East Lothian Council

ClimatEvolution: Vision and Action Programme

Strategic Environmental Assessment
Environment Report

Supplementary Planning Guidance to the East Lothian Local Development Plan 2018

Published: 27/May/2020

KEY FACTS: Climate Change Resilience Zone Strategy and Action Plan

The key facts relating to this PPS are set out below:

Name of Responsible Authority: East Lothian Council.

Title of PPS: Climate Change Resilience Zone Strategy and Action Plan (ClimatEvolution).

What prompted the PPS: desire of the Council to balance the built development (housing and employment use) coming forward in the area with an attractive landscape setting, active travel and recreational offer; the desirability of addressing existing access and drainage constraints in the area and of making use of the renewable heat resource in the area. The ELC Green Network Strategy identifies action in this area as a priority. The ClimatEvolution should accord with the ELLDP and ELC Green Network Strategy, as it would be an extension of policy set out there.

Area covered by PPS: The area is focussed between and around Prestonpans/Cockenzie Port Seton/Tranent/ Blindwells and Longniddry as shown below, however boundaries are flexible to allow for opportunities to be taken as they arise.

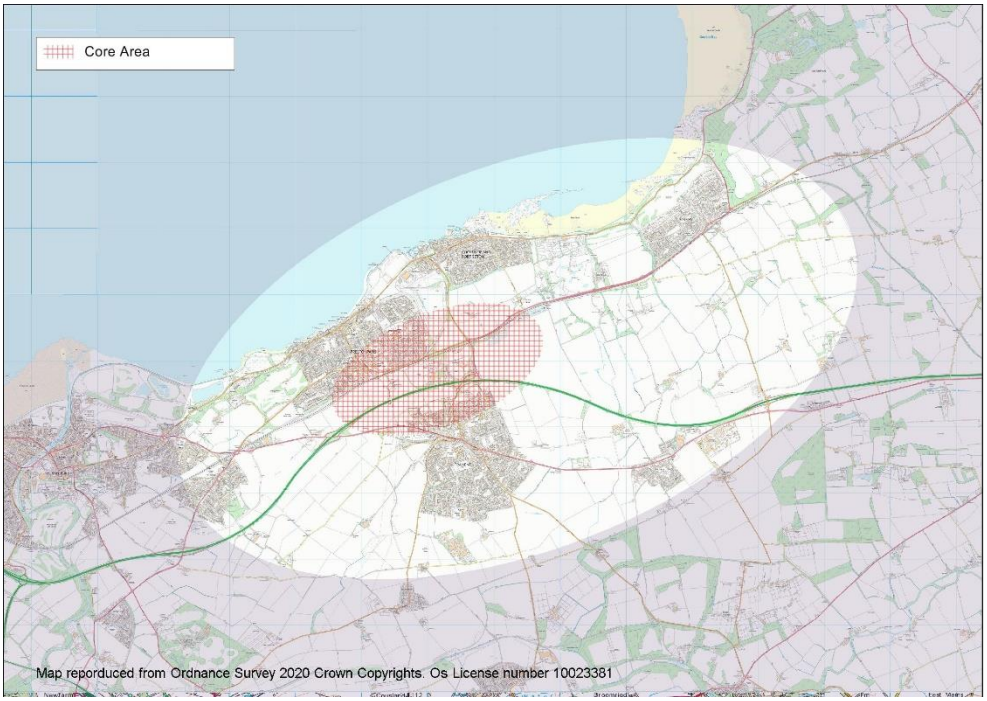

Figure 1: Indicative ClimatEvolution area

Subject: Town and Country Planning.

Period covered by PPS: At this stage, the Council is envisages that the PPS will continue to have relevance until project level proposals are approved and are being implemented, unless the development plan context changes such that the guidance ought to be revoked or reviewed.

Frequency of updates: At this stage, the Council does not consider an update will be necessary, but this may change once East Lothian Local Development Plan 2 is adopted.

Purpose of PPS: To set out a deliverable vision and action programme for the broad area shown, providing based on an in-depth analysis and identify opportunities to make best use of existing built, cultural and natural heritage assets alongside proposals that will introduce new elements and sensitively integrate new development and deliver shared multi-functional infrastructure. The Vision will contain a clear concept for the future of the area and identifies potential hard/soft/green/blue infrastructure projects which could come forward. ClimatEvolution will inform and coordinate the future detailed design and delivery of individual projects.

Contact point:

J Squires (Planner)
S Cheyne (Landscape Officer)
East Lothian Council
John Muir House
Brewery Park
Haddington
EH41 3HA

Tel: 01620 827370

Email: jsquires@eastlothian.gov.uk
Cc to scheyne@eastlothian.gov.uk

ABBREVIATIONS

CAT	Countryside Around Town
COSLA	Convention Of Scottish Local Authorities
CGSN	Central Scotland Green Network
ELBAP	East Lothian Biodiversity Action Plan
ELC	East Lothian Council
ELLDP	East Lothian Local Development Plan 2018
HRA	Habitat Regulation Appraisal
INNS	Invasive Non-Native Species
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
JNCC	Joint Nature Conservancy Council
LBS	Local Biodiversity Site
NPF	National Planning Framework
SEA	Strategic Environmental Assessment
SEPA	Scottish Environment Protection Agency
SESPLAN	South East Scotland Plan, Strategic Development Plan 1
SIMD	Scottish Index of Multiple Deprivation
SNH	Scottish Natural Heritage
SPA	Special Protection Area
SPG	Supplementary Planning Guidance
SPP	Scottish Planning Policy
SSSI	Site of Special Scientific Interest
SUDS	Sustainable Urban Drainage

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1 INTRODUCTION

1.1 This document comprises the draft Environment Report of ClimatEvolution: A Climate Resilient Zone Strategy and Action Plan, a vision for a place-based transition to climate resilience in an area of development pressure in East Lothian. This draft Environment Report sets out the significant environmental impacts of the proposed strategy. The area covered by the strategy is in the western part of East Lothian, on the coast of the Forth, broadly between Musselburgh and Longniddry. It lies on part of the Lothian coalfield, with a proud history of traditional industry. Coal mining and salt panning here went back hundreds of years, almost a millennium; brick making not far behind. Now, the area is under development pressure due to its attractive location close to countryside and coast, and proximity to Edinburgh. The former Cockenzie coal fired power station site sits lies within the area. Bearing in mind this legacy it is particularly appropriate that this area should now be at the forefront of efforts to mitigate climate change.

1.2 OPEN consultants, appointed following a tender process, have produced the draft of ClimatEvolution. The Council is now consulting on this, in tandem with this draft Environment Report and the draft Habitat Regulation Appraisal. Comments are welcomed on all three. Following consultation, comments made on both ClimatEvolution, draft Environment Report and draft Habitat Regulation Appraisal will be considered and the documents amended, and finalised versions of all three produced. The intention is that Council would then adopt ClimatEvolution as non-statutory Supplementary Planning Guidance, taking into account the findings of the Environment Report. ClimatEvolution is jointly funded by East Lothian Council, the Edinburgh and Lothians' Drainage Partnership (Scottish Water (SW), Scottish Environment Protection Agency (SEPA) and Scottish Government) and Scottish Natural Heritage (SNH).

APPROACH TO STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)

1.3 The Environmental Assessment (Scotland) Act 2005 ('the Act') requires certain plans, policies and strategies that are likely to have a significant effect on the environment to be subject to Strategic Environmental Assessment (SEA). ClimatEvolution will operate in the framework of the existing development plan and associated guidance, which have where relevant been subject to SEA[1]. The SEA of ClimatEvolution is an extension of work already carried out in relation to the higher tier plans to which ClimatEvolution must conform.

1.4 It is the purpose of SEA to assess the ***likely significant*** environmental effects, both positive and negative, of ClimatEvolution. A limitation – and strength – of ClimatEvolution (and therefore its

[1] The SEA documents for the East Lothian Local Development Plan 2018 and the plan itself can be downloaded following the links from https://www.eastlothian.gov.uk/downloads/download/13023/local_development_plan_2018

strategic environmental assessment) is that it must be consistent with higher tier plans and policies. The major consideration is the ELLDP, which along with SESPLAN1 forms the development plan. Any proposals which come forward under ClimatEvolution must conform to the policy of the development plan unless material considerations indicate otherwise. Although ClimatEvolution will itself be a material consideration, it cannot over-ride the need for conformity with the development plan. The policy approach and land-use proposals of ClimatEvolution must follow and reflect the strategies and policies of the higher tier plans which set out development requirements for the area.

1.5 The draft Environmental Report will explain the findings of the high level SEA in relation to the anticipated environmental effects of the plan. The purpose of undertaking SEA is to help integrate environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development. It also allows the public to be aware of environmental issues when commenting on the plan, and that ultimately decision makers will take decisions on approval of plans in full awareness of any environmental impacts.

1.6 When initially considering the need for SEA of this plan, the Council considered that although there were impacts form ClimatEvolution, these were not significant. This was because impacts were within the parameters of those assessed through the Environment Report of the ELLDP. Accordingly, the Council submitted a pre-screen to the SEA Gateway in August 2019 along those lines. The SEA Gateway then notified the consultation authorities, SEPA, SNH and Historic Environment Scotland. Responses were received from all three stating that they did not consider pre-screening was appropriate for this strategy.

1.7 The Council therefore re-considered its approach and has withdrawn the pre-screening notification, at the same time as submitting both a Screening and Scoping Report. A Screening Decision was made on dd/mm/yyyy and a notice published in the East Lothian Courier on dd/mm/yyyy.

1.8 Scoping was carried out at the same time. The Consultation Authorities – i.e. HES, SNH (as was, now re-branded as NatureScot) and SEPA – responded to the Scoping Report giving their views on the issues to be considered.

1.9 The draft Environment Report explains the legislative and policy context of ClimatEvolution as well as the reason for preparing this strategy including where it sits in the hierarchy of other relevant plans, policies and strategies.

1.10 The document is then set out in chapters covering each of the SEA topics. The Act requires consideration of short, medium and long-term effects; permanent and temporary effects; positive and negative effects; and secondary, cumulative and synergistic effects. Short, medium and long-term effects are noted under the chapter headings as relevant, as are permanent and temporary effects. Both positive and negative effects are set out within the topic chapters.

Secondary, cumulative and synergistic effects are explored collectively following the topic chapters.

1.11 For each of the SEA topic areas, the draft Environment Report provides information on the current state of the environment and the characteristics of the area likely to be affected. The role of SEA is to predict (identify and describe) and evaluate (make a judgement on the significance of) the environmental effects of ClimatEvolution. This has been done by considering each option against the SEA objectives.

1.12 Relevant environmental issues and effects (both positive and negative) were identified using professional judgement through consideration of the baseline data, and environmental protection objectives established at international, national and local level through examination of the policies and strategies in Appendix 2. Through Scoping, the views of the Consultation Authorities (SEPA, SNH and HES) were taken into account. The results of Scoping are shown in a table for each SEA topic. The Scoping process led into the identification of SEA objectives. Where changes have been made to SEA objectives through Scoping, these are shown in yellow highlight, like this.

1.13 The Act requires consideration of reasonable alternatives to the plan or programme. Through Scoping, the Council suggested that the only realistic alternative to the strategy was to 'do nothing'. Comment was received from the consultation authorities that such an approach is not appropriate. The Council has given this considerable thought. The Council does recognise that it is good practice to assess alternatives. Where there are genuine differences of approach that could be taken, examination of alternatives is essential to inform the decision in the light of the different environmental effects. However it is also not good practice to invent alternatives which are not reasonable for the sake of assessment.

1.14 In this case, the Council is preparing ClimatEvolution through consultancy by Optimised Environments (OPEN) based on a brief drawn up between the Council, its funding partners and Historic Environment Scotland. The Strategy is voluntary; it is not required by the ELLDP or other higher tier plan. The key task for ClimatEvolution is to set out a vision for the area, including what general types of development should and should not occur. The vison is pro-active, long term (30+ years) and ambitious, but at this stage has no clear route to delivery. The proposal is high level and intended to stimulate discussion, ideas, collaboration, partnerships and solutions that could lead to delivery. Although it will set a context for project level proposals and offers some ideas for proposals that could come forward, the framework is not a fixed one. The Council intends the Strategy as an exposition of the possibilities of the area, to bring an awareness of how individual projects could fit into the overall picture. Projects will not necessarily come forward at the same time; it is therefore important that individual projects have an awareness of the overall potential of the place and do not stymie each other.

1.15 The Strategy has therefore been developed through an analysis of place, through examination of the potentials that are there. This has led into a strategy intended to be flexible and responsive to change, whilst addressing the main environmental problems of the area, and drawing on that potential. The proposals are thus very much linked into the identified problems and potential of the area; they 'bubble up' from the place analysis. The consultants have produced a strategy to solve the particular environmental challenges of the area in terms of desirable outcomes in general terms. It is not a proscriptive document but an inspirational one. It is foreseeable that some of the suggestions will not come forward, while others arise in their place. It is not the case that the Council will choose the way forward from a selection of proposals as against others which have been rejected.

1.16 The Strategy does not lay out spatially exact proposals. Many of its actions such as further development of the active travel network, an Integrated Habitat Network Plan or investigation of geothermal potential are a generic ambition for which there is neither a proscriptive solution nor a conceivable desirable alternative. The Strategy is also required to operate within the parameters of higher tier strategies including the East Lothian Local Development Plan 2018 and National Planning Framework 4 once produced. This framework also brings limits to what can be proposed for the area at this stage.

1.17 There is not therefore any realistic alternative to the strategy than to 'do nothing'. While there are elements of the strategy that could be tweaked, ClimatEvolution itself is flexible, containing projects which could be brought forward in a variety of ways. Given the constraints of higher tier plans, the loose framework offered, and the fact that the work has been taken forward through consultancy on the basis of the production of one strategy, the only choice before the Council is to 'do something' or 'do nothing'.

1.18 The Assessment has therefore been taken forward on this basis. There are clearly many different ways the individual elements which make up the strategy could be arranged at implementation, however given the 'suggestive' nature of the strategy there is also little to be gained by examining all possible permutations. The Act requires the Environment Report to include the likely evolution of the area without the strategy. The Reasonable Alternative of 'do nothing' is the same as the likely evolution of the environment without the strategy. Therefore, the 'likely evolution' is covered by this examination of the Reasonable Alternative.

1.19 The assessment of likely significant effects has been carried out against SEA objectives, framed as questions to help predict and evaluate the significance of each option. This is shown in a simple matrix at the start of the 'Likely Significant Effects' section of each topic chapter. The objectives were chosen through Scoping, Scottish Government topic SEA guidance and reflexion on the relevant issues. A 'score' of Positive, Neutral, Unknown, Mixed or Variable, and Negative has been given for each objective, against each Theme in the Strategy, and overall for both the Strategy and the 'do nothing' alternative. Some of the SEA objectives are wide and the overall score may hide variation of effect with the topic. The score has been given using professional judgement. The table is followed by a narrative which gives a commentary on the issues and should explain why the score was given.

KEY

Score	Code	
Positive	+	
Neutral	0	
Unknown	?	
Mixed/variable	//	
Negative	--	
Comparison of ClimatEvolution to "Do Nothing"	Better	Worse

1.20 This Strategy is intended to sit below the ELLDP, and certainly below legislation. A section on 'Mitigation' is included in each of the topic chapters as required by Schedule 3 (8) of the Environmental Assessment (Scotland) Act 2005 and often this includes relevant ELLDP policies, and sometimes legislation. In judging the significance of an impact, the assessment may rely on ELLDP policies operating as intended and legislation being applied correctly. It may be that this does not happen, but that is not the intention; and for the purposes of assessment, it is reasonable to assume that legislation and policies do operate as intended.

1.21 Cumulative and synergistic effects of the strategy are considered following the examination of the SEA topics.

1.22 Gaps in knowledge or data, including where it is difficult to draw a direct relationship between significant environmental receptors and effects of ClimatEvolution, and difficulties in completing the assessment, follow this.

1.23 Monitoring of the environmental effects of the Strategy is required by the Environmental Assessment (Scotland) Act 2005. Provision for this is set out at the end of the assessment.

1.24 ClimatEvolution will also be subject to a separate '*Habitats Regulations Appraisal*' to determine whether an '*Appropriate Assessment*' is required in respect of the potential impact of the plan's policies and proposals on Natura 2000 sites. Such an assessment is required where the Council determines that the plan is not directly connected with or necessary to the management of the European site(s), and that it was likely to have a significant effect, alone, or in combination with other plans or projects. This draft Environment Report should be read alongside the draft Habitat Regulation Appraisal report.

1.25 The purpose of this assessment is not to take the place of detailed technical work which may be required for some projects contained within the strategy. This may include Flood Risk Assessment, Coal Mining Risk Assessment, Habitat Regulation Appraisal, Landscape and Visual Appraisal, and others. Where it is not clear what the project level impacts of a proposal or group of proposals would be at this stage due to the need for this technical work, the proposal will be subject to satisfactory completion of this work. The purpose of this assessment is to identify the strategic level effects that could occur from the Strategy overall.

2 OUTLINE OF CONTENTS AND MAIN OBJECTIVES OF THE PLAN

Background

2.1 East Lothian Council recently adopted the East Lothian Local Plan 2018 (ELLDP), which was accompanied by an Environment Report. This provides up-to-date development plan coverage for the area in conformity with the first Strategic Development Plan (SESPLAN) for Edinburgh and South East Scotland. The ELLDP identifies land for housing and employment. It also continues to identify land of the Edinburgh Green belt, which protects setting, character and identity of Edinburgh and the neighbouring settlements, including Musselburgh, Wallyford and Whitecraig. In addition, for the first time the ELLDP designated 'Countryside Around Town' areas. These have similar objectives to the Green Belt as regards landscape setting, preventing the coalescence of settlements, and where appropriate, providing opportunity for green network and recreation purposes. Through landscape review, the ELLDP also replaced Areas of Great Landscape Value with Special Landscape areas. East Lothian Council has also recently adopted a Green Network Strategy.

2.2 Considerable land for housing and employment has been allocated in the west of East Lothian, including at Tranent, Musselburgh, Prestonpans and the new settlement on the former Blindwells opencast site. The Council is keen to balance this coming development with retention and enhancement of the qualities that make the area attractive – a natural environment, with good access to outdoor recreation including the countryside and coast. It wishes to ensure that the benefits of new development are spread to existing areas, in particular deprived areas. The Council also recognises that there may be limits to an increase in recreation that can occur without affecting both the quality of the outdoor experience and the biodiversity of the area.

Purpose of the Strategy

2.3 Following on from ELLDP and Green Network Strategy policy, and the declaration of a Climate Emergency, the Council has commissioned a vision and action plan for the area linking Prestonpans, Tranent and Blindwells. The purpose of the ClimatEvolution is to address climate change and to identify actions, interventions and infrastructure to enable the area to adapt to climate change and help reduce contributions to climate change. The Strategy was first envisaged to coordinate action in the area and make the best use of land in Council ownership. However it has evolved to identify how to meet the climate change challenge in this most populous part of East Lothian which will become home to even more people as a result of the development strategy. The key task for the ClimatEvolution, the Climate Resilience Zone Strategy and Action Plan, is to set out a vision for the area, including what general types of

development should and should not occur– i.e. to set out a deliverable spatial vision and strategy for the land. Recognising the Climate Emergency, the Council's aspirations for this zone are that it mitigates and adapts to climate change in a robust and inspiring way. In time, this area will provide an improved outdoor recreational offer for residents that will complement the existing East Lothian offer, and absorb some of the additional recreational pressure from new development.

2.4 The concept of ClimatEvolution is to inspire and enable a cohesive zone, with a core area between Tranent/Prestonpans/Cockenzie Port Seton. The vision is to create "A destination with a green and blue infrastructure that responds positively to place, resonating with its natural, cultural and historic assets and traditions, reinforcing local identity with a vision that best serves future generations and stimulates social, economic and environmental regeneration".

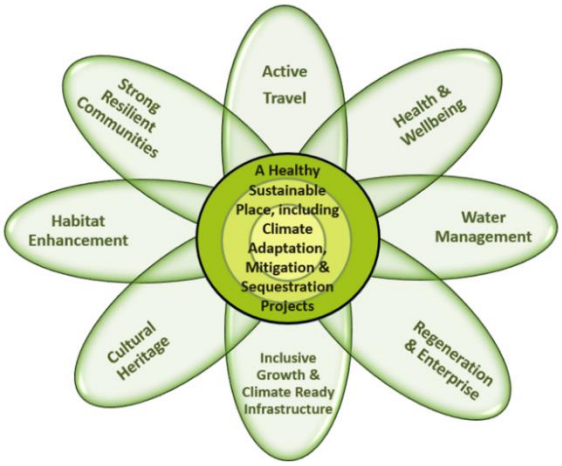
2.5 Any new infrastructure delivered will need to help address the complex inter-relationships between the social, economic and environmental challenges that present, and wherever possible seek to convert these into opportunities for enhancement and benefit. For example, there will likely be a need to address water supply and drainage requirements for Blindwells under the rail line and / or A1. There will also be a need to improve local connectivity between existing settlements and the new town and other sites through the parkland area, and also to provide for other utilities and infrastructure such as decentralised energy and heat networks. Integration with the principles of Countryside Around Town and measures to promote active travel, health and well-being as well as to manage water, enhance amenity and provide a setting for cultural heritage and communities also ought to feature in infrastructure solutions and proposals for the destination parkland in ClimatEvolution.

2.6 The boundaries of the zone are indicative, though broadly the area will include the catchment of four watercourses – Canty Burn, St Germains Burn, Seton Burn and Harry's Burn - which form a logical unit of water management. ClimatEvolution aims to provide multifunctional space connecting and giving context to major development sites in the area. The aim is for the Strategy to be delivered in tandem with these major developments. It must connect communities and provide an enhanced amenity and landscape setting for them, by interweaving and connecting the blue-green infrastructure through the urban environment. The strategy is at this stage high level and flexible.

2.7 ClimatEvolution is intended as a clearly defined and identifiable project in local and regional terms, with a clear conceptual approach to the landscape design and development of the project identity or branding. It will encourage and inspired high quality design and serve as a regional destination and a focal point in its own right. It will be integrated with the delivery of major infrastructure and development sites in the area, including:

- Blindwells new town and planned extension to Longniddry, Prestonpans and Tranent
- routes for new transport infrastructure, including to enhance UK-cross border, national, regional and local connections including planned rail line enhancements
- sub-regional open surface water drainage systems and facilities and sites for water storage and treatment;
- measures for the reduction of flood risk; and
- networks for the provision of services, utilities, foul drainage and water supply, and for the distribution of energy, heat and communications etc.;
- incorporation of East Lothian's planned Segregated Active Travel Corridor to create a direct east-west active travel spine through the parkland suitable for walking and cycling

2.8 The Strategy shows the range of projects that have emerged from the baseline place analysis work and discussions with many stakeholders. The aim of ClimatEvolution overall is to achieve multiple benefits and multifunctionality of the infrastructure proposed, around emerging themes:



2.9 The Strategy is organised into five themes which group the project aims. A map summarising the proposals of the Strategy is reproduced at Figure 2 below. The proposals are supported by softer proposals that cannot be graphically depicted. The proposals are described in Table 1 below.

