessment-government-report> (accessed 21/06/2017)

<sup>65</sup> Committee on Climate Change (2016) UK Climate Change Risk Assessment 2017 [online] Available at: <https://www.theccc.org.uk/uk-climate-change-risk-assessment-2017/> (accessed 21/06/2017)

<sup>66</sup> Committee on Climate Change (2016) Scottish Climate Change Adaption Programme: An independent assessment [online] Available at: <https://www.theccc.org.uk/wp-content/uploads/2016/09/Scottish-Climate-Change-Adaptation-Programme-An-independent-assessment-CCC-September-2016.pdf> (accessed 21/06/2017)

<sup>67</sup> UNFCCC (2016) The Paris Agreement [online] Available at: [http://unfccc.int/paris\\_agreement/items/9485.php](http://unfccc.int/paris_agreement/items/9485.php) (accessed 21/06/2017)

<sup>68</sup> European Commission (2016) Climate Action Paris Agreement [online] Available at: [http://ec.europa.eu/clima/policies/international/negotiations/paris/index\\_en.htm](http://ec.europa.eu/clima/policies/international/negotiations/paris/index_en.htm) (accessed 21/06/2017)

even more ambitious target of 1.5°C<sup>69</sup>. A number of other agreements were reached on key issues such as mitigation through reducing emissions, adaptation and loss and damage<sup>70</sup>.

- 4.5 The EU Emissions Trading System (EU ETS) is a key component of the EU's policy to combat climate change. In operation since 2005, it aims to reduce GHG emissions from energy intensive industries, with emissions from within Europe aviation added in 2012<sup>71</sup>. The EU ETS has emission reduction targets for 2020 of 20% on 2005 levels for industrial emissions. To achieve this, the system works on a "cap and trade" principle, requiring participants to obtain allowances to cover their annual emissions; the availability of which reduces annually.

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<sup>69</sup> Energy & Climate Intelligence Unit (2016) The UK Climate Change Summit, What does the Paris Agreement mean for the UK? [online] Available at: <http://eciu.net/reports/2016/what-does-the-paris-agreement-mean-for-the-uk> (accessed 21/06/2017)

<sup>70</sup> European Commission (2016) Climate Action Paris Agreement [online] Available at: [http://ec.europa.eu/clima/policies/international/negotiations/paris/index\\_en.htm](http://ec.europa.eu/clima/policies/international/negotiations/paris/index_en.htm) (accessed 21/06/2017)

<sup>71</sup> European Commission (2016) Climate Action [online] Available at: [http://ec.europa.eu/clima/policies/ets/index\\_en.htm](http://ec.europa.eu/clima/policies/ets/index_en.htm) (accessed 21/06/2017)

## Overview

- 4.6 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 (GHG) in the atmosphere, has led to the conclusion that our use of carbon based fuels is the main reason for this increase.<sup>72</sup>
- 4.7 Everyday activities such as our travel choices, heating our homes and how we dispose of our waste all lead to the production of GHGs. In 2013, net emissions of the seven main greenhouse gases<sup>73</sup> created by human activities in Scotland were estimated at 46.7 million tonnes. The biggest emissions share in 2014 came from energy supply, domestic transport and agriculture and related land uses<sup>74</sup>.

## Key Pressures and Trends

- 4.8 While there was an overall decrease of 37.6% in total greenhouse gas emissions from 1990 - 2015<sup>75</sup>, climate change is considered to be one of the most serious environmental threats to sustainable development. A changing climate is expected to present adverse impacts for human health, food security, economic activity, our natural resources and physical infrastructure<sup>76</sup>. Adaptation to the effects of climate change is now acknowledged as being necessary to respond effectively and equitably to the impacts of climate change, and minimise the potential for adverse effects.
- 4.9 The extent of the effects of climate change will vary by location, but there is significant evidence supporting the belief that significant changes in precipitation, snowfall, seasonality, cloud cover, humidity, wind speeds, soil moisture, rising sea levels and more extreme weather events may occur<sup>77</sup>. More extended hot periods, increases in maximum temperatures nationwide, and fewer days of snow and frost are expected. Longer periods of dry weather

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<sup>72</sup> Scotland's Environment (2014) climate change [online] Available at: [http://www.environment.scotland.gov.uk/our\\_environment/air\\_and\\_climate/climate\\_change.aspx](http://www.environment.scotland.gov.uk/our_environment/air_and_climate/climate_change.aspx) (accessed 21/06/2017)

<sup>73</sup> The basket of Kyoto Protocol greenhouse gases comprises Carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and Nitrous oxide (N<sub>2</sub>O), for which the baseline is 1990; and hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and Sulphur hexafluoride (SF<sub>6</sub>), for which the baseline is 1995. Nitrogen trifluoride (NF<sub>3</sub>) has subsequently been added.

<sup>74</sup> Scotland's Environment (2014) climate change [online] Available at: [http://www.environment.scotland.gov.uk/our\\_environment/air\\_and\\_climate/climate\\_change.aspx](http://www.environment.scotland.gov.uk/our_environment/air_and_climate/climate_change.aspx) (accessed 21/06/2017)

<sup>75</sup> Scottish Government (2016) High Level Summary of Statistics Trend Last update: Thursday, June 16, 2016 [online] Available at: <http://www.gov.scot/Topics/Statistics/Browse/Environment/TrendGasEmissions> (accessed on 21/06/2017)

<sup>76</sup> ICAO (undated) Climate change adaptation [online] Available at: <http://www.icao.int/environmental-protection/Pages/adaptation.aspx> (accessed 21/06/2017)

<sup>77</sup> IPCC (2014) Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

in the summer are likely and the wettest days of the year are likely to be considerably wetter than at present<sup>78</sup>.

- 4.10 Indeed, there have already been changes observed in Scotland's climate. Higher temperatures and changes in rainfall patterns have been seen since 1961. For example, some parts of north-west Scotland have seen up to 45% drier weather in summer, while increases in as much as 60% of winter rainfall have been observed in northern and western regions<sup>79</sup>. Over the same period, average temperatures in all regions of Scotland have risen every season. It has been predicted that under a high emissions scenario, summer and winter temperatures in 2080 may be 4.3°C and 3.1°C higher, respectively<sup>80</sup>. UK climate projections indicate that temperature increases are expected to be greater throughout southern and central Scotland by 2080, and the largest decreases in precipitation observed in the central highlands and Dumfries and Galloway over the same period<sup>81</sup>.
- 4.11 Climate change projections also show that over the next century, sea levels around Scotland are expected to rise, owing to the effects of climate change; and with it, the potential for increased coastal flooding. All coastal areas of Scotland are now experiencing relative sea level rise, and there is an observed increased frequency of floods within the tide gauge record at Aberdeen, Millport and Stornoway<sup>82</sup>. Research has shown that one in 22 of all residential properties and one in 13 of all non-residential properties are at risk of flooding from rivers, the sea or heavy rainfall in urban areas<sup>83</sup>.
- 4.12 The development of greenspace and other measures, such as adding green roofs to buildings in town centres and high-density residential centres, can reduce run-off by around a fifth. The addition of grass, which can absorb up to 2.54 cm of rain water, can also prove beneficial in combating the threat posed by flooding, especially in urban areas<sup>84</sup>.

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<sup>78</sup> Scottish Government (2009) Scotland's Climate Change Adaptation Framework <http://www.scotland.gov.uk/Resource/Doc/295110/0091310.pdf> (accessed 21/06/2017)

<sup>79</sup> Scotland's Environment (2016) Scotland's Climate Trends Handbook. Available at: [http://www.environment.scotland.gov.uk/climate\\_trends\\_handbook/index.html](http://www.environment.scotland.gov.uk/climate_trends_handbook/index.html) (accessed 21/06/2017)

<sup>80</sup> ibid

<sup>81</sup> Defra, DECC, DOENI, The Scottish Government, Welsh Assembly government, Met Office and UK Climate Impacts Programme (2009) UK climate projections – Briefing Report [online] Available at: [http://www.ukcip.org.uk/wordpress/wp-content/PDFs/UKCP09\\_Briefing.pdf](http://www.ukcip.org.uk/wordpress/wp-content/PDFs/UKCP09_Briefing.pdf) (accessed 21/06/2017)

<sup>82</sup> Committee on Climate Change (2016) UK Climate Change Risk Assessment 2017. Available at: <https://www.theccc.org.uk/uk-climate-change-risk-assessment-2017/> (accessed 21/06/2017)

<sup>83</sup> HR Wallingford, AMEC Environment & Infrastructure UK Ltd, The Met Office, Collingwood Environmental Planning, Alexander Ballard Ltd, Paul Watkiss Associates, Metroeconomica (2012) A Climate Change Risk Assessment for Scotland, DEFRA.

