Integrated Impact Assessment (IIA): Screening / Scoping Report

Appendix A: Environment Baseline Information
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1 Environmental Baseline

1.1 Background

1.1.1 It is a requirement of the Environmental Assessment (Scotland) Act 2005 that plan making authorities provide details of the character of the environment which may be affected, including any existing pressures and the likely evolution of the environment in the absence of the plan. National Planning Framework 4 (NPF4) will be assessed against this baseline to provide an indication of the type and significance of any environmental impacts that could arise.

1.1.2 There are many objectives for environmental protection and enhancement detailed within existing legislation, policies, strategies and plans at the international, UK and national levels across all the SEA topics. These objectives form the context for the SEA. Under each environmental topic, a high level summary of the existing environmental protection objectives is provided and supplemented by Table 2 (at the end of this document).

1.1.3 The following sections indicate the content and level of detail proposed for inclusion in the environmental baseline for the assessment. The suggested environmental baseline covers the whole of Scotland. Presenting the baseline at national level allows the SEA to reflect on the interaction of the NPF4 with wider environmental trends. The baseline will be expanded in the Environmental Report where appropriate to include the regional scale and in relation to the proposed National Developments. This will include use of the data listed in Table 1 where deemed appropriate.

1.1.4 Current trends and pressures will be explored further for each topic scoped into the assessment, and information will be drawn from a range of sources including the Scottish Government, Scottish Natural Heritage (SNH), Historic Environment Scotland (HES), the Scottish Environmental Protection Agency (SEPA), and Scotland’s Environment Web, amongst others.

1.1.5 Scotland includes a wide range of natural capital assets, including, forests, moorland, rivers, lochs, farmland, coastal areas as well as the seabed. As stated in the Natural Capital Asset Index1 a range of benefits or ecosystem services can be derived from these assets and these will be set out in the baseline.

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1 SNH (2019) Scotland’s Natural Capital Assessment Index [online]:
https://snh.maps.arcgis.com/apps/Cascade/index.html?appid=d5d1ed312b1f480f810a45a237cfeefc
### Table 1. Environmental Data Sources

<table>
<thead>
<tr>
<th>Topic</th>
<th>Relevant National Data sets</th>
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</table>
| **Biodiversity, flora and fauna** | - Nature Conservation designations including Special Protected Areas (SPAs), Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSI), Ramsar, National Nature Reserves (NNR), Marine Protected Areas (MPA) and Possible MPAs (PMPAs)  
  - Habitat networks  
  - Biodiversity trend data  
  - Woodland areas/types  
  - Ecosystem health indicators  
| **Population and human health** | - SIMD and SIMD Access to Services  
  - Access to blue/greenspace  
  - Green networks data including Central Scotland Green Network  
  - Both above in relation to consideration of location of releases / facilities in relation to (vulnerable) populations  
| **Soil**                      | - Peatland and topsoil organic C content  
  - Prime Agricultural Land/ Land Capability for Agriculture in Scotland  
| **Water**                     | - Water Quality Classification – groundwater bodies  
  - Water Quality Classification – coastal  
  - Areas of flood risk – rivers, surface water and coastal  
  - The Greenspace Scotland Map identifies accessible recreational and leisure greenspace and is an important resource in considering the potential to improve and further enhance blue-green infrastructure with the multiple benefits this has in terms of place-making - [www.greenspacescotland.org.uk/scotlands-greenspace-map.aspx](http://www.greenspacescotland.org.uk/scotlands-greenspace-map.aspx)  
| **Air**                       | - Air Quality Management Areas (AQMAs)  

| **Climatic Factors** | • Scottish Pollutant Release Inventory (SPRI) - in terms of whether emissions will increase or decrease as a result of proposals  
• Waste data - i.e. whether there be an increase or decrease in waste resulting in an increase or decrease in emissions related to waste management  
• Scottish Transport Statistics including GHG emissions such as CO₂ emissions per passenger km as well as statistics on traffic flow by road type (major, minor, trunk, motorway) and estimates of fuel consumption by local authority area. |
| **Material Assets** | • Transport and waste infrastructure: Railway stations, airports, ports and harbours, incinerators, national cycle routes, national walking and cycling network, Scotland’s Great Trails, landfill sites, railways, ferry routes, trunk roads, materials recovery facilities/recycling plants. Energy infrastructure (generation and transmission).  
• National heat map (demand and supply)  
• Scottish Water Strategic Asset Capacity and Development Plan  
• Vacant and Derelict Land data |
| **Cultural Heritage** | • Map to include Category A Listed buildings, Historic Battlefields, Scheduled Monuments, Conservation Areas, Gardens and Designed Landscapes, World Heritage Sites, Historic Marine Protected Areas  
• Narrative to include the above and non-designated archaeology and historic buildings, B and C Listed Buildings. |
| **Landscape and Geodiversity** | • Wild Land Areas identified on the SNH 2014 Map  
• Dark Skies Park, Geoparks, National Scenic Areas, Biosphere Reserve, National Parks, Geological Conservation Review Sites. |
### Existing Environmental Protection Objectives

The environmental protection objectives set out in legislation and policy for biodiversity, flora and fauna are broadly aimed at protecting habitats and species from damage and disturbance, principally by identification and conservation of areas of particular value. A hierarchy of protection has been established from international to local level. At European level, the Natura 2000 network (now referred to as European sites) affords protection to key natural assets under the European Commission (EC) Habitats and Birds Directives\(^2\), both of which have been transposed into UK and Scottish regulations. Other environmental objectives, such as those set out in the Scottish Biodiversity Strategy include tackling pressures on biodiversity from, for example, climate change, invasive non-native species and habitat fragmentation. Enhancing biodiversity, improving landscape-scale ecological networks and addressing the impacts of climate change on the natural environment are also some longer aspirations.

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**SCOTLAND'S ENVIRONMENT IN NUMBERS**

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>470,000 km(^2) of offshore waters</td>
<td>1,423 Sites of Specific Scientific Interest</td>
</tr>
<tr>
<td>19,000 km of coast</td>
<td>153 Special Protection Areas</td>
</tr>
<tr>
<td>6,500 marine species of flora and fauna</td>
<td>43 National Nature Reserves</td>
</tr>
<tr>
<td>90,000 total species of flora, fauna and microbial diversity</td>
<td>251 Special Areas of Conservation</td>
</tr>
<tr>
<td>75 Local Nature Reserves</td>
<td>51 Ramsar sites</td>
</tr>
<tr>
<td>217 Marine Protected Area network sites</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Scotland's Environment Web and Scottish Natural Heritage* 

1.2.1 Biodiversity plays a crucial role in the functioning of ecosystems and supports our lives through the provision of resources such as, fresh air, clean water and food.

1.2.2 Scotland is well known for its rich biodiversity; approximately 90,000 animal, plant and microbe species and the complex and varied habitats that make up the rich and diverse landscapes. Scotland is home to internationally important habitats, many of which are protected areas as well as many protected species. There are also a few species endemic to Scotland, such as the Scottish crossbill and Scottish primrose\(^4\).

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\(^4\) SNH (2019). Scotland's Biodiversity [online]: [https://www.nature.scot/scotlands-biodiversity](https://www.nature.scot/scotlands-biodiversity)
1.2.3 The UK Biodiversity Action Plan identified 39 priority habitats and 197 priority species either occurring, or known to have occurred until recently, in Scotland. Of these, 43% of habitats and 38% of species were stable or improving, 33% of habitats and 22% of species were in decline, and 23% of habitats and 39% of species showed no clear trend. By definition, these habitats and species were classed as priorities due to their vulnerable and/or declining status. By May 2019, the proportion of nationally protected nature sites reported as being in or recovering towards a “favourable” condition decreased by 0.8% from 79.7% in 2018 to 78.9%. Despite the decrease since 2018, this represents a 2.9% percentage increase since the current protocols were established in 2007. A difference of less than +/-1 percentage point from 2018 suggests that the trend will be maintained.

1.2.4 The State of Nature Report 2019 shows that from 1994 to 2016, 49% of Scottish species have decreased and 28% have increased in abundance.

1.2.5 Both designated and undesignated biodiversity rich areas are important and there are clear connections between the topic of health and biodiversity. Greenspaces from gardens, parks, woodlands and recreational grounds to allotments, community growing areas and allotments provide key habitats and ecosystems which are important for wildlife but also for human health and wellbeing. Indeed, studies have shown that regular visitors to local greenspaces are more likely to feel healthy.

1.2.6 Scotland has a number of varied and ecologically complex landscapes and habitats, ranging from raised bog to native and ancient woodland, and is a home to a wide range of species.

1.2.7 Scotland has 90% of the high mountain habitat in the UK which accommodates some of the best examples of near-natural habitats and wildlife in the northern and remote parts of Europe. The uplands comprise bog and rough grassland, heather moorland, bracken, fen, marsh and swamp, as well as inland rock and montane habitat.

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10 SNH (undated) Urban habitats [online]: https://www.nature.scot/habitats-and-ecosystems/habitat-types/urban-habitats
1.2.8 The majority of upland habitat features are considered to be in favourable\(^\text{12}\) condition, however some, such as upland bogs have seen a reduction in the proportion of sites in favourable condition in recent years\(^\text{13}\).

1.2.9 Woodlands and forests cover 1.4 million hectares or 18% of Scotland’s land area and support a wide range of important flora and fauna diversity with most rare and threatened species in Scotland found in and around semi-natural woodland. In relation to wildlife, this habitat type is in a moderately good condition with predicted improvement in the future.

1.2.10 Wetlands, including peatlands, can be found across Scotland and are a key provider of environmental services such as carbon sequestration and water purification. Scotland’s peatlands store approximately 1,600 million tonnes of carbon. Most of the wetlands which fall within protected sites are in favourable condition, however lowland raised bogs are an exception with nearly 60% of sites in unfavourable condition\(^\text{14}\).

1.2.11 In Scotland, European sites include a number of SACs and SPAs. The biggest SACs, Inner Hebrides and the Minches, are located off the west coast of Scotland and cover a combined area of 1.38 million hectares. In addition to these, recent consultations on proposed SPAs for Scottish marine birds and site classifications set out additional sites to be designated\(^\text{15}\) and four new MPAs in Scottish waters (on the designation of North East Lewis, Sea of the Hebrides, Shiant East Bank and Southern Trench\(^\text{16}\)).

1.2.12 Scotland’s coastal and offshore waters include several complex habitats including North Sea fan and sponge communities, sea loch egg wrack beds and sea lochs\(^\text{17}\). Scotland’s seas are thought to be among the most biologically diverse in the world. These habitats are protected by a number of designations such as SACs, Nature Conservation Marine Protected Areas NCMPAs and SPAs, forming the MPA network and covering areas from coastal environments to undersea cliffs. Scotland is home to 24 species of internationally important breeding birds\(^\text{18}\) as well as 20 cetacean species protected under the Habitats Directive\(^\text{19}\). There are also a wide range of

\(^{12}\) SNH (2019) Available at: Assessment of condition [online]: https://www.nature.scot/professional-advice/safeguarding-protected-areas-and-species/protected-areas/site-condition-monitoring/assessment-condition


Priority Marine Features (PMFs) which help conserve and enhance the marine environment\(^\text{20}\).

1.2.13 Mapping in Figure 1 shows the spatial distribution of designated natural heritage sites across Scotland and the importance of considering biodiversity sites. Many important sites are concentrated in rural areas, particularly in the North and West but also more widely around coastal areas. Many water bodies are protected as natural conservation sites as well as parts of the islands and upland areas.

**Biodiversity, flora and fauna - Key Pressures\(^\text{21,22}\)**

**Spread of invasive species and wildlife disease** - much of this has arisen from a growing global trade of plants and animals;

**Land use intensification, modification and overgrazing** - leads to a reduction of diversity, quality and connectivity of landscapes and habitats. Across the uplands this is from increased grazing pressure, and previously, forestry. In the lowlands it is primarily via agricultural intensification, and more recently changes in grazing. Housing development is a significant localised pressure in some areas;

**Pollution** - from industry, agriculture and road traffic which impacts on waterways, uplands, air quality and sensitive habitats across Scotland;

**Lack of recognition of the value of nature** - the vital benefits that natural capital provide to society are not fully recognised or appreciated and therefore are not sufficiently considered in decision making;

**Disconnection with nature** - many people in society are disconnected with nature and therefore undervalue its contribution to their well-being and prosperity, and to wider society;

**Climate change** - is causing a shift in weather patterns which are affecting nature across the country. Ocean warming, acidification and sea level rise are becoming evident, and wetter conditions on land, especially in the west are predicted; and

**Marine exploitation** – primarily via some commercial fisheries and fishing which have profoundly changed the abundance and resilience of some species, such as cod, and altered marine habitats.