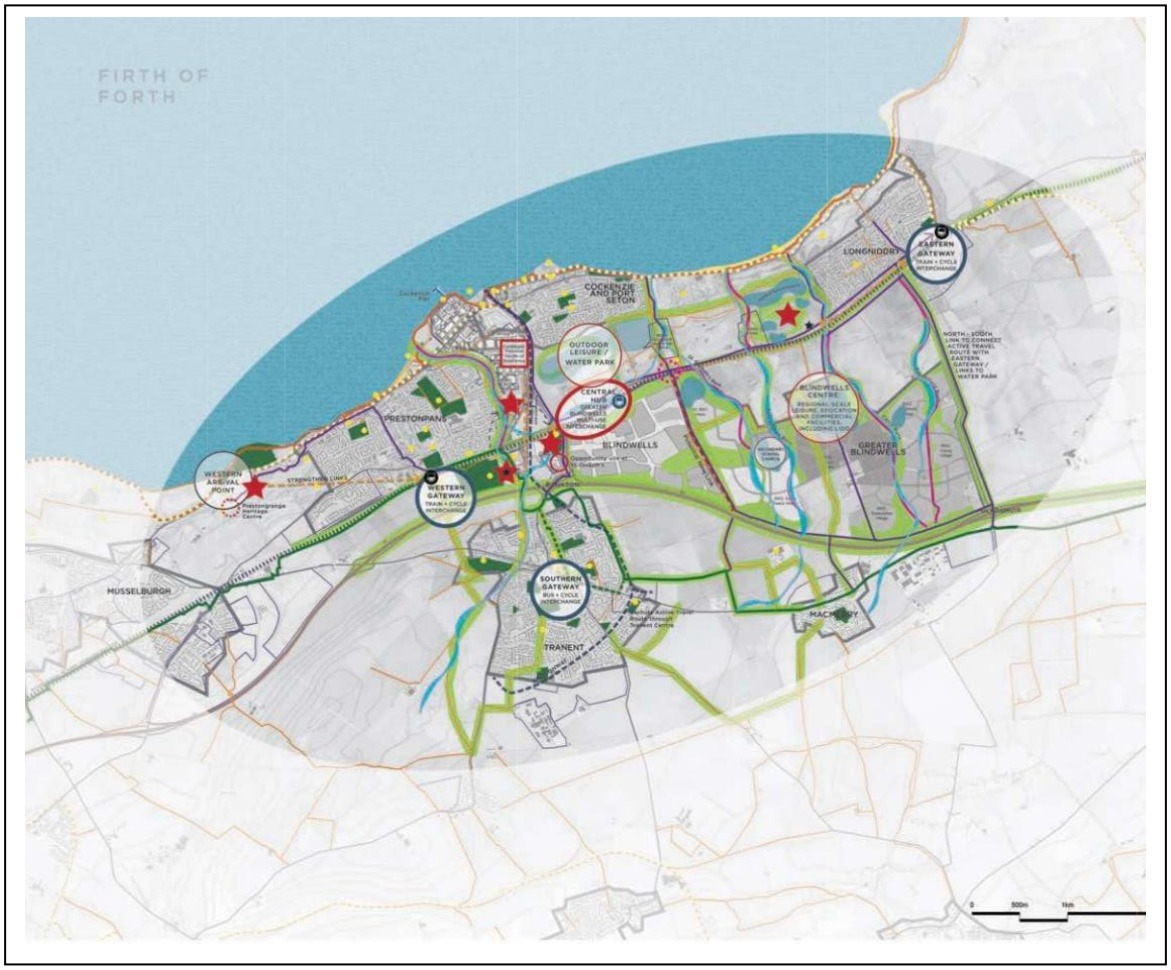


Figure 2: The Strategic Plan, from P.20 of ClimatEvolution

Table 1: ClimatEvolution Proposals, by Themes

Theme 1: Access and Movement	
Vision and Approach Delivering a range of active and sustainable travel proposals to meet the requirements of a wide range of users and where possible, combine with bus and rail networks to facilitate longer distance access. A Transport Strategy using the National Transport Strategy's recently published transport hierarchy of walking, cycling, public transport and lastly the car.	**Projects** Paths for all Integrated Active travel network - Commuter routes, Leisure routes and others Gateway Hubs – comprising high quality cycle facilities and good public transport connections Greater Blindwells Active travel Hub including new rail halt – serving Blindwells and Cockenzie employment quarter and wider zone via active travel links Sustainable local transport connections – develop bus network Provision of bikes and space for electric car sharing hubs A198 – A1 link road – new link over the railway Wayfinding Strategy – signposting active travel routes and attractions Integrated Ticketing strategy Provision of additional rail network capacity – ongoing nationally led initiative independent of this strategy but which influences it
Theme 2: Managing Water	
Vision To create a sub-regional water management strategy, including regional SUDS, linked by new and re-meandered existing water courses creating a healthy environment and well function river basin. Harness geothermal energy.	**Projects** Holistic sub-regional Water Management Strategy – flooding, surface water, minewater, geothermal Surface Water Management Plan for Existing Settlements - integrated approach to drainage that avoids surface water entering the sewage system, including managing surface water in new development and retrofitting surface water management in existing communities Renaturalisation of watercourses Investigate daylighting the Bankton Adit Outdoor Sports Water Park/Lido Creation of Wetland/Nature Reserve Exploit the potential for geothermal energy Explore use of pumped minewater for hydropower Explore Heat from Sewage Micro hydro for power creation
Theme 3: Culture, Heritage and Leisure	
Vision To maximise and enhance opportunities for tourism, draw on the mining heritage, enhance the historic Waggonway route by integrating it into the wider route network and connecting to circular opportunities. ClimatEvolution should	**Projects** National Climate Resilience Centre – iconic building Prestongrange Visitor Centre, Battle of Prestonpans Visitor Centre Meadowmill Sports Centre connectivity and setting improvements Tranent to Cockenzie Waggonway Cultural Trails and 3 Harbours Promotion Zone branding - Existing attractors strengthened as part of the park brand and through improved connections Identifies opportunity at St Joseph's

become a destination in its own right.	Cultural Heritage Arts Strategy to pick up on and draw together opportunities
Theme 4: Greenspace and Biodiversity	
Vision Seek opportunities for the creation of blue/green infrastructure, maximise opportunity for tree planting and biodiversity increase. Created and improve integrated habitat networks, protect and enhance natural heritage assets in the wider area. Provide enhanced amenity and landscape setting for communities.	**Projects** Integrated Habitat networks Greenspace and biodiversity within urban areas amenity Climate resilient habitat creation policy planting policy identifying native species with good carbon sequestration potential Low carbon food strategy linked to East Lothian Food and Drink Bid market garden history and community food growing opportunities Transport Corridor Planting Programme – new tree and hedgerow planting along existing transport corridors Greater Blindwells - opportunities to create a setting and identity for Blindwells using well maintained green and blue infrastructure
Theme 5: Strong and resilient communities	
Vision To maximise the opportunities and benefits arising for the existing settlements within ClimatEvolution and to ensure that Blindwells meets the vision for what kind of place it should be. Create a strong brand for ClimatEvolution, maximise and enhance opportunities for tourism and education, and reduce inequality.	Geothermal feasibility study – quantify and locate potential for geothermal resource Geothermal District Heating within Blindwells and nearby low-income housing Horticultural Inward Investment study Education centre with National Climate Change Centre Training hotel and kitchen garden to meet skills gap in the hospitality industry and demand for 5-star accommodation Improve existing housing stock to mitigate and be resilient to climate change Cockenzie Centre for Excellence in Sustainable Building – would help meet local demand and well located next to the A1 Greater Blindwells new town centre Local regeneration plans building on existing plans for communities

2.10 The Action Plan includes a timeline, as follows

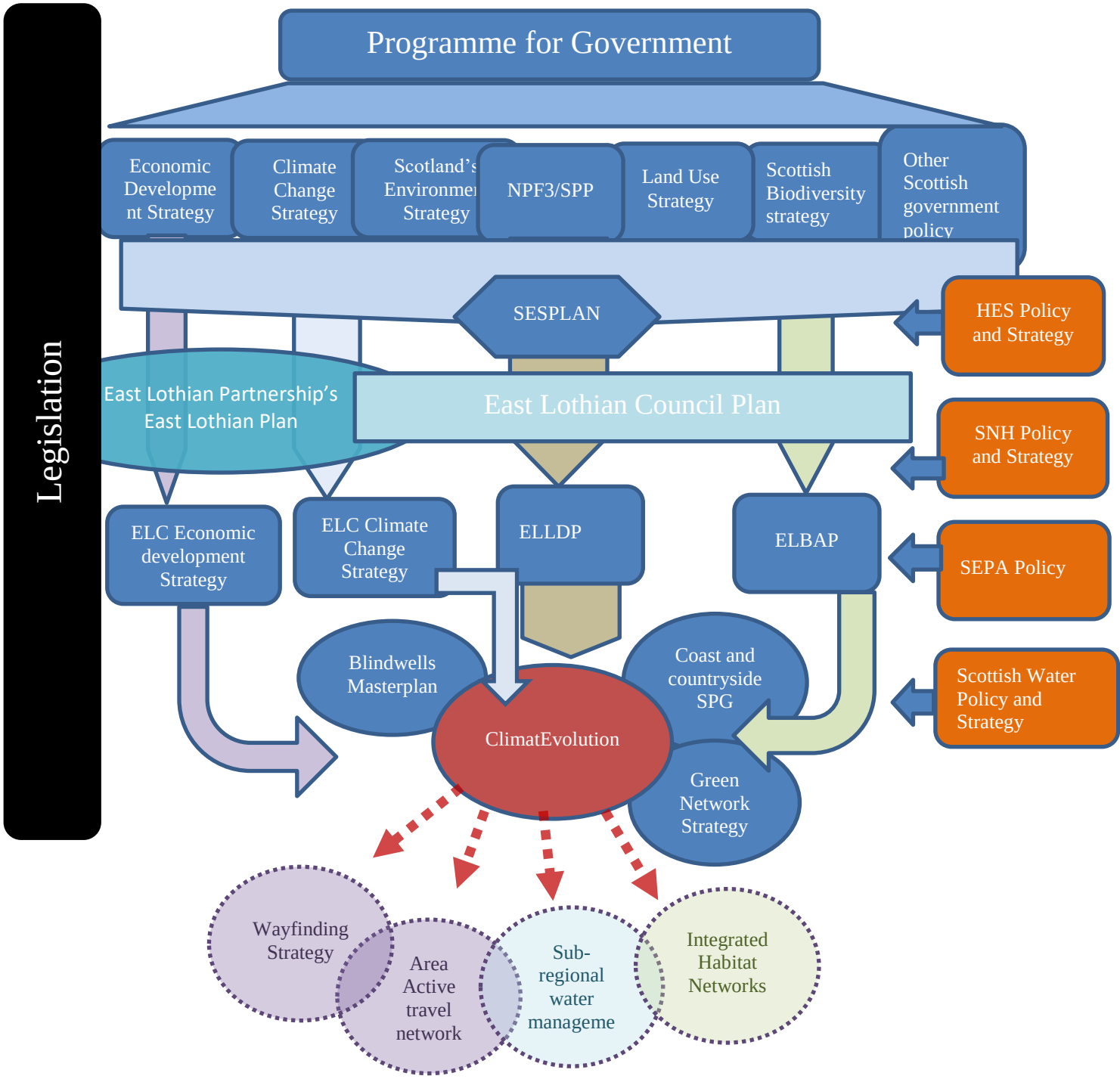
Table 2: Action Plan Timeline

Short term actions (up to 10 years	Medium Term (10 – 20 years)	Long term 20 – 30 years
Establish climate zone branding, community engagement with climate change issues, population behaviour change, improved health and well-being, climate change and sustainability targets met reduced inequalities		
Active travel network; Wayfinding strategy; Gateway Hubs, 'Meadowmill Water" (opening the Bankton Adit), Ticketing Strategy; Water management strategy and surface water management plans Geothermal Park Visitor Centre	Sustainable local transport Greater Blindwells Active Travel Hub Lido Re-naturalised water courses Wetland habitat areas embedded Battle of Prestonpans Visitor Centre	Micro hydro schemes Climate adapted resilient landscapes Climate adapted resilient communities A rich offereing of activities, attractions, culture and heritage for all

Prestongrange Masterplan (coming forward independently of this Strategy) Integrated Habitat Network Plan Low carbon Food Strategy Climate Resilient Planting Programme Geothermal feasibility study Horticulture Inward Investment study Three Harbours National Climate Change Centre Revitalise Council owned open spaces Local Regeneration Plans Start Cockenzie Centre for Sustainable Building Innovative horticulture, enterprise and job creation Tranent to Cockenzie Waggonway	Three Harbours linked Meadowmill connected Greater Blindwells new town/town centre Geothermal district heating Cockenzie Centre for Sustainable building completed Training hotel kitchen garden A1 link road Sports Water Park finished	A sustainably connected Additional rail network capacity; a sustainably connected East Coast [railway] with increased capacity A catchment wide, connected multi-functional water system An integrated, climate resilient habitat network Maturing climate resilient planting A place to live, work, learn, innovate and achieve

3 RELATIONSHIP BETWEEN CLIMATEVOLUTION & OTHER RELEVANT LOCAL LEVEL PLANS, PROJECTS AND STRATEGIES

3.1 This SPG sits in a hierarchy of plans, summarised in the diagram below.



3.2 The main relationship between this Strategy and others is the link between it and the East Lothian Local Development Plan (ELLDP). Scottish Ministers cleared the ELLDP for adoption in 2018 following a programme of engagement and representation. The ELLDP interprets the policy and spatial aims of Scottish Planning Policy, National Planning Framework 3 and SESPLAN taking into account many other plans and policies, to provide a spatial vision at the East Lothian Level.

3.3 This spatial vision is further refined by a series of Supplementary Planning Guidance. Particularly relevant to ClimatEvolution is the Green Network Strategy SPG, which outlines the aims for the Green Network in this area, including action in and around Musselburgh, Tranent and Prestonpans. How ClimatEvolution sits with national and regional planning policy, and the ELLDP is set out in Appendix 1.

3.4 ClimatEvolution should also have regard to other existing national, regional and local policies, strategies and guidance. A list of the main relevant policies and strategies and what environmental objectives they are intended to achieve is set out in Appendix 2. The Appendix also shows how both ClimatEvolution fits with their objectives. In addition to the higher tier and existing same-level PPSs and that will directly influence ClimatEvolution, and a number of local PPSs produced by East Lothian Council provide further context for ClimatEvolution.

- East Lothian Core Paths Plan 2010
- East Lothian Contaminated Land Strategy

3.5 The following sections set out the environmental baseline information, existing issues and the impacts of both ClimatEvolution and the 'do nothing' alternative by SEA topic area.

4 BIODIVERSITY, FLORA AND FAUNA

Relevant aspects of the current state of the environment - Biodiversity

4.1 Biodiversity is critical to maintaining human life on this planet. Some consider we also have a responsibility of stewardship towards the creatures that live here with us. The UN recognises advice from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. The key message of their 'Global Assessment Report on Biodiversity and Ecosystem Services'[2] in 2019 was that nature and its vital contributions to people, which together embody biodiversity and ecosystem functions and services, are deteriorating worldwide. The Report goes on to note that "evidence has accumulated that the multiple threats to biodiversity have intensified…and that the sustainable use of nature will be vital for adapting to and mitigating dangerous anthropogenic interference with the climate system, as well as for achieving many of our most important development goals".

4.2 Globally, the IPBES Report[3] considers both direct and indirect drivers of change adversely impacting biodiversity have sped up in the last half century. Those with the most impact are, in descending order of harm, changes in land and sea use; direct exploitation of organisms; climate change; pollution; and invasion of alien species.

4.3 Despite its reputation, Scotland is not bucking global trends in biodiversity loss. In 2019 SNH produced their report, the State of Nature[4]. The data reported shows that the abundance and distribution of Scotland's species has on average declined over recent decades, concluding "there has been no let-up in net loss of nature in Scotland". This report starts out by noting trend data does not fully cover timescales relevant to ecological change, and that the report should be viewed against a backdrop of profound historic influences on nature in Scotland. Continuing pressures include increasing agricultural productivity, linked to the intensification of land management and the decline in farmland nature; the impact of climate change on wildlife with average temperatures in Scotland increasing nearly 1%; built development in response to population change meaning thousands of hectares of habitat are built on every year. Historically hydrological change has led to a reduction in wetlands, and this continues with management of water for recreational fishing. However, more positive trends are reduction in freshwater pollution, some marked reductions in emissions of harmful pollutants, and some increase in woodland and wetland habitat overall.

[2] https://ipbes.net/global-assessment

[3] Global Report on Assessment and Biodiversity Services, above.

[4] Available here: https://www.nature.scot/state-nature-scotland-report-2019

4.4 A Scoping process was carried out to identify the issues relevant to Biodiversity for ClimatEvolution. The following Scoping Table shows the issues that have been scoped in or out, with reasons.

Scoping Table 1: Biodiversity		
Issue	Scoped in/out	Reasons/issues
Conservation of the Firth of Forth SPA/SSSI (biological interest)/Ramsar site	In	Some of the qualifying interest features of this Firth of Forth SPA/SSSI site are not in favourable condition. Recreational pressures on the East Lothian coast are increasing and there are possible adverse effects on this site cumulatively though this should be capable of mitigation through recreational management if required. Changes to water quality within the area could affect the site. Increasing development in the area could lead to loss of supporting habitat either directly or through disturbance.
Conservation of other Internationally and nationally designated sites	Out	No direct impact on any other Natura 2000 or nationally designated site. The main potential pathway for indirect impact on other Natura 2000 sites (Isle of May SAC, Outer Firth of Forth and St Andrews Bay complex) is through increased recreation or changes to water quality. For the Isle of May, the coast is visited occasionally be seals, which area a qualifying interest of that site and may be from there. However, the haul outs are in Prestonpans, which is already an urban area with consequent disturbance. Additional visitors from ClimatEvolution are likely to be few in comparison to local visits and from those using the John Muir Way, and are very unlikely to give rise to any further effects. The birds of the Outer Firth of Forth and St Andrews Bay complex are seabirds, which are unlikely to be disturbed by what is expected to be a small increase in recreation at the coast from this strategy as they spend their time offshore.
Conservation of Local Biodiversity Sites	In	The Heugh Meadowmill LBS is in the centre of this area and could be affected be ClimatEvolution positively or negatively. An increase in activity could also affect the LBS at Levenhall, Morrisons Haven, Longniddry Bents and Gosford Woodlands. Longniddry Railway walks is in the area but further activity is not expected to affect this site. Wallyford Bing is a robust site designated for community value. Enhancements to these sites may also be possible. No other LBS are expected to be affected.
Conservation of European Protected Species, badgers and water voles	In	There are records of bats, badgers, water vole, and otter in the area, and grey and common seal on the coast. There are also some Annex 1 birds.
Conservation of other species	Out	There are few records of other notable species; although absence of records does not mean absence of species the lack of available habitats means the likelihood of these species being found in the area is low
Conservation of priority habitat	In	There are some areas of ancient woodland, and other priority habitat in the area. One of the expected gains from

		ClimatEvolution is to connect and improve habitat in the area so this is scoped in.
Contribution to East Lothian Green Network Nature Network objectives	In	The CSGN is a National Development, and one of its objectives is to promote biodiversity. The East Lothian Green Network is part of the CSGN so contribution to its biodiversity objectives will contribute to the CSGN biodiversity goals.

4.5 With increased global connectedness, the routes by which non-native species can potentially arrive have multiplied. Some species do not cause much trouble, however, some can outcompete native biodiversity. By the lack of predators or disease that held them back in their native climate, they can over expand, causing not only biodiversity damage but also landscape or economic impacts. Their numbers are increasing nationally.

Figure B6i. Number of invasive non-native species established in or along 10% or more of Great Britain's land area or coastline, 1960 to 2018.

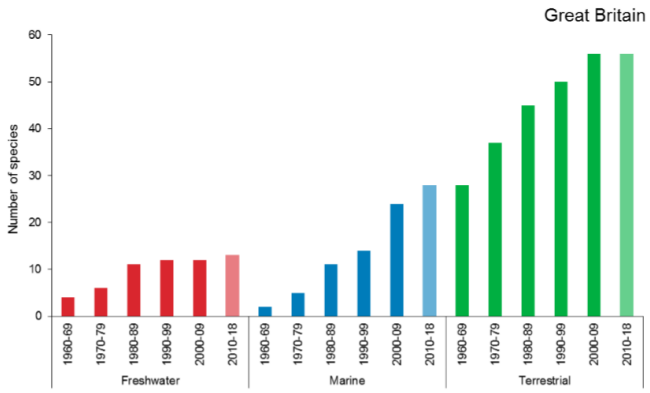


Figure 3: Extract from JNCC UK Biodiversity Indicators 2019[5]

4.6 These historic and current pressures are as relevant for this area as for Scotland as a whole. Early enclosure led to removal of woodland and hedges and drainage of the land for agricultural production, which has gradually intensified. The remains of previous mine working including opencast has a continuing impact although habitat is returning in some places. Built development in the area has had (and will continue to have) direct and indirect effects on both species and habitat[6].

[5] http://data.jncc.gov.uk/data/647caed5-93d0-4dc0-92bf-13d231a37dda/UKBI2019-F-B6.pdf

[6] See SEA and HRA of East Lothian LDP 2018 available here: https://www.eastlothian.gov.uk/info/210547/planning_and_building_standards/12242/local_development_plan/2

Designated Sites

4.7 Parts of this area have been recognised as being internationally, nationally and locally important for their biodiversity value. The map below shows designated sites in the area.