<sup>84</sup> Scottish Natural Heritage (2014) Urban Green infrastructure Benefits Factsheets [online] Available at: <http://www.snh.gov.uk/docs/A1413427.pdf> (accessed 21/06/2017)

- The world’s climate is changing at an unprecedented rate.
- An increase in average global temperatures and an increase in GHG in the atmosphere has led to the conclusion that our use of carbon based fuels is the main reason for this increase. Over three-quarters of Scotland’s GHG emissions are generated by the energy supply, domestic transport and agricultural sectors.
- While Scotland has achieved significant reductions in GHG emissions over the last few decades, there remains much to do to achieve the established targets.
- Large changes in precipitation, snowfall, seasonality, cloud cover, humidity, high winds, soil moisture, rising sea levels and increased extreme weather events are predicted from the effects of climate change. Many changes are already being observed in many parts of Scotland.
- Adaptation to climate change and its predicted effects is being progressed through actions such as a transition to a low carbon economy, involving increased renewable energy generation and a reduction in traditional energy sources such as fossil fuels.

## 5 Air

### Environmental Protection Objectives

- 5.1 Scotland’s environmental protection objectives for air quality are largely derived from the EC Air Quality Directive (2008/50/EC) and the 4th Air Quality Daughter Directive (2004/107/EC)<sup>85</sup>, via the Air Quality Standards (Scotland) Regulations 2010<sup>86</sup> which transposes these Directives into the Scottish context. There are also domestic objectives as part of the Local Air Quality Management system set under the Environment Act 1995 and associated regulations<sup>87</sup>. These objectives are largely aimed at reducing air emissions that are potentially harmful to human health and the environment, and together they set out the requirement for monitoring with a particular focus on areas where air pollution is concentrated.
- 5.2 Scotland’s PPC Regulations<sup>88</sup> allow for the regulation and monitoring of certain industrial activities in Scotland that can generate airborne pollution. Together with the Air Quality Standards (Scotland) Regulations 2010<sup>89</sup>, the PPC Regulations enable regulators to monitor, manage and, ultimately, improve Scottish air quality. It also sets a requirement for monitoring of air quality with a

<sup>85</sup> EC (2015) Air Quality – Existing Legislation [online] Available at: [http://ec.europa.eu/environment/air/quality/legislation/existing\\_leg.htm](http://ec.europa.eu/environment/air/quality/legislation/existing_leg.htm) (accessed 21/06/2017)

<sup>86</sup> The Air Quality Standards (Scotland) Regulations 2010 [online] Available at: [http://www.legislation.gov.uk/ssi/2010/204/pdfs/ssi\\_20100204\\_en.pdf](http://www.legislation.gov.uk/ssi/2010/204/pdfs/ssi_20100204_en.pdf) (accessed 21/06/2017)

<sup>87</sup> Scottish Government (2016) Local Air Quality Management policy guidance [online] Available at: <http://www.gov.scot/Publications/2016/03/9717> (accessed 21/06/2017)

<sup>88</sup> Scottish Parliament, The Pollution Prevention and Control (Scotland) Regulations 2012, Coming into force 7th January 2013 [online] Available at: [http://www.legislation.gov.uk/sdsi/2012/9780111018408/pdfs/sdsi\\_9780111018408\\_en.pdf](http://www.legislation.gov.uk/sdsi/2012/9780111018408/pdfs/sdsi_9780111018408_en.pdf) (accessed 21/06/2017)

<sup>89</sup> The Air Quality Standards (Scotland) Regulations 2010, SSI 2010 No. 204 [online] Available at: <http://www.legislation.gov.uk/ssi/2010/204/contents/made> (accessed 21/06/2017)



particular focus on areas where air pollution is concentrated and seeks to identify the sources.

## Overview

- 5.3 Air pollution can have a wide range of adverse environmental effects. For example, it can add nutrients to water bodies and soils, and contribute to acidification; both of which can have significant impacts on plant and animal life, and can also damage the fabric of buildings and monuments.<sup>90</sup> As discussed in the Population and Human Health section, air pollutants can also adversely affect human health and can impact on many aspects of quality of life.
- 5.4 The pollutants generally considered as being of most importance in relation to human health and the environment in Scotland include Sulphur Dioxide (SO<sub>2</sub>), Nitrogen dioxide (NO<sub>2</sub>) and particulate emissions (e.g. PM<sub>10</sub>).<sup>91</sup>

## Key Pressures and Trends

- 5.5 The quality of Scotland's air has improved considerably over the last few decades, and in general it is now cleaner than at any time since the Industrial Revolution (in the 19th century). The National Atmospheric Emissions Inventory has been collating emissions data for the UK since 1970, and provides an estimate of emissions in Scotland. While it shows that Scottish emissions for all pollutants have decreased since 2000, there are marked differences in the extent of the reductions for different pollutants between 2000 and 2014. NO<sub>2</sub> concentrations have dropped by 51.4%, particulate matter by 14.3%, SO<sub>2</sub> by 75.9%, Ammonia (NH<sub>3</sub>) by 11.4%, Carbon Monoxide (CO) by 51% and Volatile Organic Compounds by 40.1%<sup>92,93,94</sup>.
- 5.6 However, in some areas poor air quality remains an issue for both human health and the environment<sup>95</sup>. Some 38 Air Quality Management Areas (AQMAs) have currently been declared in Scotland, with 14 of Scotland's 32 Local Authorities having declared at least one area. The majority of these are located in urban areas as a result of Nitrogen oxide (NO<sub>x</sub>) concentrations, either

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<sup>90</sup> Scotland's Environment (undated) Air Quality: Why does the quality of our air matter? [online] Available at: [http://www.environment.scotland.gov.uk/our\\_environment/air\\_and\\_climate/air\\_quality.aspx](http://www.environment.scotland.gov.uk/our_environment/air_and_climate/air_quality.aspx) (accessed 21/06/2017)

<sup>91</sup> ibid

<sup>92</sup> Scotland's Environment (2014) Air Quality – State [online] Available at: <http://www.environment.scotland.gov.uk/get-informed/air/air-quality/> (accessed 21/06/2017)

<sup>93</sup> Scotland's Environment (undated) Air Quality: Overview [online] Available at: [http://www.environment.scotland.gov.uk/our\\_environment/air\\_and\\_climate/air\\_quality.aspx](http://www.environment.scotland.gov.uk/our_environment/air_and_climate/air_quality.aspx) accessed 21/06/2017)

<sup>94</sup> Scottish Government (2015) Scottish Environment Statistics Online: Air Pollutants by Gas (ktonnes): 1990 – 2014 [online] Available at: <http://www.gov.scot/seso/DatasetSearch.aspx?TID=222> (accessed 21/06/2017)

<sup>95</sup> Scotland's Environment (undated) Air [online] Available at: <http://www.environment.scotland.gov.uk/get-informed/air/> (accessed 21/06/2017)

alone or in combination with elevated PM<sub>10</sub> levels, primarily as a result of traffic emissions<sup>96</sup>.

- 5.7 Increased uptake of measures such as using alternative fuel and energy sources, and changing travel behaviours (e.g. increased active travel), can help to reduce GHG emissions and improve air quality<sup>97</sup>.

#### Air – Key Points

- Air quality in Scotland has improved considerably in the last few decades and overall air quality is now better than at any time since the industrial revolution.
- Reductions in emissions for all major air pollutants were observed between 2000 and 2014, with the largest reductions seen for Sulphur dioxide (75.9%), Nitrogen dioxide (51.4%), and Carbon monoxide (51%).
- However, air quality issues persist in many parts of Scotland, particularly in urban areas and other locations with high density traffic. Transport, energy and industry remain the main contributors of air pollutants.
- Actions such as the progressive decarbonisation of the transport sector and the promotion of active travel and use of public transport, amongst others seek to further improve Scotland's air quality and deliver wider benefits (e.g. human health).