Figure 1. Nature Conservation Designations
1.3 Population and Human Health

Existing Environmental Protection Objectives

A wide range of environmental protection objectives are relevant to population and human health. Protection against environmental effects such as impacts to air, water, land and disturbance, particularly from noise and vibration are established in legislation at European level and transposed into legislation and regulations at the UK and national levels. The provision of access to the outdoors for recreational and educational purposes, sustainable transport and housing, green infrastructure and the role of the environment and place in mental and physical health and wellbeing are also well established. Wider policy including reducing inequalities, social inclusion and improving health also form an important context for the NPF4.

1.3.1 In mid-2018, Scotland’s population was at its highest ever at 5.44 million\(^{23}\). Scotland’s population is projected to grow to 5.58 million in 2026, and to continue rising to reach 5.69 million in 2041. In the year to mid-2018, just under one in five people (19%) were aged 65 and over. However by 2041, one in four people (25%) are projected to be in this age group.

1.3.2 In the period 2000-2018 the majority of council areas have experienced an increase in population. Areas in and around cities have grown particularly around Edinburgh. Glasgow has experienced slight growth above the Scottish average but the surrounding councils have grown less or seen a decline in their populations (East and West Dunbartonshire, Argyll and Bute, North Ayrshire and Inverclyde). Most councils are projected to increase in population over the 10 years 2016-2026 with those in around Edinburgh projected to grow the most. Eight councils on the west of mainland Scotland are projected to experience a population decrease.

In mid-2018 most of Scotland’s population was concentrated in large and other urban areas (71% or >3.8 million) with 20% living in accessible small towns and accessible small rural areas and 9% lived in remote small towns and remote rural areas.\(^{24}\)

Research in 2018 for Highlands and Islands Enterprise found that there is a deficit of young people in the Highlands and Islands; those aged 15-30 comprise 17% of the total population compared to 21% across Scotland, and this is projected to continue.\(^{25}\)

There is significant variation between areas such as the Highlands and Islands and some areas in the Southern Uplands versus the more densely populated areas. The sparsely populated areas of Scotland have a demographic legacy which, without intervention is predicted to result in long term population decline, and shrinkage of its working age population (projected to decrease by 33% by 2046), on a scale which implies serious challenges for economic development.\(^{26}\)

The highest population density per council is found in Glasgow City with a cluster of high density council areas in the central belt, whilst the lowest population density is Na h-Eileanan Siar and Highland Council.\(^{27}\)

In the year to mid-2018, 18 of the 32 council areas increased in population with the remaining 14 areas experiencing depopulation. Areas experiencing the highest population increases include Midlothian, City of Edinburgh, East Lothian, Glasgow City and Orkney. The largest decreases included Inverclyde, Argyll and Bute, Aberdeen City, West Dunbartonshire and Na h-Eileanan Siar.\(^{28}\)

The populations of 24 of the 32 council areas are projected to rise over the next 10 years with the biggest population increases to be Midlothian (+13%), East Lothian (+9%), City of Edinburgh (+8%) and East Renfrewshire (+8%). The areas projected to decrease in population are concentrated in the west of Scotland. The largest decreases are projected for Na h-Eileanan Siar (-5%), Inverclyde (-4%) and Argyll and Bute (-3%).

The Scottish Index of Multiple Deprivation (SIMD) ranks small area data zones in Scotland from the most to the least deprived. SIMD helps to improve the understanding of the outcomes and circumstances of people living in the most deprived areas in Scotland. SIMD analyses data from indicators across the domains of income, employment, health, education, skills and training, housing, geographic access and crime. The 2020 update of the SIMD shows the following and relevant maps will be included within the Environmental Report.\(^{29}\)

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\(^{26}\) Demographic change in the Sparsely Populated Areas of Scotland (1991-2046) [online]: https://www.hutton.ac.uk/sites/default/files/files/research/srp2016-21/RD3.4.1%20Note%20WP1-3%20web%20-%20published.pdf


the least deprived area is in Stockbridge, Edinburgh which represents a change since SIMD 2016, when the least deprived area was in Giffnock;

the most deprived area is in Greenock town centre. Whereas in SIMD 2016 and 2012, the most deprived area was identified as Ferguslie Park, Paisley;

the area with the largest local share of deprived areas was Inverclyde, with 45% of data zones among the 20% most deprived areas in Scotland;

Glasgow City has similar deprivation levels at 44%;

other local authorities with relatively high levels of deprivation include North Ayrshire and West Dunbartonshire at 40% and Dundee City at 38%;

Na h-Eileanan an Iar, Shetland and Orkney have no areas among the 20% most deprived in Scotland, although, this does not mean there are no people experiencing deprivation living there;

over half of people on low income do not live in the 20% most deprived areas in Scotland;

levels of deprivation have fallen in Glasgow City, Renfrewshire and City of Edinburgh compared to SIMD 2016. Glasgow City showed the biggest fall, from 48% of data zones in the 20% most deprived areas in Scotland, to 44%;

levels of deprivation have increased in Aberdeen City, North Lanarkshire, Moray, East Lothian, Highland and North Ayrshire. With no increases greater than 2 percentage points.

1.3.10 Human health is dependent on a number of environmental factors including access to services such as health and education, employment, good quality outdoor recreation facilities. A high quality environment with good air, soil and water quality is an important contributor to good health and well-being. Homes also need adequate heating and ventilation. Climate change poses a wide range of potential effects on human health, some harmful such as increases in future flood events and effects on dwellings and human health and some beneficial such as milder winters positively affecting health and cold related service disruptions.

1.3.11 It is expected that the potential risks and benefits of climate change to population and health will be unevenly distributed. For example, areas of dense urban development will be more at risk of surface water flooding and summer heat stress. Remote coastal communities may be more vulnerable to disruption to services from extreme weather events. In addition, the effects may have the greatest impact on vulnerable people. Negative health effects are likely to be disproportionately severe in areas of high deprivation because of the reduced ability of individuals and communities in these areas to prepare, respond and recover. The elderly population are also less resilient to climate change and associated weather events.

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1.3.12 The number of households in Scotland has increased by 15% in 2018-2019 but it is still 19% below the level seen in 2007-2008. New housing supply remains below pre-recession levels and is 19% below the 2007-08 figure, however annual supply has increased by 49% since 2012-13. Housing completions in 2018-2019 show the highest rates were observed in Midlothian, East Lothian, Perth and Kinross, Highland and Orkney Islands. The lowest rates were observed in Dumfries and Galloway, Dundee City, Stirling, Na h-Eilean Siar and Argyll and Bute32.

1.3.13 Fuel poverty is linked to health issues. Challenging weather, poor energy efficiency at home and reduced heating options (especially in rural areas) can make fuel bills unaffordable, resulting in fuel poverty33. In 2017, the level of fuel poverty remained similar to 2016; 24.9% or 613,000 households were fuel poor, and 7.0% or 174,000 households were living in extreme fuel poverty34. This compares to the 26.5% or 649,000 fuel poor households in 2016, with 7.5% or 183,000 households living in extreme fuel poverty35. While the overall fuel poverty rate in 2017 is similar to 2016, this follows a period of annual decreases between 2014 and 2016 and it is the lowest rate recorded by the survey since 2005/06.

1.3.14 Greenspace has substantial environmental and health impacts, but also links to community aspects, such as community cohesion, social connectedness and community resilience. Being able to access high quality greenspace can improve the health, wellbeing and confidence of people and communities as well as creating a sense of place36. There is a corresponding greenspace indicator37. 65.4% of adults lived within a 5 minute walk of their nearest greenspace in 2016, compared to 67.2% in 2015. People living in the most deprived areas are less likely to live within a 5 minute walk of their nearest greenspace than those in less deprived areas.

1.3.15 Key findings from the Scottish Health Survey 201838 found that 66% of adults undertook at least 150 minutes of moderate physical activity, 75 minutes vigorous physical activity, or an equivalent combination per week. This was the highest level though it has not changed significantly since 2013 (64%). 77% aged 16-24 met the physical activity guidelines, declining to 67% among those aged 45-54, and to 31% among those aged 75 and over. Adults in the most deprived areas were more likely (32%) to have very low activity levels than those in the least deprived areas (12%).

1.3.16 Life expectancy and healthy life expectancy at birth show a general improvement in Scotland over the longer term. Since the 1980s life expectancy has increased by 5.8 years for males and 7.9 years for males. However, the most recent estimate shows

38 Scottish Health Survey 2018: Key findings [online] https://www.gov.scot/publications/scottish-health-survey-2018-summary-key-findings/pages/8/
a small decline in life expectancy for both females and males. Scotland has one of the lowest life expectancies in western Europe for both males and females.

1.3.17 Life expectancy was highest in East Renfrewshire where males born in 2015-2017 could expect to live for 80.5 years and females, for 83.7 years. Glasgow City had the lowest life expectancy for those born in 2015-2017 at 73.3 years for males and 78.7 years for females.

1.3.18 There is a strong relationship between deprivation and life expectancy with people living in more deprived areas expected to have shorter lives. In the most deprived 10% of areas in Scotland in 2015-2017, life expectancy at birth was on average 69.7 (± 0.3) years for males and 75.7 (± 0.3) years for females. In contrast, in the least deprived areas, it was 82.7 (± 0.3) years and 85.3 (± 0.2) years respectively.

1.3.19 The most recent annual estimates for healthy life expectancy at birth are for males born in 2015 to live 76.9 years on average, 59.9 of these in a 'healthy' state. Females born in 2015 would be expected to live 81.0 years on average, 62.3 of these years being 'healthy'.

1.3.20 Significant inequalities in levels of obesity persist between those living in the least and most deprived groups in Scotland. Overall, around 32% of adults living in the most deprived areas are classed as obese, compared with 20% of those living in the least deprived areas. Additionally, it is reported that this gap is widening for children. Similarly, the proportion of adults who regularly meet the guidelines for moderate or vigorous physical activity has not changed significantly over the last decade. Adults in the most deprived areas were at 32% more likely to have very low activity levels than those in the least deprived areas (12%).

1.3.21 Scotland has achieved progressively cleaner air in recent years via increasingly strict control of industrial emissions, tighter fuel and emissions standards for road vehicles and control of smoke from domestic properties. However, even at these lower levels, air pollution still causes harm to human health and the environment.

1.3.22 Ill health caused by air pollution is a health inequalities issue as it disproportionately affects the most vulnerable members of society, including the very young, the elderly, people with existing medical conditions and those living in deprived urban areas and deprived circumstances. Thus, the key aims of reducing air pollution are to protect human health and eliminate health inequalities, in addition to improving the quality of places and habitats in the wider environment.

1.3.23 While air quality is generally good in Scotland, improvements are required to reduce the adverse effects caused by air pollution particularly in urban areas. Certain pollution hotspots in Scotland have been declared Air Quality Management Areas (AQMAs). With a reduction in large-scale industry the influence of transport,

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40 Healthy life expectancy estimates how long a person could expect to live in good health and is a useful comparison to estimates in life expectancy.
agriculture and other non-industrial sources continue to be significant sources of air pollution. Health effects range from chronic (long-term) disease and premature death to lesser symptoms affecting a large percentage of the population and contributing to greater use of medication, more days of restricted activity, more requirements for medical care. Air quality as well as nuisances such as odour, dust and noise are affected by human activities including transport, energy generation, industry, waste management, construction and agriculture, and through natural sources.

1.3.24 Water quality has seen significant improvement over the last 25 years and the majority of surface and ground waters are in good or high overall condition and continue to improve. However a wide range of problems exist locally including risks to human health from flood events and poor quality private water supplies.

1.3.25 The SEPA National Flood Risk Assessment (NFRA) assesses the relative adverse consequences of flooding across Scotland and produces a high-level view of flood-risk. It uses SEPA’s flood maps supplemented by information from local authorities and Scottish Water, to identify what is at risk of river, coastal and surface water flooding. The NFRA enables the identification of the locations with the greatest flood risk, designated as ‘Potentially Vulnerable Areas’ (PVA) which are designated due to current or future flood risk to people, the environment, cultural heritage and economic activity. SEPA’s 2018 NFRA 2 identified that there are around 284,000 homes, businesses and services across Scotland at risk of flooding from rivers, surface water and the sea, and by 2080 climate change will increase the numbers at risk by an additional 110,000 properties44.

1.3.26 Built and natural assets are a key part of the environment, they include infrastructure for energy, heat, flood protection, water supply, and waste and waste water management. In some areas the capacity of some material assets to deal with demand is being over-stretched such as waste water management systems and energy generation which can affect human health and wellbeing. Increasing demand for goods and services puts pressure on existing material assets and causes an increasing demand for resources together with the need for waste management and disposal mechanisms.