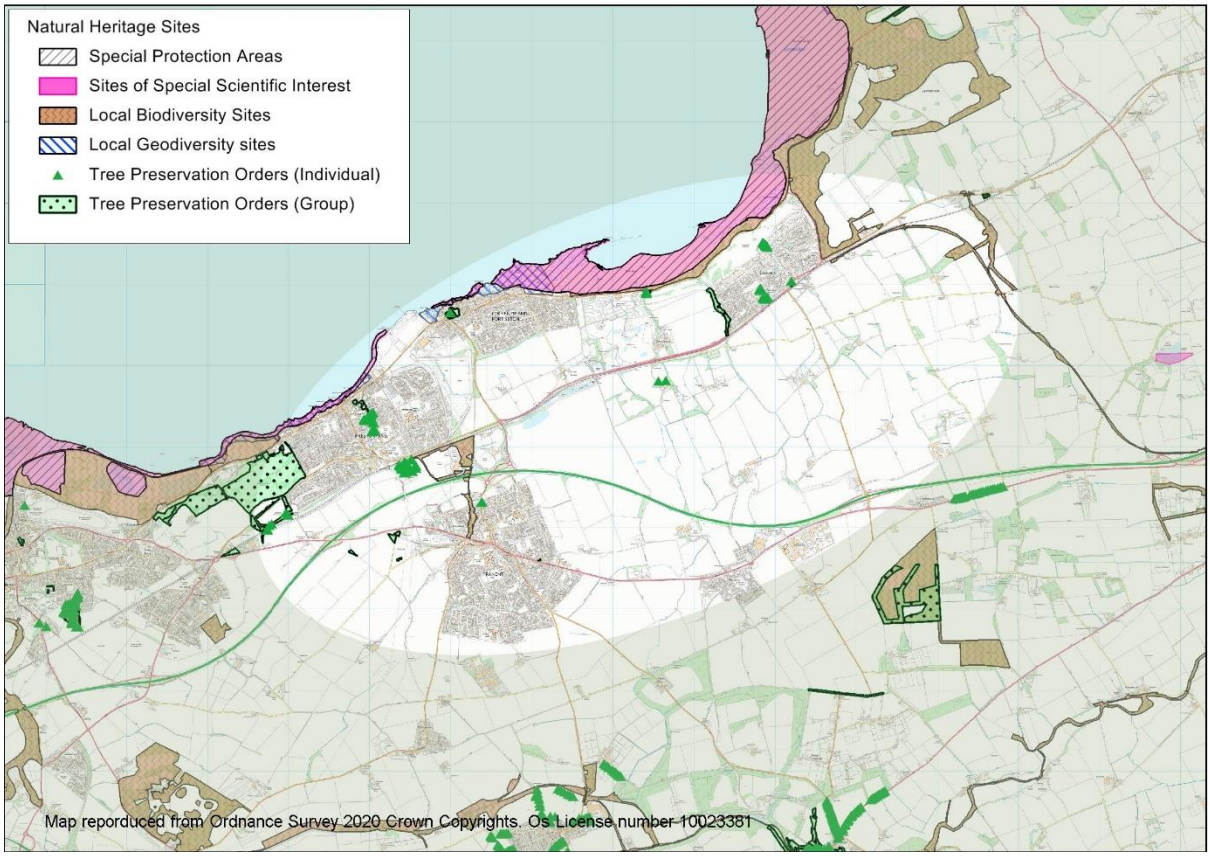


Figure 4: Sites designated for biodiversity interest, and Tree Preservation Orders

Firth of Forth

4.8 The most significant designated site here is the Firth of Forth. Although a major shipping lane, with a coastline that is not unmodified by man, it is internationally important for birdlife. The Firth of Forth has been designated as a Special Protection Area (SPA), Site of Special Scientific Interest (SSSI) and Ramsar site (the SPA and Ramsar site sharing the same boundaries). The adjacent marine area offshore is also a proposed SPA Outer Firth of Forth and St Andrews Bay pSPA (not mapped).

4.9 The qualifying interest of the Firth of Forth SPA and Ramsar site is over-wintering waders and wildfowl, while the qualifying interest of the Outer Firth of Forth and St Andrews Bay pSPA is in seabirds. Further information on the qualifying interests, their condition and conservation objectives can be found on SNH's Sitelink at https://sitelink.nature.scot/home. Further assessment of the impact of ClimatEvolution on the international sites can be found in the related Habitat Regulation Appraisal which should be read along with this Environment Report. Marine mammals from Natura sites further afield also visit the coast.

4.10 The Firth of Forth Site of Special Scientific Interest (SSSI) is a large site designated for a variety of geological and biological features. The SSSI citation comprises internationally important wintering species such as shelduck and knot which feed on the mud and sandflats, and turnstone, which are more commonly found on shingle or rocky shorelines. In autumn the skies are filled with the Pink-footed geese which roost at nearby Aberlady Bay and feed in fields inland. Red-throated diver and Slavonian grebe use mainly offshore areas but also come closer inshore at times. The intertidal areas support nationally important numbers of grey plover, ringed plover, oystercatcher, dunlin and curlew, while offshore, particularly in the outer Forth, there can be found large numbers of birds such as common and velvet scoter, goldeneye, scaup and others. An important post-breeding population of Sandwich terns uses the Forth whilst on passage. The coast just east of Edinburgh (and west of this area) is a particularly important place for this species. Wigeon, Mallard, and lapwing are also found in important numbers in a variety of habitats. All of these birds are qualifying interest of the Firth of Forth SPA and are considered through the HRA process.

4.11 The Firth of Forth SSSI citation includes lowland neutral grassland and transitional grassland, both found in this area. Sand dunes are also a notified feature; there are some very limited dune species around Prestonpans, becoming more apparent moving eastwards to Longniddry Bents. The citation also includes some habitats which do not occur in this area; maritime cliff, saltmarsh, mudflats, and saline lagoon.

4.12 The SSSI also has as notified features its vascular plant assemblage, beetle assemblage, and the Northern brown argus butterfly. The beetle assemblage is in unfavourable condition due to pressures of both under and overgrazing, recreational disturbance and invasive species, and is to be de-notified. The Northern brown argus is not generally found in this area. Some locally rare vascular plant species are found particularly between Longniddry and Aberlady. The priority areas for these plant species in East Lothian is Aberlady, Yellowcraig and Tyninghame – particularly inter/sub-tidal habitats but there are also priority terrestrial species found on the stretch of coastline from Longniddry Bents towards Aberlady.

4.13 The following table shows the cited features of the SSSI, their status, trend, and pressures occurring within the SSSI. Some interests are declining but the pressures are listed as 'none'. This is because the decline is due to reasons outwith the SSSI – there might be pressure on the breeding grounds or foraging resource elsewhere, for example.

Table 3: Firth of Forth SSSI: Features, Status and Pressures

Feature	Status (updated)	Trend	Pressures within SSSI
Arthropoda (excluding insects and trilobites)	Favourable (2016)	Maintained	None

Feature	Status (updated)	Trend	Pressures within SSSI
Beetle assemblage	Unfavourable (2000)	Declining – to be denotified	Invasive species, Over grazing, Recreation/disturbance Under grazing
Bar-tailed godwit (Limosa lapponica), non-breeding	Favourable (2015)	Maintained	Recreation/disturbance – dog walking, walking
Carboniferous - Permian Igneous	Unfavourable (2008))	No change Management measures are in place that should, in time, improve the feature to Favourable condition (Unfavourable Recovering Due to Management	Recreation/disturbance
Coastal Geomorphology of Scotland	Favourable (2017)	Maintained	Natural event – tidal erosion
Cormorant (Phalacrocorax carbo), non-breeding	Favourable (2015)	Maintained	Game/ fisheries management
Common scoter (Melanitta nigra), non-breeding	Unfavourable (2015)	Declining	None
Curlew (Numenius arquata), non-breeding	Favourable (2015)	Maintained	Climate Change Recreation/disturbance - Dog walking, Walking
Dunlin (Calidris alpina alpina), non-breeding	Favourable (2015)	Declining	None
Eider (Somateria mollissima), breeding	Favourable (2013)	Recovered	No proactive management Recreation/disturbance - Dog walking/Walking
Eider (Somateria mollissima), non-breeding	Favourable (2015)	Declining	Recreation/disturbance Dog walking
Golden plover (Pluvialis apricaria), non-breeding	Unfavourable 2015)	Declining	None
Goldeneye (Bucephala clangula), non-breeding	Unfavourable (2015)	Declining	Climate change
Great crested grebe (Podiceps cristatus), non-breeding	Unfavourable 2015	Declining	Natural event
Grey plover (Pluvialis squatarola), non-breeding	Favourable 2015	Declining	Climate Change Recreation/disturbance - Dog walking, Walking
Knot (Calidris canutus), non-breeding	Unfavourable (2015)	Declining	Climate Change Recreation/disturbance
Lapwing (Vanellus vanellus), non-breeding	Favourable (2015)	Declining	None
Long-tailed duck (Clangula hyemalis), non-breeding	Unfavourable (2015)	Declining	None
Lower Carboniferous [Dinantian - Namurian (part)]	Unfavourable (2008)	No change	Dumping/ storage of materials Water quality
Lowland neutral grassland	Unfavourable (2009)	Declining	Invasive species Other

Feature	Status (updated)	Trend	Pressures within SSSI
Mallard (Anas platyrhynchos), non-breeding	Favourable (2005)	Declining	Climate Change Recreation/disturbance
Maritime cliff	Unfavourable (2002)	Declining	Agricultural operations Invasive species No proactive management Under grazing
Mineralogy of Scotland	Favourable (2002)	Maintained	None
Mudflats	*Condition Not Assessed*		None
Northern brown argus (Aricia artaxerxes)	Favourable (2014)	Maintained	Invasive species Recreation/disturbance
Oystercatcher (Haematopus ostralegus), non-breeding	Favourable (2015)	Maintained	None
Palaeozoic Palaeobotany	Favourable (2008)	Maintained	None
Permian - Carboniferous Fish/Amphibia	Favourable (2008)	Maintained	None
Pink-footed goose (Anser brachyrhynchus), non-breeding	Favourable (2015)	Maintained	None
Quaternary of Scotland	Favourable	Maintained	Natural event Tidal erosion
Red-breasted merganser (Mergus serrator), non-breeding	Unfavourable (2015)	Declining	None
Red-throated diver (Gavia stellata), non-breeding	Favourable (2015)	Maintained	None
Redshank (Tringa totanus), non-breeding	Favourable (2015)	Maintained	Recreation/disturbance
Ringed plover (Charadrius hiaticula), breeding	Unfavourable (2013)	No change	Invasive species Natural event Other Recreation/disturbance
Ringed plover (Charadrius hiaticula), non-breeding	Favourable (2015)	Maintained	None
Saline lagoon	Favourable (2008)	Declining	Agricultural operations Ploughing No proactive management Over grazing Cattle Trampling Cattle Water management
Saltmarsh	Unfavourable (2015)	Recovering	Infrastructure Invasive species Over grazing Trampling Water management

Feature	Status (updated)	Trend	Pressures within SSSI
Sand dunes	Unfavourable (2012)	No change	Invasive species - Sea buckhorn Recreation/disturbance Under grazing
Sandwich tern (Sterna sandvicensis), passage	Favourable (2015)	Maintained	None
Scaup (Aythya marila), non-breeding	Unfavourable (2015)	declining	None
Shelduck (Tadorna tadorna), breeding	Favourable (2013)	Maintained	Agricultural operations Flood defence/coastal defence works Other Recreation/disturbance
Shelduck (Tadorna tadorna), non-breeding	Favourable (2015)	Maintained	None
Slavonian grebe (Podiceps auritus), non-breeding	Unfavourable (2015)	declining	None
Transition grassland	Favourable (2004)	Maintained	Agricultural operations – drainage ditches, ploughing, spreading Invasive species - common reed No proactive management Over grazing - cattle
Turnstone (Arenaria interpres), non-breeding	Favourable (2015)	Maintained	None
Upper Carboniferous [Namurian (part) - Westphalian]	Favourable (2002)	Maintained	None
Vascular plant assemblage	Favourable (2015)	Recovered	Invasive species - sea buckthorn
Velvet scoter (Melanitta fusca), non-breeding	Favourable (2015)	Maintained	None
Wigeon (Anas penelope), non-breeding	Favourable (2015)	Maintained	None

Local Biodiversity Sites

4.14 Local Biodiversity Sites were designated in the ELLDP, including sites with rare species and/or habitats but also considering connectivity and community value. The process therefore recognised that biodiversity does not exist in isolation, but benefits from supporting habitat and supportive people. Areas of priority habitat were therefore included between designated site and areas with the rare habitat and species. Also, community sites were identified which might not contain the rarest biodiversity, but have enough about them to inspire and allow people to connect with nature on their doorstep.

4.15 The Local Biodiversity Sites in this area are:

Site	Habitat	Notable Species & Wildlife	Community Accessibility
Longniddry Bents (Coastal site)	Habitat connectivity Coastal grassland, scrub	Bloody cranesbill, clustered bellflower, purple milkvetch, water vole	Nearby community, car parks, bus route, paths, including John Muir Way
Morrison's Haven (Coastal site)	Habitat connectivity Coastal grassland	Sea pearlwort, common centaury	Nearby community, car park, bus route, paths, including John Muir Way
Longniddry / Haddington Railway Walk (Post industrial site)	Ancient Woodland Inventory, Native Woodland Survey of Scotland, Woodland, grassland, aquatic Habitat connectivity Habitat diversity	Birds, including warblers. Plants, including sweet violet. Newts. Butterflies	Close to communities with good path connections to and through site. All abilities path. Car park
Gosford Woodlands (Woodland site)	Native woodland in parkland landscape Ancient Woodland Inventory, Native Woodland Survey of Scotland, Habitat connectivity Habitat size	Small pondweed Great spotted woodpecker	Close to local community. Open access to much of the estate, but permit holders only, close to Gosford House and its landscaped grounds
Heugh and Meadowmill (community site)	Woodland Native Woodland Survey of Scotland	Sparrowhawk Grayling and other butterflies.	Between communities, good path connections. Car park, bus route.
Wallyford Bing	Woodland Native Woodland Survey of Scotland	--	Adjacent to Wallyford with good network of paths. Site to be enhanced through approved housing proposal.
Levenhall Links (coastal site)	Wetland, grassland and woodland Native Woodland Survey of Scotland Habitat connectivity Habitat diversity	Orchids Breeding Birds Butterflies	Car park, bus route. Paths from local community and around site, including all abilities route and John Muir Way

Table 4: Local Biodiversity Sites

Protected Species

4.16 There are some protected species in the area. There are records of badgers to the east of Tranent, around Redhouse Dean and Gosford. There are bats, all of which are European Protected Species, scattered across the area. An initial survey was carried out for the Blindwells Area Development Framework. This recorded bats over-flying that site and there are records of bats in other parts. There is a small water vole population in the area, and also

records of otter. Activities related to both European Protected Species and badgers may need to be licenced.

Priority Habitat/Green Network

4.17 For biodiversity outwith designated areas, the map below shows neutral grassland habitat, broadleaf and yew habitat, fen/marsh/swamp habitat, ancient woodland and all other types of priority habitat as defined in the identified in the most recent East Lothian Biodiversity Action Plan (LBAP). There are some areas of native woodland at St Germains and Seton Mains, as well as between the Heugh, Tranent and Prestonpans. There is a significant area of woodland covered by Tree Preservation Order at the Royal Musselburgh Golf Course, with other smaller areas including at Birsely Brae, Tranent, and some individual trees. There are also a few ponds, hedgerows and areas of dense scrub in the area. However, general the dominant land use is urban and agricultural, with little biodiversity value. Scoping said we would get this but I don't know where it is: 2018 (Peter Brett Associates July 2018) for the Blindwells Area Development Framework (BADF) which is the most up to date data available.

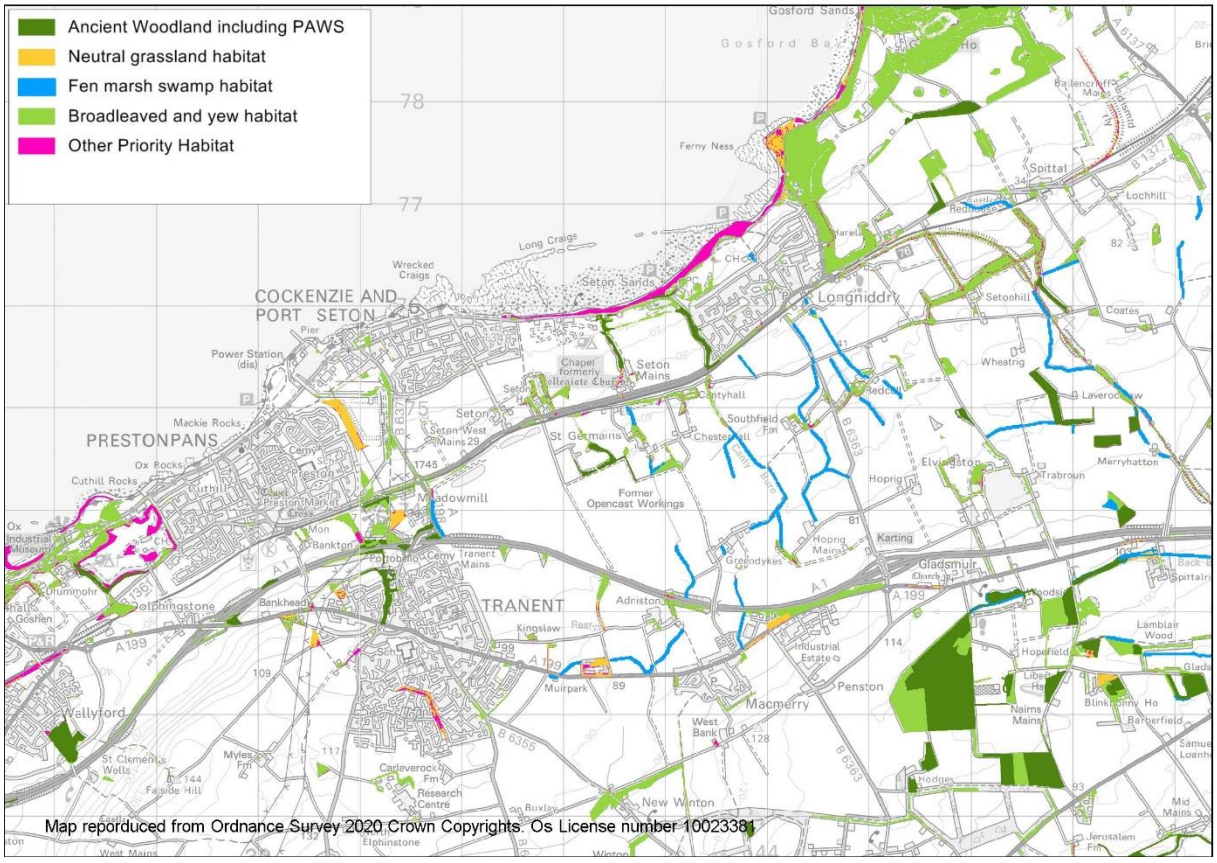


Figure 5: Integrated Habitat Networks and Ancient Woodland

4.18 The Wildlife Information Centre has records of the following Notable Species in the study area. Those at Blindwells – mainly the ponds there - are shown in red:

4.19 Azure Damselfly; Barn Owl, Black Darter, Blue-tailed Damselfly, Brown Hare, Buff-Tailed Bumble Bee, Bulrush, Buzzard, Catillaria atomarioides, Common Blue Damselfly, Common Carder Bee, Common Darter, Curlew, Emerald Damselfly, Episyrphus balteatus, European Otter, Four-spotted Chaser, Grayling, Grey Partridge, Grey Plover, Large Red Damselfly, Large Red Tailed Bumble Bee, Lesser Hawkbit, Linnet, Oystercatcher, Pipistrelle, Porpidia soredizodes, Red-veined Darter, Reed Bunting, Sea Pearlwort, Skylark, Small Skipper, Song Thrush, Soprano Pipistrelle, Sparrowhawk, Speckled Wood, Swift, Syrphus ribesii, White-Tailed Bumble Bee

4.20 ELLDP Policy MH16 provides for improving habitat in Musselburgh Lagoons and Preston Links opposite Prestongrange Mining Heritage Museum.

Existing environmental issues – biodiversity, flora and fauna

4.21 Issues relating to biodiversity should be considered in context of global ecological conditions which have been described as a crisis, i.e. that that biodiversity is under pressure and urgent action is required to improve the situation. East Lothian's Climate Change Strategy notes that human induced activity has already caused the extinction of some species and habitats, and that climate change is exacerbating these impacts. It continues "we need to act now to protect our natural environment and biodiversity for future generations".

Overall lack of biodiversity

4.22 This area, as can be seen from the cultural heritage section, has long been influenced by settlement, agriculture and industry. As a result of long standing human efforts to bring the land under control so it can provide for our needs, it has been cleared of much of the biodiversity it must once have had. Historical land use change has led to a paucity of both species and habitat, and loss of connectivity. Habitat networks across the area are poor and could be improved. There is therefore a need to avoid further harm to biodiversity in particular from direct and indirect habitat loss and fragmentation or introduction of invasive species, and to improve biodiversity overall in this area.

Invasive Non-Native Species

4.23 Human activity has also brought invasive species to the area. These include: sea buckthorn, giant hogweed (with a toxic sap that can cause serious burns) Japanese knotweed, Himalayan Balsam, *Gunnera* spp, American mink, Bullhead, Signal Crayfish, American Skunk Cabbage, Rhodedendron; Cherry Laurel, Minnow, and Roe, Fallow and Sitka deer; Japanese rose. There are others which have not yet established but are a risk, such as the zebra mussel. Loss of natural vegetation, riparian land management, water pollution and the alteration of natural instream flows can give some invasive non-native species a competitive advantage. Invasive non-native species can affect native biodiversity by competition, predation or niche shifting, as well as through indirect action by degrading of habitat (see for example Giant Hogweed).

Figure 6: Giant Hogweed

Climate change

4.24 Climate change could lead to unpredictable changes here. It may bring new invasive species, new diseases; for plants, animals and also people. The climatic changes themselves may mean that species that once flourished here can no longer. The best defence against biodiversity loss in this situation is to plan for variety and habitat connectivity to allow species to move.

Designated Sites

4.25 Despite the overall picture of historic biodiversity loss in this area, there are some areas of habitat, and important species which remain. These require conservation.

Firth of Forth SPA

4.26 First among these is the Firth of Forth SSSI, SPA and Ramsar site. Some of the notified features of the SSSI are either not in good condition, or are declining, or both, as can be seen in Table 3: Firth of Forth SSSI: Features, Status and Pressures from above. Threats to the interests of the SSSI noted in SNHs site reports are also shown in Table 3 above. These include for species: recreational disturbance from both walking and dog walking (many birds); game and fisheries management (cormorant); climate change (some birds); lack of pro-active management (breeding eider) and agricultural operations and flood/coastal defence works (breeding shelduck). For habitat, threats include: invasive species in lowland neutral grassland and transition grassland (where common reed is the issue); and sand dunes (where sea buckthorn is the issue); and under-grazing (sand dunes).

4.27 SNH have previously advised that other potential threats to this site from the construction process included permanent habitat loss, disturbance from people and machinery, underwater

noise and vibration impacts from piling and construction, and traffic movements during construction. This can also threaten water quality, including from increased suspended solids, reduced dissolved oxygen and release of contaminants, and cause issues from piling, deposition of materials and dredging. SNH also note potential threats from development in operation; disturbance (noise and visual) from people, machinery and increased ship traffic; lighting; changes to coastal processes, e.g. hydrology and sedimentation. bat species are widespread

Local Biodiversity Sites

4.28 Local Biodiversity Sites were designated recently, in the ELLDP 2018. As the land in this area has been already extensively modified, Local Biodiversity Sites have tended to be in areas unattractive for other uses. As the sites were recently designated, there has been little time for them to have suffered serious impacts. The main issues with Local Biodiversity sites in this area is connectivity, and potentially pressure from an increase in population in the area. There is also a lack of sites which could be designated in some parts of this area, due to the overall lack of biodiversity.

Protected Species

4.29 Protected species in the area will generally have experienced and adapted to fairly high levels of human activity. Some bat species are widespread, particularly Pipistrelle species, but remain vulnerable in that impacts can have widespread effects. Badgers are nocturnal and do not like disturbance at their setts. They prefer a diversity of habitats, for example woodland adjacent to arable fields for foraging, and could be impacted by loss of foraging habitat from development as well as increasing human population in the area. A small population of water voles persists in the area. Highly engineered channels are not particularly suitable for them, so there is a lack of suitable habitat here for expansion of the population, which would require naturalisation of water courses. Water voles can thrive in areas where people walk dogs as these tend to deter the mink which predate them. There are some records of otter in the general area however the engineered water courses in the area do not provide particularly suitable habitat for them.