## 6 Water

### Environmental Protection Objectives

- 6.1 Objectives relating to the condition of all water bodies are set through the Water Framework Directive<sup>98</sup>, which governs objectives for rivers, lochs, transitional waters, coastal waters and groundwater resources. The Directive sets out the requirement for an assessment of both chemical and ecological status, alongside the requirement to consider the status of biodiversity as an indicator in determining water quality.
- 6.2 These objectives are set in the Scottish context in a range of water, coastal and marine policies. Scotland's two River Basin Management Plans<sup>99</sup> aim to improve the overall condition of water bodies. The protection of Scotland's water resources has also been translated through the establishment of legislation and regulations such as the Water Environment and Water Services (Scotland) Act 2003<sup>100</sup> and the Water Environment (Controlled Activities)

<sup>96</sup> Air Quality in Scotland (undated) Air quality management areas [online] Available at: <http://www.scottishairquality.co.uk/laqm/aqma> (accessed 21/06/2017)

<sup>97</sup> Air Quality in Scotland (undated) Local air quality management [online] Available at: [http://www.scottishairquality.co.uk/laqm.php?a=l&la\\_id=i](http://www.scottishairquality.co.uk/laqm.php?a=l&la_id=i) (accessed 21/06/2017)

<sup>98</sup> European Commission (2000) The Water Framework Directive [online] Available at: [http://eur-lex.europa.eu/resource.html?uri=cellar:5c835afb-2ec6-4577-bdf8-756d3d694eeb.0004.02/DOC\\_1&format=PDF](http://eur-lex.europa.eu/resource.html?uri=cellar:5c835afb-2ec6-4577-bdf8-756d3d694eeb.0004.02/DOC_1&format=PDF) (accessed 21/06/2017)

<sup>99</sup> SEPA (2016) River Basin Management Planning, The Current Plans [online] Available at: <https://www.sepa.org.uk/environment/water/river-basin-management-planning/> (accessed 21/06/2017)

<sup>100</sup> Water Environment and Water Services (Scotland) Act (2003) [online] Available at: <http://www.legislation.gov.uk/asp/2003/3/contents> (accessed 21/06/2017)

(Scotland) Regulations 2011<sup>101</sup>. These complement the role of others such as the Pollution Prevention and Control (Scotland) Regulations 2012<sup>102</sup>, developed to specifically control pollution relating to industry discharges.

- 6.3 The Flood Risk Management (Scotland) Act 2009<sup>103</sup> provides for the management of flood risk, and translates the EU Floods Directive<sup>104</sup> into the national context.

## Overview

- 6.4 Scotland's water resources help to support health and prosperity through the provision of potable water for drinking and domestic use, and as a resource used by sectors such as agriculture, aquaculture and industry. These important resources also support a rich diversity of habitats and species, play a key role in attracting tourism, and support a wide range of recreation activities.

## Key Pressures and Trends

- 6.5 Scotland's water resources are generally considered to be in good condition. There have been significant reductions in pollution over the last 25 years and in 2015, 63% of Scotland's groundwater and surface water bodies were classified as being in good or excellent condition<sup>105</sup>. However, rivers across Scotland's central belt and east coast in particular, require additional work to achieve Scotland's overarching target of all water bodies achieving 'good or better' for overall status<sup>106</sup>. Similarly, coastal areas in the Firth of Clyde and off the east coast of the Scottish mainland are classified as 'poor', requiring further improvement. While around 80% of Scotland's groundwater is in good condition, there are particular regions with widespread problems; for example, in the Central Belt<sup>107,108</sup>.

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<sup>101</sup> Water Environment (Controlled Activities) (Scotland) Regulations (2011) [online] Available at: <http://www.legislation.gov.uk/ssi/2011/209/contents/made> (accessed 21/06/2017)

<sup>102</sup> The Pollution Prevention and Control (Scotland) Regulations (2012) [online] Available at: <http://www.legislation.gov.uk/ssi/2012/360/contents/made> (accessed 21/06/2017)

<sup>103</sup> The Flood Risk Management (Scotland) Act 2009 [online] Available at: <http://www.legislation.gov.uk/asp/2009/6/contents> (accessed 21/06/2017)

<sup>104</sup> European Commission, Directive 2007/60/EC of 23 October 2007 on the Assessment and Management of Flood Risks [online] Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007L0060&from=EN> (accessed 21/06/2017)

<sup>105</sup> SEPA (2016) State of Scotland's Water Environment 2015: WFD Classification Summary Report [online] Available at: <https://www.sepa.org.uk/media/219474/state-of-scotlands-water-environment-wfd-classification-summary-report.pdf> (accessed 21/06/2017)

<sup>106</sup> Scotland's Environment (2016) Water [online] Available at: <http://www.environment.scotland.gov.uk/get-informed/water/> (accessed 21/06/2017)

<sup>107</sup> Scotland's Environment (2014) Groundwater [online] Available at: <http://www.environment.scotland.gov.uk/get-interactive/data/groundwater/> (accessed 21/06/2017)

<sup>108</sup> SEPA ((2015) Water environment hub [online] Available at: <http://www.sepa.org.uk/data-visualisation/water-environment-hub/> (accessed 21/06/2017)

- 6.6 The River Basin Management Plan for the Scotland river basin district 2015 – 2027<sup>109</sup> is Scotland’s route map for protecting and improving the water environment in Scotland’s river basin districts. Monitoring for the Plan shows that 66% of water bodies are currently in good or better condition with a further 22% expected to achieve good status by 2027. Some 83% of protected areas are currently classed as being in good or better condition with a further 16% expected to achieve good status by 2027<sup>110</sup>.
- 6.7 Development and urbanisation, an increase in invasive non-native species, intensive agriculture/aquaculture, and climate change are key pressures on Scotland’s surface waters. As shown in Figure A6.1, diffuse pollution in rural areas and urban waste water remain the primary concerns for water quality; particularly in relation to agriculture, forestry, and urban development<sup>111</sup>. Significant quantities of water are also extracted for electricity generation and agriculture<sup>112</sup>.
- 6.8 Addressing the impacts of pollution and waste water discharges on the water environment requires considerable investment in upgrading sewers and waste water treatment works<sup>113</sup>. Programmes such as Sustainable Urban Drainage Systems (SUDS) continue to be encouraged to reduce contaminants from built up areas entering the environment. In rural areas, initiatives targeting sustainable land management seek to encourage and contribute to the costs of better land use practices to reduce diffuse pollution from agriculture<sup>114</sup>.
- 6.9 Floods and droughts can damage our economy and wildlife and affect our health and wellbeing. Potentially Vulnerable Areas to flooding have been identified in areas where the total impact of floods is considered nationally significant. This has been the basis for the development of Flood Risk Management Plans. The largest concentrations of Potentially Vulnerable Areas are located in Scotland’s central belt, within the Scottish Borders, and the Shetland and Orkney Islands<sup>115</sup>.