1.3.27 The physical environment is an important factor in influencing human health and wellbeing. Access and utilisation of recreation facilities, green infrastructure and green spaces can provide opportunities for active travel and regular exercise and to help deliver benefits for physical and mental health and well-being.

Population and Human Health - Key Pressures

Pressures on water and air quality which affect human health are primarily caused by increases in environmental pollutants arising from human activities including new development and industrial activities as well as aquaculture, intensive agriculture and urbanisation.

Emissions of odour, noise, dust and fine particulates can have a negative effect on health and quality of life for humans and other species / habitats. Nuisance can also act in combination to cause negative effects (such as noise and dust, noise and odour).

Pressures on other topics such as from climate change and changes in land use and land management practices can damage soils, increasing demand for goods and services puts pressures on material assets and associated waste management. Climate change is likely to have a wide range of impacts on human health both negative and positive.

Inequalities resulting in poorer health for those living in more deprived areas.
### 1.4 Climatic Factors

#### Existing Environmental Protection Objectives

Several plans and policies seek to reduce the rate of climate change, including the Climate Change (Scotland) Act 2009. Mitigating climate change is a key focus of many policies, including those that relate to sectors such as transport and electricity. The new Climate Change (Emission Reduction Targets) (Scotland) Act 2019 increases the ambition of Scotland’s targets to reduce greenhouse gas emissions, including a target for net-zero emissions by 2045. The importance of adaptation to climate change impacts is also set out.

#### ACROSS THE UK

- **4% increase** in rainfall (2006 - 2017 compared to 1850 - 1900)
- **1°C increase** in temperature (2006 - 2017 compared to 1850 - 1900)
- **16 cm rise** in sea level since the beginning of the 20th century

#### IN SCOTLAND

- **11% increase** in rainfall (compared to 1961 - 1990)
- **0.7°C increase** in temperature (compared to 1961 - 1990)

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#### CLIMATIC FACTORS IN NUMBERS

**Sources: Met Office and Scottish Government**

1.4.1 Scotland has a temperate climate characterised by cool summers and mild winters, and an average of over 1,500 mm of rainfall annually. Over the last century, the UK and Scotland’s climate has begun to evolve as a result of anthropogenic GHG emissions. Emissions by sector are shown in the inset.

1.4.2 In addition to the changes shown in the inset, climate change has caused an increase in the frequency of extreme weather events, with nine of the ten warmest years on record occurring since 2002.

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In 2017, total actual source emissions in Scotland were 40.5 MtCO$_2$e – a 46.8% decrease since the baseline year (1990) and a 3.3% decrease from 2016 emissions. In 2017, forestry was the biggest carbon sink.\(^{46}\)

1.4.3 Scotland’s soils and peatlands are the biggest terrestrial store of carbon in Scotland with peatlands alone holding around 1.6 billion tonnes of carbon\(^ {48}\); 60 times more than carbon stored by trees and other vegetation.\(^ {49}\) Inshore and offshore waters also store a significant resource of blue carbon, including 18 (MtC) or organic carbon stores in the top 10 cm of sediments across Scotland’s seas\(^ {50}\). 9.4 Mt organic carbon and 47.8 Mt inorganic carbon are contained within surface inshore sediments of SACS and NCMPAs and the habitats they support.\(^ {51}\)

As a result of climate change, Scotland’s weather will become more variable, with hotter and drier summers, and milder and wetter winters. Sea level rise will affect the coastline. More summer heat waves, extreme temperatures and drought are expected. There will be more and heavier rainfall and less frost and snowfall. The built environment will need to change to adapt to this, and more will need to be done with the built environment to help reduce emissions.

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\(^{48}\) SNH [undated] Benefits of healthy peatlands [online]: https://www.nature.scot/climate-change/taking-action/carbon-management/restoring-scotlands-peatlands/benefits-healthy-peatlands

\(^{49}\) SNH [undated] Managing nature for carbon capture [online]: https://www.nature.scot/climate-change/taking-action/carbon-management/managing-nature-carbon-capture


1.4.6 Natural assets and built infrastructure are under risk of the increasing effects of climate change which will continue to alter Scotland’s coastline\(^{52}\) including the effects of sea level rise and coastal erosion.

1.4.7 Globally, sea level is projected to continue to rise up to and beyond 2100 due to GHG-related thermal expansion, and loss of mass from ice sheets and glaciers\(^{53}\). This will have strong regional patterns and by 2100 sea level rise in Edinburgh is expected to be between 0.08 – 0.49 m and 0.30 – 0.90 m for the low and high emissions scenarios respectively\(^{54}\). It is also expected that a significant increase in the occurrence of sea level extremes, such as storminess and storm surges, by 2100 is also likely.

1.4.8 While productivity in some cases (such as forestry) is likely to increase due to warmer summers where nitrogen and water are not limiting factors, a warmer climate can contribute to the spread of INNS and pathogens, contributing to habitat fragmentation and further impacting wider ecosystem services and biodiversity.

1.4.9 UK Climate Projections 18 (UKCP18)\(^{55}\) project greater chance of hotter, drier summers and warmer, wetter winters\(^{56}\). Figure 2 shows maps for the medium emissions scenario (representative concentration pathway (RCP) 6.0\(^{57}\)) and 50\(^{th}\) percentile (medium probability distribution) for the period of 2030-2058 (using baseline 1981-2010). The series of medium scenario\(^{58}\) maps illustrate the overall changes in annual average mean temperature over Scotland with increases in the range 0 to 1°C. Seasonal precipitation over summer is expected to decrease between 0 and 10%, while winter precipitation is expected to increase by up to 10%.

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\(^{52}\) SNH (2019) Looking ahead: planning for coastal change. Using coastal change information to plan for development and infrastructure around the coast: guidance [online]: https://www.nature.scot/guidance-planning-ahead-coastal-change


\(^{55}\) The UKCP provides the most up-to-date assessment of how the climate of the UK may change over the 21\(^{st}\) century.


\(^{57}\) RCPs are emissions scenarios: RCP 2.6 is the lowest then RCP 4.5, RCP 6.0 and RCP 8.5 is the highest.
Figure 2. Climatic Annual and Seasonal Changes: Precipitation and Temperature
Climatic Factors - Key Pressures

Key pressures on climate change include greenhouse gas emissions from a range of sectors with the highest contributors being the transport sector (including international aviation and shipping) (approximately 37%), agriculture and related land uses (24%), business and industrial process (22%), the energy supply sector (15%), and the residential sector (15%). Relatively minor contributions are reported for public sector buildings, development, and waste management. Forestry was a net carbon sink and contributed to reducing emissions by approximately 24% in 2017.59

Related changes in temperature, rainfall, frequency of extreme weather events and sea level rise are predicted with milder, wetter winters and hotter, drier summers expected. Consequent inter-related risks are shown in the inset (related to, for example, flooding and coastal change through to new and emerging pests and diseases).

Possible negative consequences could also arise as a result of climate change adaptation measures. The installation of manmade flood defences (as a mitigation measure against climate change) can significantly impact biodiversity through habitat fragmentation and limiting distribution range. Coastal processes can also be altered, leading to increased risks of erosion or displacement of flood risk.

1.5 Air

**Existing Environmental Protection Objectives**

Scotland’s air quality environmental protection objectives are largely aimed at reducing air emissions that are potentially harmful to human health and the environment. They are primarily derived from the EC Air Quality Directive (2008/50/EC) and the 4th Air Quality Daughter Directive (2004/107/EC), and through the Air Quality Standards (Scotland) Regulations 2010, have been transposed 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. Scotland’s PPC Regulations (2012) allow for the regulation and monitoring of certain industrial activities that can generate airborne pollution. Together, they set a requirement for monitoring air quality with a particular focus on areas where air pollution is concentrated, and seek to identify the sources.

1.5.1 Good air quality helps to maintain human health, the climate, habitats and ecosystems and is essential for a good quality of life. The quality of the air is affected by pollutants released into the atmosphere via human activities including transportation, energy generation, industry, waste management and agriculture, and through natural sources. Types of pollutants and sources include:

- **Particulates PM10 and PM2.5** - There are a number of AQMAs across Scotland designated due to an exceedance of the Scottish annual mean objective for PM10. Main sources include combustion coal, solid fuel and diesel and road transport.

- **Oxides of nitrogen** - All high temperature combustion processes in air produce nitrogen oxides primarily from transport emissions but also energy generation, manufacturing and heating.

- **Ground level ozone** - A secondary pollutant arising as a result of chemical reactions between various air pollutants, primarily oxides of nitrogen and volatile organic compounds (VOCs), initiated by strong sunlight.

- **Ammonia** - A result of agricultural activities such as decomposition and volatilisation of animal wastes, including livestock manure / slurry management and spreading.

- **Sulphur dioxide** - Primarily from combustion of fuels containing sulphur, such as coal and heavy fuel oils used in energy generation.

- **Volatile organic compounds** - Primarily a result of road transport, the manufacturing industry and domestic combustion, solvent manufacturing.

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and use, petrol distribution and handling energy generation, refineries and industry.

1.5.2 Air quality in Scotland has generally significantly improved since the 1950s, particularly in relation to CO and SO₂ with a significant fall in both NO₂ and PM10 emissions since 2008. However, in 2017, seven automatic monitoring sites and one site exceeded the annual mean objective for NO₂ and PM10 respectively⁶¹.

1.5.3 There are currently 99 monitoring sites in Scotland which record pollutant concentrations, including ground-level ozone, ammonia, NOx, SOx, CO and PM. 14 local authorities have declared a total of 38 AQMAs, which are mainly located in densely populated urban areas (see Figure 3).

1.5.4 Key drivers of air pollution include fine particulates from the combustion of fuels (such as from road transport, biomass and waste disposal), as well as from other energy generation and industry, such as agriculture.

1.5.5 In addition, ships and other marine vessels, release a significant proportion of total anthropogenic air pollutants, including NOx, SOx, PM and VOCs. These are particularly prominent in areas with major ports, however as emissions from other sources decline, shipping emissions will become more and more significant.

**Air - Key Pressures⁶²**

Key pressures on air quality are from three key sources of emissions; transport, energy generation and industry (including agriculture) with the main contribution of emissions being a result of point-source pollution from individual sites (e.g. large scale industrial activities) and along transport routes / nodes (linear/ nodal pollution such as road or air traffic). Diffuse sources such as agriculture are also increasingly important sources.

In urban areas, transport emissions are the biggest source of air pollution; the primary pollutants are fine particulate matter (PM₂.₅) and nitrous oxides (NOₓ).

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Figure 3. Air Quality Management Areas
1.6 Water

Existing Environmental Protection Objectives

Water condition objectives for all water bodies are set at the European level through the Water Framework Directive (WFD). Water coastal and marine policies include Scotland’s two River Basin Management Plans (RBMPs) which aim to improve the overall condition of surface water bodies both inland and at the coast and marine policies such as Scotland’s National Marine Plan. The protection of Scotland’s water resources has also been translated to the national level through the establishment of legislation and regulations such as the Water Environment and Water Services (Scotland) Act 2003 and the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR), which complement the role of others such as the Pollution Prevention and Control (Scotland) Regulations 2012 (PPC). The Flood Risk Management (Scotland) Act 2009 provides for the management of flood risk and translates the EU Floods Directive into the national context.

Source: SEPA

1.6.1 Water provides numerous benefits. Including drinking water provision, water for use in industry and agriculture, hydropower as well as wave and tidal energy. Recreation from for example angling, sailing and kayaking. The water environment also supports a diverse nationally and internationally important species and habitats.

1.6.2 Scotland includes a wide range of water bodies, as shown in the inset. Scotland’s freshwater network forms 90% of the volume of UK freshwater. Scotland’s coast stretches 19,000 km with marine water out to 12 and 200 nautical miles making up Scotland’s territorial and offshore waters respectively. This covers a total of 470,000 km². A number of water bodies in Scotland are designated as protected areas for their importance in supporting wildlife conservation, provision of drinking water supply, shellfish harvesting and bathing (see inset).

1.6.3 Overall, in 2018 65.7% of Scotland’s groundwater and surface water bodies were at good or better status, a slight increase since 201763.

1.6.4 The condition of Scotland’s rivers has improved significantly over the last two decades with the majority being in good condition or better. This is also the case for

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the majority of lochs and 80% of groundwater bodies. Scotland's bathing water quality has also improved in over the same period improvement in quality over the same period with more than 80% of waters in good condition or better and fulfilling the necessary classification criteria.

1.6.5 Approximately 284,000 homes, businesses and services are vulnerable to flooding from rivers, surface waters and sea with risk increasing in the future. This can damage material assets, pose risks to population and human health through the spread of infectious diseases and also lead to a loss of habitats, resulting from erosion.