Conservation of Priority Habitat/Contribution to the East Lothian Green Network

4.30 The East Lothian Green Network Strategy[7] includes a Nature Network. The aim of this is to support wildlife recovery, while recognising the important role of agricultural land. It notes that a connected network is needed to support movement of wildlife, and that habitat management is essential to maintain the quality of this network. Public access to and enjoyment of biodiversity is

[7] Available here: https://www.eastlothian.gov.uk/downloads/file/28136/green_network_strategy_spg

also recognised as important, with the aim that every community should have an area that has some biodiversity interest.

4.31 The Green Network Strategy sets out 'Tasks' to improve the Nature Network. Relevant tasks for this area are firstly to improve woodland habitat, by seeking opportunities to expand native woodland and tree planting in appropriate areas, managing ancient woodland sites to encourage wildlife, and creating tree lines and woodland connections between areas of existing habitat. Some potential areas of broadleaf habitat and expansion are identified in this area including in the deans of the Seton Burn and Canty burn, and from the Heugh in Tranent through parts of the former Cockenzie Power Station site.

4.32 Secondly, to improve the biodiversity at the coast, including support maintenance of sufficient supporting habitat for inland waders of the Firth of Forth SPA. Some of the fields and open spaces in this area may be used by these species. This is considered through the Habitat Regulation Appraisal and Appropriate Assessment which accompanies the strategy.

4.33 Fourthly[8], action for grassland, including seek opportunities to expand grassland and farmland habitat by improving and creating field margin habitats, increasing grassland habitat, differential mowing on road verges, promoting grassland in gardens and school grounds and encouraging 'B-lines' – pollinator pathways of wildflowers. There are some areas suitable for expansion of farmland habitat between Longniddry and Port Seton and the area inland of this, as well as on the Tranent Ridge. The John Muir Pollinator Way B-Line runs through this area. There is some existing grassland habitat on the former Cockenzie Power Station site.

4.34 Fifthly, to seek opportunities to improve and expand wetland habitat, including improving value of habitat along watercourses, improving and creating ponds in appropriate locations, improving and extending water vole habitat, and promoting great crested newt conservation. There are some ponds in this area, in particular in association with Seton Sands golf course.

4.35 Climate change can effect biodiversity especially those species that are not mobile as they cannot move northwards or higher to a more suitable place. Well connected networks are needed to allow species to move in response. Habitat networks in this area are poor due to fragmentation and destruction from previous land uses. In this area, there are issues with Giant Hogweed on the Esk in particular.

Likely Significant Effects - Biodiversity

4.36 The following table shows the SEA objectives for Biodiversity and summarises the impact of "do nothing" and the impact of each Theme of ClimatEvolution:

[8] Tasks are numbered 1,2, 4, 5, 6 so there is no '3'.

SEA Objective, Biodiversity: Maintain, or provide opportunities to improve, biodiversity.			"Do nothing"	Comparison of ClimatEvolution to Do Nothing	ClimatEvolution overall	ClimatEvolution Themes				
						1 Movement	2 Water	3 Leisure	4 Biodiversity	5 Enterprise
SEA Sub-objective/questions for assessment. Does the plan….?	KEY									
	Positive	+								
	Neutral	0								
	Unknown	?								
	Mixed/Variable	//								
	Negative	-								
	Comparison of ClimatEvolution with "do nothing"	Better / Worse								
Conserve or enhance sites designated for their international, national or local nature conservation interest			0	?		//	+	//	+	//
Conserve or enhance wider habitat and habitat connectivity			0	↑	+	+	+	0	+	0
Conserve or enhance protected species (European Protected Species, badgers and water voles)			0	↑	+	0	+	0	+	0

"Do nothing"

Designated Sites

4.37 The Firth of Forth SPA, Ramsar and SSSI site is located on the coast within ClimatEvolution zone. Recreational disturbance from both walking and dog walking has been identified as an existing pressure on some of the notified features of this site. The HRA of the ELLDP recommended that a study into recreational pressure and potential management of the site should be carried out. This has not yet been done. The policies of the ELLDP protect sites from harm, and along with the ELC Green Network Strategy supports conservation (enhancement) of such sites. Policy MH16: Levenhall Links to Prestonpans: Area for Habitat Improvement may support species of the Firth of Forth designated sites however it does not contain positive proposals to enhance this site. The East Lothian Countryside Rangers and East Lothian Conservation Volunteers have an ongoing programme of work at coastal sites, which helps maintain the East Lothian section of the Firth of Forth site(s).

Wider Habitat and Habitat Connectivity

4.38 Habitat connectivity in this area is likely to remain as it is other than in relation to development sites, in particular at Blindwells and Cockenzie. There, it is likely to be considered through masterplanning process and application for planning consent on development sites. The Preston-Seton-Gosford Area Partnership plan includes an action to 'protect green spaces and connect people with their natural environment within an between communities'. This action could lead to improved green spaces in this area, and a greater interest in and awareness of biodiversity which supports its conservation.

Protected Species

4.39 Some species are protected by legislation, as set out in 'Mitigation – Biodiversity' below, so are not expected to be harmed. The masterplanning process for Cockenzie and Blindwells may include proposals for conservation of protected species.

ClimatEvolution

Designated Sites

4.40 Impacts on the Firth of Forth as SPA/Ramsar site are considered through the HRA process which should be read in conjunction with this SEA.

4.41 There may be areas proposed for change through this strategy that are used by inland wader and the pinkfooted goose of the Firth of Forth SPA/Ramsar/SSSI for roosting and foraging, which could be lost. Even where habitat itself is not lost, the provision of paths could increase disturbance, making fields less attractive for use by these birds. The HRA has found this will not have an adverse impact on the integrity of the Firth of Forth SPA.

4.42 The Strategy intends to improve the visitor and recreational experience inland of the coast through specific attractors and an improved recreational environment. Theme 3 and Theme 5 propose heritage trails, the National Climate Centre, Theme 2 proposes a water park. Theme 2 and 4 propose additional blue-green infrastructure, which may displace some recreational walking and dog walking at the coast: at present lack of other options may mean dog walkers in particular may visit the coast more than they otherwise would. Combined with charging for coastal car parks, the improved recreational offer inland may help displace some visitors to the coast, at least some of the time. This would also reduce pressure on the Levenhall, Longniddry Bents and Morrisons Haven LBSs.

4.43 While provision of inland recreation gives residents and visitors an alternative destination to the coast, it may also draw more people to the area, who then also visit the coast. The coast will always remain an attractive location, and visitors and residents (and their dogs) are likely to continue to go there in the absence of bye-laws or other management action regardless of the

availability or attractiveness of alternatives. Theme 1 of the strategy proposes improved active travel routes to destination such as Longniddry, Cockenzie/Port Seton and Prestonpans. This will inevitably mean it is easier for new and existing residents to access the coast, which could increase recreational disturbance there, affecting the Firth of Forth site and coastal LBS. The overall direction of change is therefore unclear. However, if management measures are required at the coast, because of the Strategy or otherwise, it would make it more likely that people will comply with these as alternatives are available.

4.44 The Strategy should have a positive effect on Longniddry Railway Walk, Gosford and Heugh and Meadowmill LBSs by improving connectivity through the measures of Theme 2 and Theme 3. Longniddry Railway Walk LBS is a useful site for connectivity and community access to nature, and its value would be increased by connection to a wider woodland network, as would that of Gosford LBS. Gosford would also benefit from further provision of nearby wetland. The Heugh and Meadowmill LBS would also benefit from connectivity improvements, as this site is not well connected at present.

Wider Habitat

4.45 Improving biodiversity is one of the main aims of the Strategy. Existing undesignated areas consist mainly of urban habitat, and farmland under intensive management with little biodiversity value, though there are pockets of more valuable habitat, including scrub. Theme 4 focusses on benefiting the biodiversity of the area, seeking opportunities for the creation of blue/green infrastructure, creating and improving habitat networks, and protecting and (where appropriate enhancing) the natural heritage assets of the wider area. The urban habitat will be improved by restructuring urban greenspace and improving urban biodiversity in other ways including an increase in pollinators. Improvements to biodiversity within the urban areas will improve habitat there, while the habitat networks and watercourse re-naturalisation (Theme 2) will improve it generally in the rural areas, including by improving connectivity. The alteration of farmland habitat will be positive for variety of biodiversity, and woodland, grassland and fen-marsh-swamp habitat. However, changes to the water environment, though positive overall, could enable INNS to spread and establish. Soil biodiversity may improve in naturalised areas.

4.46 The Strategy also aims to create climate resilient habitat which will help biodiversity here adapt to climate change. Increased access (Theme 1) to improved natural areas (Themes 2 and 4) is likely to increase awareness of and interest in biodiversity, which should benefit conservation overall.

4.47 Soil biodiversity in some areas could be adversely affected by the geothermal development and the installation of a District Heating system (Theme 5), built development (Theme 3 and 5 in particular), and large sealed water features (Theme 2).

Protected Species

4.48 The Strategy should have no direct adverse effects on protected species as any specific effect would either be considered through consideration of a planning application, or is controlled by legislation. Theme 2 and 4 are likely to have positive effects for conservation of bats as they often favour a combination of woodland and open habitat, with some species such as Daubenton's requiring open water, which will also increase under the Strategy. Otter are also likely to benefit from the re-naturalising of water courses, as is water vole. The habitat created may be more suitable for Great crested newt though it is not clear if there is a local population near enough to colonise this area, although there are records of them in the Garletons. Badger are also likely to benefit from an increase in the combination of woodland and open habitat.

Mitigation of potential adverse impacts of the Strategy – biodiversity

4.49 Any proposals will require to meet the terms of legislation designed to protect biodiversity, and where they require planning permission, the policies of the ELLDP. The Wildlife and Countryside Act 1981 and Conservation (Natural Habitats etc.) Regulations 1994 (as amended) set out a range of provisions to prevent harm to wildlife, including breeding birds and European Protected Species. There is also specific legislation protecting badgers. This is true of proposals coming forward with or without this strategy. The strategy does not however note the need for relevant survey which would be a useful addition.

4.50 The biodiversity policies of the ELLDP that aim to conserve biodiversity will operate Policy NH1: Protection of Internationally Designated Sites requires that no proposal which has an adverse impact on the integrity of a European site will be permitted. For proposals that require planning permission, this will prevent harm to the Firth of Forth SPA and indeed all Natura sites. Policy NH2: protection of Sites of Special Scientific Interest and Geological Conservation Review Sites aims to prevent harm to the notified features of SSSIs. Harm to non-notified features of SSSIs, and to Local Biodiversity sites, will not be permitted unless it is outweighed by the economic, social or environmental benefits of the development and suitable mitigation is secured, under Policy NH3: Policy NH3: Protection of Local Sites and Areas. European Protected Speices are protected under Policy NH4 in addition to legislation. Policy NH5: Biodiversity and Geodiversity Interests, including Nationally Protected Species provides proposals with an adverse impact to either a nationally protected species or the biodiversity of the site or surrounding area will not be permitted unless the public benefits of the development clearly outweigh the biodiversity interest of the site, and in that case mitigation must be secured.

4.51 Further mitigation that may be required or could be considered includes:

- Management of recreation at the coast to protect the Firth of Forth SSSI/SPA/Ramsar. This may be required regardless of the strategy; the pressure will come mainly from

changes to leisure activities, increased leisure time and an increase in population in the area generally, rather than from this strategy itself. However, increased access to the coast and increased visitor numbers is potentially issue and any impacts will need to be monitored.

- Changes to the water environment may give an opportunity for INNS to establish and action may be needed to avoid this
- Climate resilient palette species should be native, support biodiversity, have high carbon sequestration potential, have an ability to absorb pollution, be resilient to changing temperatures and levels of rainfall, and be robust against disease

Conclusion – Biodiversity

4.52 The overall effects of the Strategy on biodiversity are positive, from a low base. The Strategy will not harm the Firth of Forth SPA/Ramsar/SSSI site and may help conserve it if some recreational demand shifts to the ClimatEvolution zone. The Strategy will support some Local Biodiversity Sites and will not harm others. Conservation of protected species is likely to improve. The Strategy will improve habitat networks across the area. The Strategy makes a positive contribution to the Nature Network of the East Lothian Green Network Strategy, in particular by expansion of woodland, wetland and pollinating plants. The climate resilient habitat planting policy will help biodiversity adapt to climate change.

4.53 Alterations to the water environment could allow invasive non-native species to spread, and vigilance is required to prevent this. There could be some adverse impact on soil biodiversity in specific areas but it is likely to improve overall.

5 POPULATION

5.1 The Strategy is not intended and is not likely to change the growth, decline, structure or distribution of population. However, this is an area which has had a significant level of population change through new residential development, and anticipates further growth. Therefore, some background information on population is useful. The Strategy also has the potential to affect aspects related to population. This includes the effect on daily movement of population through job availablity, and the impact on population that comes from living in an area which has particular socio-economic characteristics. In addition, in the UK and Scotland as a whole the population of is aging, which could bring changes in how population relates to place. This topic is therefore considered here.

Relevant aspects of the current state of the environment - population

5.2 Through Scoping the following issues were considered. The Table below shows, with reasons, what existing issues are considered to be relevant to this strategy.

Scoping Table 2: Population		
Issue	**In/Out**	Reason
Socio-economic impact on deprived areas	**In**	One of the aims of ClimatEvolution is to improve quality of life for deprived areas through improving access to greenspace, integration of communities and improving perception of the area.
Impact on older people *new issue not considered at Scoping	**In**	The UK population and workforce is aging; connected policy is required to meet challenges of this demographic change. This has implications for how we plan for and approach old age; how housing, public services and care are planned; encouragement of life-long learning and others[9].
All other population topics	**Out**	ClimatEvolution is not expected to lead to changes in the structure or location of population, or a significant change in socio economic conditions other than in deprived areas.

[9] See "Future of an Aging Population" – Government Office for Science at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/816458/future-of-an-ageing-population.pdf

Population Growth

5.3 At 2018[10] East Lothian had an estimated population of 105,790, living in 45,975 households. Population increased by 0.9% in the previous year, and by nearly 20% since 1998, compared with a 7.1% rise for Scotland as a whole, with a slightly greater increase in the number of households. This is the highest percentage change over the 20 year period of all council areas in Scotland. Between 2016 and 2026, the growth of population and number of households in East Lothian is projected to outpace the Scottish average. Households are expected to rise by almost 12% (Scotland 6%) over this time, and population by 9% (Scotland 3%). Only 0.4% of population growth is expected to come from natural change (births over deaths), the remainder being made up of migration into the area.

5.4 The current population of communities within 5km of the Blindwells Development Area (roughly the centre of the study area) are: Prestonpans (10,410), Cockenzie and Port Seton (5,470), Tranent (12,140), Longniddry (2,420), Ormiston (1,970), Macmerry (1,410) Gladsmuir and Elphinstone (580). Development of existing sites and the Blindwells Development Area could increase the population of this area to over 60,000 people (the 2011 Census indicates Livingstone had a population of 56,269 people). There will be increasing population in this area due to new development with large allocated housing sites at Tranent, Blindwells, Londniddry and Wallyford.

Age Structure

5.5 In East Lothian, the 45 to 64 age group was the largest in 2018, with a population of 31,075. In contrast, the 75 and over age group was the smallest, with a population of 9,437. The average age in East Lothian is expected to increase, as the baby boomer generation becomes more elderly and lifespans increase over previous generations. The 16 – 24 year age group is expected to see the biggest percentage decrease at -5%, with the over-75's seeing the largest increase at 35%. In terms of absolute size however, the 45-64 year olds will remain the most numerous group. However in this area, families moving into new development may affect this trend.

5.6 In Preston-Seton-Gosford, the age distribution is similar to East Lothian as a whole. However compared to Scotland there are proportionately more children and fewer people of working age. In Tranent-Macmerry-Wallyford the population over 65 is around 15% of the population.

5.7 Dementia is linked to age structure as an illness predominantly affecting older people. As the average age increases this is likely to affect an increasing proportion of the population. Across

[10] Figures from https://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/east-lothian-council-profile.html

East Lothian an estimated 7.4% of the population aged 65 and over suffers from dementia (2016)[11].

Socio-Economic effects

Deprivation

5.8 The Scottish Index of Multiple Deprivation (SIMD) shows the spatial distribution of relative deprivation across Scotland. The data zones used are those of the 2011 census, with the data being updated every 3 – 4 years (most recently 2020). The data is available on the Scottish Government website at http://simd.scot. The Index looks at 30 indicators of deprivation, for example travel time to a GP, unemployment or pupil attainment, and groups them into seven 'domains'. The domains are Income, Employment, Health, Education, Housing, Geographic Access, and Crime. The areas which score lowest overall are likely to have low scores in the majority of the domains.

5.9 The data is useful for comparing the overall deprivation of small areas, and finding areas where many people experience multiple deprivation. People who live in deprived areas are more likely to experience conditions which limit their opportunity. Not all people facing deprivation will live in deprived areas, and not all people in deprived areas will experience deprivation. However the data can be used to help identify areas where placed based intervention will hopefully have the most beneficial effect.

5.10 East Lothian is one of six Council areas having a larger share of the 20% most deprived datazones compared with 2016. The maps below, from the SIMD website, shows that the areas of relative deprivation are concentrated in the west of East Lothian. No area east of Tranent/Prestonpans has a datazone within the most deprived 20%.

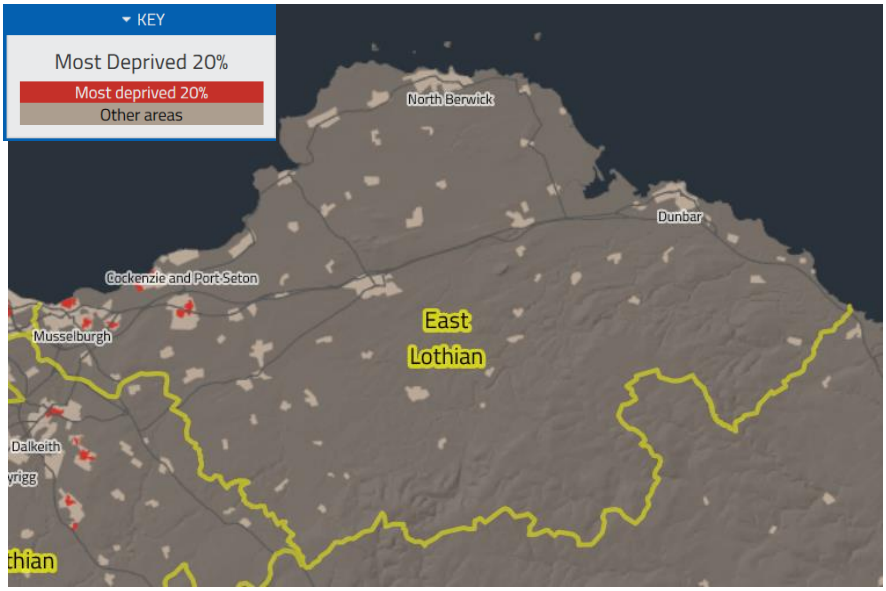


Figure 7 SIMD Datazones in the 20% most deprived, 2020

5.11 Figure 8 below, also from the SIMD website, shows SIMD zones in more detail across the ClimatEvolution area. Only the Coalgate in Tranent is within the most deprived 10% of

[11] Tranent-Macmerry-Wallyford Ward Profile, ELC 2016

SIMD zones. However, some areas of Prestonpans, Musselburgh and Wallyford are also in the lowest 20%.

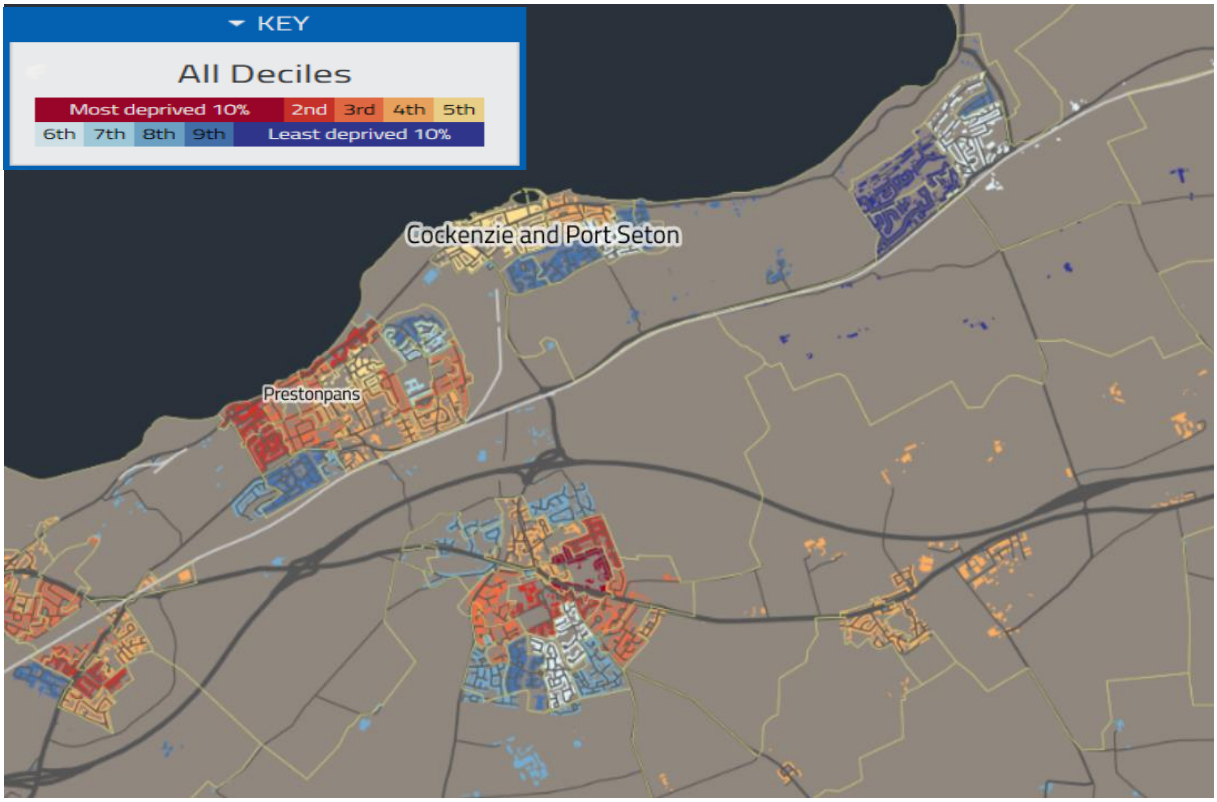


Figure 8: SIMD areas in ClimatEvolution zone

5.12 Despite this, the Preston-Seton Gosford ward profile 2017 notes 85% of residents in the of respondents to the East Lothian Residents Survey rated their neighbourhood as a 'very good' place to live, compared to 74% across East Lothian.

5.13 Many parts of the area, even those in the most deprived areas overall, score highly (well) on geographic access, though this is patchier around Cockenzie/Port Seton and Longniddry. However, good accessibility and the proximity of Edinburgh and the leisure, retail and other services located there, effects the vibrancy and vitality of the smaller town centres here, as well as travel patterns as people travel outwith the area for work and leisure.

5.14 Research for East Lothian Council[12] showed Preston-Seton-Gosford and Tranent-Wallyford-Macmerry wards had lower than average fuel poverty in private housing, at around 8% (compared to 11% for East Lothian generally) however this disguises high levels of fuel poverty in private housing in both Prestonpans and Tranent Town Centre.