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<sup>109</sup> SEPA (2015) The river basin management plan for the Scotland river basin district: 2015–2027 [online] Available at: <http://www.sepa.org.uk/media/163445/the-river-basin-management-plan-for-the-scotland-river-basin-district-2015-2027.pdf> (accessed 21/06/2017)

<sup>110</sup> SEPA (2015) The river basin management plan for the Scotland river basin district: 2015–2027 [online] Available at: <http://www.sepa.org.uk/media/163445/the-river-basin-management-plan-for-the-scotland-river-basin-district-2015-2027.pdf> (accessed 21/06/2017)

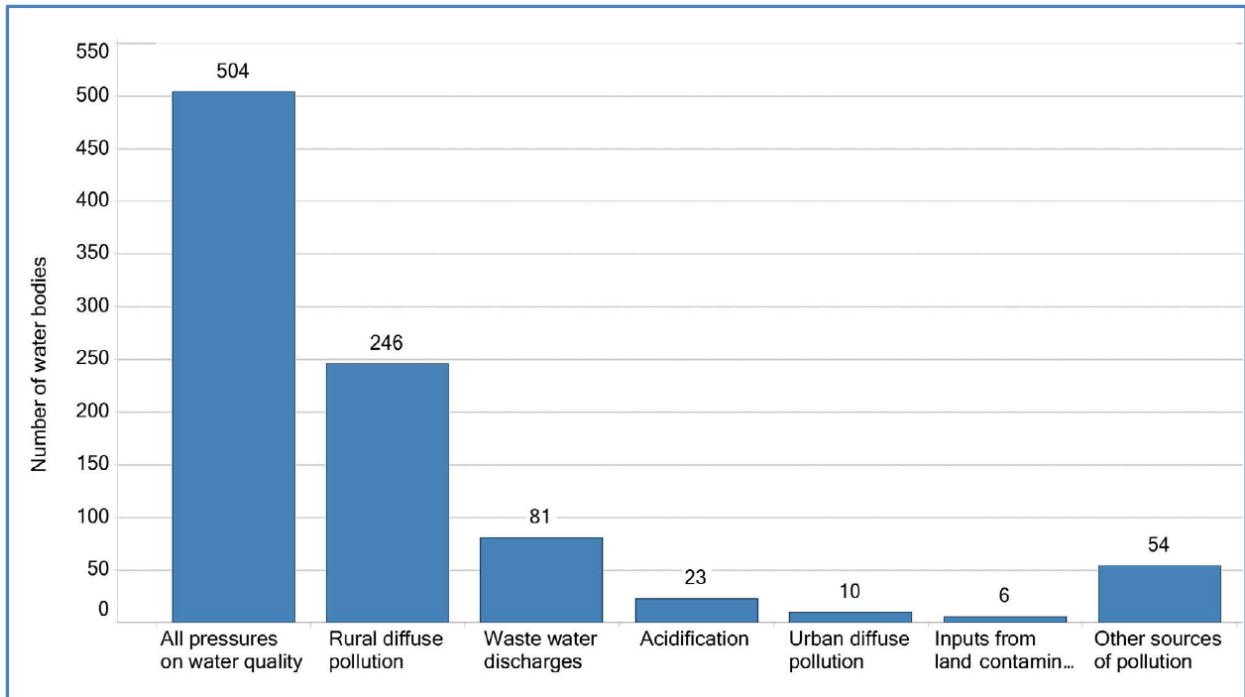
<sup>111</sup> *ibid*

<sup>112</sup> Scotland’s Environment (2016) Scotland’s Water [online] Available at: <http://www.environment.scotland.gov.uk/get-informed/water/> (accessed 21/06/2017)

<sup>113</sup> SEPA (2015) The river basin management plan for the Scotland river basin district: 2015–2027 [online] Available at: <http://www.sepa.org.uk/media/163445/the-river-basin-management-plan-for-the-scotland-river-basin-district-2015-2027.pdf> (accessed 21/06/2017)

<sup>114</sup> Scotland’s Environment (2014) Estuaries – What is being done? [online] Available at: <http://www.environment.scotland.gov.uk/get-informed/water/estuaries/> (accessed 21/06/2017)

<sup>115</sup> SEPA (2015) Flood Maps [online] Available at: <http://map.sepa.org.uk/floodmap/map.htm> (accessed 21/06/2017)



**Figure 6.1 Pressures on water quality**<sup>116,117</sup>

**Water – Key Points**

- Scotland’s water is generally in good condition with significant reductions in pollution over the last 25 years. In 2015, 63% of Scotland’s groundwater and surface water bodies were classified as being in good or excellent condition. However many areas, including rivers across Scotland’s central belt and coastal areas in the Firth of Clyde and along Scotland’s east coast, require additional improvement works.
- The River Basin Management Plan for the Scotland River Basin District sets an objective for all water bodies to be ‘recovering’ or ‘good’ by 2027. It is expected that 88% of water bodies will have achieved good status by 2027, and a further 6% are expected to recover to ‘good’ status after 2027. However, 6% are not expected to achieve ‘good’ status through actions outlined in the plan.
- Rural diffuse pollution and urban waste water discharges are the biggest risks to Scottish water quality. Around 50% of water bodies, have been identified as having been polluted by rural diffuse pollution, and around 16% polluted by waste water discharges, amongst other sources.
- Climate change is placing a growing pressure on water resources, both in terms of water quality and the potential for increased weather events and flooding.

<sup>116</sup> SEPA (2015) The river basin management plan for the Scotland river basin district: 2015–2027 [online] Available at: <http://www.sepa.org.uk/media/163445/the-river-basin-management-plan-for-the-scotland-river-basin-district-2015-2027.pdf> (accessed 21/06/2017)

<sup>117</sup> Many water bodies are subject to multiple pressures and may feature in several of the bars in this figure.

## 7 Soil

### Environmental Protection Objectives

- 7.1 The European Commission's Thematic Strategy for Soil Protection<sup>118</sup> sets out common principles for protecting soils across the EU. Nationally, the protection of prime quality agricultural land and peatlands is set out in the Scottish Soil Framework<sup>119</sup>, Scotland's National Peatland Plan<sup>120</sup> and the Scottish Government's Draft Peatland and Energy Policy Statement<sup>121</sup>.
- 7.2 Geological sites receive protection through the designation of geological Sites of Special Scientific Interest at the national level and at the international recognition through establishment of a network of Geoparks<sup>122</sup>.

### Overview

- 7.3 Scotland has a diverse range of soils, most of which have formed since the end of the last ice age<sup>123</sup>. Our soils are a non-renewable resource and are considered to be fundamentally one of Scotland's most important assets<sup>124</sup>. Soil supports a wide range of natural processes and underpins much of our natural environment.
- 7.4 Through this important role, Scotland's soils help to provide a wide range of environmental, economic and societal benefits: for example, soil provides the basis for food, controls and regulates environmental interactions such as regulating water flow and quality and provides a platform for buildings and roads<sup>125</sup>. There is an intrinsic relationship between soil health and other environmental topics; particularly biodiversity, water and air quality. For example, poor quality or contaminated soils can adversely affect plant growth and impact on biodiversity; soil erosion is one of the main contributors to diffuse water pollution<sup>126</sup>; and soil disturbance can result air quality issues such as dust generation.

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<sup>118</sup> European Commission (2015) Soil, The Soil Thematic Strategy [online] Available at: [http://ec.europa.eu/environment/soil/three\\_en.htm](http://ec.europa.eu/environment/soil/three_en.htm) (accessed 21/06/2017)

<sup>119</sup> The Scottish Government (2009) The Scottish Soil Framework [online] Available at: <http://www.gov.scot/Publications/2009/05/20145602/0> (accessed 21/06/2017)

<sup>120</sup> SNH (2015) Scotland's National Peatland Plan, Working for our Future [online] Available at: <http://www.snh.gov.uk/docs/A1697542.pdf> (accessed 21/06/2017)

<sup>121</sup> The Scottish Government (2017) Draft Peatland and Energy Policy Statement [online] Available at: <http://www.gov.scot/Resource/0050/00502389.pdf> (accessed 21/06/2017)

<sup>122</sup> SNH (2015) Geoparks [online] Available at: <http://www.snh.gov.uk/enjoying-the-outdoors/what-can-i-see/geology-rocks/geoparks/> (accessed 21/06/2017)

<sup>123</sup> Scotland's Environment Web (2016) Soils [online] Available at: <http://www.environment.scotland.gov.uk/get-informed/land/soils/> (accessed 21/06/2017)

<sup>124</sup> Scottish Government (2006) Scotland's Soil Resource Current State and Threats [online] Available at: <http://www.scotland.gov.uk/publications/2006/09/21115639/7> (accessed 21/06/2017)

<sup>125</sup> Scottish Government (2009) Scottish Soil Framework [online] Available at: <http://www.scotland.gov.uk/Publications/2009/05/20145602/0> (accessed 21/06/2017)

<sup>126</sup> SEPA (undated) Soil [online] Available at: <http://www.sepa.org.uk/environment/land/soil/> (accessed 21/06/2017)