1.6.6 97% of Scotland's coastal waters and 85% of estuaries are in good or high environmental condition, and most offshore waters are also in good condition. However, there are localised impacts from commercial fishing, aquaculture, and diffuse pollution which can have a negative impact on local ecosystems. In addition to the number of designations aiming to protect the biodiversity of marine environments, the Marine Strategy Framework Directive (MSFD) sets out a framework for an ecosystem-based approach to the management of human activities within the marine environment with an aim to achieve a “Good Environmental Status” for all marine environments by 2020.

1.6.7 Figures 4 and 5 show the condition of Scotland’s water bodies. Coastal water quality is predominantly good with some areas including a large swathe of the west coast with higher water quality. And smaller pockets with poor and moderate quality. A number of areas have poor groundwater quality, including Dumfries and Galloway, the Central Belt, the Lothians, Fife, Dundee and Angus.
Figure 4. Water Quality Classifications: coastal
Figure 5. Water Quality Classifications: groundwater bodies
Water - Key Pressures

Existing problems relating to water quality include: diffuse and point source pollution including nutrient contamination, nitrate vulnerable zones, depletion of oxygen levels in water caused by high levels of organic matter, increase of suspended solids in water leading to increased sedimentation, microbial contamination, contamination with toxic substances such as heavy metals, acid mine drainage and pesticides. These can have an impact on ecosystems, human health and amenity value.

Sources of diffuse pollution include agriculture, forestry, marine transport, atmospheric deposition, urban development and heavy metals, oil and other hydrocarbons. Sources of point source pollution include sewage treatment, industry, waste management, mining and contaminated land and aquaculture.

In terms of water quantity abstraction and storage of water places a burden on water resources. Public demand is increasing abstraction pressure on rivers and lochs but this is somewhat offset by falling demand from industry. Groundwater abstraction and demand for irrigation in agriculture is growing. Abstraction / impoundment of water can lead to reduction in groundwater base flow and hence reduction in river flows, reduction in availability of water for abstraction, variation in water levels leading to damage to ecology of watercourses and wetlands, and reduced recreation and amenity value of the water environment.

Hydropower generation including the abstraction of water, construction and operation of impoundments, and obstruction to fish movement affect the water environment including water quantity primarily to rivers and lochs.

Physical pressures associated with historical engineering and urban development, land reclamation, agricultural activity, forestry and hydropower generation can cause water quality downgrades including loss of floodplain, wetlands, habitat and associated biodiversity, potential increase in the risk of flooding due to engineering activities. As well as significant changes to erosion and sediment deposition.

Flooding can be exacerbated by human influence, historical engineering and agricultural activity with climate change predicted to exacerbate the frequency and severity.

Invasive non-native species (INNS) including giant hogweed, Japanese knotweed, Himalayan balsam, and rhododendron can be dispersed into the wild by human activity such as forestry and engineering works. INNS can out-compete native species and consequently greatly reduce biodiversity. They can also be a hazard to public health.

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1.7 Soil

**Existing Environmental Protection Objectives**

Nationally, the protection of prime quality agricultural land and peatlands is set out in the Scottish Soil Framework. Soil objectives include European level recognition of the importance of soil resources through the European Commission’s Thematic Strategy for Soil Protection, and national commitments to sustainable soil management that protect valued soils including prime quality agricultural land and those with a high carbon content, such as peat (via the Scottish Soil Framework, Scotland’s National Peatland Plan and the Scottish Government’s Draft Peatland and Energy Policy Statement). More detail is provided in guidance on the development of wind farms on peat, commitments to remediation of contaminated land and prevention of soil pollution. Geological sites receive protection through the designation of geological Sites of Special Scientific Interest (SSSIs) at the national level and at the international recognition through establishment of a network of Geoparks.

1.7.1 Soil is a non-renewable resource which supports a wide range of functions and provides many environmental, economic and societal benefits including:

- Providing the basis for food and biomass production;
- Storing carbon and maintaining the balance of gases in the air as a major store of terrestrial carbon;
- Providing raw materials such as the use of sand and sand gravel in construction and use of peat as a fuel;
- Providing valued habitats and sustaining and supporting biodiversity;
- Controlling and regulating environmental interactions such as water flow and quality;
- Preserving cultural and archaeological heritage by providing records and protective cover;
- Providing a platform for buildings and roads but therein largely losing its capacity to carry out other functions.

1.7.2 Soil quality is defined as the ability of soil to carry out these functions. The concept of ecosystems services has similarities to soil function but with a stronger human dimension by identifying the benefits that soils provide to society. Soils contribute to all four types of ecosystem services such as food provision, fibre and raw material (a provisioning service), provision of clean water (a regulating service), protects and is part of Scotland’s cultural heritage (a cultural service) and soil formation itself (a supporting service).

1.7.3 Scotland’s peatlands play a key role in regulating atmospheric pollutants, reducing flooding and benefitting biodiversity and due to this have been afforded special

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protection through the Scotland’s National Peatland Plan. The Draft Peatland and Energy Policy Statement further looks to align peatland protection, enhancement and management with energy policy to maximise GHG abatement and deliver multiple benefits.

1.7.4 Scotland has a diverse range of soils, primarily with acidic and organic rich surface layers, ranging from peaty gleys found on undulating hills to humus-iron podzols in the lowlands. Agricultural land is primarily concentrated in the east of Scotland with arable soils particularly vulnerable to wind and water erosion.

1.7.5 Agricultural soils have the potential to hold an estimated 115 Mt, which is equivalent to 22% of total CO\textsubscript{2} emissions from Scotland’s energy sector. Peatlands are an important carbon sink, storing approximately 1.6 billion tonnes of carbon. Other soils can also act as a sink for GHG. Carbon rich soil is predominantly located in the north-west of Scotland (Figure 6). Blanket bog is the most widespread and semi-natural peatland type in Scotland and contains 15% of the world’s peatland habitats. Other peatland types in Scotland include raised bogs and fens which are designated as UK priority habitats.

1.7.6 A large proportion of designated peatlands are in poor condition. A large percentage of upland blanket bogs, lowland raised bogs, and upland fens, marshes and swamps are in unfavourable condition.

1.7.7 The state of rocks and landforms is stable at known sites, however little is known about the state of geodiversity outside of protected areas.

1.7.8 The Land Capability for Agriculture (LCA) classification\textsuperscript{69} is used to rank land on the basis of its potential productivity and cropping flexibility. This is determined by the extent to which the physical characteristics of the land (soil, climate and relief) impose long term restrictions on its use. The LCA is a seven class system where four of the classes are further subdivided. Class 1 represents land that has the highest potential flexibility of use whereas Class 7 land is of very limited agricultural value. Land more suitable for supporting only Improved Grassland (classes 5.1 to 5.3) and Rough Grazing (6.1-6.7) extends through the Southern Uplands, northwest Highlands and Islands.\textsuperscript{70}

1.7.9 Soil organic carbon content is higher in the North West Highlands and Islands and Shetland, and the uplands of southern Scotland. Higher quality agricultural land suitable for crops is distributed throughout the Lothians, Fife, Tayside and the eastern Scottish Borders through to Ayrshire, the Clyde Valley, parts of Dumfries and Galloway and the north east of Scotland including the coastal areas around the Moray and Cromarty Firths.

1.7.10 The total amount of derelict and urban vacant land in Scotland has decreased by 716 hectares (6%) from 11,753 hectares in 2017 to 11,037 hectares in 2018 (See inset).\textsuperscript{71}

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1.7.11 Overall in Scotland 29.1% of the population were estimated to live within 500 metres of a derelict site, though there were differences across the country. Shetland and Orkney had the lowest percentage, both less than 1%. 58% of people living in the most deprived decile in Scotland are estimated to live within 500 metres of derelict land, compared to 11% of people in the least deprived decile.
Figure 6. Topsoil Organic Content
Soil - Key Pressures

Organic matter underpins many soil functions, particularly as a carbon store. Its loss can be caused by erosion and built development activity as change in land use, and actions associated with agriculture and forestry.

Soil contamination can be caused by atmospheric deposition, agriculture and forestry operations including the use and/or disposal of chemicals; waste management and recycling.

Erosion and landslides caused by for example, extreme weather events, construction and development can cause loss of soil carbon, loss of fertility and indirect effect such as impacts to the water environment.

Soil sealing from new development can prevent it from performing important functions such as being a medium for growth or as a carbon store.

Drainage of bogs, peat extraction and other land improvement changes may destroy these valuable carbon sinks and environmental archives.

Climate change threatens the ability of soils to continue to regulate water flow and quality of our lochs and river system as well as causing erosion which threatens to cause damage to soil and the functions it performs. Scottish soils contain more than 3,000 Mt of stored carbon, but climate change may cause soil carbon stocks to decline. Degradation of peatlands will cause further release of greenhouse gas emissions. In addition some of the habitats and biodiversity that they support may be lost.

New development or climate change can result in the loss or reduction of the benefits that soil brings such as minerals, organic matter and fuel.

Damage to soils on development sites can cause loss of soil functionality and lead to potential land contamination.

Soil biodiversity is essential to most soil function such as in soil carbon and nitrogen turnover and the exchange of GHG. Causes of changes can include changes in land management practices affecting the structure, stability, biological, physical and chemical characteristics.

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72 SNH (2019), Pressures on Geodiversity [online] https://www.nature.scot/landforms-and-geology/pressures-geodiversity


### 1.8 Cultural Heritage and Historic Environment

#### Existing Environmental Protection Objectives

Existing cultural heritage objectives are set out in legislation and focused primarily on the protection of valued sites and features, including the recognition of townscapes (i.e., places, buildings, and open spaces), buildings, archaeological sites, battlefields, marine historic assets and landscapes through a hierarchy of designations at the international, national, and local levels. Policy also aims to improve the quality of our settlements and built environment with a national level focus and emphasises the importance of recognising and avoiding negative impacts on the wider setting of recognised sites and enhancement where appropriate. These objectives also take into account of, avoiding damage to or loss of currently unknown archaeology. Additional policy extends design towards place-making and connections to population and human health.

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**SCOTLAND'S HISTORIC ENVIRONMENT IN NUMBERS**

*Source: Historic Environment Scotland*

1.8.1 The inset shows the numbers of designated historic sites within Scotland. The majority of historic sites in Scotland (between 90 and 95%) are undesignated. These are included within the 320,000 records contained by the Canmore database. Despite not being designated, these are of historic and cultural importance to local communities.

1.8.2 The condition of undesignated historic heritage is largely unknown, while that of designated sites is generally moderate with site variation. In 2017, 68% of pre-1919 buildings were in any critical disrepair, while 5% were in critical, urgent and extensive disrepair. The prevalence of disrepair in critical elements is found to be associated with the age of construction with dwellings built post – 1964 having lower rates of disrepair.

1.8.3 83% of scheduled monuments are considered to be in optimal or generally satisfactory condition and 750 historic buildings on the Buildings at Risk Register
(BARR) have been saved between 2009 and 2018 with more than 200 others in the process of being restored.

1.8.4 Underwater historic heritage includes the remains of aircraft, sea vessels and items lost overboard but little is known about underwater heritage in comparison to terrestrial records. Underwater heritage can be located in the water column or on the seabed or beneath sediment. Marine heritage also includes remains of structures which were built under or partially suspended in water, such as fish traps, crannogs, piers and bridges.

1.8.5 There are eight historic MPAs in Scotland’s waters, including listed lighthouses and scheduled monuments. 964 having lower rates of disrepair. 83% of scheduled monuments are considered to be in optimal or generally satisfactory condition and 750 historic buildings on the BARR have been saved between 2009 and 2018 with more than 200 others in the process of being restored.

1.8.6 Figure 7 shows the distribution of historic MPAs, Listed Buildings and World Heritage Sites, while Figure 8 Scheduled Monuments, Conservation Areas, Gardens and Designated Landscapes and Historic Battlefields. Cultural heritage assets are distributed around the country. There are clusters around settlements and along the coast.

### Cultural Heritage and Historic Environment - Key Pressures

**Lack of maintenance and investment** of the historic environment as well as confusion and tension around roles and responsibilities in relation to shared ownership and caring for the historic environment can result in disrepair, such as damage and decay in roof and wall structures.

Historic sites are exposed to high or very high risk from natural hazards as a result of **climate change**. Climate change-related impacts include damage to masonry, risk of dampness, condensation and fungal growth, vegetation growth, and accelerated decay. Historic landscapes and sites located within the coastal zones are particularly vulnerable.