[12] Reported in the Ward Profiles https://www.eastlothian.gov.uk/downloads/download/12766/ward_profiles

Job density and location

5.15 In 2017[13], the job density within East Lothian was approximately 0.56 jobs per person (this is reflected in the high out-commuting travel pattern from the area for work). This compares to the Scottish job density of 0.81 jobs per person. In Preston-Seton-Gosford in 2016 around 9.2% of the working population was considered to be employment deprived, which is higher than the East Lothian rate (8.5%) but lower than for Scotland overall (10.8%), however this conceals disparities within the ward; Longniddry West/Kings Road is at 1% while High St East/Roberston Avenue Prestonpans was 19%. In Tranent-Macmerry-Wallyford, the rate was 9.7%. Two SIMD data zones in Preston-Seton-Gosford are within the 20% most employment deprived in Scotland. Out-commuting levels in the ward are high; in 48% of Preston-Seton-Gosford households the main earner commuted out of East Lothian for work, the highest in East Lothian In Tranent-Macmerry-Wallyford, 37% of main earners commuted out of East Lothian for work[14].

Existing environmental issues – population

Age structure

5.16 In the UK, and Scotland, as a whole, the population is aging, as is the workforce. Becoming old where there are large numbers of younger people is a different experience from growing old where the proportion of older people is considerable. It poses challenges for the workforce, public services, care, and the built environment, and may change approaches to old age and what can be expected at that stage of life.

5.17 Plans should therefore consider the needs of older people and providing an environment where people can age well is increasingly important.

Socio-economic issues

Deprivation

5.18 Levels of deprivation in some parts of some of the communities in the ClimatEvolution area are the highest in East Lothian, and most concentrated. The settlements Tranent, Prestonpans, Cockenzie and Port Seton are former mining / fishing communities parts of which are within or near the bottom two SMID quartiles for most domains other than geographic access.

5.19 Living in such areas has well documented effects on people's health, well-being, employment prospects and life expectancy. This affects children as well as adults.

[13] Figures from NOMIS at http://www.nomisweb.co.uk/reports/lmp/la/1946157414/printable.aspx

[14] Figures from Preston Seton Gosford and Tranent-Macmerry-Wallyford at https://www.eastlothian.gov.uk/downloads/download/12766/ward_profiles

5.20 There are links between deprivation and climate change adaptation. It is likely that people in more deprived areas are less likely to be able to adapt to climate change and actions to mitigate climate change. For example, they are less likely to have insurance if they are flooded or their property is damaged in a storm. They may suffer disproportionately from rising taxes on petrol or domestic energy, imposed to deter trips in cars. An important consideration is therefore that people in existing communities, especially deprived communities, are not adversely affected by either inevitable climate change, or efforts to limit it, and benefit from actions to mitigate and adapt to climate change.

Job density and location

5.21 High levels of out commuting is well known as a climate change issue, however it is also an issue for population. Movement of people out of their communities in the daytime affects the local economy, the vibrancy of place and can weaken community links. 'Creation of vibrant, healthy and safe places' is considered under health; there is a link to this aspect of population.

Likely Significant Effects – Population

5.22 The following table shows the SEA objectives for Population and summarises the impact of "do nothing" and the impact of each Theme of ClimatEvolution:

SEA Objective, Population: Maintain or enhance the quality of life for East Lothian's residents					ClimatEvolution Themes				
SEA Sub-objective/questions for assessment. Does the plan….?	KEY		"Do nothing"	Comparison of ClimatEvolution to Do Nothing	ClimatEvolution overall	1 Movement	2 Water	3 Leisure	4 Biodiversity	5 Enterprise
	Positive	+								
	Neutral	0								
	Unknown	?								
	Mixed/Variable	//								
	Negative	-								
	Comparison of ClimatEvolution with "Do nothing"	Better / Worse								
Contribute to regeneration of disadvantaged areas			+	↑	+	+	+	+	+	+
Support older people to live well			0	↑	+	+	+	+	+	+

"Do nothing"

Regeneration

5.23 New residential and employment sites allocated in the ELLDP including new settlement at Blindwells, with or without the safeguard area, and development sites at Longniddry, Prestonpans and Tranent will significantly increase population in this area. The ELLDP allocated these sites in part with the aim of contributing to regeneration of disadvantaged areas, which at that time were also areas in the west of the area, including parts of Tranent, Prestonpans and Musselburgh. Some regenerative effects – for example an increase of customers for local shops, helping viability – are expected. Although development here brings the opportunity for regeneration, there is a risk that regenerative effects do not extend significantly into the local area. The physical barriers of the A1/A198 and East Coast Mainline railway between existing settlement and Blindwells in particular means without good connections, Blindwells could become an enclave of healthy, low impact living leaving behind existing communities with a poorer physical environment.

5.24 The ELLDP does not propose education or training facilities beyond school level, though it notes Edinburgh College has an aspiration to establish a presence East Lothian, and supports emerging spin-off opportunities from Queen Margaret University by allocating employment land there. At the moment access to training for people in disadvantaged areas can be difficult; although both Queen Margaret University and Edinburgh College Milton Road campus are accessible by bus or train, other training opportunities including those at Edinburgh College Sighthill or Granton Road campuses are harder to reach. Although many of the 'Education/skills' SIMD indicators concern school education, improving further education will have a positive impact on skills.

5.25 East Lothian Council has commissioned a masterplan for the site of the former Cockenzie Power Station, and is actively seeking productive uses for this land, which it owns. It is likely that employment uses will come forward on this site. This would benefit job distribution and the regeneration of the area and help the area improve on both the 'Employment' and 'Income' domains.

Older people

5.26 In some areas access to attractive outdoor space and active travel options suitable for all are limited. This may mean that older people or people in deprived areas do not keep active, affecting their health and mobility, and limiting their opportunities for social contact. There are some local opportunities for lifelong learning which may help older people remain in the

workforce and provide opportunities for those in deprived areas however training is limited in range.

5.27 Preston-Seton-Gosford Area Partnership Plan includes as an aim "older people can live independently in the community with access to the support they need, as and when they need it". Actions to achieve this includes the promotion of dementia friendly communities, which can include changes to the built environment to make it more legible and easier for people with infirmity to walk around. The Fa'side working draft Plan includes as an aim "support older people to access opportunities in their community for as long as possible" . Actions under both of these plans are likely to lead to improved accessibility of the built environment to older people.

ClimatEvolution

Regeneration

5.28 All Themes have positive elements for regeneration and creation of vibrant, healthy, safe places and communities (see 'Human Health', below) which will benefit existing residents including those in disadvantaged areas. The environmental improvement and regeneration opportunities will, along with the neighbouring new settlement, potentially be of wider significance to the regional and local economy.

5.29 ClimatEvolution offers job and training opportunities which allow for less out-commuting and support incomes. All Themes offer specific opportunities for employment. Theme 5 includes Local Regeneration Plans for local communities. Theme 3 also includes proposals which would create jobs including National Climate Change Centre, and Battle of Prestonpans Visitor Centre, while Theme 2 includes a water park/Lido. There is also support for starting new business by identifying need, offering incentives and providing space in step with development of Blindwells. Employment is also supported by the proposal in Theme 5 to develop a clear 'brand' for the area. This will help the area improve on both the 'Employment' and 'Income' domains.

5.30 Theme 5 considers skills, development and training, noting particular opportunities in modern methods of sustainable construction, low and zero carbon technology perhaps in association with creation of heat networks, agricultural or horticulture or food and drink. It includes proposals for a training hotel, a Horticultural Inward Investment Study, Centre for Excellence in Construction and an Education Centre within the National Climate Resilience Centre. This is likely to help the area improve on some of the indicators in the 'Education/skills' domain in

particular school leavers aged 16-19 not in education, employment or training, and working aged adults with no qualifications.

5.31 'Health' is also a deprivation domain. The impacts on health of ClimatEvolution are considered separately in 'Human Health' but in summary are expected to be positive. Some of the factors considered will also impact positively on 'Health' domain indicators (standardised mortality ratio and comparative illness factor). This domain includes the indicator 'Estimated proportion of population being prescribed drugs for anxiety or depression'. Increased access to natural spaces (Theme 1, in combination with Themes 2 and 4) may reduce the proportion of these prescriptions.

5.32 The travel environment is improved through proposals in Theme 1. Theme 1 introduces gateway hubs, improvements to bus infrastructure and routes. Public transport travel times to Post Office, GP and Retail centre are indicators for geographic access, so these actions may improve indicators for the 'Geographic Access' domain. Active travel is not part of the indicator, however good active travel links can help combat deprivation through improvements to access; reducing the costs of travel (income); reducing road accidents (health) and by improving the overall attractiveness of the area by reducing the impact of vehicles. Active travel improvements also have benefits through providing more opportunities for people to meet, helping with integrate new and old communities.

5.33 The Strategy includes a proposal for Geothermal District Heating in Theme 5. This would provide a low carbon heating source for houses in the area . 'Persons in households without central heating' is one of two indicators for this SIMD domain and district heating proposals could improve performance against this indicator. Use of geothermal energy for district heating if it is low cost could assist those in fuel poverty, supporting the regeneration of these areas through improving incomes. There is also a potential for ownership and management of geothermal heating and coolling schemes. The proposal for improving existing housing stock, is specifically concerned with making local houses more energy efficient and will help support incomes.

5.34 It is unlikely ClimatEvolution will affect ranking on the 'Crime' domain.

5.35 In addition to impacts on SIMD domains, Theme 2 will have benefits which could impact particularly on people living in deprivation. It addresses surface water issues which will help reduce flood risk for existing communities. Being flooded is costly; property at risk of flooding is difficult and expensive to insure. It thus impacts disproportionately on households with low income. New and improved open and green space within and near communities and blue

infrastructure and re-meandered watercourses as proposed by Themes 2 and 4 will help regenerate the area by improving the attractiveness and recereational offer of the area.

5.36 The Low Carbon Food Strategy included in Theme 4 aims to improve use of local food and support community growing, and suggests links to Queen Margaret University and the East Lothian Food and Drink Business Improvement District. In addition to employment, this could enable people to source cheap, healthy food and increase knowledge of cooking.

5.37 Theme 5 specifically focusses on building strong communities, regeneration and enterprise. It contains and recognises proposals for employment and regeneration at Cockenzie. Its proposals all aim to support regeneration through connecting the area and providing jobs. The Strategy specifically includes the formation of Local Regeneration Plans for existing communities, which respond to the Place Principle and provide a framework for communities to carry out actions themselves, supporting and building on the work of the Area Partnerships.

Older People

5.38 The strategy will support active, involved lifestyles for older people by improvements to active travel and open space, including paths for all abilities. Older people may also benefit from lifelong learning through the training and employment opportunities offered.

Mitigation of potential adverse impacts of the Strategy – Population

5.39 The East Lothian Council Plan includes as an over-arching objective "reducing inequalities within and across our area". Addressing inequality, including that which has a spatial dimension, is thus considered throughout the Council's work.

5.40 Although the strategy is expected to have benefits for the regeneration of the area however it could consider provision for groups with protected characteristics and cross cutting themes including poverty specifically. This should include consideration of the needs of older people and people with dementia in how the buildings, places and open spaces are designed. Integrated Impact Assessment completed on the strategy prior to finalisation will help identify potential improvements.

Conclusion – Population

5.41 Impacts on population are expected to be positive. ClimatEvolution is in itself mitigation for the impacts of increased population in this area which are likely to occur through housing allocations in the ELLDP. The Strategy is expected to have considerable benefits for regeneration, in tandem with Area Partnership and other plans, offering improvements on several SIMD domain indicators. Improved employment and training opportunities will support a reduction in commuting out of the area for work and training opportunities. The Strategy is

expected to have positive effects on older people through environmental improvements allowing for access to natural spaces close to home.

6 HUMAN HEALTH

6.1 The World Health Organisation defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". The definition goes a lot further than merely not being ill, to encompasses well-being of the body, mind, and self in relation to others. It is a very positive definition.

6.2 The physical environment can directly influence human health – in obvious and immediate ways both common and unusual such as tripping us up or volcanic eruption. It can also affect us in more long term and less obvious ways such as through poor air or water quality. An accumulation of evidence shows that access to natural greenspace can help both mental and physical health. Greenspace within towns can also improve air quality and general quality of life. Trees in towns can increase the perception of environmental quality – the 'leafiness' of 'leafy suburbs' is a characteristic picked out for a reason.

6.3 The environment can also influence health behaviours for example through the provision, or not, of active travel routes or attractive open space. Access to natural spaces, even if viewed through a window, can improve our mental health.

6.4 The total impact of environmental factors such as climate, geography and environmental hazards is termed the environmental burden of disease, most of which, in theory is preventable. The aim should therefore be to reduce the adverse health effects that arise from living in poor quality environments, and maximise the benefits of living in good ones.

6.5 The Scottish Government and COSLA have identified six priorities for public health in "Public Health Priorities for Scotland". These are summarised as living in vibrant, healthy and safe places and communities: flourishing in early years: good mental wellbeing; reduced harm from alcohol, tobacco and other drugs: a sustainable, inclusive economy with equality of outcomes for all and eating well, have a healthy weight and are physically active. Of these, in particular living in vibrant communities, equality of outcomes and maintaining a healthy weight and physical activities are relevant.

Relevant aspects of the current state of the environment – human health

6.6 Although Flooding is recognised as a health issue, it is mainly considered under 'Water'. The health effects are noted in brief in the Scoping Table below. There is also a clear link between health and air quality, however air quality is considered under 'Air'. Creation of vibrant, healthy, safe places, and reduction of inequalities both have positive effects on health, and are aspects of this are considered under 'under 'population – socio economic effects' above also.

6.7 Through Scoping the following issues have been considered. The Human Health Scoping Table below shows, with reasons, what existing issues are considered to be relevant to this strategy.

Scoping Table 3: Human Health		
Issue	**In/Out**	**Reason**
Creation of vibrant, healthy and safe places and communities	**In**	The places we live, work and play, the connections we have with others all have a significant impact on our health and wellbeing. Plans for this area have the potential to significantly affect the achievement of vibrant, healthy communities through provision of open space and connectivity
Maintaining fitness and a healthy weight - impact on opportunity for active travel and outdoor recreation	**In**	Active travel improves health, as does active recreation. Opportunities for outdoor recreation can also improve mental health.
Impacts from traffic (noise and air quality)	**In**	Although it is not likely there will be a large change in traffic movements, an increase in health impacts from air pollution or noise arising from transport would negate one of the aims of the park of an increase in quality of life. Air quality can reduce healthy life expectancy and has already exceeded statutory limits in Musselburgh, which could be affected by increased traffic.
Flooding	**In**	The experience of being flooded, especially the experience of being flooded out of one's home, can have significant health impacts across the full range of the community, with long-term impacts on mental and emotional health often a hidden impact. The avoidance of flood risk, the reduction of flood risk to new and existing communities would be a significant benefit to communities in this area of East Lothian. Flooding impacts are considered under 'Water'
All other health effects	**Out**	There could be mental health benefits from enhancement to the area generally, however this is hard to quantify and appraisal would be speculative. There could also be indirect effects from providing areas which are cooler to adapt to the impacts of climate change, however, these are again hard to quantify (and may not occur).

Background - Life expectancy and illness

6.8 Life expectancy in Scotland has improved considerably almost everywhere over the last hundred years, however it has diverged from rates in Western Europe generally and is now

lower than the average for Western Europe[15]. Life expectancy in East Lothian is above average for Scotland, with life expectancy at birth currently being 78.3 years for males and 82.5 for females[16]. Life expectancy has increased in East Lothian over the past 10 years, but the rate of increase has been slower for males than females.

6.9 The East Lothian life expectancy figures also conceal variations within the area, with some areas having life expectancy below the Scottish average, generally within areas which are more deprived overall. For example, men in Prestonpans North are expected to live on average 74.6 years, more than 8 years less than men in Longniddry and Aberlady (82.8 years), while women in Dunbar West are expected to live for 77.5 years; 12 years less than women in Musselburgh West (89.8 years).[17] Healthy life expectancy, the number of years that can be expected to be lived in good health, is also lower in deprived areas.

6.10 For men in East Lothian, the leading cause of death was ischaemic heart diseases followed by dementia and Alzheimer's disease; these were the leading causes of death of women also though dementia and Alzheimers were ahead of heart disease.

6.11 The Preston-Seton-Gosford area[18] does worse than the East Lothian average on many health and well-being indicators; from number of patients with cancer and emergency hospitalisations to the number of babies of low birth weight. This is reflected in the SIMD 'health' deprivation mapping above. There are well known links between overall levels of deprivation and poor health. The legacy of coal, both its mining and burning, continues to have a health impact on people in the area.

6.12 Obesity is a significant health problem, linked to many diseases and conditions and lowering life expectancy. In Scotland in 2018, around two thirds of the adult population were overweight, with over a quarter of these being obese. People are becoming overweight younger, and staying that way for longer. A clear gradient of inequality is evident for both men and women with obesity levels highest for those living in the most deprived areas[19]. Women

[15] Scottish Government and Cosla "Public Health Priorities for Scotland" 2018 https://www.gov.scot/binaries/content/documents/govscot/publications/corporate-report/2018/06/scotlands-public-health-priorities/documents/00536757-pdf/00536757-pdf/govscot%3Adocument/00536757.pdf

[16] https://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/east-lothian-council-profile.html#life_expectancy

[17] East Lothian by Numbers December 2016 (Scotpho 2015)

[18] Preston Seton Gosford Area profile at https://www.eastlothian.gov.uk/downloads/file/23551/preston-seton-gosford_health_and_wellbeing_profile

[19] https://www.scotpho.org.uk/clinical-risk-factors/obesity/key-points and ONS publication The Scottish Health Survey 2018 updated 2020, at https://www.gov.scot/publications/scottish-health-survey-2018-volume-1-main-report/

and children in the most deprived areas are more likely to be extremely obese. An environment conducive to physical activity with options for active travel can help combat this.

6.13 SMID indicators show that Prestonpans, Cockenzie and Port Seton all have areas of depravation in relation to health featuring within the lowest deciles, including within the lowest 10% and 20% nationally.

Central Scotland Green Network (CSGN)

6.14 The CSGN is a National Development as identified in National Planning Framework 3. It has as its Vision 'By 2050, Central Scotland has been transformed into a place where the environment adds value to the economy and where people's lives are enriched by its quality.' The network aims to create an environment which supports healthy lifestyles and well-being, as well as mitigating and adapting to climate change, and provide a place for nature to flourish. The CSGN extends over 26 local authority areas in central Scotland, including the whole of East Lothian. It is to provide a step change in environmental quality of the area.

6.15 The East Lothian Green Network Strategy guides the implementation of the Green Network in East Lothian, coordinated with actions in other local authority areas through work carried out for SESPLAN, and in line with CSGN objectives. The East Lothian Green Network Strategy includes actions for the Meadowmill/Cockenzie/ Blindwells area, shown graphically in below.

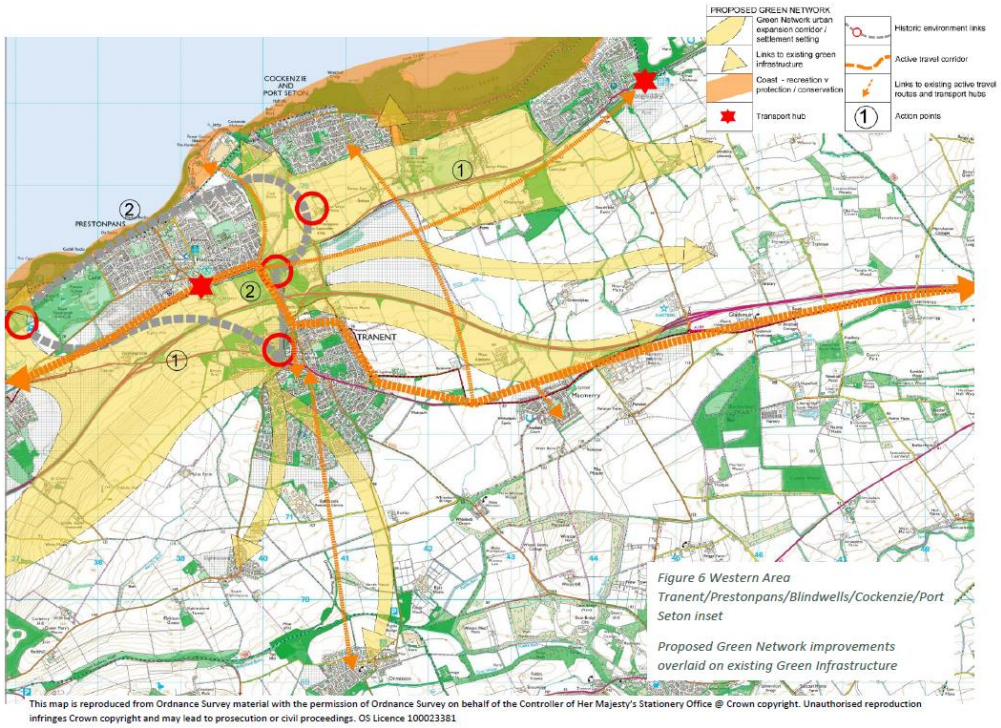


Figure 9: Excerpt from the East Lothian Green Network Strategy

6.16 The actions for this area comprise retention and enhancement of open areas around settlements, which should also provide for recreation and active travel; and maximisation of opportunities for tourism and education relating to the areas industrial past and Prestonpans Battlefield, and development of active travel links between historic environment sites. Other relevant actions include those for urban areas; reviewing areas within the lowest 40% SIMD areas to identify Green Network improvements; use of green infrastructure to improve air quality; provision of 'oasis' areas and active travel improvements. Implementation of the Active Travel Improvement Plan is key in both countryside and urban areas, including the Segregated Active Travel Corridor and enhancement of the railway walks. At the Coast the Green Network Strategy aims to continue to manage the coast for recreation while respecting the birdlife of the area, and subject to Habitat Regulations Appraisal, to further develop coastal recreation and improve access to the coast. The Green Network Strategy also includes actions to form a Nature Network (see Biodiversity), and to support the water management objectives of the Scotland River Basin Management Plan.

6.17 Both Tranent and Prestonpans are low in tree canopy cover, at 13% and 11% of the urban area respectively, compared to 32% in Longniddry and 17% overall in Edinburgh[20].

6.18 In November 2018, East Lothian's Open Space Strategy was adopted (https://www.eastlothian.gov.uk/meetings/meeting/16252/cabinet .) The Strategy was informed by an Open Space Audit which confirmed East Lothian enjoys a good supply of high quality parks and open spaces. Scottish Planning Advice Notes recommend that open space standards should contain three elements: quantity, quality and accessibility. The Open Space Audit looked at the application of these standards to East Lothian settlements and found that the Musselburgh and Prestonpans clusters have a good supply of high quality parks within easy reach of residents living within those settlements, therefore they meet all three standards. The Tranent cluster meets only two out of the three standards, falling short of the quantity standard (60m^2 of open space per household) by a relatively small margin (53.73m^2). However, the town meets the quality and the accessibility standard.