- 7.5 Soils also play a significant role in terms of storing carbon and therefore help to regulate GHG emissions. It is estimated that Scotland's soils contain 3,200 million tonnes of carbon; making up over 50% of the UK's soil carbon<sup>127</sup>. The organic carbon content of Scotland's soils is generally higher in the North West Highlands and Islands and Shetland, and the uplands of southern Scotland.<sup>128</sup>
- 7.6 Scotland has a large amount of high quality soil suitable for crop production. This high quality agricultural land 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 suitable for grazing extends through the southern uplands, the northwest highlands and islands, amongst others.<sup>129</sup>

### Key Pressures and Trends

- 7.7 The 2009 Scottish Soil Framework considered Scotland's soils to be in generally good health<sup>130</sup>. However, it is difficult to assess if, and how, soil is changing because of a lack of comparable data from which evidence of trends and change can be found<sup>131</sup>.
- 7.8 The loss of valued soils in particular has the potential for national impacts which will be difficult to reverse<sup>132</sup>. Climate change and loss of organic matter pose the most significant threat to Scottish soils. Both are likely to affect soil function and result in a reduction, or loss, of soil carbon. The predicted effects of climate change, such as an increase in extreme weather patterns that are expected to increase rainfall and temperature, and have the potential for increased erosion, are also likely to change the rate at which organic matter is lost or accumulated<sup>133</sup>.
- 7.9 Changes in land use and land management practices are also a significant pressures on our soils; particularly activities such as urban development, the cultivation of soils for agriculture and forestry, and expansion of these industries<sup>134</sup>. For example, urban development on greenfield land can lead to

<sup>127</sup> Scotland's Environment (2016) Soil – State [online] Available at: <http://www.environment.scotland.gov.uk/get-informed/land/soils/> (accessed 21/06/2017)

<sup>128</sup> James Hutton Institute (2017) Climate change and carbon emissions [online] Available at: <http://www.hutton.ac.uk/learning/exploringscotland/soils-and-sustainability/climate-change> (accessed 21/06/2017)

<sup>129</sup> James Hutton Institute (2017) Land Capability for Agriculture in Scotland [online] Available at: <http://www.hutton.ac.uk/learning/exploringscotland/land-capability-agriculture-scotland> (accessed 21/06/2017)

<sup>130</sup> Scottish Government (2009) The Scottish Soil Framework [online] Available at: <http://www.gov.scot/Resource/Doc/273170/0081576.pdf> (accessed 21/06/2017)

<sup>131</sup> Scotland's Environment Web (2016) Soils [online] Available at: <http://www.environment.scotland.gov.uk/get-informed/land/soils/> (accessed 21/06/2017)

<sup>132</sup> Scottish Government (2009) Scottish Soil Framework [online] Available at: <http://www.scotland.gov.uk/Publications/2009/05/20145602/0> (accessed 21/06/2017)

<sup>133</sup> Dobbie, K.E, Burneau, P.M.C, Towers, W. (2011) The State of Scotland's Soil, 2011 [online] Available at: <http://www.sepa.org.uk/land/soil.aspx> (accessed 21/06/2017)

<sup>134</sup> Scotland's Environment (2014) Soil [online] Available at; <http://www.environment.scotland.gov.uk/get-informed/land/soils/> (accessed 21/06/2017)

significant changes for soil through soil disturbance and removal of vegetation, leading to the loss of organic matter and reduced organic matter incorporation. Historically, peat removal has been associated with major planning developments<sup>135</sup>. Soil sealing through development inevitably results in a net loss of organic matter through the removal of organic rich topsoil and preventing further organic matter being added to the soil.

- 7.10 Contaminated soils may be present on brownfield sites, and along with derelict infrastructure, may need to be removed for a site to be redeveloped. While this can have positive effects through the removal or remediation of contaminated materials, there is a need to ensure safe restoration for alternative uses whilst preventing further soil and groundwater pollution. While all local authority areas have derelict and urban vacant land, the primary areas in Scotland are within the central belt through East Ayrshire, North Ayrshire, Glasgow City, North Lanarkshire, Renfrewshire<sup>136</sup>.

Soil – Key Points

- Soil is a non-renewable resource and one of Scotland’s most important assets.
- Scotland’s soils provide the basis for food production, regulates water flow and water quality, and provides a platform for building infrastructure.
- Scotland’s soil is in generally good health with many areas considered to be of a very high quality suitable for growing crops.
- Scotland’s soils also store around 3.2 billion tonnes of carbon; equivalent to half of that in the UK.
- The predicted effects of climate change are likely to significantly impact on Scotland’s soils; for example, an increase in frequency of extreme weather events, and changes in rainfall and temperature patterns could affect soil function and carbon sequestration.
- Changes in land use and land management are a key pressure to soils. Urban development, the remediation of contaminated land for development, and cultivation of soil for agriculture or forestry can lead to disturbance and/or removal of soil. Careful planning is required to mitigate the loss of soils and soil function, and minimise the potential for impacts to other aspects of the environment (e.g. water and groundwater pollution).

<sup>135</sup> The State of Scotland’s Soil, 2011, Dobbie, K.E, Burneau, P.M.C, Towers, W. [online] Available at: <http://www.sepa.org.uk/land/soil.aspx> (accessed 21/06/2017)

<sup>136</sup> National Statistics (2016) Scottish Vacant and Derelict Land Survey 2015 [online] Available at: <http://www.gov.scot/Resource/0050/00500617.pdf> (accessed 21/06/2017)



## 8 Cultural Heritage and Historic Environment

### Environmental Protection Objectives

- 8.1 Existing cultural heritage objectives are set out in legislation including the Historic Environment (Amendment) Scotland Act (2011)<sup>137</sup>, Ancient Monuments and Archaeological Areas Act 1979 (as amended)<sup>138</sup> and Planning (Listed Buildings and Conservation Areas) (Scotland) Act (1997)<sup>139</sup>. These objectives are focused primarily on the protection of valued sites and features, including townscapes (i.e. places, buildings and open spaces), buildings, archaeological sites, battlefields, wrecks and landscapes that have been recognised at the international, national and local levels through a hierarchy of designations.
- 8.2 Policies such as National Planning Framework (NPF3)<sup>140</sup> and Scottish Planning Policy (SPP)<sup>141</sup> aim to improve the quality of our settlements and built environment with a national level focus. These are complemented by the Historic Environment Strategy for Scotland (2014)<sup>142</sup> and the Historic Environment Scotland (HES) Policy Statement<sup>143</sup> which provide an overarching framework for historic environment policy in Scotland. Together, they emphasise the importance of preserving recognised sites, avoiding negative impacts on them and their wider setting, and contributing to their enhancement where appropriate. These key objectives also extend to taking into account of, and avoiding damage to or loss of currently unknown archaeology.

### Overview

- 8.3 Scotland's many and varied historical sites are unique and are considered to be irreplaceable. In addition to their historical significance, they are also regarded as making a valuable contribution to our quality of life. Many features are considered to contribute to our sense of place and cultural identity, particularly at the local and community level. They also play an important role in an economic sense, particularly in relation to Scotland's tourism industry which can be important in supporting many communities.

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<sup>137</sup> The Historic Environment (Amendment) Scotland Act 2011 [online] Available at: <http://www.legislation.gov.uk/asp/2011/3/contents/enacted> (accessed 21/06/2017)

<sup>138</sup> Ancient Monuments and Archaeological Areas Act 1979 (as amended) [online] Available at: [http://www.legislation.gov.uk/ukpga/1979/46/pdfs/ukpga\\_19790046\\_en.pdf](http://www.legislation.gov.uk/ukpga/1979/46/pdfs/ukpga_19790046_en.pdf) (accessed 21/06/2017)

<sup>139</sup> Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 [online] Available at: <http://www.legislation.gov.uk/ukpga/1997/9/contents> (accessed 21/06/2017)

<sup>140</sup> The Scottish Government (2014) National Planning Framework 3 [online] Available at: <http://www.gov.scot/Publications/2014/06/3539/0> (accessed 21/06/2017)

<sup>141</sup> The Scottish Government (2014) Scottish Planning Policy [online] Available at: <http://www.gov.scot/Publications/2014/06/5823> (accessed 21/06/2017)

<sup>142</sup> Historic Environment Scotland (2014) Our Place in Time: The Historic Environment Strategy for Scotland [online] Available at: <http://www.gov.scot/Resource/0044/00445046.pdf> (accessed 21/06/2017)

<sup>143</sup> Historic Environment Scotland Policy Statement [online] Available at: <https://www.historicenvironment.scot/advice-and-support/planning-and-guidance/legislation-and-guidance/historic-environment-scotland-policy-statement/> (accessed 21/06/2017)

8.4 Many features are protected through designations developed to identify historic environment features for their significance (Table 8.1)<sup>144</sup>. However, it is also widely accepted that there are many more features that remain undiscovered.