**Land management and development** can impact on the historic environment and cultural heritage.

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75 Historic Environment Scotland (2019) Historic Environment Policy for Scotland [online]:
https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=1bcfa7b1-28fb-4d4b-b1e6-aa2500f942e7
Figure 7. Cultural and historic heritage a): Historic Marine Protected Areas, Listed Buildings and World Heritage Sites
Figure 8. Cultural and historic heritage b): Scheduled monuments, conservation areas, gardens and designated landscapes and historic battlefields
1.9  Landscape and Geodiversity

### Existing Environmental Protection Objectives

Current environmental protection objectives reflect the importance of all landscapes and the need for improvement in those that have become degraded. The EC Landscape Convention lays the foundation for these objectives. The establishment of key national programmes such as the NSAs Programme demonstrates a continuing commitment to protect the special qualities of nationally important landscapes and seascapes. Policies include a commitment to protecting the special qualities of nationally important landscapes, with planning also recognising and protecting regional and locally important landscapes. The links to population and human health are also recognised via statements on recreation and creating a sense of place. Policy also recognises the importance of areas without statutory protection such as wild land.

1.9.1 Scotland’s diverse and distinctive landscapes are a significant part of the country’s natural and cultural heritage contributing to the economy and the wellbeing of the population and providing a range of benefits. Scotland is internationally renowned for its varied and dramatic landscapes including impressive mountain ranges, broad plateaux, expansive lowlands, and striking coastal features. Many of these landscapes are the result of ancient glacial and periglacial activity as well as changes in sea level. The primary classifications are the Central Lowlands, the Highlands and Islands to the north and west, and the Southern Uplands. Situated among these natural features are the many iconic manmade landmarks and townscapes that help to give Scotland its reputation as a tourist destination.

1.9.2 Landscape and geodiversity are closely linked, and the influences of geology underpin the character of the landscape. Many places in Scotland are of great importance to geoscience for their rocks, fossils and landforms, demonstrating important geological processes or events that have significant value for education and research and as part of Scotland’s geo-heritage.

1.9.3 The quality of Scotland’s landscape and geodiversity provides various benefits and also underpins most of the different types of ecosystem services. It is a fundamental component of supporting services, but also contributes to provisioning, regulating and cultural services. These include improving the population’s health by providing space for recreation, exercise and improvements in wellbeing. Attractive, accessible landscapes, including urban greenspace, can make an important contribution to quality of life. Landscape provides an inspiration for art and culture, contributing to a sense of place and belonging. Tourism based on Scotland’s landscapes is estimated to be worth £420 million a year to Scotland’s economy; around 90% of visitors rated Scotland’s landscapes as a ‘very important’ or ‘important’ influence on their decision to visit. Landscape is an important part of Scotland’s image. It also helps to promote Scotland’s economy from location, attracting investment and adding value.

1.9.4 Geodiversity is also the physical basis for Scotland’s varied landscapes (both rural and urban) and scenery, and has a profound influence on terrestrial and marine habitats, wildlife and use of land and water.

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1.9.5 Landscapes of the highest quality have been designated and include 40 NSAs and two National Parks (Loch Lomond and the Trossachs, and the Cairngorms). There is a high concentration of wild land areas, NSAs and other designations along the west coast of Scotland, and in the Highlands (Figure 10).

1.9.6 Wild land character is displayed in some of Scotland’s more remote upland, mountain and coastal areas, which are very sensitive to any form of intrusive human activity. Wild land areas as shown on SNH’s Wild Land Areas Map (2014) are not a designation, however Scottish Planning Policy recognises these areas as ‘nationally important’. In some circumstances development may be appropriate on wild land, where any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation. Areas with stronger wild land characteristics are more commonly found in the north and west, particularly in areas of higher ground, although additional areas of wild land are present in other areas of Scotland (Figure 9).77

1.9.7 Scotland’s landscapes have evolved over thousands of years as a consequence of natural and cultural forces, and they are still changing. In general landscape change has not resulted in any types of landscape character being lost or significantly altered despite important changes to some physical elements of landscapes resulting in observable trends. Regional and local landscapes are becoming less distinct as a result of more similarity in building form, settlement patterns, and agricultural practices. For example, the development of renewable energy technology such as wind farms is affecting the extensive views and strong natural character of many of Scotland’s rural landscapes. Similarly, in agriculture there has been a focus on maximising yields which has resulted in a move towards a monoculture, at the expense of a more diverse landscape of field types and hedgerows78.

1.9.8 Climate change is expected to lead to extensive landscape change across Scotland with the greatest changes likely to occur in lowland and coastal areas where human population is highest. Direct impacts are likely as a result of changing temperatures and patterns of precipitation, weather events, and sea level change. However, mitigation and adaptation measures are expected to have a greater influence on both Scotland’s landscapes and quality of life than the direct effects of climate change79.

1.9.9 The coast and foreshore are under many pressures particularly from climate change, rising sea level and coastal erosion. These areas are also very important recreational resources, which is dependent on the landscape and environmental quality of these areas.

1.9.10 The seascape surrounding terrestrial Scotland is also impacted by the development of marine aquaculture. Aquaculture development is predominantly located along the western and northern coasts of mainland Scotland, as well as around many of the offshore islands. The continual development of marine aquaculture has the potential to impact coastal character and visual amenity, if poorly sited or designed. In addition

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79 SNH (undated) Landscape: climate change [online]: https://www.nature.scot/professional-advice/landscape-change/landscape-policy-and-guidance/landscape-climate-change
to aquaculture development, energy generation development, including on and offshore windfarms can impact landscape and seascape if poorly sited and designed.

1.9.11 Development and changes in land use related to urban expansion-associated infrastructure, is also a key pressure and the distinctive landscape settings of many towns and cities is being lost as a result of settlement expansion and infrastructure requirements.

### Landscape and Geodiversity - Key Pressures

**Competing land uses** remain a principal threat to managing landscape change. Key drivers behind land use change include climate change and climate change adaptation, a changing economic base and economic efficiency.

With **climate change** it is likely that some land will be lost to the sea, that flooding will increase, and that the distribution patterns of natural and semi-natural habitats will change. Higher temperatures may also allow new crops to be grown and extend existing growing seasons.

Natural landscapes and landforms can be lost, destroyed or obscured as a result of inappropriate building or infrastructure **development, waste practices, and associated pollution, commercial afforestation or extraction processes.**

**Restricting rivers and coasts** as a solution to local erosion or flooding, can have adverse effects on water and sediment flows, which can destroy wildlife habitat and reduce landscape value and diversity. Intervention at one point can also have a knock-on effect at another.

Indirect effects from climate change, such as the **spread of destructive pests and pathogens**, could lead to more subtle landscape change through the loss of plant species.
Figure 9. Areas of Wild Land
Figure 10. Landscape and Geological Designations
1.10 Material Assets

Existing Environmental Protection Objectives

Objectives and policies related to material assets are wide ranging in cognisance of the broad nature of the topic. These include the programme for long-term infrastructure investment in Scotland set out in the Infrastructure Investment Plan\(^80\), policy relating to improvements to infrastructure, sustainable development of assets and practices involved such as forestry and commitments for action against climate change such as the recently published Draft Climate Change Plan\(^81\). Policy also covers changing how Scotland deals with waste to a circular economy.

![Image](https://www.sepa.org.uk/media/219432/lups-sea-gu4-consideration-of-material-assets-in-sea.pdf)

Source: SEPA, Transport Scotland, Scottish Government

1.10.1 Consideration of material assets in SEA covers a wide variety of assets and resources including built assets such as infrastructure relating to energy / heat generation and distribution, heat and energy efficiency and management, flood protection, water and waste water management, transport, telecommunications, waste management and pipelines; land in relation to developed land / settlements, vacant, derelict and contaminated land; buildings and facilities such as housing, healthcare facilities, schools, greenspace, core paths, cycle paths; manufactured goods.

1.10.2 Natural assets can include minerals, watercourses, natural flood management processes, forestry and woodlands, agricultural land and associated elements such as field boundaries\(^82\).

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Scotland is rich in various rock types used as building materials including basalt, flagstone, granite, sandstone and slate as well as various minerals. Peat continues to be used locally as a fuel source.

75% of Scotland’s land is agricultural land, and a diverse range of farming takes place across the country including arable farming, crofting, hill farming and lowland livestock and dairy farming. Over half of Scotland’s agricultural land is used for upland sheep farming and mixed sheep and beef cattle farming. Agricultural land is a key material asset. Agriculture is the dominant land use in Scotland, covering 6.2 million hectares, 80% of the land area. A total of 66,600 people were employed in the agricultural industry at the end of June 2018.

A 2015 report on the economic value of the forestry sector showed that Scottish forestry contributes nearly £1 billion to Scotland’s economy every year.

In terms of rural areas, there has been a steady increase in the availability of next generation broadband. The snow sports sector is vital to the Scottish rural economy with the economic benefit valued at £30 million per year in 2010. Unpredictable snow cover is regarded as the most significant issue within the industry with these factors driving visitor numbers, profitability and revenue.

Aquaculture is increasingly important in Scotland, enabling sustainable economic growth in rural and coastal communities particularly in the Highlands and Islands, with significant wider impacts across the supply chain. Over 8,000 people are employed in the Scottish aquaculture industry and it contributes £1.8bn each year to the Scottish economy. Aquaculture in Scotland mainly provides fish for consumption with farmed Atlantic salmon dominating the (96%). Scotland also has a successful shellfish-farming sector specialising mainly in producing blue mussels and Pacific oysters. Salmon is Scotland’s top food export and in 2016, the export sales of Atlantic salmon were estimated at £600 million.

In 2017 20% of Scotland’s energy consumption came from renewable sources. The vast majority of the electricity generated in Scotland is from low carbon sources, 88.3% in 2017, compared to 50.1% in 2010. Heating accounts for approximately half of Scotland’s energy consumption (52%). Transport accounts for 24.4% and electricity 23.5%. Non-transport related energy consumption shows that 58.1% is accounted for by industrial and commercial sectors, with 41.9% of domestic consumption.

The Scottish Government is committed to generating an equivalent of 100% electricity demand from renewable sources by 2020, along with at least 11% renewable heat. Renewable energy currently supports approximately 12000 jobs in Scotland. Additionally the food and drink industry and the broader bio-economy have

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85 Scottish Natural Heritage (2018) Hill farming [online]: Available at: https://www.nature.scot/professional-advice/land-and-sea-management/managing-land/farming-and-crofting/types-farming/hill-farming


been identified as key Scottish Industry that could play a greater role in energy recovery.

1.10.10 Scotland generates around £12 billion of economic activity from tourism for the wider Scottish supply chain and contributes around £6 billion to Scottish GDP, representing about 5% of total Scottish GDP. The tourism industry in Scotland supported more than 217,000 jobs in 2015, accounting for around 8.5% of employment in the country.

1.10.11 Scotland’s sailing tourism economy generates approximately £130 million and supports 2700 jobs and is predicted to grow by 28% over the next seven years. Marine recreation and tourism expenditure in Scotland is estimated at £3.7 billion per year based on 23 recreation and tourism related activities surveyed.

1.10.12 Scottish Transport Statistics show that over the last five years there has been an increase in car, air, rail, ferry passenger numbers, and distance cycled. At the same time, there has been a fall in bus passengers. Transport statistics for 2017 state that 48.0 billion vehicle kilometres were travelled on Scotland’s roads, the highest recorded level with cars accounting for over 75% of the total volume of traffic on the roads. 99% of road transport vehicles in Scotland ran on petrol (51%) or diesel (48%) in 2017, with a small but increasing share covered by electric and hybrid cars (>1%). 30% of journeys to work were by public or active travel, a statistic which has remained at around 30% since 2007.

1.10.13 123 million tonnes of road freight was lifted in Scotland in 2017. By weight, much more freight is carried by road than by any other mode of transport. Prior to 2011, more tonne-kilometres of freight were moved by coastwise shipping than any other mode of transport. However, since 2011 more freight is now moved by road. Rail freight traffic has increased in most years from 1994-5 until 2005, when it began to decline again. In 2017 there were 56,364 kilometres of public road in Scotland, 7% of which was trunk road.

1.10.14 Scotland’s primary train operator, Scotrail, recorded 98 million passenger journeys in 2017-2018, up from 94 million in 2007-2008. Train usage was highest amongst those in high-income households. Glasgow Central was the busiest station in Scotland with 33 million passengers journeys in 2017-2018. Edinburgh Waverley was second and Glasgow Queen Street third. The Scottish rail network comprises 2819 km of which 709 km is electrified with 359 stations.

1.10.15 There has been an increase in air travel with 28.8 million passengers in 2017 compared to 26.9 million in 2016. Scotland’s busiest airport by passenger numbers is Edinburgh handling 14.3 million passengers in 2018 an increase of 6.5% from 2017, followed by Glasgow, Aberdeen and Inverness. The latest data available on the total quantity of waste from all sources generated in Scotland in 2017 was estimated at 11.82 million tonnes, an increase of 5.5% (0.62 million tonnes) from 2016. The majority of this increase is attributed to wastes from construction and

demolition which increased by 10.8% (0.6 million tonnes) from 2016 reflecting the amount of large regional projects underway.