[20] Unpublished ELC data and Forest Research I-Tree Edinburgh Report https://www.forestresearch.gov.uk/research/i-tree-eco/i-tree-eco-projects-completed/i-tree-eco-edinburgh/

Cluster	Green Networks (Semi-natural Greenspaces, Green Corridors)	Parks and Gardens			Amenity Greenspace	Playspace	Sports Areas
	Accessibility	Quantity	Quality	Accessibility	Quality	Accessibility	Accessibility
Dunbar	Yes	Yes	Yes	Yes	Yes	No	Yes
Haddington	Yes	Yes	Yes	No	Yes	Yes	Yes
Musselburgh	Yes	Yes	Yes	Yes	No	Yes	Yes
North Berwick	Yes	Yes	Yes	No	Yes	No	No
Prestonpans	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tranent	Yes	No	Yes	Yes	Yes	Yes	Yes

Figure 10: Excerpt from East Lothian Open Space Strategy 2018 Quantity, Quality & Accessibility Standards

6.19 The Open Space Strategy emphasises that the development of a new settlement at Blindwells presents a significant opportunity to make good use of previously developed land and to capitalise on the integrated transport opportunities offered by the sites strategic location close to major road and rail networks. The excerpt above from the East Lothian Open Space Strategy shows how well the open space in different towns of East Lothian meet standards of quantity, quality and accessibility.

6.20 East Lothian Council owns and manages a considerable number of the open spaces in the area, though some of the open spaces in residential developments are owned by the residents and managed through factoring arrangements. Some other open spaces have private owners but have a management agreement with the Council in place.

Active Travel

6.21 'Active travel' includes all forms of travel which require the active use of the human body as a transport machine. It includes walking, cycling, scooting, some types of wheelchair use, and also horse-riding although this is overwhelmingly a recreational activity now. Physical inactivity contributes to many premature deaths and associated illness, which places a burden on the person, their carer's, health services and the wider economy. Providing an environment conducive to active travel helps maintain fitness and a healthy weight. It is part of avoiding an 'obesogenic' environment. According to a recent study[21] investment in active travel is the second best investment to improve physical activity levels (after public education).

6.22 East Lothian in general has a well-developed network of walkable routes, both on and off-road. There is an existing network of Core Paths here, though the main motorised transport links can form a barrier to movement. Active travel routes between Tranent and Prestonpans consist of the non-motorised Waggonway, which has an underpass between Tranent and Meadowmill

[21] By the University of Edinburgh and International Society for Physical Activity for Health, quoted in East Lothian Council's Active Travel Improvement Plan at https://www.eastlothian.gov.uk/downloads/file/28974/lts_active_travel_improvement_plan

Sports Centre, and a footpath alongside the road across the A1 at Bankton junction which is busy and not pleasant to use. There is also minor road linking the towns, the Johnnie Cope Road, which although relatively quiet is narrow and does not have a footpath. There are active travel connections to Meadowmill Sports Centre from both Prestonpans and Tranent, though they may not feel safe for all users due to lack of overlooking and tree growth especially on the Prestonpans side. There is a good path/minor road network to the west and south of Tranent which gives opportunities for circular walks. Along the coast, the John Muir Way is a long distance path and also cycle route, from Dunbar to Helensburgh. The National Cycle Network links here include the John Muir Way, the Longniddry-Haddington railway path, and the A199 between Tranent and Haddington, though this is along a busy road. The ELLDP identified a route for a Segregated Active Travel Corridor to form a commuter route between Dunbar and Edinburgh, passing through the area to the east and south of Tranent, and will collect developer contributions to help create this.

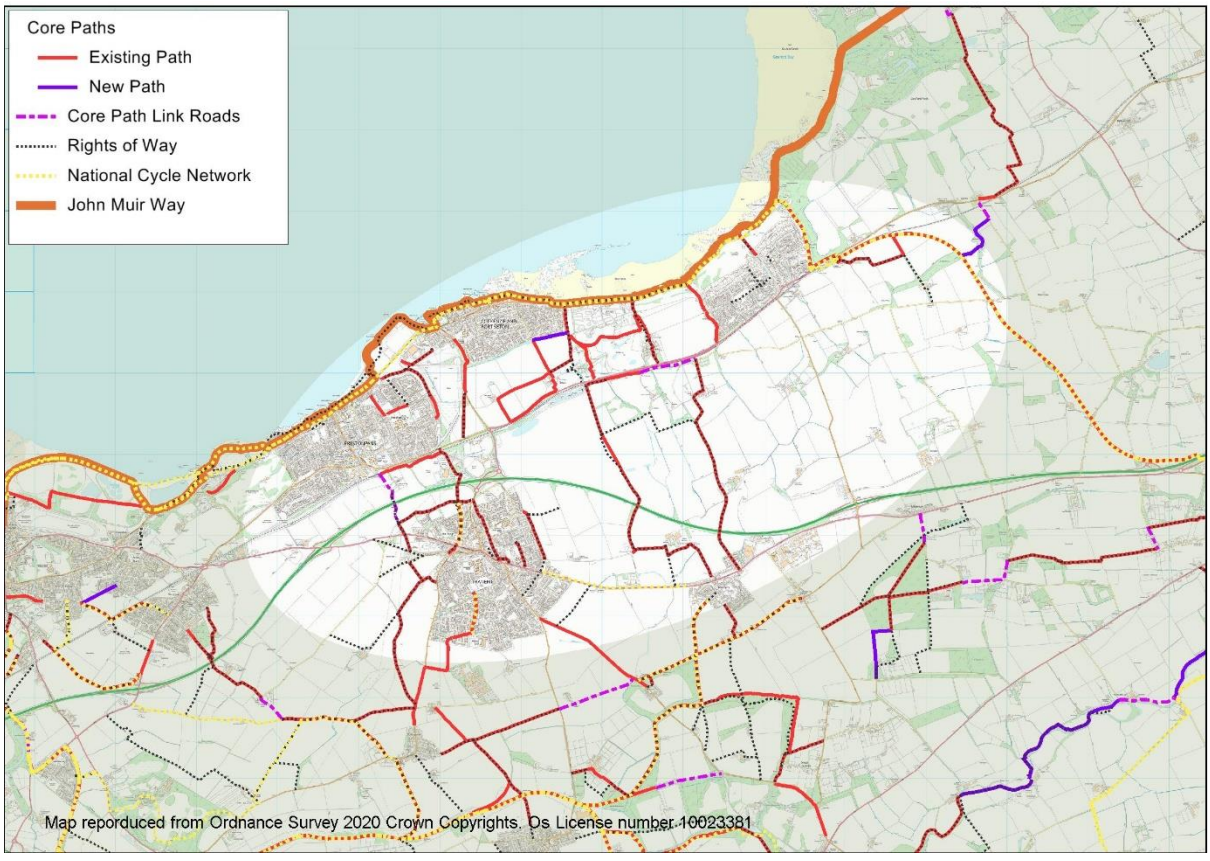


Figure 11: Active Travel Routes

Noise

6.23 Noise is unwanted sound that can occur when it reaches certain levels or intensities, or has a certain tonal quality. The WHO considers there is "sufficient evidence from large-scale

epidemiological studies linking the population's exposure to environmental noise with adverse health effects at specific health end points" however other studies show health effects only in a minority of susceptible people, with recent research suggesting that annoyance and sleep disturbance may have the most significant impact.[22]. The issue of health effects and noise is a ongoing area of research but it is possible that noise could have a detrimental effect on health and wellbeing and can be noticeable below set statutory nuisance levels.

6.24 There are some places within the area that are affected by noise in particular from road traffic (see Figure 12 below which shows assessed noise from roads in the area). There is also likely to be some contribution from rail traffic however this is below the level assessed under the Environmental Noise (Scotland) Regulations 2006. Mitigation for noise impact is in place for some existing housing, and will require to be considered for new housing in affected areas. There may be scope for green infrastructure to be designed so that it can help with noise mitigation where needed.

6.25 The Figure below shows assessed noise from roads in the area

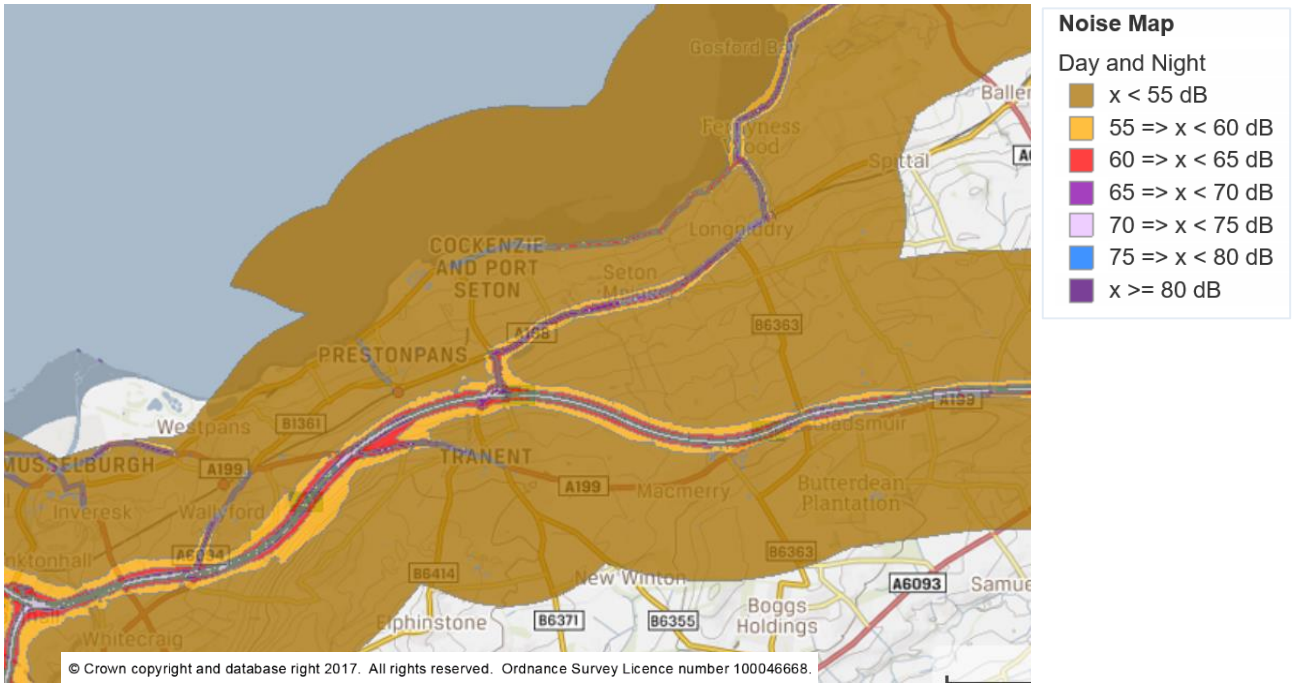


Figure 12: Average annual noise from roads. Source: Scottish Noise mapping at https://noise.environment.gov.scot/noisemap/

6.26 The Edinburgh Aggolmeration Noise Action Plan notes that access to quiet areas and peaceful soundscapes is generally known to bring about a range of benefits to human health and well-

[22] Edinburgh Noise Action Plan, at https://noise.environment.gov.scot/action-planning-round-three.html

being. Designation of Quiet areas is required under the Environmental Noise (Scotland) Regulations 2006. Parts of the coast at Prestonpans are part of the Firth of Forth Candidate Quiet Area.

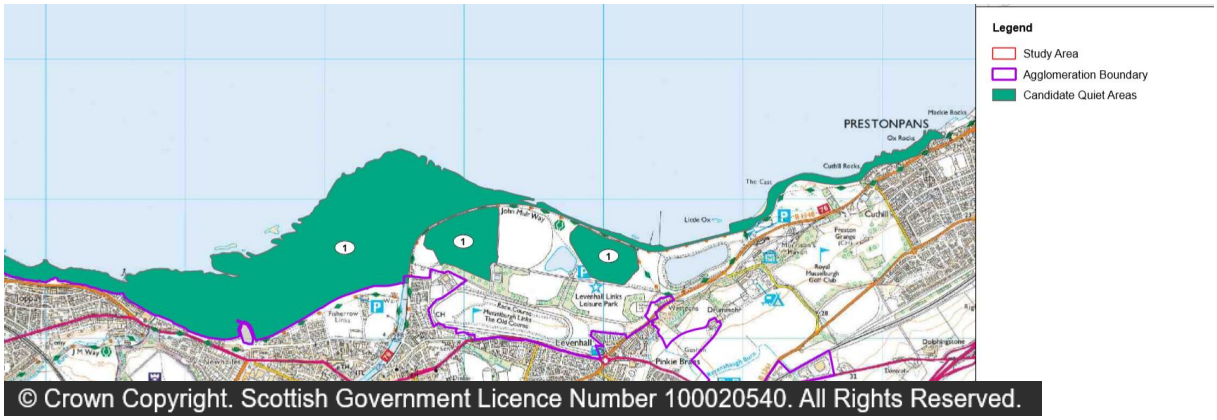


Figure 13: Firth of Forth Candidate Quiet Area: Source: Edinburgh Agglomeration Round 3 Noise Action Plan mapping at https://noise.environment.gov.scot/pdf/RoundThree/Edinburgh/Edinburgh%20CQA.pdf

Flooding (see also 'Water')

6.27 The experience of being flooded, especially the experience of being flooded out of one's home, can have significant health impacts across the full range of the community, with long-term impacts on mental and emotional health often a hidden impact. Most of this area is in a Potentially Vulnerable Area. The avoidance of flood risk, the reduction of flood risk to new and existing communities would be a significant benefit to communities in this area.

Existing environmental problems – human health

6.28 There is lower than average life expectancy in some of the more deprived areas in this zone. There are also higher rates of cancer, emergency hospitalisation and low birthweight babies. The link between areas of deprivation, and poorer health is complex however environmental issues are thought to play a role. These include poor access to open space, and open space of poor quality, lack of active travel networks and healthy food, poorer air quality, noise, stress arising from low quality work, as well as health issues arising from perceived low socio-economic status. Some places within this area experience environmental issues linked to poorer health including; noise, poor air quality, coal legacy, risk of flooding, deficit of greenspace.

Central Scotland Green Network

6.29 Across Scotland in the CSGN area environments could be improved to provide a healthier living environment. In this area there will be increasing pressure on the outdoor recreational resources of the area due to increasing population. Funding is a major barrier to implementation of the CSGN and pressures are likely to increase following corvid-19.

6.30 Issues with the area itself are that some of the urban environments in this area may not as good as they could be overall aesthetically. Tranent and Prestonpans have lower than average tree canopy compared to other urban area – though places have their own distinctive identity and it may be that trees are not appropriate for these areas. However, trees can improve environmental quality with a small footprint where they can be accommodated without overshadowing or other issues. There are some issues with vacant and derelict land in this area (see Landscape). There is a lack of open space in total in Tranent and some of it is not well located in relation to the settlement (Polson Park). As population changes within residential areas, open space which was formerly needed may no longer be suitable for example it is common for new residential areas to attract relatively large numbers of children, which changes as the estate matures; leaving less need for formal play space.

6.31 The costs and quality of factoring of open space can be in issue in some residential areas leading to a desire for it to be sold off.

Active Travel

6.32 Active travel provision here as in much of Scotland in general lags behind that of other European countries in terms of both availability and quality of routes, in both urban and rural settings. Safety of routes appears to be an issue: responses to the East Lothian's Citizens Panel 2015 on what would encourage them to walk or cycle more regularly, by far the most selected option was development of safer cycle routes and paths.

6.33 Increasing population will put significant pressure on existing transport networks. The A1, the main transport corridor through the county, and Musselburgh, as the main entry point to Edinburgh, are experiencing capacity issues in terms of vehicle transport. East Lothian must respond to this lack of capacity by offering alternatives to motorised transport, especially single occupancy cars. Although many journeys are under 2 miles long, East Lothian towns remain dominated by the needs of cars. Encouraging people to use active travel is therefore an issue for health both in terms of fitness and providing attractive, vibrant environments.

6.34 In this area particularly, there is a lack of active travel connectivity north to south. A key challenge is to reconcile the east-west vehicle and train transport movement with north-south movement of water and routes to destinations via active travel.

Noise

6.35 Enviornmental noise can adversely affect human health and wellbeing. Some parts of this area have high levels of noise associated with roads. The ELLDP has allocated new sites for housing and employment use in the area and this could increase levels of noise from traffic. Noise has

the potential to affect the recreational experience below levels at which it would be considered a statutory nuisance. Increased population has the potential to affect noise levels at the Firth of Forth Candidate Quiet Area.

Likely Significant Effects – Human Health

6.36 The following table shows the SEA objectives for Human Health and summarises the impact of "do nothing" and the impact of each Theme of ClimatEvolution.

6.37 Air quality has a clear link to human health, with poor air quality implicated in a number of health conditions including heart disease and dementia, as well as diseases of the lungs. As the Cleaner Air For Scotland Strategy notes, "Ill health caused by air pollution is a health inequalities issue because it affects the more vulnerable members of the population disproportionately (people who are very young, elderly, those with pre-existing medical conditions, and those living in urban areas and deprived circumstances)". Both Local Air Quality and Mine gas effects are considered under Air, although the impact of poor air quality falls on human health as well as other environmental receptors including biodiversity. Flooding, although the impact is on human health and material assets, is linked to other water issues and so considered under 'Water'. The Council has strategies in place which aim to implement the Green Network and improve active travel. This will be done through the ELLDP, Green Network Strategy, Local Transport Strategy and its daughter document, the Active Travel Improvement Plan, among others.

SEA Objective, Human Health: Maintain, or provide opportunities to improve, human health	"Do nothing"	Comparison of ClimatEvolution to Do Nothing	ClimatEvolution overall	ClimatEvolution Themes: 1 Movement	2 Water	3 Leisure	4 Biodiversity	5 Enterprise
Preserve or enhance the Central Scotland Green Network	0	↑	+	+	+	+	+	0
Improve and ensure reasonable accessibility to open spaces, sports facilities, and the core path network	+	↑	+	+	+	0	+	0

SEA Sub-objective/questions for assessment. Does the plan….?

KEY

Positive	+
Neutral	0
Unknown	?
Mixed/Variable	//
Negative	-
Comparison of ClimatEvolution with "Do nothing"	↑ Better / ↓ Worse

Maximise active travel ~~and public transport accessibility~~ [from Air – public transport is considered under Climatic Factors]	+	↑	+	+	+	+	0	+
~~*Seek to mitigate, reduce or avoid issues associated with contamination, ground gasses or other hazards*~~*[ground gasses moved to Air, contamination to soil]*	Not applicable – moved to Air and Soil							
Ensure acceptable levels of noise		↑	+	+	0	0	+	0

Do nothing' alternative – Human Health

Central Scotland Green Network and Active Travel

6.38 The open spaces around settlements will be protected through application of ELLDP Policy DC8: Countryside Around Towns however there is no mechanism or detailed plan for provision of recreation or active travel there. A masterplan for Prestongrange Museum has been developed however other than this there are no immediate plans to improved heritage, or active travel links between heritage sites. These are seen as medium to long term opportunities and other than at Prestongrange no project level funding or planning is yet in place.

6.39 The ELLDP requires a minimum space standard of 60m2 per house for housing development, which will lead to the creation of some additional green space. However, this is only where development is coming forward, which is mainly on areas of open agricultural land, so overall the picture is one of loss, though the space may not have been usable as greenspace it would have appeared both open and green. There is also some provision for enhancement of existing open space where open space standards cannot be met onsite, or it is not desirable to do so.

6.40 This will generally ensure that open space provision does not fall below a minimum standard through new development, though there could potentially be cumulative detriment to existing provision through small scale development. The role of the ELLDP is to regulate development and it does not propose new open space other than in association with new housing development. Improvements to open spaces may be identified through the Area Planning process, and there is some funding available for this.

6.41 The routes of Core Paths are protected by legislation, and in addition the ELLDP seeks to ensure there is no detriment to user experience. The ELLDP seeks to provide active travel in new development onsite and off site, including the Segregated Active Travel Corridor and enhancements at Tranent Town Centre. This will ensure that active travel needs related to new development are met.

6.42 The Active Travel Improvement Plan notes that the Council was funded through the Scottish Government's Smarter Choices, Smarter Places programme to work through the Area Partnerships to develop locally relevant, prioritised plans for active travel for each area. These plans remain live, fluid documents which highlight local aspirations and focus on delivery.

6.43 Through actions under the Active Travel Improvement Plan, East Lothian Council aims to facilitate active travel by investing in and supporting implementation of an accessible, high quality active travel network to make everyday journeys by foot or bike easier options. This includes integrating active travel with other forms of sustainable travel, green networks and hubs. The Council will achieve this by engaging with communities, creating a better walking and cycling environment, improving connectivity between residential areas, and seek to secure that development enhances and extends the active travel network. The Council will also develop the green space network as an essential part of the active travel network, and use design tools to enhance sense of place. The Council will improve cycle routes on a prioritised basis, and maintain the cycle network to an appropriate standard. The Council will also continue to improve the network of active leisure routes including Core Paths and the John Muir Way.

6.44 The Council will continue to deliver sustainable management of the open and green spaces it owns or manages, in partnership with community groups such as 'In Bloom' groups. The forthcoming Design Standards for New Housing Areas will include guidance on the design of new spaces and active travel connections within residential areas, which the aim of driving up quality.

6.45 Under 'do nothing' it is likely that active travel provision will improve considerably, and open space quality, somewhat. The amount of open space is not likely to increase other than to meet the needs of new development. The Council will continue to maintain open spaces that it owns or manages. Some other actions which contribute to the East Lothian Green Network Strategy will be implemented including improvements at Prestongrange and coastal management. Others are less likely to be, at least in the short term, including a review of the more deprived urban areas; improved linkages to the coast and between heritage site; and management of the open spaces around settlement for recreation and biodiversity.

Noise

6.46 Noise is likely to continue to be an issue for new housing development close to roads, including at Blindwells which would have to be mitigated. It may also be an issue for existing older developments that pre-dates modern noise standards. There is an existing level of noise related to the A1 and the railway which could reduce amenity for existing recreational users of

the area. The 'do nothing' approach would not improve the situation for them, however, neither would it draw new visitors into an area with existing noise. Increasing population in the area could lead to impacts on the Firth of Forth Candidate Quiet Area through increased recreational use of the area.

ClimatEvolution– Human Health

6.47 Harry Burns, Scotland's former Chief Medical Officer, said "Rarely do briefs for infrastructure require the creation of an environment that supports wellbeing. As a society, we focus on illness when we should be thinking more about wellness[23]". Health and well-being is one of the three objectives at the core of the ClimatEvolution Vision. The Strategy therefore aims to provide an environment which supports health and well-being. The improvements to the area in general as set out under 'do nothing' will also continue under the Strategy.

Central Scotland Green Network

6.48 ClimatEvolution contains many actions which will help create the Central Scotland Green Network in East Lothian, with consequent health benefits. The Strategy has taken the East Lothian Green Network Strategy into account and actions under several themes to implement it. Indeed it goes further to gain greater green infrastructure benefits. The provision under Themes 2 and 4 for renaturalised water course and water features, with paths alongside, have the potential to create an attractive park like environment for residents in the open space around settlements. Action under Theme 2 helps ensure access to sports facilities by the inclusion of a water sports park, which should help increase access to and availability of a wide ranges of water sports. These actions will improve the outdoor offer and encourage outdoor activity.

6.49 Improvements under Theme 4 to council owned public space within urban areas is an action in the Green Network Strategy, as is providing linkage between heritage assets. The Strategy does not supply any further open space in Tranent however, it does improve linkages to existing open space including improvement of the Tranent Waggonway, again a Green Network action. ClimatEvolution proposes increasing access to the coast. This would require to be subject to Habitat Regulation Appraisal at the project stage however is also supported by the Green Network Strategy.