#### 8.4.1 Number of designated sites relating to Scotland’s historic environment 2017<sup>145</sup>

Designation	Number of Designated Sites
World Heritage Sites (WHS)	5
Listed Buildings	47,073
Scheduled Monuments	8,139
Designed Gardens and Landscapes	369
Conservation Areas	650
Scheduled Wrecks	8
Historic Marine Protected Areas (Historic MPAs)	8
Nationally Important Battlefields	40

### Key Pressures and Trends

8.5 Information on the condition of the historic environment is largely collated at a local level, and it can be difficult to assess changes and trends as a whole.

8.6 Data collected through regular inspection regimes for many historic sites shows that the condition of A-listed buildings (nationally or internationally important) is stable<sup>146</sup>. The condition of scheduled monuments is also considered to be generally stable, with some 85% of monuments visited in 2013 reported as being in an optimal or satisfactory condition. However, older buildings (built pre-1919) are more likely than newer properties to have a need for basic and extensive repair<sup>147</sup>.

8.7 Development and land use change in particular present a significant pressure on Scotland's historic environment. Objectives for the development of housing and associated infrastructure, and other needs such as energy generation and transport infrastructure can have both direct and indirect effects. For example, inappropriate development and demolition can result in damage to, or the loss, of known and unknown features, and create the potential for impacts to their

<sup>144</sup> Scotland's Environment (2015) Historic Environment [online] Available at: <http://www.environment.scotland.gov.uk/get-informed/people-and-the-environment/historic-environment/> (accessed 21/06/2017)

<sup>145</sup> Historic Environment Scotland (2017) Designations 1880 – 2017 [online] Available: <http://portal.historicenvironment.scot/designations> (accessed 21/06/2017)

<sup>146</sup> Scotland's Environment (2015) Historic Environment [online] Available at: <http://www.environment.scotland.gov.uk/get-informed/people-and-the-environment/historic-environment/> (accessed 21/06/2017)

<sup>147</sup> Historic Environment Scotland (2014) Summary of Scotland's Historic Environment Audit 2014 [online] Available at: <https://www.historicenvironment.scot/media/2385/she-2014-summary.pdf> (accessed 21/06/2017)

setting. Other known pressures include changing land use and land management, tourism/visitors, pollution and the predicted effects of climate change<sup>148</sup>.

8.8 The continued use of Scotland's built historic environment and its on-going upkeep, particularly its aging housing stock, is likely to play an important role in the future. One fifth (19%) of our 2.4 million housing stock is now more than 95 years old. The continued sensitive use and maintenance of existing buildings, including implementation of programmes such as Scotland's Energy Efficiency Programme (SEEP) aimed at improving the efficiency of Scotland's buildings, is likely to be crucial in not just conserving our historic features, but also in meeting wider commitments (e.g. climate change and emissions reduction targets)<sup>149</sup>.

### Cultural Heritage and Historic Environment – Key Points

- Scotland's many and varied historical sites are regarded as unique and irreplaceable.
- The importance of many sites is reflected in their designation, which include World Heritage Sites, listed buildings, scheduled monuments, designated gardens and landscapes, conservation areas, scheduled wrecks, Historic MPAs and nationally important battlefields. However, there are many more features that remain undiscovered.
- Information on the condition of the historic environment is largely collated at a local level, which can present difficulties in assessing changes and trends as a whole.
- Pressures on Scotland's cultural heritage and historic environment include development, maintenance, land use and land use change, climate change and coastal erosion, pollution, and tourism visitors.

<sup>148</sup> Scotland's Environment (2015) Historic Environment – State [online] Available at: <http://www.environment.scotland.gov.uk/get-informed/people-and-the-environment/historic-environment/> (accessed 21/06/2017)

<sup>149</sup> Historic Environment Scotland (2014) Summary of Scotland's Historic Environment Audit 2014 [online] Available at: <https://www.historicenvironment.scot/media/2385/she-a-2014-summary.pdf> (accessed 21/06/2017)

## 9 Landscape

### Environmental Protection Objectives

- 9.1 There are environmental protection objectives in place that reflect the importance of all landscapes and also the need to help to improve those that have become degraded. The EC Landscape Convention<sup>150</sup> lays the foundation for these objectives.
- 9.2 The establishment of key national programmes including the National Scenic Areas (NSA) Programme<sup>151</sup> demonstrate a continuing commitment to protect the special qualities of nationally important landscapes and seascapes. The protection and enhancement of Scotland's landscapes are set out at the national level in SPP and are also referenced in relation to several national developments and under a natural, resilient place in NPF3.
- 9.3 SNH has undertaken research on areas which are viewed as wild land<sup>152</sup>. This has been based on four attributes: perceived naturalness of land cover; ruggedness of the terrain; remoteness from public roads or ferries; and lack of buildings, roads, pylons and modern artefacts. Areas with stronger wild land characteristics are more commonly found in the north and west, and in particularly areas of higher ground; although additional areas of wild land are present in other areas of Scotland<sup>153</sup>. The SPP reflects and protects areas of wild land identified in the SNH 2014 map of wild land areas from inappropriate development.

### Overview

- 9.4 Rich in diversity, Scotland's landscapes are internationally renowned and are regarded as forming a key part of Scotland's cultural identity. Our distinctive landscapes are a significant part of the country's natural and cultural heritage, ranging from our cityscapes to the Wild Land Areas of the north and north-west and to the large areas of active and arable farmland<sup>154</sup>.

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<sup>150</sup> Council of Europe (2015) European Landscape Convention, ETS No. 176 [online] Available at: <http://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/176> (accessed 21/06/2017)

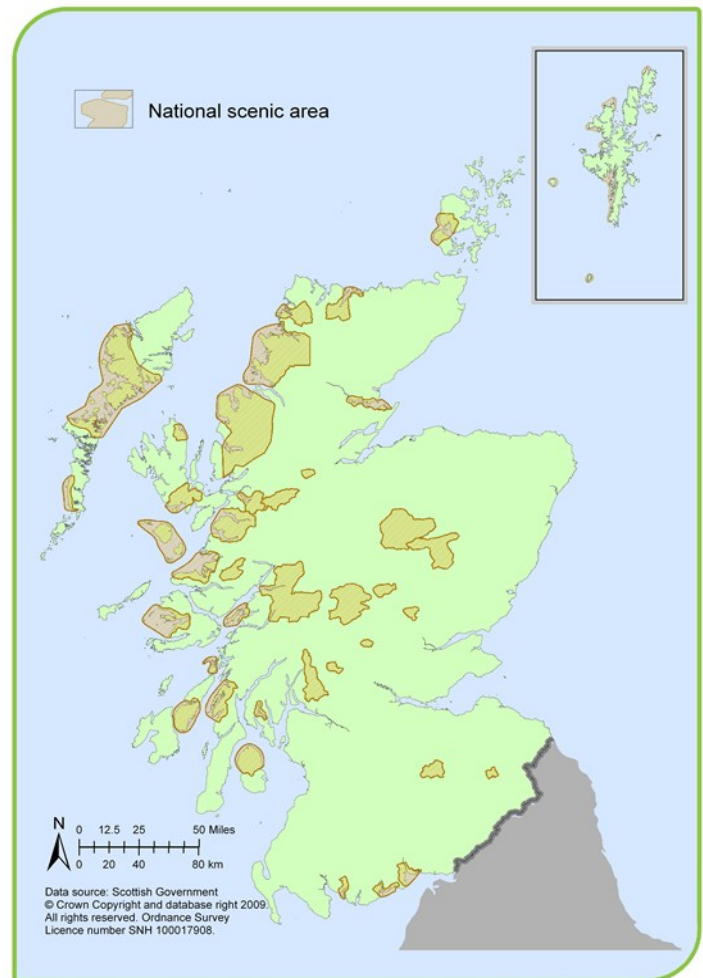
<sup>151</sup> SNH (2015) National Scenic Areas [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/national-designations/nsa/> (accessed 21/06/2017)