1.10.16 In 2017, Scottish waste landfilled in Scotland and elsewhere increased by 100,677 tonnes (2.7%) from 2016 and accounted for 32.6% of all waste managed. Excluding construction and demolition waste the trend of waste generation was generally downward from 2011-2017.91

1.10.17 The total amount of waste landfilled in Scotland in 2018 was 3.74 million tonnes, which was a reduction of 84,876 tonnes (2.2%) from 2017.92 Soils was the largest waste category generated in 2017 (4.44 million tonnes, 37.6% of all waste generated), followed by household and similar wastes (17.4%) and mineral waste from construction and demolition (12.3%). The estimated Scottish waste from all sources recycled was 6.93 million tonnes, 2.1% more waste recycled than in 2016.

1.10.18 The recycling rate in 2017 was reported as 58.9%, a slight decrease from the 59.1% of waste recycled in 2016. The quantity of animal and food waste recycled by composting or anaerobic digestion in 2017 and waste recovered (e.g. by incineration with energy recovery) increased from 2016.

1.10.19 Material consumption accounts for over two thirds of Scotland’s carbon emissions. Consumption of products and materials now accounts for up to 74% of Scotland’s carbon footprint.93 Zero Waste Scotland estimate that, by 2050, a more circular economy could reduce carbon emissions by 11 million tonnes per year.

1.10.20 Figures 11 to 14 show the wide distribution of various material assets across Scotland which includes forestry, power plants, transport and waste infrastructure.

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**Material Assets - Key Pressures**

**Land management practices and development** put pressure on forestry and agriculture. Increasing development, land use change and lack of management may impact forestry and agriculture.

**Fragmentation and gradual loss** of native and ancient woods is a serious issue in unenclosed uplands. The causes are most likely to be a combination of excessive herbivores and poor regeneration capacity on sites with old trees.

**Climate change** (such as changes in rainfall and water temperatures) may impact upon aquaculture, agriculture and forestry through for example, fluctuations in yields and risk of new diseases and pests. Wave exposure may also impact upon aquaculture success.

Projected changes to water temperature, acidity and primary productivity as a result of **climate change** threaten marine fisheries and aquaculture. Changes in storm frequency and severity, and the associated increased wave height also pose a risk to existing and planned offshore renewable energy infrastructure.

**Flooding** poses the greatest long-term climate related risk to infrastructure performance, however, growing risks posed from heat, water scarcity and slope instability caused by

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severe weather could also prove significant\textsuperscript{94}. Scotland’s infrastructure is closely interlinked and failure in any area can lead to wider disruption across these networks\textsuperscript{95}.  

\textbf{Illegal exploitation of fish}, particularly of salmon, continues to threaten the aquaculture industry despite regulations which ban gill netting and the retention of salmon in coastal waters.


\textsuperscript{95} Adaptation Scotland (2018) 15 Key Consequences of climate change for Scotland [online]: https://www.adaptationscotland.org.uk/application/files/5914/9304/9515/15_Key_Consequences.pdf
Figure 11. Forestry in Scotland
Figure 12. Energy Infrastructure - Power Plants
Figure 13. Transport Infrastructure
Figure 14. Waste Infrastructure
### Table 2. Key Environmental Objectives across other Plans, Programmes and Strategies

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>KEY ENVIRONMENTAL OBJECTIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biodiversity, Flora and Fauna</strong></td>
<td></td>
</tr>
<tr>
<td>Convention on Biological Diversity (UNCED 1992)</td>
<td>Highlighted objectives and outcomes, including the conservation of biological diversity, the sustainable use of natural resources, and the fair and equitable use of biological and natural resources.</td>
</tr>
<tr>
<td>Council Directive 92/43/EEC the conservation of natural habitats and of wild fauna and flora</td>
<td>Aims to promote the maintenance of biodiversity as part of sustainable development. Allows for designation of Special Areas of Conservation, as part of a coherent ecological network known as Natura 2000 network. Notes that land-use planning and development policies should encourage the management of features of the landscape which are of major importance for wild fauna and flora. Also requires an Appropriate Assessment to be made of any plan or programme likely to have a significant effect on the conservation objectives of a designated site.</td>
</tr>
<tr>
<td>Ramsar Convention (1971)</td>
<td>Provides the framework for the conservation and wise use of wetlands and their resources through national action and international cooperation.</td>
</tr>
<tr>
<td>United Nations Aichi Targets</td>
<td>Includes a number of strategic goals: address biodiversity loss through mainstreaming, reduce direct pressures on biodiversity and promote sustainable use, improve biodiversity by safeguarding ecosystems, species and genetic diversity, and enhance the benefit to all from biodiversity and ecosystem services. Also aims to enhance participatory planning, knowledge management and capacity building.</td>
</tr>
<tr>
<td>Wildlife and Countryside Act 1981</td>
<td>Core legislation on biodiversity across the UK which explains the various levels of protection afforded to birds, animals and plants. Provides the legal framework within which activities that impact on protected species constitute an offence, and makes available powers of enforcement. Applies to the terrestrial environment and inshore waters. This legislation has been amended in part by the Nature Conservation (Scotland) Act 2004.</td>
</tr>
<tr>
<td>Nature Conservation (Scotland) Act 2004</td>
<td>Introduced the duty for public bodies to further the conservation of biodiversity, and the requirement for a Scottish Biodiversity Strategy. Also sets the framework designating sites of special scientific interest (SSSIs).</td>
</tr>
<tr>
<td>Conservation (Natural habitats &amp;c.) Amendment (Scotland) Regulations 2007 The Conservation (Natural Habitats, &amp;c.) Regulations 1994 as amended</td>
<td>The Habitats Regulations require competent authorities to carry out Appropriate Assessments in certain circumstances where a plan or project affects a Natura (European) site. Habitats Regulations Appraisal (HRA) refers to the whole process, including the Appropriate Assessment. Part IVA sets out the requirement for the Appropriate Assessment of land use plans. This is required where a land use plan is likely to have a significant effect on a European site and is not directly connected with or necessary to the management of the site. The assessment should be undertaken prior to the plan being given effect and should include consultation with the appropriate nature conservation body (SNH). Notes that the opinion of the general public should be taken into account, if appropriate.</td>
</tr>
<tr>
<td>UK Biodiversity Action Plan</td>
<td>Emphasises the importance of biodiversity and notes the impact of human development and the use of land on the health of ecosystems. Includes the overall goal of conservation and enhancement of biodiversity within the UK, to contribute to the conservation of global biodiversity. Also aims to increase public awareness and involvement in conservation.</td>
</tr>
<tr>
<td>Scotland's Biodiversity: It's in Your Hands</td>
<td>Aims to protect and restore biodiversity on land and in our seas, and to support healthy ecosystems, connect people with the natural world, for their health and well-being and to involve them more in decision making and maximise the benefits for Scotland of a diverse natural environment and the services it provides, contributing to sustainable economic growth. It supports an ecosystem approach.</td>
</tr>
</tbody>
</table>
The 2020 Challenge for Scotland’s Biodiversity

The 2020 Challenge is Scotland’s response to the UN Aichi Targets for 2020 and the EU Biodiversity Strategy to 2020. The 2020 Challenge supplements the 2004 Scottish Biodiversity Strategy (above) and key aims include preserving and restoring the health of Scotland’s ecosystems at a catchment-scale and promoting climate change resilience.

Developing an Environment Strategy for Scotland: Discussion Paper

The discussion paper sets out a strategic approach on environmental policy and enhance the environment, safeguard natural capital and continue Scotland’s role in addressing environmental challenges. Work continues to be undertaken with stakeholders such as public bodies to take forward the development of an Environment Strategy for Scotland.

Implications for the SEA:

- The SEA should assess the extent to which the NPF4 will contribute to the protection and enhancement of biodiversity
- The SEA will need to establish and mitigate impacts on designated species and habitats
- Emphasises the importance of integrating the findings of the HRA with the SEA
- Emphasises the links between human health and biodiversity and consideration of these within the SEA
- Emphasises the importance of including an ecosystems approach within the assessment process

### Population and Human Health

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Quality Standards (Scotland) Regulations 2010, transposing the EU Ambient Air Quality Directive (2008/50/EC)</td>
<td>These set limits and targets for a number of pollutants with implications for human health, including carbon monoxide, oxides of nitrogen, sulphur dioxide, and particulates.</td>
</tr>
<tr>
<td>Air Quality (Scotland) Regulations 2000, Air Quality (Scotland) Amendment Regulations 2002 and Air Quality (Scotland) Amendment Regulations 2016</td>
<td>Set objectives for a number of airborne pollutants with implications for human health under the Environment Act 1995.</td>
</tr>
<tr>
<td>The Pollution Prevention and Control (Scotland) Regulations 2012</td>
<td>These aim to prevent or reduce damage to air, water and land arising from industrial processes, potentially preventing or reducing adverse human health impacts caused by exposure to industrial-related discharges.</td>
</tr>
<tr>
<td>Environmental Noise Directive (2002/49/EC)</td>
<td>Noise is recognised as a statutory nuisance and the Directive sets out measures relating to noise pollution and disturbance from vibration. Protection is also afforded within the Environmental Protection Action 1990 and Environmental Noise (Scotland) Regulations 2006, at the UK and national level, respectively. The Directive introduced methods for mapping noise, plans to address it and requirements for making information available to the public.</td>
</tr>
<tr>
<td>Land Reform (Scotland) Act 2003</td>
<td>Set out in three parts, the Act includes provisions for access to the outdoors for recreational and educational purposes, amongst others. It also sets out the statutory duties, responsibilities and powers of local authorities and national park authorities in relation to the provision and promotion of rights of access.</td>
</tr>
<tr>
<td>A Healthier Future – Scotland’s Diet and Healthy Weight Delivery Plan</td>
<td>The delivery plan sets out a range of actions that seek to improve the health of Scotland’s population, including through the promotion of increasing levels of physical activity.</td>
</tr>
<tr>
<td>A More Active Scotland: Scotland’s Physical Activity Delivery Plan</td>
<td>The Plan sets out a commitment to increase physical activity in Scotland. Focus is given to the supporting an increased uptake in active travel, including a commitment to invest in active travel infrastructure.</td>
</tr>
<tr>
<td>A Connected Scotland: our strategy for tackling social isolation and loneliness and building stronger social connections</td>
<td>The Scottish Government’s first national strategy to tackle social isolation and loneliness and build stronger connections. The role of the transport network in building social connections and importance of physical activity is noted in the Strategy.</td>
</tr>
<tr>
<td>A Long-term Vision for Active Travel in Scotland 2030 (2014)</td>
<td>Aims to encourage more people to walk and cycle for shorter everyday journeys. Focus on areas such as infrastructure, transport integration, cultural and behaviour change, community ownership and planning.</td>
</tr>
<tr>
<td>Homes Fit for the 21st Century</td>
<td>Supports affordable homes for all. It assists to build the new, high quality, affordable homes (including social housing) to meet current need and the demand arising from our growing and ageing population and to maximise the sustainable housing options available across all tenures, including for people living on lower incomes, and to significantly improve the quality of the existing housing stock and the places we create.</td>
</tr>
</tbody>
</table>
Good Places, Better Health, 2008
- Promotes partnership working which shares knowledge and understanding of how the physical environment impacts on mental health and wellbeing.

Housing to 2040
- Sets out 15 principles under primary headings of well-functioning housing system, high quality, sustainable homes and communities in tackling issues that include the aging population, an increasing number of single households, climate change, homelessness, child poverty and managing the impact of Brexit and UK government welfare reforms. A second round of consultation is underway and a final vision and route map to 2040 are due to be published in Spring 2020.

Implications for the SEA:
- The SEA should consider the extent to which the NPF4 will contribute to preventing/reducing pollution as well as nuisances such as noise and vibration.
- The SEA should assess the extent to which the NPF4 will contribute to the population’s health and wellbeing in terms of e.g. physical activity, active travel, mental health and wellbeing, community, social inclusion etc.
- Housing is an issue which is relevant to assessing the performance of the NPF4 on population and human health.