[23] Quoted in "Landscape for Scotland" Landscape Institute (undated) https://scotland.landscapeinstitute.org/wp-content/uploads/2017/12/Landscape-for-Scotland-2017.pdf

Active Travel

6.50 ClimatEvolution Theme 1 focusses on improvements to Active Travel. It aims to provide 'Paths for All' (multi-user paths), Gateway hubs to link to public transport, commuter, leisure and sporting cycle routes, including attractive routes along re-naturalised watercourses. Cycling infrastructure will be provided at the hubs. It aims to link heritage attractions by active travel. In addition other themes provide 'destinations' including for jobs, training and leisure (the National Climate Resilience Centre, Training Hotel and Kitchen Garden, Centre for Excellence in Construction, Water Sport Park. Reducing the need to travel distances for employment leisure and training will also support active travel. Any consequent reduction in travel especially by diesel vehicle with have consequent improvements in air quality and therefore health. Reduction in car dominance is also likely to have public realm and road safety benefits, again improving health.

Noise

6.51 ClimatEvolution proposes strategic scale green infrastructure which could potentially be used to mitigate noise issues arising from roads. This could improve the noise environment in existing and new residential areas and for recreational users.

Mitigation of potential adverse impacts of the Strategy

6.52 Improving access to the coast has health benefits but will require assessment under the Habitat Regulations.

6.53 The following mitigation should also be considered:

6.54 Active travel routes, especially cycle routes, alongside roads can increase the impact of poor air quality on those participating as in exercise the air is taken deep into the lungs. Although an increase in use of active travel improves air quality overall, there is no safe level of particulate exposure. Therefore, active travel routes should be planned where possible away from vehicular routes, as shown here along watercourse.

Conclusion – Human Health

6.55 Both "do nothing" and ClimatEvoluation are likely to have benefits for human health through improvements to the Central Scotland Green Network and to active travel. ClimatEvolution includes the implementation of many of the actions of the East Lothian Green Network, and in particular sets out a vision for a considerably improved recreational environment around settlements; improvements to open spaces within the urban area; and active travel improvements. Active travel and local recreation improvements will benefit health by increasing levels of physical activity, reducing road traffic accidents and improving air quality.

6.56 ClimatEvolution also brings the opportunity potentially to address some existing and future noise issues through green infrastructure.

7 SOIL

7.1 Soil is literally the foundation of our environment. They are also a vital asset for economic growth. Maintenance of soil quality is strongly connected with conserving air and water quality. It is important in addressing climate change mitigation and providing habitat for biodiversity. Soils need to be managed and protected to make sure they can deliver their essential functions including storing carbon and maintaining the balance of gases in the air; food and biomass production; provision of stable land; provision of raw materials including minerals; and preserving cultural heritage assets.

7.2 Through Scoping the following issues were considered. The Table below shows, with reasons, what existing issues are considered relevant to this strategy.

Scoping Table 4: Soil		
Issue	**In/Out**	**Reason**
Loss of prime agricultural land	**In**	This area contains some of Scotland's best agricultural land. As the country imports around 40% of its food, lack of agricultural land could be significant in the future if for any reason this were to become more difficult.
Impact on carbon rich and rare soils	**Out**	There are no carbon rich or rare soils in the area
Impact on contaminated land	~~**Out**~~ **In**	~~There is little contaminated land here, and it will not be possible to remediate through proposals in ClimatEvolution.~~ Changes to the water environment could lead to travel of contaminants in soil
~~Potential for impact on built development of previous mining activity~~ Moved to Material assets	~~**In**~~	~~Coal has been worked in and under the ground here. There is the potential for built development to be affected by these workings, with consequent impact on them as material assets, and on people if there is an accident.~~
~~Impact on coal reserves~~ Moved to Material assets	~~**In**~~	~~This area is part of the coalfield, and may contain reserves of coal. Any impact on the potential for mining this should be considered.~~
Impact on geological SSSIs, Geological Conservation Review Sites and Local Geodiversity Sites	**Out**	The Firth of Forth SSSI, Prestonpans LGS and Cockenzie and Port Seton LGS are at the coast and unlikely to be affected by ClimatEvolution as its core area is inland. Geodiversity is less affected by increased visitor pressure than biodiversity interest can be. Other sites are too far away to be impacted.

Relevant aspects of the current state of the environment – soil

7.3 Most of the undeveloped land in the area is prime agricultural land. There are no records of carbon rich or rare soils in the area. There are some areas of contamination from previous mining or industrial activity. There are significant urban areas here; where there is (or has been) built development soil will have been compacted and/or sealed.

Agricultural land

7.4 Agricultural land is shown on the maps below. The best, most versatile agricultural land is Class 1, with all land above Class 3.1 being prime. Although Class 1 agricultural land, and prime land in general, is common in this area, it is much rarer in Scotland as a whole.

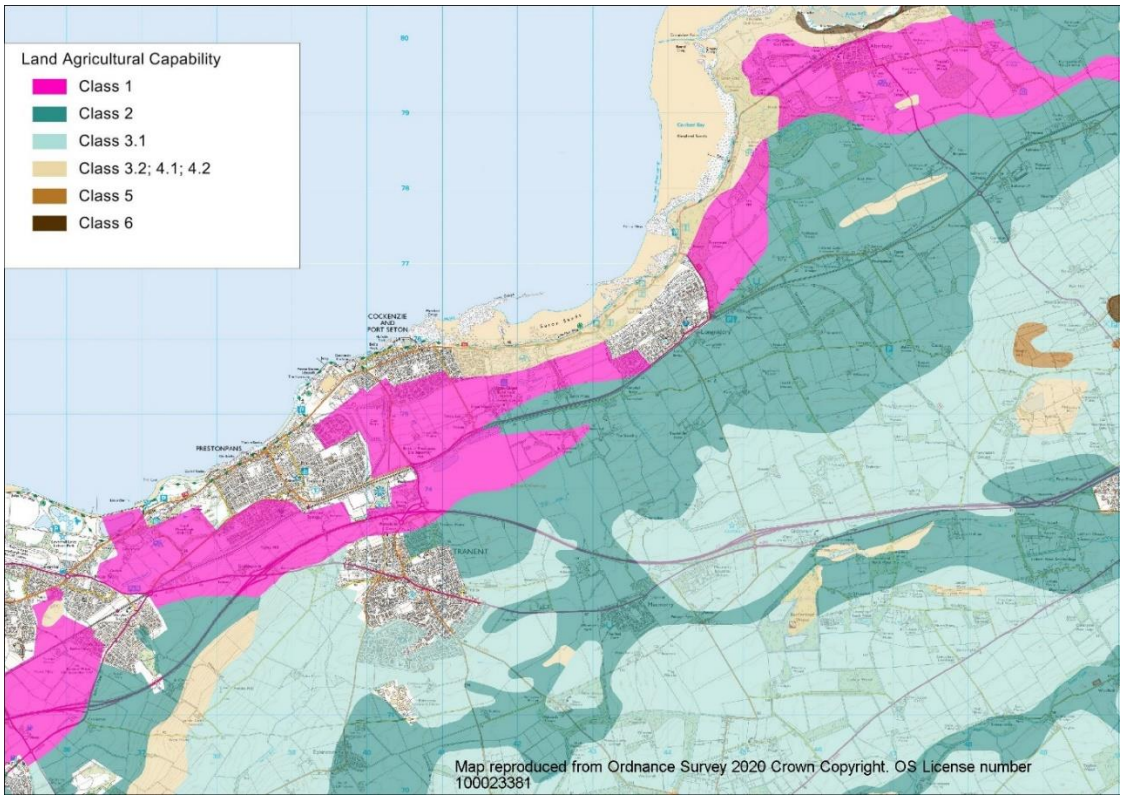


Figure 14: Agriculture land classification of ClimatEvolution area

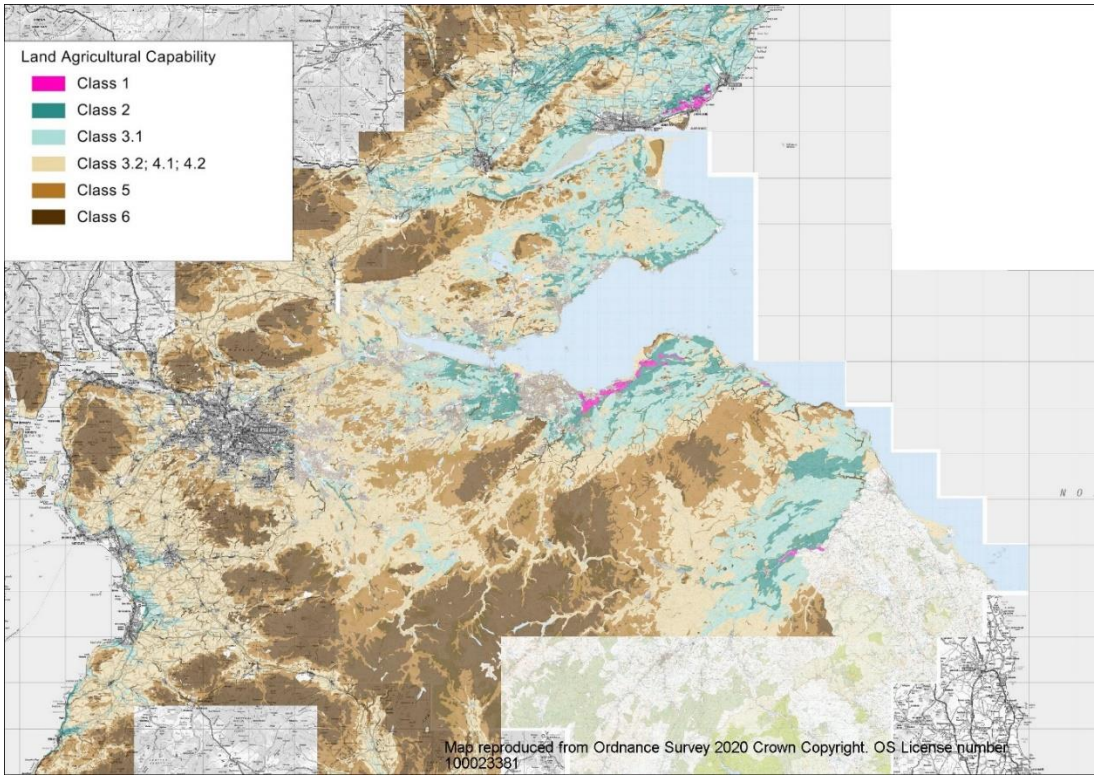


Figure 15 Agricultural land, Central Scotland

7.5 Intensive farming on soils can have long lasting effects on soil health, which can be difficult to restore[24]. Farming can disturb the soil structure, leading to loss of soil organic matter and increase of bacteria at the expense of fungal communities. This can affect the fertility of the soil and ecosystem services provided by soils such as its ability to regulate water, hold nutrients or break down pesticides. It can also reduce soil biodiversity, which again is core to how well soils can perform. It can take hundreds of years for soils to recover, even after farming has ended.

Land contamination

7.6 There is a risk of contamination of soil from minewater; this issue is considered under 'Water'. There are a number of places within the area with potential for hazards and contamination from a range of sources, including former quarrying and mining, a former mineral railway, filled ground, and previous military activity. The map below shows records of potentially contaminated land in the area. The area shown as 'Former land uses' are areas where the former land use is potentially contaminating.

[24] European research "Intensive Agriculture leaves lasting legacy on soil health" 2012 https://ec.europa.eu/environment/integration/research/newsalert/pdf/291na4_en.pdf

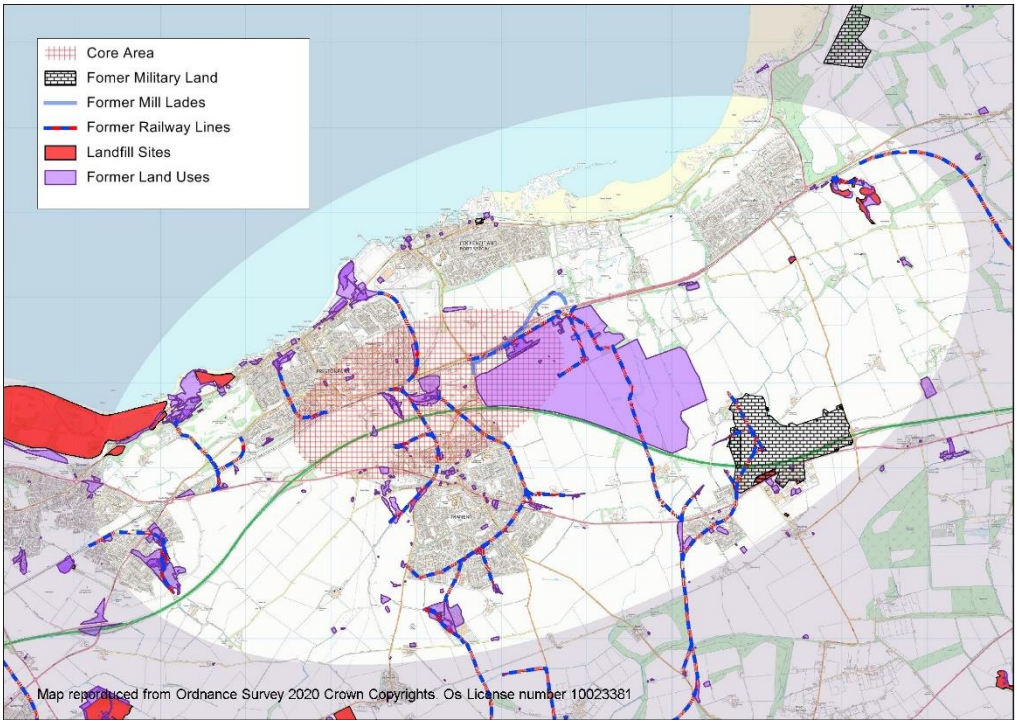


Figure 16: Indication of potentially contaminated land

7.7 The Scottish Pollutant Release Inventory is a database of annual mass releases of specified pollutants, including to land, from SEPA regulated industrial sites. The SPRI was checked for sites close to or in the site area (a radius of 5 miles from EH32 0PG, Seton Castle). There were 5 sites within this radius: East Lothian Council's Waste Transfer Site at Kinegar, Hamilton Waste and Recycling Centre at Wallyford Industrial Estate, Scottish Power's site at Cockenzie Ash Lagoons, and three Charles River Laboratories sites: Elvingstone Science Centre by Glasdmuir, (EH33 1EH); Elphingstone Research Centre by Tranent, and Elphinstone Research Centre, North Elphinstone (both EH33 2NE). The reported releases were checked from the most recent records back to and including 2014. There were no records of releases of pollutants to land in this period.

Existing environmental problems – Soil

7.8 Climate change and changes in land use and land management practices, including built development, are the most significant pressures on Scottish soils overall. Land contamination is also an issue. Poor land management can harm soil through loss of organic matter and erosion. Development can lead to soil sealing or loss. Both development and poor land management can lead to compaction, structural degradation and biodiversity loss.

Agricultural land

7.9 Globally (and in Scotland) there is finite amount of prime agricultural land - indeed agricultural land in general. Prime agricultural land has an obvious importance for food production. It is a

resource which once lost is incredibly difficult to replace. The UK is a net importer of food, and only half of the food consumed in the UK is produced here. Food production to supply ratio (farm-gate value of raw food for production divided by value of raw food for human consumption) dipped under 60% in 2016[25]. It is difficult to predict future changes (in climate, population, trade arrangements, economic performance) that might affect the need for agricultural land. In a changing world however, pressure on prime agricultural land both locally and globally could increase. Prime agricultural land close to population centres could allow a reduction in food miles which can help mitigate climate change. It may be that economic change also makes local production more important.

Land contamination

7.10 There are some existing areas of land contamination, and both development and changes to the water environment could mobilise and spread contamination through the wider environment. A new watercourse through an area of contamination would take that contamination into, at least, the wider water and result in significant impacts to the environment, e.g. water quality and biodiversity. The potential for hazard must be investigated with greater rigour once proposals for water management begin to take shape.

7.11 The major issues of land contamination in this area are related to the former mines within the area and the associated rail linkages and sidings. As a result of this activity there are significant accumulations of made ground (mine spoil) throughout the area which may impact on any proposed development.

7.12 The former Macmerry airfield is now under agricultural land and the A1 motorway. There are remnants of the airfield visible namely former buildings and defence fortifications as well as areas of fuel storage and also potential unexploded ordnance still in the ground.

Likely Significant Effects - Soil

7.13 Taking into account the issues identified above, SEA objectives for Soil have been identified. The following table gives the objectives and summarises the impact of each Theme of ClimatEvolution:

[25] https://www.gov.uk/government/publications/food-statistics-pocketbook-2017/food-statistics-in-your-pocket-2017-global-and-uk-supply

SEA Objective, Soil: Conserve or enhance soil quality, quantity and function			"Do nothing"	Comparison of ClimatEvolution to Do Nothing	ClimatEvolution overall	ClimatEvolution Themes				
						1 Movement	2 Water	3 Leisure	4 Biodiversity	5 Enterprise
SEA Sub-objective/ questions for assessment. Does the plan….?	KEY									
	Positive	+								
	Neutral	0								
	Unknown	?								
	Mixed/Variable	//								
	Negative	-								
	Comparison of ClimatEvolution with "Do nothing"	Better / Worse								
Minimise the loss of prime quality agricultural land				↓						
Reduce levels of soil contamination ~~*Address soil contamination from past mining and industrial activities*~~				↓						

"Do nothing"

Agricultural land

7.14 The amount of land in agricultural use in the area is likely to remain as now. However there is strong pressure for development here. Some land could thus be lost to development which would have been protected in the long term by use for recreation or biodiversity by the strategy. However, this is not the intention of the higher tier plan. Scottish Planning Policy includes policy protecting agricultural land other than in specific circumstances including where development is essential for a settlement strategy, to meet an established need where no other site is available, or for small scale rural business development, or for renewable energy or mineral extraction. ELLDP Policy NH7: Protecting Soils reflects this position.

7.15 There is likely to be some damage to soils from agricultural use.

Land Contamination

7.16 Contamination issues would remain as is other than where ad hoc opportunities arise for remediation.

ClimatEvolution

Agricultural land

7.17 All themes of ClimatEvolution are likely to lead to some loss of prime quality agricultural land. Some of this impact will come from planned built items, such as active travel routes (e.g. cycle paths), infrastructure for energy proposals, built development where it occurs on such land such as the training hotel, the National Climate Resilience Centre. Some of the Theme 2 activities regarding water could also have this effect; a water park will cover a relatively large area and this land cannot be used for agriculture while it is in use for this. The re-meandering and re-profiling of watercourses may also impact on the amount of agricultural land that is usable; this is intentional as the land on the margin of watercourses can be used for biodiversity improvements and as an attractive recreational route. Agricultural land is also likely to be lost to allow habitat network improvements and carbon sequestration through planting (Theme 4), though it is likely to be possible to revert this land to agricultural use (with some effort and expense) should it be desirable to do so in the future.

7.18 The Horticultural Inward Investment Study will look at innovative methods of horticulture. This would build on the agricultural land resource here. Through use of geothermal energy the growing season could be extended. This would allow greater use of this land and would offset some of the land proposed to be lost to agricultural use. The training Hotel and Kitchen garden will also provide opportunities for local people to learn about growing. Teamed with the Low Carbon Food Strategy in Theme 4, this may increase food grown in gardens locally (land which is probably prime but not classified as such as it is in urban areas), again offsetting loss of agricultural land.

7.19 ClimatEvolution could in time lead to some improvement in soil health through reversion to more natural habitat on the surface, proposed in Theme 4 (Integrated Habitat Network, Green Space and Biodiversity in Urban Areas, Transport Corridor Planting Opportunities) and Theme 2 (Holistic Sub-Regional Water Management Strategy, renaturalisation of water courses, wetland habitat areas).

Land Contamination

7.20 ClimatEvolution does not address contaminated land, though it does include that derelict land and buildings should be considered in Local Regeneration Plans in Theme 5. There is the potential for changes to hydrology of the area to affect movement of water through soil. This could in turn lead to transport of contaminants in land and will have to be carefully considered as the plan to renaturalise watercourses is taken forward.

7.21 Some of the proposals may require remediation of land prior to development/planting. The location of individual projects is indicative at this stage; for some proposals the effects will require to be further assessed at the project stage. This is especially true of changes to hydrology.

7.22 Theme 4 includes planting. Some types of planting can be used to remediate contamination, and there may be scope to explore this in relevant areas as the project progresses.

Mitigation of potential adverse impacts of the Strategy – Soil

7.23 Scottish Planning Policy and the ELLDP contains policies protecting agricultural land from unnecessary development.

7.24 The potential for hazards related to contaminated land, including mobilistation of contamination through the wide environment, must be investigated with rigour once proposals for water management begin to take shape on the ground.

7.25 Further mitigation that could be considered by the strategy is ensuring re-use of topsoil removed to make way for development; and that construction methods include measures to minimise loss of soil carbon. Soil sealing and compaction should also be minimised. This could be achieved by indicating that treatment of soil should be considered at project level.

Conclusion – Soil

7.26 The impact of the Strategy on soil overall is likely to be mixed. ClimatEvolution will involve some loss of agricultural land. It will also involve soil sealing and compaction in some areas. Re-naturalisation of watercourses and planting may into the long term help restore soil health in some areas. However there is also potential for adverse effect through mobilisation of contaminants in soil through changes to hydrology.

8 WATER

8.1 The water environment includes water that is in or on the land, including rivers, the sea, wetlands and groundwater. Water is fundamental to the support of human life and environmental quality. Considerations include water quality, the physical form of water features (morphology), flooding, ecosystems, availability of drinking water and provisions for drainage. The Water Framework Directive sets out how natural water is to be managed with the aim of improving its quality, and action is coordinated by SEPA. Scottish Water manages drainage and drinking water. Water management is a key and complex issue in this area.

8.2 Through Scoping the following issues were considered. The Table below shows, with reasons, what existing issues are considered to be relevant to this strategy. Scottish Water's drainage system is also considered in 'Material assets'.

Scoping Table 5: Water		
Issue	**In/Out**	Reason
Flood risk	**In**	Much of the area is a Potentially Vulnerable Area in SEPAs mapping. There are also some areas where surface water flooding and fluvial flooding have been identified; flooding is therefore an issue in this area and proposals should avoid increasing the risk of flooding. One of the aims of ClimatEvolution is to mitigate flood risk and manage water flows in a beneficial way. A Flood Risk Assessment is not appropriate for this stage however the broad issues and impacts related to flood risk will be described.
Impacts on water quality – watercourses and ground water	**In**	ClimatEvolution is expected to consider how surface water and minewater will be addressed. This could have an impact on water quality of rivers and ground water. The water courses within the study area and which the study area drains into will be considered, as will ground water in the area.
Impacts on water quality – drinking water	**Out**	ClimatEvolution is not expected to affect drinking water quality
Impacts on river morphology	**In**	There are four main watercourses in the area, and several smaller ones. The impact of ClimatEvolution on the morphology of the watercourses is expected to be positive.
Bathing water quality	**In**	Increased rates of surface water discharge could affect the Longniddry and Seton Sands bathing water. No other bathing waters will be considered.