<sup>152</sup> SNH (2012) Wild Land [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/looking-after-landscapes/landscape-policy-and-guidance/wild-land/> (accessed 21/06/2017)

<sup>153</sup> SNH (2016) 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 21/06/2017)

<sup>154</sup> SNH (2015) What is landscape? [online] Available at: <http://www.snh.gov.uk/about-scotlands-nature/scotlands-landscapes/what-is-landscape/> (accessed 21/06/2017)

- 9.5 Over 13% of Scotland's land area has been classified as a NSA, recognised for their outstanding scenery and regarded as representing Scotland's finest landscapes. These areas are located predominantly across the north west of Scotland, and are largely focused on upland and coastal landscapes. However, they also include other features including lochs, estuaries and river valleys<sup>155</sup>.
- 9.6 Many local authorities have also developed local designations to identify valued landscapes, seascapes and townscapes considered important at the local or regional level. These areas have largely been designated for conservation purposes and protection from inappropriate development<sup>156</sup>.



**Figure A9.1 National Scenic Areas (NSAs)**

### Key Pressures and Trends

- 9.7 Landscapes are ever-evolving and change naturally; in many cases, evolving over thousands of years. For example, the movement of coastal sand dunes and the erosion of river banks are on-going processes, taking place usually over decades. However, these processes can also happen very quickly and can dramatically change a landscape in the space of a few hours; for example, as a result of severe weather.
- 9.8 Land use change and intensification present a direct man-made pressure to many landscapes and seascapes, particularly the potential to significantly influence their character. Incremental and on-going development such as infrastructure projects, housing, expansion of towns and villages, quarrying, upgrading roads, wind farms, hydro schemes and telecommunications masts

<sup>155</sup> SNH (2016) National Scenic Areas, [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/national-designations/nsa/> (accessed 21/06/2017)

<sup>156</sup> SNH (2016) Local Designations, [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/protected-areas/local-designations/> (accessed 21/06/2017)

are just a few examples of changes that can take place over a period of decades. In agriculture, there has been an increasing focus on maximising yields and producing food more cheaply in recent years. This has prompted a move towards monoculture, where the most profitable and productive crops are grown, at the expense of a more diverse landscape of crop and field types, and hedgerows.<sup>157</sup>

- 9.9 Urban development such as house building can have significant impacts on Scotland's urban and rural landscapes. New well located and designed housing and settlements can enhance the local environment and provide attractive and healthy places to live<sup>158</sup>. Attractive, accessible landscapes, including green spaces in urban environments, invite and encourage physical activity. As set out previously, these areas and facilities can have positive human health by significantly improving health and wellbeing<sup>159</sup>, and also be beneficial for biodiversity<sup>160</sup>.
- 9.10 There is an increasing demand for housing and associated infrastructure in many towns and rural areas, and the progression of inappropriately designed or located developments can impact on the character and 'identity' of many areas. There has also been a rise in the number of people choosing to live in the rural areas while continuing to work in towns and cities within commuting distance. These pressures are likely to remain key considerations in the future<sup>161</sup>.

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<sup>157</sup> Scotland's Environment (2016) Landscape – State – Pressures affecting landscape [online] Available at: <http://www.environment.scotland.gov.uk/get-informed/land/landscape/> (accessed 21/06/2017)

<sup>158</sup> Scottish Natural Heritage (2016) Landscape, housing and settlements [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/looking-after-landscapes/landscape-policy-and-guidance/landscape-planning-and-development/landscape-housing-and-settlements/> (accessed 21/06/2017)

<sup>159</sup> SNH (2016) Landscape, health and the economy [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/looking-after-landscapes/landscape-policy-and-guidance/landscape-health-and-the-economy/> (accessed 21/06/2017)

<sup>160</sup> Forest Research (2010) Benefits of green infrastructure [https://www.forestry.gov.uk/pdf/urgp\\_benefits\\_of\\_green\\_infrastructure\\_main\\_report.pdf/\\$FILE/urgp\\_benefits\\_of\\_green\\_infrastructure\\_main\\_report.pdf](https://www.forestry.gov.uk/pdf/urgp_benefits_of_green_infrastructure_main_report.pdf/$FILE/urgp_benefits_of_green_infrastructure_main_report.pdf) (accessed 21/06/2017)

<sup>161</sup> Scottish Natural Heritage (2016) Landscape, housing and settlements [online] Available at: <http://www.snh.gov.uk/protecting-scotlands-nature/looking-after-landscapes/landscape-policy-and-guidance/landscape-planning-and-development/landscape-housing-and-settlements/> (accessed 21/06/2017)

- Scotland's distinctive landscapes are a significant part of the country's natural and cultural heritage. They range from our cityscapes to the Wild Land Areas of the north and north-west, and to the large areas of active and arable farmland.
- Over 13% of Scotland's land has been classified as a NSA and many additional designations have been established regionally or locally to identify valued landscapes, seascapes and townscapes at these levels.
- While landscapes are ever-evolving and change naturally, natural change can be exacerbated by pressures; notably the effects of climate change. Other pressures such as actions taken to adapt or mitigate the predicted effects of climate change, and human pressures associated with land use change, more intensified use of land, and incremental and on-going development have also been identified.
- There is an increasing demand for housing and infrastructure in many towns and rural areas, and inappropriately designed or located developments can impact on the character and 'identity' of many areas. However, well located and designed developments and infrastructure can enhance local environments, and in turn can provide additional environmental benefits (e.g. benefits for health and wellbeing, urban biodiversity).

## 10 Material Assets

### Environmental Protection Objectives

- 10.1 While existing policies relating to planning and land use are wide-ranging, they largely share common aims for contributing to core planning objectives and supporting sustainable development, reducing GHG emissions, and making the best use of Scotland's resources and existing infrastructure.
- 10.2 There is a wealth of existing protection objectives and policy at the national and international levels relating to these broad topic areas. For example, these include commitments and ambitions set out in current policies such as Scotland's Land Use Strategy 2016 – 2021<sup>162</sup>, NPF3<sup>163</sup>, and SPP<sup>164</sup>, and sectoral policies such as the Scottish Government's More Homes Scotland approach<sup>165</sup>, amongst others.

<sup>162</sup> Scottish Government (2016) Land Use Strategy 2016 – 2021 [online] Available at: <http://www.gov.scot/Topics/Environment/Countryside/Landusestrategy> (accessed 21/06/2017)

<sup>163</sup> Scottish Government (2014) National Planning Framework 3 [online] Available at: <http://www.gov.scot/Publications/2014/06/3539/0> (accessed 21/06/2017)

<sup>164</sup> Scottish Government (2014) Scottish Planning Policy [online] Available at: <http://www.gov.scot/Publications/2014/06/5823> (accessed 21/06/2017)

<sup>165</sup> Scottish Government (2016) More Homes Scotland [online] Available at: <https://beta.gov.scot/publications/more-homes-scotland/> (accessed 21/06/2017)

## Overview

- 10.3 In this assessment, the Material Assets section has been developed to consider key issues relating to the integrated package of proposals set out in the Position Statement, and proposed for inclusion in an upcoming Planning Bill. This section focuses primarily on development and infrastructure, and pressures on land use, including competition for land.
- 10.4 Land use in Scotland is diverse and has a strong relationship with the intrinsic properties of the land<sup>166</sup>. Most of our land is used for more than one purpose. While agriculture is the predominant land use in Scotland, covering nearly 5.6 million hectares equating to around 73% of Scotland's land<sup>167</sup>, within this is a mix of uses such as rough grazing, crop production, crofting and woodland, amongst others.
- 10.5 However, our land and the many varied ecosystems within it are coming under increasing pressure. Many of these pressures, such as population growth, ambitious energy targets, housing need and demand, and commitments to expand woodland and forestry areas, are likely to continue in the future. Other issues present growing pressures; in particular, climate change is seen as a primary pressure on Scotland, and is predicted to alter the ability of our land to supply important ecosystems services and meet agricultural demands<sup>168</sup>. Scotland's commitments to adapting to and mitigating the effects of climate change are also likely to bring additional land use pressures; for example, the potential for increased low carbon energy infrastructure<sup>169, 170</sup>.
- 10.6 There is increasing competition for land across Scotland around our towns and cities, and there is a need to balance development and existing land uses, such as agriculture, to ensure that this high-quality land is protected and sustainably used. Decisions about the way the land is managed are becoming increasingly important for balancing growing demands on the land and uncertain future pressures on ecosystem services<sup>171</sup>.