Climatic Factors

Climate Change (Scotland) Act 2009 ("the 2009 Act") and Climate Change (Emission Reduction Targets) (Scotland) Act 2019
- The 2009 Act creates the statutory framework for GHG emissions reductions in Scotland and requires regular reporting of progress to be undertaken. The 2009 Act also requires that plans (currently known as RPPs) for meeting targets are set out every five years.
- The 2019 Act amends the 2009 Act. The 2019 Act increases the ambition of Scotland’s targets to reduce greenhouse gas emissions, including a target for net-zero emissions by 2045 and interim targets for reductions of 56%, 75% and 90% by 2020, 2030 and 2040 respectively. The 2019 Act also includes a range of measures to improve transparency of the targets, for example basing progress to targets on actual emissions from all sectors of the Scottish economy. The 2009 Act approach of requiring Scottish Ministers to lay regular “Climate Change Plans” in Parliament setting out their proposals and policies for meeting targets remains in place, but the details of this reporting duty are adjusted for the SEA, for example to require that Plans include estimates of the costs and benefits of policies.

- The Climate Change Plan sets out actions that will be taken and considered to ensure commitments to climate change targets are met, building on progress to date across a range of sectors, including electricity and transport, which are key sources of emissions and sets out the path to a low carbon economy. The Scottish Government is currently updating the Climate Change Plan, with a commitment to produce an update to be laid in Parliament by end April 2020. Updating the existing Climate Change Plan will consider the period of 2019-2032 and key to this will be the level of effort that is likely to be required to meet the new 2032 greenhouse gas emissions target of 78% as out in the 2019 Act, in addition to taking account of the future of ambition set by the introduction of a net-zero target by 2045.

Scottish Climate Change Adaptation Programme (2014) and Climate Ready Scotland: Scotland’s Climate Change Adaptation Programme: 2018-2024
- The Scottish Climate Change Adaptation Programme provides an overarching framework for adaptation to climate change, setting out Scottish Ministers’ objectives in relation to adaptation to climate change and their policies and proposals for meeting those objectives, as required by the 2009 Act. The second iteration of the Programme, which builds on the progress of the first, is an outcome based programme and sets out to address the impacts identified for Scotland by the 2017 UK Climate Change Risk Assessment as well as the Evidence Report Summary for Scotland.

UK Climate Change Risk Assessment 2017
- The 2017 Risk Assessment outlines the UK and Devolved Governments’ view on the key climate change risks and opportunities. It endorses six priority risk areas, from flooding to coastal change, pests, diseases and invasive non-native species. Scotland specific evidence has also been collated into a “Scotland Report”.

Implications for the SEA:
- The SEA should focus the assessment on how the NPF4 will effect climatic factors i.e. whether it will have an effect on GHG emissions.
- The SEA should also assess how the NPF4 will deliver on meeting climate change targets e.g. renewable energy generation, heat and sustainable transport.
- The SEA should also consider how the NPF4 will contribute to adaptation to climate change.

Air

EC Ambient Air Quality Directive (2008/50/EC)
- This Directive is transposed via the Air Quality Standards (Scotland) Regulations 2010 and these set limits and targets for a number of airborne pollutants including carbon monoxide, oxides of nitrogen, sulphur dioxide, and particulates. The Regulations also satisfy the mandate of the EC’s 4th Air Quality Daughter Directive (2004/107/EC), which applies limits to ambient concentrations of certain heavy metals and polycyclic aromatic hydrocarbons.

Areas in which measured levels of airborne pollutants exceed the objectives set out in the Air Quality Strategy are designated as Air Quality Management Areas (AQMAs). Local Authorities have a duty to develop and implement Air Quality Action Plans in these locations in order to raise air quality to an acceptable level.

The Cleaner Air Strategy sets out plans for dealing with all sources of air pollution, making our air healthier to breathe, protecting nature and boosting the economy.

Air Quality (Scotland) Regulations 2000, Air Quality (Scotland) Regulations 2002 and Air Quality (Scotland) Regulations 2016


Local Air Quality Management Policy Guidance 2016

Explains the objectives for improving air quality and provides a framework for activities in Local AQMAs.

Cleaner Air for Scotland – The Road to a Healthier Future (2015) and current revision of the plan

Notes the importance of clean air for health, wellbeing and the environment and sets out a series of actions and frameworks to improve air quality in Scotland.

The revision of the Cleaner Air for Scotland Strategy is currently underway with a new strategy expected to be in place by end of 2020.

The Pollution Prevention and Control (Scotland) Regulations 2012

Allows for the regulation and monitoring of certain industrial activities that can generate airborne pollution.

Implications for the SEA:

- The SEA should assess the extent to which NPF4 could help to reduce or may increase emissions of pollutants to air at a national level.
- The assessment should include a particular focus on areas where pollution is already concentrated (AQMAs).
- Emphasises the links between air quality and human health and consideration of these within the SEA.

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### Water

EU’s Water Framework Directive (2000/60/EC) (WFD)

Introduced as a more comprehensive approach to managing and protecting Europe’s water bodies including rivers, lochs, transitional waters, coastal waters, and groundwater resources. The WFD sets out a 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, and has a goal of bringing all European waters to “good ecological and chemical status”. The Directive was transposed into Scottish law by the WEWS Act 2003 (see below).

Water Environment and Water Services (WEWS) (Scotland) Act 2003

Scotland fulfils its water protection obligations under the WFD primarily through WEWS which defines the establishment of River Basin Management Plans. These plans aim to improve the environmental status of water bodies, and reduce adverse impacts on the water environment as a whole.

Scotland’s River Basin Management Plans (RBMPs)

The current RBMPs are: the Scotland RBMP for the Scotland river basin district: 2015-2027 and the RBMP for the Solway Tweed river basin district 2015-2027. They provide an assessment of the condition of Scotland’s water environment, and identify where efforts for protection and improvement must be targeted.

Water Environment (Controlled Activities) (Scotland) Regulations 2018

The Regulations, more commonly known as the Controlled Activity Regulations (CAR), and their further amendments, apply regulatory controls over activities which may affect Scotland’s environment. The Regulations also fulfil the requirements of the WFD and cover river, lochs, transitional waters (estuaries), coastal waters, groundwater, and ground water dependent wetlands.

Flood Risk Management (Scotland) Act 2009 and Flood Risk Management Plans and Strategies

The Act implements the requirements of the EU Floods Directive (2007/60/EC). The Directive mandates the creation of flood risk management plans for all inland and coastal areas at risk of flooding, integrating their development and employment with existing RBMPs. Flood risk management plans are designed to minimise negative impacts due to flooding on a range of receptors, including human health, the environment, and cultural heritage.


Published by SEPA, the risk assessment identifies the Potentially Vulnerable Areas and the risk associated with flooding in these areas. Relevant actions will be identified in the regional plans.
Pollution Prevention and Control (Scotland) Regulations 2012
Developed specifically to control pollution relating to industry discharges, including emissions to water.

Bathing Water Directive (76/1160/EEC)
Aims to protect and reduce pollution of bathing waters. Makes provisions for identifying and monitoring bathing waters and requires the identification of acceptable quality standards.

Notes the need to address pressures on natural marine resources, and to reduce impacts on marine waters. Emphasises the value of the marine environment, for maintaining biodiversity, and “providing diverse and dynamic oceans and seas which are clean, healthy and productive”. The Directive obligates Member States to develop adaptive management strategies to bring their marine environments to Good Environmental Status by 2020 as well as to safeguard the marine resources that underlie key economic and social activities. The Directive is implemented within the UK via a three-part Marine Strategy. Revised criteria and methodological standards for Good Environmental Status as well as standardised methods for monitoring and assessment were introduced in 2017.

The Marine (Scotland) Act 2010
Provides a framework to help balance competing demands on Scotland's seas. It includes a duty to protect and enhance the marine environment and includes measures to help boost economic investment and growth in areas such as marine renewables.

The National Marine Plan fulfils joint requirements under the Marine (Scotland) Act 2010 and Marine and Coastal Access Act 2009 to prepare marine plans, providing a cohesive approach to the management of both inshore and offshore waters in accordance with EU Directive 2014/89/EU on maritime spatial planning. It seeks to promote development in a way that is compatible with the protection and enhancement of the marine environment. The Plan covers the management of both Scottish inshore waters (out to 12 nautical miles) and offshore waters (12 to 200 nautical miles). The Plan also notes the interaction between marine and terrestrial planning and highlights the importance of alignment between both.

Implications for the SEA:
- The SEA should assess the effect that the NPF4 could have on the environmental condition of the water environment.
- The SEA should consider the effects that the NPF4 could have on flooding.
- The SEA should consider the effects that the NPF4 could have on pollution prevention and controlling relevant activities.
- The National Marine Plan highlights the importance of integrating marine and terrestrial planning.

Soil
European Commission’s Thematic Strategy for Soil Protection
The Strategy is founded on the principles of preventing further soil degradation and safeguarding its functions, ensuring responsible soil use and management patterns, mitigating the effects of human activities and environmental phenomena on soil condition, as well as restoring degraded soils to an acceptable level.

Scottish Soil Framework 2009
The Framework acknowledges the multiple functions of soils and includes a vision that soils be recognised as a vital part of our economy, environment, and heritage, and be safeguarded for existing and future generations. It notes that while Scotland’s soils are generally in good health, they face two significant pressures: climate change and the loss of organic matter, and identifies 13 key soil outcomes, such as protecting soil biodiversity, reducing and remediating soil erosion, and tackling greenhouse gas emissions. It also considers that improving the availability of soil data and highlighting the knowledge gaps and research needs in Scotland are both important.

Scotland’s National Peatland Plan
The Plan sets out a number of targets regarding the protection and restoration of peatland.

Scottish Government’s draft Peatland and Energy Policy Statement
Seeks to align peatland and energy policy in order to maximise greenhouse gas emissions abatement in a way that delivers multiple benefits.

The Third Climate Change Plan 2018 - 2032
The Plan includes peatland restoration among its suite of policy outcomes aimed at reducing Scotland’s greenhouse gas emissions.

Getting the best from our land: A Land Use Strategy for Scotland 2016-2012
The Strategy focuses on land as a key natural asset and recognises that it underpins much of Scotland’s economic activity, further noting that the way it is used and managed is therefore of key importance.
### Implications for the SEA:
- Key pressures on soil biodiversity are identified as climate change and the loss of organic matter.
- The SEA will need to assess the effects that the NPF4 may have on carbon rich soils and peatland in the context of reducing greenhouse gas emissions.
- The SEA will need to assess the effects that the NPF4 could have on soils in general such as safeguarding soil function and preventing further soil degradation.

### Cultural Heritage and Historic Environment

<table>
<thead>
<tr>
<th>Landmark</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ancient Monuments and Archaeological Areas Act, 1979 (as amended by the Historic Environment Scotland Act, 2014)</td>
<td>Provides protection of scheduled monuments and areas of archaeological importance. Sites of national importance can be added to the inventory of historic battlefields or the inventory of gardens and designed landscapes (GDL) under this legislation. Historic Environment Scotland is responsible for compiling and maintaining the inventories.</td>
</tr>
<tr>
<td>Historic Environment Policy for Scotland (HEPS) (2019)</td>
<td>Outlines how Scotland has a duty of care for the historic environment and includes six policies which defines how the historic environment should be managed. These include Policy 3 – Plans, Programmes, Policies and Strategies and the allocation of resources should protect and promote the historic environment. Where detrimental impacts on the historic environment arising from these are identified and unavoidable, steps should be taken to demonstrate that alternatives have been explored and mitigation measures put in place.</td>
</tr>
<tr>
<td>Our Place in Time – The Historic Environment Strategy for Scotland (2014)</td>
<td>Our Place in Time sets out a 10 year vision for Scotland’s historic environment. The vision is founded upon the fundamental aims of understanding, protecting, and valuing our historic environment, ensuring it continues to benefit Scotland’s wellbeing through its cultural, social, environmental, and economic contributions.</td>
</tr>
<tr>
<td>Historic Environment (Amendment) (Scotland) Act (2011)</td>
<td>This builds upon existing legislation pertaining to ancient monuments and listed buildings as well as providing for the creation of inventories of gardens and designed landscapes, as well as of battlefields. Specifically, the 2011 Act amends the Historic Buildings and Ancient Monuments Act 1953 and modifies the Ancient Monuments and Archaeological Areas Act 1979 as well as the Planning (Listed Buildings and Conservation) (Scotland) Act 1997.</td>
</tr>
<tr>
<td>Historic Environment Scotland’s Managing Change in the Historic Environment: Guidance Notes</td>
<td>These set out to advise planning authorities in making decisions on applications for conservation area and listed building consents, and the consideration of planning applications on the potential impacts upon the historic environment and the greater context in which it is found. The guidance notes were developed in line with Scottish Historic Environment Policy and Scottish Planning Policy.</td>
</tr>
<tr>
<td>Creating Places: A Policy Statement on Architecture and Place (2013)</td>
<td>The policy statement sets out the value good design can deliver, noting that successful places can unlock opportunities, build vibrant communities and contribute to a flourishing community. The important role of maintaining cultural connections is also noted.</td>
</tr>
<tr>
<td>Designing Streets: A Policy Statement for Scotland (2010)</td>
<td>Designing Streets is the first policy statement in Scotland for street design and marks a change in the emphasis of guidance or street design towards place-making and away from a system focused upon the dominance of motor vehicles.</td>
</tr>
</tbody>
</table>

### Implications for the SEA:
- The SEA should consider the impacts of the NPF4 on cultural heritage from a national perspective (both designated and undesignated, sites and settings).
- The SEA should consider the contribution that the NPF4 will make to a sense of place and providing cultural connections.

### Landscape and Geodiversity

<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
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<tbody>
<tr>
<td>The European Landscape Convention (2000)</td>
<td>The European Landscape Convention strives to promote landscape protection, management, and planning as well as achieve a more concerted approach to addressing landscape issues at the European scale. The Convention presents a highly inclusive definition of landscape, specifying that protection and enhancement activities should apply equally to both “outstanding” as well as less remarkable or degraded landscapes. This definition encompasses natural, rural, urban, and peri-urban landscapes across land, marine, and inland water environments.</td>
</tr>
</tbody>
</table>
## The National Scenic Areas (NSAs) Programme

The NSAs Programme identifies Scottish landscapes of “outstanding scenic value in a national context” for the purpose of ensuring such areas are afforded due consideration and protection within the local authority planning system.

## SNH Natural Heritage Futures (2002, updated 2009)

Natural Heritage Futures aim to guide the sustainable management and use of Scotland’s nature and landscape up to 2025. They note the importance of the diversity of Scotland’s landscapes and their role inspiring people, creating sense of place and areas for recreation and enjoyment. They emphasise the strong cultural links with the environment and recommend an integrated solutions and spatial plans with sufficient flexibility and clear objectives for natural heritage. The prospectuses were reviewed and updated in 2009 and consider transport, including transport infrastructure, among the factors that can influence landscape.

## SNH Landscape Policy Framework

The Policy Framework sets out an overarching aim for landscapes “to safeguard and enhance the distinct identity, the diverse character and the special qualities of Scotland’s landscapes as a whole, so as to ensure tomorrow’s landscapes contribute positively to people’s environment and are at least as attractive and valued as they are today”.

## SNH Landscape Policy – Wild Land

Wildness in Scotland’s Countryside: Policy Statement

The SNH policy statement describes the main pressures leading to loss of wildness and considers how to identify and care for wild land in Scotland. SNH identified 42 wild land areas following a detailed analysis of where wildness can be found across all of Scotland’s landscapes. This is 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. This informed the preparation of the 2014 map of wild land areas.

Wild land is not a statutory designation, however wild land areas as identified on the 2014 SNH map are recognised as nationally important assets.

## Land Reform (Scotland) Act, 2003 and 2016

Establishes statutory public rights of access to land for recreational and other purposes.

## Implications for the SEA:

- The SEA should assess the effects of the NPF4 on landscape diversity and quality including those areas which do not have statutory protection such as wild land.
- The SEA should assess the effects of the NPF4 on landscape and thus establishing linkages to human health including access, recreation, providing a sense of place etc.

## Material Assets

### Material Assets: Energy Infrastructure


Energy Efficient Scotland: Route Map (2018)

The route map sets out a vision that: by 2040 out homes and buildings are warmer, greener and more efficient. The route map sets out a 20 year programme of action with two main objectives: removing poor energy efficiency as a driver for fuel poverty and reduce greenhouse gas emissions through more energy efficient buildings and decarbonising the heat supply.


Requires that biofuels and bioliquids meet EU’s sustainability criteria in order to contribute towards national renewable energy targets. It aims to reduce the risk of indirect land use change, for example, by conversion of forests to agricultural land and to facilitate the development and adoption of advanced biofuels.

### Material Assets: Transport

National Transport Strategy 2 (2019)

Scotland’s second National Transport Strategy sets out a vision for transport for the next 20 years. Key priorities include the global climate emergency and the role of transport in helping to deliver net-zero emissions by 2045, alongside the role of transport in building a fairer society. Consultation ended October 2019 with the finalised Strategy anticipated to be published by the end of 2019.
<table>
<thead>
<tr>
<th>Strategic Transport Projects Review (2008) and Strategic Transport Projects Review 2 (currently under development)</th>
<th>The Strategic Transport Projects Review (STPR) sets out a range of projects that aim to improve journey times and connections, reduce emissions and improve quality, accessibility, and affordability, identifying national, land-based transport priorities for the medium to long-term (2032). STPR seeks to compliment transport interventions taken forward at regional and local levels. STPR sets out a tiered approach to transport investment which includes promoting measures that make better use of existing capacity. The Scottish Government has committed to aligning the next review of the STPR and development of STPR2 with the preparation of NPF4, with both being informed by the NTS2.</th>
</tr>
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<tr>
<td>Scottish Ferry Services: Ferries Plan (2013-2022)</td>
<td>Published in 2012, the Plan notes the essential role of ferries within Scotland’s transport network for both island and mainland communities and aims to support economy and communities through reliable, high quality and affordable transport links. It provides a comprehensive review of ferry services alongside short, medium and long-term improvements over the next decade, as well as a commitment to retain all existing essential services. The Plan will be reviewed with the intention that a new long-term strategy will be in place in good time for the expiry of the first Ferries Plan in 2022.</td>
</tr>
<tr>
<td>Rail Infrastructure Strategy Consultation 2017</td>
<td>The Consultation sought views on a proposed approach to the rail infrastructure investment strategy from April 2019. The results from the consultation have helped to shape the Scottish Ministers High Level Output Specification (HLOS), which outlines regulated requirements for rail in the period 2019-2024, including performance, reduced journey times and the capability and resilience of the Scottish Rail network. The outcomes of the consultation are reflected in the Rail Enhancement and Capital Investment Strategy, published March 2018, which outlines the future approach to investment in railway improvements.</td>
</tr>
<tr>
<td>Scotland’s Railways (2006)</td>
<td>Sets out Scottish Ministers’ vision for the rail network over a 20 year time period. It sets out how rail can contribute to achieving the three strategic outcomes of: improving journey times and connections, reducing emissions, and improving quality, accessibility and affordability.</td>
</tr>
<tr>
<td>Delivering the goods – Scotland’s rail freight strategy (2016)</td>
<td>Sets out a vision for a competitive, sustainable rail freight sector playing an increasing role in Scotland’s economic growth by providing a safer, greener and more efficient way of transporting products and materials. The Strategy notes the role of rail freight in tackling climate change and supporting stronger safer communities.</td>
</tr>
<tr>
<td>Infrastructure Investment Plan 2015</td>
<td>The Scottish Government sets out priorities for infrastructure in its Infrastructure Investment Plans. The first was published in 2008, with updates published 2011 and 2015. An Infrastructure Commission has been set up to provide independent, informed advice on the vision, ambition and priorities for infrastructure in Scotland. Advice from the Commission inform the development of the next Infrastructure Investment Plan which will support the delivery of Scottish Governments National Infrastructure Mission. The 2020 Infrastructure Investment Plan is due to be published in Summer 2020. It will cover a 5 year period and will set out the Scottish Government’s commitment to delivering infrastructure projects which will help create the conditions for a fair and green economy.</td>
</tr>
<tr>
<td>Material Assets: Forestry</td>
<td>The Scottish Forestry Strategy 2019-2029 aims to achieve sustainable development of forests and woodlands, through good management and better integration with other land uses. Priorities include ensuring forests and woodlands are managed sustainably, increasing the adaptability and resilience of forests and woodlands and expanding the area of forests and woodlands, recognising wider land-use objectives. The Strategy sets out a vision of ‘In 2070, Scotland will have more forests and woodlands, sustainably managed and better integrated with other land uses. These will provide a more resilient, adaptable resource, with greater natural capital value, that supports a strong economy, a thriving environment, and healthy flourishing communities’.</td>
</tr>
<tr>
<td>Material Assets: Waste</td>
<td>Sets out Scotland’s ambitions for changing how waste is seen in our economy. It seeks to reduce waste lost from the economy, and retain the value of materials through repair, reuse, recycling, and remanufacturing via a range of policies and proposals. This is noted as fundamental to helping tackle climate change and to preserve natural capital. Four priorities areas for action are identified in Making Things Last: food and drink and the broader bio-economy, remanufacture, construction and the built environment, and energy infrastructure. Making Things Last builds the progress that has been made to date and integrates key elements of the Zero Waste Plan (2010) and Safeguarding Scotland’s Resources (2013), with a view that in due course, the Strategy will supersede both.</td>
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<tr>
<td>UK Industrial Strategy (2017)</td>
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### Material Assets: Agriculture/ Rural Development and Miscellaneous

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<tr>
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<tr>
<td><strong>Getting The Best From Our Land: A Land Use Strategy for Scotland 2016–2021</strong></td>
<td>Sets a framework for a more unified and strategic approach to land use within Scotland. Its fundamental principles of &quot;long-term, well integrated, sustainable land use delivering multiple benefits for all society&quot; are consolidated across the management strategies for a range of sectors including forestry and agriculture.</td>
</tr>
<tr>
<td><strong>Scotland’s Farmed Fish Health Framework</strong></td>
<td>Aims to plan and respond to new and developing challenges, such as the maintenance of high standards of fish health. It looks to the long-term and continues to evolve as knowledge of fish health challenges and possible mitigation evolves.</td>
</tr>
<tr>
<td><strong>A Future Strategy for Scottish Agriculture</strong></td>
<td>Sets out strategic ambitions for Scottish farming. These include aligning agriculture with land and other assets, in all their biophysical diversity, supported by tailored policies that lead to real commercial results, taking action in difficult times to justify spending and support farming’s stewardship of the countryside.</td>
</tr>
<tr>
<td><strong>Common Agricultural Policy (CAP) reformed in 2013</strong></td>
<td>A system of agricultural support and programmes for viable food production, sustainable management of natural resources and climate action, and balanced territorial development. The CAP recognises the beneficial impact of well-managed woodland on natural landscape and biodiversity.</td>
</tr>
<tr>
<td><strong>Scottish Plant Health Strategy</strong></td>
<td>This strategy sets out the Scottish Government’s approach to the protection of the health of plants (agricultural &amp; horticultural crops, plants in parks and gardens, forestry and the natural environment) in Scotland</td>
</tr>
<tr>
<td><strong>The Scottish Rural Development Programme (SRDP) 2014 – 2020</strong></td>
<td>Includes economic, environmental and social measures designed to support rural Scotland. Through SRDP there are a large number of activities which land managers can use in responding to climate change.</td>
</tr>
<tr>
<td><strong>Farming for a Better Climate</strong></td>
<td>Works with farmers and land managers in Scotland to encourage and advise on the uptake of practices that will help the sector to become more profitable whilst moving towards a low carbon sustainable future whilst also adapting to a changing climate and securing farm viability for future generations. It’s five key action areas involve are using electricity and fuels efficiently, the development of renewable energy, locking carbon into soils and vegetation, making the best use of nutrients, and optimising livestock management.</td>
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### Material Assets: Digital/Media

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### Tourism

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<tr>
<td><strong>National Tourism Strategy</strong></td>
<td>Launched in June 2012, with an ambition to grow visitor spend to £1bn by 2020, the Strategy has five primary aims related to growing tourism, associated income and employment.</td>
</tr>
</tbody>
</table>

### Implications for the SEA:

- The environmental objectives demonstrate strong links to other topics such as population and human health as well as climatic factors.
- Many objectives focus on improvements to infrastructure and reduction in emissions and this will need to be reflected in the assessment of the NPF4.

### General

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<tr>
<td><strong>Environment Act 1995</strong></td>
<td>As well as establishing SEPA, the Act makes provision for schemes that benefit nature conservation and the promotion of public enjoyment of the countryside.</td>
</tr>
<tr>
<td><strong>2030 Agenda for Sustainable Development (Sustainable Development Goals) 2015</strong></td>
<td>These are the blueprint to achieve a better and more sustainable future for all. The goals are interconnected and address the global challenges we face, including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice.</td>
</tr>
<tr>
<td><strong>Planning (Scotland) Act 2019</strong></td>
<td>The Planning (Scotland) Act 2019 was passed by the Scottish Parliament in June 2019. This will determine the future structure of the modernised planning system. The Act includes a broad range of changes to be made across the planning system such as arrangements for the preparation of development plans, proactive master planning, development management procedures, strengthening enforcement, and a focus on improved performance and positive outcomes.</td>
</tr>
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</table>

### Implications for the SEA:

- Various environmental topics are highlighted in more overarching legislation. The SEA will need to have cognisance of these such as recreation and linkages to human health and a sense of place.