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<sup>166</sup> Scotland's Environment (2011) Land Use and Management [online] Available at: <http://www.environment.scotland.gov.uk/media/54767/Land-Land-Use-and-Management.pdf> (accessed 21/06/2017)

<sup>167</sup> Scottish Government (2015) Statistics, Agricultural land use in Scotland [online] Available at: <http://www.gov.scot/Topics/Statistics/Browse/Agriculture-Fisheries/agritopics/LandUseAll> (accessed 21/06/2017)

<sup>168</sup> Committee on Climate Change (2013) Managing the land in a changing climate – Adaptation Sub-Committee progress report 2013 [online] Available at: <http://www.theccc.org.uk/publication/managing-the-land-in-a-changing-climate/> (accessed 21/06/2017)

<sup>169</sup> Campbell, C., Lilly, A., Towers, W., Chapman, S., Werritty, A., & Hanley, N. (2012). Land use and a low-carbon society. *Earth and Environmental Science Transactions of the Royal Society of Edinburgh*, 103(2), 165-173 [online] Available at: <https://www.cambridge.org/core/journals/earth-and-environmental-science-transactions-of-royal-society-of-edinburgh/article/land-use-and-a-lowcarbon-society/86683197251CBA5BE68B7DEF9F5EDF3C/core-reader> (accessed 21/06/2017)

<sup>170</sup> The Royal Society of Edinburgh (2011) Facing up to climate change: breaking the barriers to a low-carbon Scotland [online] Available at: <http://www.rse.org.uk/wp-content/uploads/2016/09/RSE-Inquiry-Facing-up-to-Climate-Change-Full-Report-med-res.pdf> (accessed 21/06/2017)

<sup>171</sup> Committee on Climate Change (2013) Managing the land in a changing climate – Adaptation Sub-Committee progress report 2013 [online] Available at: <http://www.theccc.org.uk/publication/managing-the-land-in-a-changing-climate/> (accessed 21/06/2017)



10.7 The target to build 50,000 new affordable homes between 2016 and 2021<sup>172</sup> could present further pressure on land use, particularly around urban areas in absence of an appropriate planning response. Meeting these targets will require new or expanding infrastructure facilities to support new developments, including gas grid, electricity and water supply connections, roads, and other associated infrastructure. The changes in land use required to meet these targets could also have environmental effects; for example, soil sealing associated with building and infrastructure developments, and the potential fragmentation of land and habitats, amongst others.

Material Assets – Key Points

- Most land in Scotland is used for more than one purpose. While agriculture is the predominant land use in Scotland, covering nearly 5.6 million hectares equating to around 73% of Scotland's land; within this is a mix of uses such as rough grazing, crop production, crofting and woodland, amongst others.
- Our land and the many varied ecosystems within it are currently under pressure, and land use pressures and competition for land are expected to increase in the future. In particular, pressures as a consequence of climate change and increased demand for new housing, infrastructure, and services; renewable energy infrastructure; forests; and agriculture; have been identified.
- There is a need to balance development with existing land uses such as agriculture to ensure that high-quality land is protected and utilised sustainably.
- Land use change can also have environmental effects across a number of topic areas (e.g. soil sealing associated with building development, fragmentation of land and habitats).

<sup>172</sup> Scottish Government (undated) Affordable Homes Supply Programme [online] Available at: <https://beta.gov.scot/policies/more-homes/affordable-housing-supply/> (accessed 21/06/2017)

## Appendix B: Abbreviations

AQMA	Air Quality Management Area
CCRA	UK Climate Change Risk Assessment
CO	Carbon monoxide
EC	European Commission
EIA	Environmental Impact Assessment
EU	European Union
EU ETS	Emissions Trading Scheme
GHG	Greenhouse Gas
HES	Historic Environment Scotland
HRA	Habitats Regulations Appraisal
LDP	Local Development Plan
MPA	Marine Protected Area
NH <sub>3</sub>	Ammonia
NO <sub>2</sub>	Nitrogen dioxide
NO <sub>x</sub>	Nitrogen oxides
NPF3	National Planning Framework 3
NSA	National Scenic Area
PM <sub>10</sub>	Particulate Matter of Diameter Less Than or Equal to 10 microns (mm)
PPC	Pollution Prevention and Control
SAC	Special Area(s) of Conservation
SDP	Strategic Development Plan
SEA	Strategic Environmental Assessment
SEPA	Scottish Environment Protection Agency
SEEP	Scotland's Energy Efficiency Programme
SNH	Scottish Natural Heritage
SO <sub>2</sub>	Sulphur dioxide
SPA	Special Protection Area
SPP	Scottish Planning Policy
SPZ	Simplified Planning Zone
SSSI	Site(s) of Special Scientific Interest
SUDS	Sustainable Urban Drainage Systems
The 1997 Act	The Town and Country Planning (Scotland) Act 1997, as amended
The 2005 Act	The Environmental Assessment (Scotland) Act 2005
The 2006 Act	The Planning Etc. (Scotland) Act 2006
The EIA Regulations	The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017
UK	United Kingdom
UKBAP	UK Biodiversity Action Plan
UN	United Nations

## Appendix C: Compliance Checklist

Environmental Report Requirements	Section(s) of This Report
<b>Relevant Sections of the Environmental Assessment Act</b>	
14 (2) The report shall identify, describe and evaluate the likely significant effects on the environment of implementing—	
(a) the proposals in the plan or programme; and	Sections 1, 3, and 5
(b) reasonable alternatives to the plan or programme.	Sections 2.5 and 4
14 (3) The report shall include such of the information specified in schedule 3 as may reasonably be required.	
<b>Information referred to in schedule 3</b>	
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.	Section 1
2. The relevant aspects of the current state of the environment ... ... and the likely evolution thereof without implementation of the plan or programme.	Section 3.2 and Appendix A Section 4 and Appendix A
3. The environmental characteristics of areas likely to be significantly affected.	Section 3.2 and Appendix A
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).	Section 3 and Appendix A
5. The environmental protection objectives, established at international, Community or Member State level, which are relevant to the marine spatial plan or programme ... ... and the way those objectives and any environmental considerations have been taken into account during its preparation.	Section 3 and Appendix A
6. The likely significant effects on the environment, including— (a) on issues such as— (i) biodiversity and natural heritage; (ii) population; (iii) human health; (iv) fauna; (v) flora; (vi) soil;	Section 3 – 6

Environmental Report Requirements	Section(s) of This Report
<ul style="list-style-type: none"> <li>(vii) water;</li> <li>(viii) air;</li> <li>(ix) climatic factors;</li> <li>(x) material assets;</li> <li>(xi) cultural heritage and historic environment, including architectural and archaeological heritage;</li> <li>(xii) landscape;</li> <li>(xiii) the inter-relationship between the issues referred to in heads (i) to (xii).</li> <li>(b) short, medium and long-term effects.</li> <li>(c) permanent and temporary effects.</li> <li>(d) positive and negative effects.</li> <li>(e) secondary, cumulative and synergistic effects.</li> </ul>	
<p>7. The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the marine spatial plan or programme.</p>	<p>Sections 3 and 5</p>
<p>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.</p>	<p>Section 2.5 and Appendix A</p>
<p>9. A description of the measures envisaged concerning monitoring in accordance with section 19.</p>	<p>Section 5</p>
<p>10. A non-technical summary of the information provided under paragraphs 1 to 9.</p>	<p>See accompanying Non-Technical Summary</p>