Coastal water quality outwith bathing waters	**Out**	Other than bathing waters, there is not expected to be a significant impact on coastal waters as any effect would be diffuse. It is the intention of ClimatEvolution to manage surface water to avoid such an effect.

Relevant aspects of the current state of the environment

8.3 The management of water including treatment of surface water and minewater, and linked to this, mitigation of flooding and improvement of water quality, are key challenges for this area Planning for water management has the potential to deliver a range of significant positive benefits.

Flood Risk

8.4 SEPA's National Flood Risk Assessment identified Potentially Vulnerable Areas – areas of potentially significant flood risk. The National Flood Risk Assessment informed SEPA's Flood Risk Management Strategy, which in turn informed the Forth Estuary Flood Risk Management Plan. This last plan considers the Potentially Vulnerable Areas in terms of flooding criteria, including whether or not there are flood protection schemes/works, flood warnings, studies etc. It presents actions for the avoidance and reduction of the risk of flooding to communities within the Potentially Vulnerable Areas. The Cockenzie-Port Seton-Longniddry-Prestonpans Potentially Vulnerable Area is shown in Figure 17, and covers much of the ClimatEvolution area.

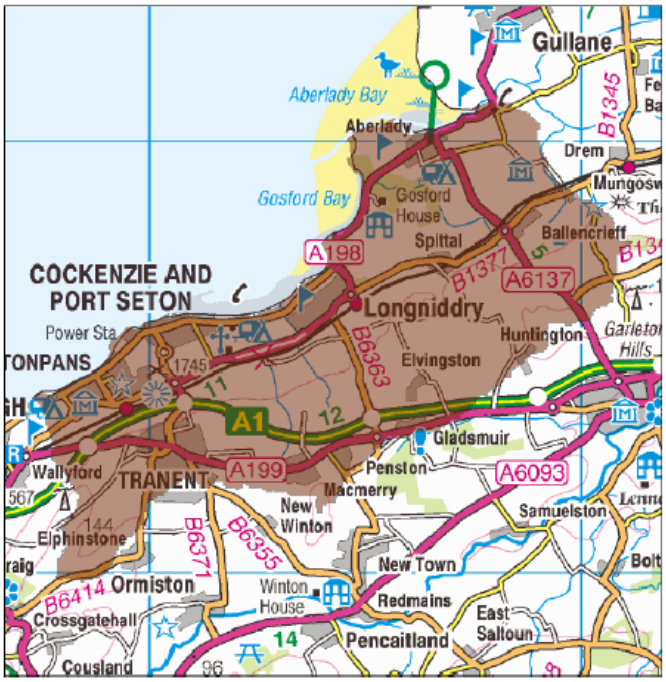


Figure 17 Extract from SEPA Forth Estuary Flood Risk Management Plan: Cockenzie/Port Seton/Longniddry and Prestonpans Potentially Vulnerable Areas (10/23)

8.5 Areas with the potential for flooding are shown on the map below. Some of the watercourses in this area are too small to be shown on SEPAs flood maps.

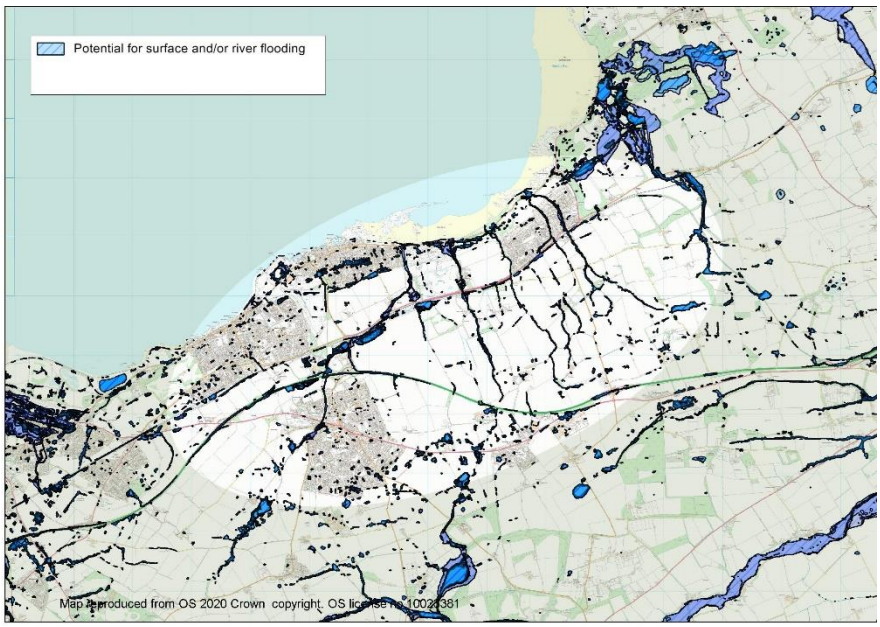


Figure 18 SEPA surface and river water flood extents

Surface Water

8.6 Surface water includes rivers, reservoirs, ponds and any other water that lies on the surface. This is water that has fallen as rain; it becomes harder to manage when a lot of it falls at once. Rainfall in East Lothian has been increasing (according to SEPA East Lothian has experienced three times its average rainfall over at least five consecutive years[26]). Predictions for climate change are for wetter winters, and periods of more intense rainfall. Hard surfacing such as paving can increase the rate that surface water runs off. Both of these factors can heighten the 'peak'. This will put pressure on the management of surface water, in particular avoiding too much water entering the sewerage system at any one time. The map below[27] shows where there is risk of the soil becoming saturated, causing water (or indeed any liquid) to flow over the land or collect on the surface. As can be seen, parts of the area are at 'High' risk of run-off. This means they have a limited capacity to store water or allow it to infiltrate.

[26] SEPA Scoping Reponse to East Lothian Council

[27] Maps of soil run off here: http://map.environment.gov.scot/Soil_maps/?layer=21#

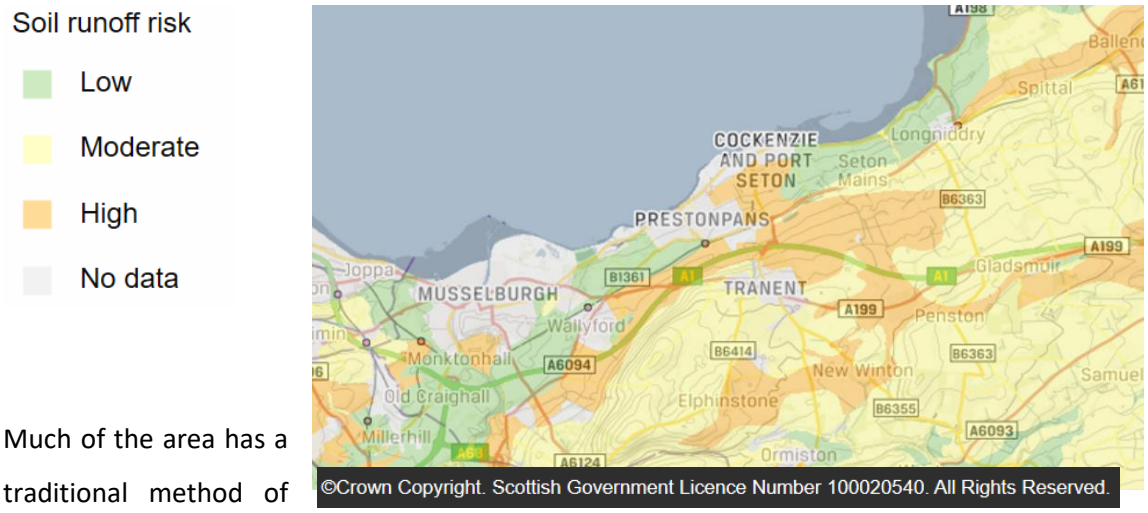


Figure 19: Soil Run-off Risk

8.7 Much of the area has a traditional method of waste-water collection into combined sewers where the surface water enters the foul system and is pumped to Seafield Wastewater Treatment Works. New development in the area will increase input into the foul system, although surface water is required to be treated separately through sustainable drainage systems in any new development. Scottish Water's Surface Water Policy does not accept any new surface water flows into the combined sewer. The new blue/green infrastructure of ClimatEvolution will promote inclusion of the surface water from new developments, as well as being sized for disconnection of surface water from existing combined systems to promote sustainability, climate change resilience and reduction in flood risk from the urban drainage network.

8.8 The flow paths of the surface water across the region run roughly south to north. This means they already cut under key transport routes which run roughly east to west. It is important that these do not become constraints to each other in future. Design of both transport routes and watercourses must take into account that watercourses must be easily accessible for regular inspection and maintenance especially where structures are built across them. The East Coast Main Line runs through the area and caution regarding culvert and SUDS design are key issues.

8.9 An existing large concrete SUDS basin collects and treats water from the A1 at Meadowmill. New roads will be required through development at Blindwells and surface water management of this will be considered through SUDS systems for this development.

Water Quality

Drinking Water

8.10 Water in this area is supplied by Rosebery, Glencorse or Castle Moffat reservoirs. There is some available capacity for expansion of demand. The area is not a Drinking Water Protection zone.

8.11 There are numerous watercourses in the area, which are monitored by SEPA for their water quality.

8.12 The Scottish Pollutant Release Inventory is a database of annual mass releases of specified pollutants, including to air, from SEPA regulated industrial sites. The SPRI was checked for sites close to or in the site area (a radius of 5 miles from EH32 0PG, Seton Castle). There were 5 sites within this radius: East Lothian Council's Waste Transfer Site at Kinegar, Hamilton Waste and Recycling Centre at Wallyford Industrial Estate, Scottish Power's site at Cockenzie Ash Lagoons, and three Charles River Laboratories sites: Elvingstone Science Centre by Glasdmuir, (EH33 1EH); Elphingstone Research Centre by Tranent, and Elphinstone Research Centre, North Elphinstone (both EH33 2NE). The reported releases were checked by to and including 2014. There were waste water radioactive releases from the Elphinestone Research Centre as shown in the table below:

Table 5: Scottish Pollutant Release Inventory: Releases of pollutants to Water 2014 - 2018

Year	2018	2017	2016	2015	2014
Carbon 14 (Mbq)	6429	17,875	3770	47223	29,804
2017 Tritium (MBq)	2084	463	441	13,083	7,608
Year	2018	2017	2016	2015	2014
Carbon 14 (Mbq)	6429	17,875	3770	47223	29,804
2017 Tritium (MBq)	2084	463	441	13,083	7,608

8.13 There were no other releases to water other than of non-radioactive pollutants below the reporting threshold at Musselburgh Ash Lagoons.

Bathing Water

8.14 SEPA carries out work classifying the water quality of waterbodies including rivers and bathing waters. A considerable part of this area drains into the Seton Sands bathing water.

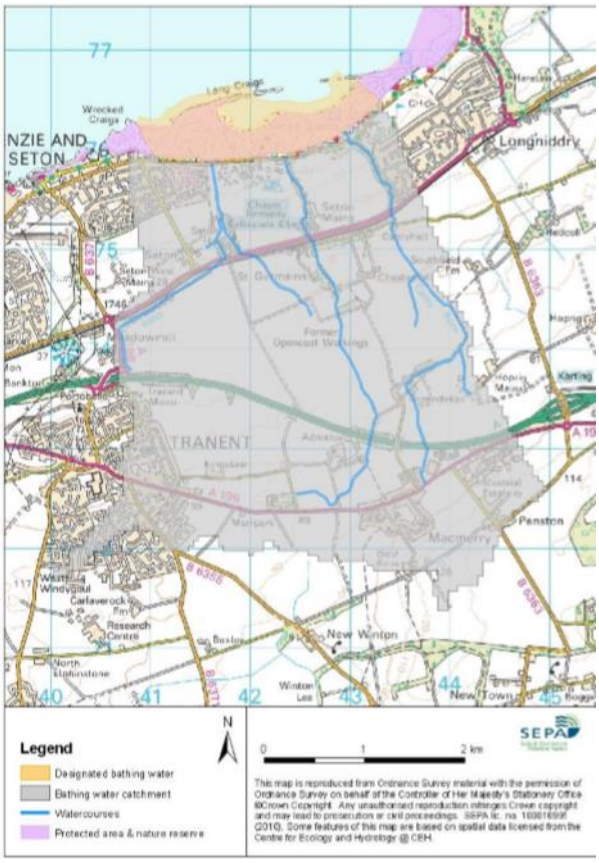


Figure 20:Seton Sands bathing water catchment

8.15 The bathing water here was assessed as 'Good' in 3 out of 4 of the last 4 years, and 'sufficient' in the remaining year. The bathing water at Fishherrow Sands to the west has been 'Poor' from 2014-18 the last four years reported.

Mine Water

8.16 According to the Environment Agency, 'abandoned mines are one of the most significant pollution threats in Britain'[28]. Scotland wide, only sewage is a more important source of freshwater pollution than discharge from previous mine working, particularly coal. Most of this is from alkaline iron-containing water emerging from deep mine workings. Minewater pollution in rivers and groundwater can have an adverse effect on ecology, including fish and invertebrates. It can also have an economic impact through reducing the amenity of an area, affecting investment and legitimate recreational uses of an area. Climate change may increase some of the problems of minewater[29]. Monitoring sites record water level and quality across the coalfields. Often discharges can be treated as point sources however predicting minewater chemistry and flow is difficult. Treatment plants usually combine aeration, settlement ponds and reed bed, and thus can have additional benefits as they can be attractive and public access can be promoted.

8.17 Mine water is currently pumped from the former Blindwells open cast void (now backfilled and being remediated for development). This maintains groundwater levels in the area below their previous high, and ensures these levels remain below the level of the Bankton Adit so that

[28] Environment Agency, SEPA and the Coal Authority "Abandoned mines and the water environment" – Product code SCHO0508BNZS-E-P, 2008, ISBN: 978-1-84432-894-9

[29] Increased rainfall will increase erosion of sediments, longer dry spells increase formation of soluble mineral salts, which then dissolve and discharge in storms. Raised atmospheric CO_2 levels increase the solution of minerals.

untreated mine water does not discharge into the Firth of Forth. Several ponds collect and treat the mine water through a reed bed system pumped from the Blindwells former opencast coalmine adjacent to the East Coast Main Railway north of the Blindwells site, passing the water through the Seton Sands golf course to exit in the Seton Burn.

8.18 Grouting works at Blindwells may affect the water environment of this area in ways that are not necessarily completely predictable.

Minewater and Heat Recovery

8.19 The minewater water here is a potentially significant asset as it contains heat. It leaves the ground at around 15 °C, with the potential to abstract higher water temperatures from deeper if required. With minewater being abstracted at volumes of 250 litres per second or greater this could provide 5MW to 8MW of geothermal energy; enough to heat 3,000 to 5,000 homes. Heat could be taken from mine water using heat pumps at a fifth the carbon intensity of CHP or gas alternatives. If the heat pumps are powered from renewables this would produce a virtually zero carbon sustainable heat supply. Additionally mine water could be used for cooling which is the fastest area of energy growth in the UK.

8.20 Where district heating is locally managed or owned, income can be reinvested in the local community as a catalyst for improved prosperity and employment creation. As minewater energy can operate isolated from external factors it can provide stable low priced heating, easing fuel poverty.

8.21 There are existing potential users of this heat nearby, including areas of low income housing, schools, leisure centres and business. It could also provide a commercial incentive for business to locate in the area. There is some existing infrastructure which could form physical barriers in the area including roads and watercourses.

8.22 Minewater heat can also be used for horticulture/aquaculture either standalone or as an addition to district heating, where it would provide a more efficient use of the energy available. Renewable heat is increasingly a focus for government action to meet climate change targets. This is a potentially significant resource and development should not compromise the implementation of a heat network either to new development or retrofitting to existing.

8.23 The area within the surface water catchment for Longniddry and Seton Sands bathing water, which is an environmentally sensitive receptor that may be at risk from increased rates of surface water discharge. The bathing water at Fishherrow Sands has been ‘Poor’ from 2014-18 the last four years reported. Bathing water at Longniddry has been ‘Good’ in this period. At Seton Sands it been ‘Good’ for all years other than 2017 when it was ‘Sufficient’.

8.24 The issues of flooding and drainage in the area are complex and inter-related, and the balance between surface water drainage, culvert capacity, ground water, mine-water pumping and off site fluvial (river) flooding must be found and maintained. One of the benefits of ClimatEvolution is to be part of the solution of these issues. The adjacent Blindwells site is part of this complex picture. Currrently water is being pumped there to prevent rebound and consequent flooding. Grouting may also affect the water table. To support the Blindwells Area Development Framework, A Flood Risk Assessment, a Water Impact Assessment and a Drainage Impact Assessment/Drainage Strategy Plan will very likely be needed. This information can be used in support of the work on ClimatEvolution, if available.

8.25 Water management is important in this area. Scottish Water are no longer accepting surface water into their sewers and increasing rainfall makes presents challenges in dealing with this. There is also some risk of flooding from surface water. New development can increase the risk of flooding from all sources, including surface and groundwater.

Existing Environmental Issues – Water

Flooding

8.26 Flood risk can be exacerbated by human activity and is likely to be increased by climate change. It can result in an increase in health risk, even loss of life, and loss or damage to material assets. Average annual damage from flooding in this area is estimated as £730,000, with around 120 residential properties and 60 non-residential properties at risk of flooding. Over half of the loss of value comes from surface water flooding, with river water flooding at around two fifths, and coastal flooding the remainder[30].

8.27 Climate change predictions for wetter winters and more intense rainfall will increase the likelihood of flooding, as will any increase in non-permeable surfaces in the catchment.

8.28 There are existing flooding issues at the playing fields at St Joseph's. There is also flooding on the Seton Burn from additional flows from the mine water pumping at Blindwells and at Seton Dean Burn from poorly designed culverts.

8.29 Development within this area must take into account how it will influence overland flowpaths which could increase or decrease flood risk elsewhere. Land-raising within the functional floodplain, for whatever reason, should be avoided. Roads and paths raised along the banks of watercourses or across floodplains can cause considerable problems. Locations for new development should be selected that are not at risk of flooding and by preventing development occurring that would increase the risk of flooding. Appropriate SUDs features will be needed,

[30] Forth Estuary Flood Risk Management Plan at https://www2.sepa.org.uk/frmstrategies/forth-estuary.html

which also promote the attainment of blue-green network links through the destination parkland.

8.30 There are also potential water management issues that arise from land stabilisation here and in surrounding sites.

Water quality

Drinking Water

8.31 As this is not a Drinking Water Protection Zone, development here will not affect the quality of drinking water.

Surface water

8.32 The ecological and morphological status of the water environment should be retained or improved. Water quality can be affected by both diffuse and point source pollution. Diffuse pollution can come from atmospheric deposition of sulphur dioxide and oxides of nitrogen, urban development and numerous other sources. Point source pollution can come from inadequate sewage treatment, industry, contaminated land and others. Abstraction of water can lead to reduced recreation, amenity and biodiversity of the water environment. Historical land drainage works and current urban development can cause physical impacts on river morphology and floodplain wetlands. This results in biodiversity loss, and loss of bankside vegetation which can have implications for erosion downstream.

8.33 Some of the watercourses in the area have been shown by SEPAs river monitoring classification scheme to have poor water quality. Many of the smaller watercourses here are highly engineered, which leads to a loss of natural morphology and biodiversity of the watercourse and its margins. Surface water entering the sewerage system risks exceeding capacity, leading to overflow events which affect water quality.

Bathing Waters

8.34 The area drains into beaches which are designated bathing waters, and the quality of these should not be adversely affected.

8.35 According to the Bathing Water profile for Seton Sands[31], "This bathing water is subject to short term pollution when heavy rainfall washes faecal material into the sea. Pollution risks include storm water sewage and surface water drainage." This bathing water is not considered to be affected by diffuse pollution or agricultural pollution. The profile also notes the large numbers of birds at the SSSI can affect water quality due to their droppings.

[31] https://www.sepa.org.uk/media/40087/seton-sands-bathing-water-profile.pdf

8.36 At Fishherrow, again according to its bathing water profile[32], the principal risks and source of wet weather-driven short-term pollution arise from combined sewer overflows. These events are expected to last 1–2 days depending on the duration of the rainfall. There is a risk to bathers health after heavy rainfall.

Minewater

8.37 The legacy of mine working and the resultant ground water control regime is that minewater, which contains contaminants, requires to be pumped to avoid flooding and pollution. The minewater requires to be kept separate from other surface and groundwater in the area. Minewater is currently pumped and contains contaminant.

8.38 Possible changes to hydrology due to former mineworkings and grouting works especially within the site of the new settlement at Blindwells may affect the water environment of this area in ways that are not necessarily completely predictable.

8.39 The heat contained within the minewater is currently not being used. Heat can also be a 'contaminant' in the water environment. Proposals to use heat from mine water, or for geothermal energy, must be developed to ensure the benefits (renewable, non-fossil fuel energy) are not offset by negative impacts to the water environment. SEPA is working with the Coal Authority to address these issues at Blindwells and elsewhere.

8.40 Water efficiency is also important to reduce wastage and consequent emissions to climate resulting from processing.

Likely Significant Effects - Water

8.41 The following table shows the SEA objectives for Water and summarises the impact of "do nothing" and the impact of each Theme of ClimatEvolution:

SEA Objective, Water: Maintain or enhance the water environment and reduce flood risk			"Do nothing"	Comparison of ClimatEvolution to Do Nothing	ClimatEvolution overall	ClimatEvolution Themes				
						1 Movement	2 Water	3 Leisure	4 Biodiversity	5 Enterprise
SEA Sub-objective/ questions for assessment.	KEY									
	Positive	+								
	Neutral	0								
	Unknown	?								
	Mixed/Variable	//								
	Negative	-								

[32] https://www.sepa.org.uk/media/39528/fisherrow-sands-bathing-water-profile.pdf

Does the plan….?	Comparison of ClimatEvolution with "Do nothing"	Better	Worse								
~~*Avoid inappropriate development in areas at flood risk and ensure that the overall flood risk in the area is not increased or where possible reduced as a result of development*~~ *Reduce the risk of flooding*					↑						
~~*Maintain or enhance the ecological status of the water environment;*~~ *Improve water quality (including morphology)*					↑						

"Do Nothing"

Flood risk

8.42 SEPA and East Lothian Council are working to address flooding however progress is likely to be slow. In this area the aim is to maintain existing protection and avoid worsening the situation rather than physical improvements. Risk of flooding from surface would be likely to increase due to increased intensity of rainfall as the climate changes.

Water quality (including morphology)

8.43 SEPA is working to improve water quality. Discharge from the sewer system is likely to become more frequent due to increased frequency of heavy rainfall, as the current sewage system does not have the capacity for this. This is likely to adversely affect water quality, including bathing water quality.

8.44 Minewater would continue to be pumped and treated in reedbeds at Blindwells. The heat from the minewater would remain unused.

Morphology

8.45 The morphological status of some watercourses is currently poor due to their engineered status and would be expected to remain so.

ClimatEvolution

Flood risk

8.46 Water management is one of the Themes of ClimatEvolution, and measures to address current and future flooding issues will be addressed through individual plans and projects coming forward under this Strategy. A key proposal is the delivery of a catchment based sub-regional water management and sustainable drainage network, including the re-opening of culverted watercourses and re-naturalising them. This could enable the removal of surface water from the combined sewer, which would help to address localised flooding. This will manage the

exceedance flows from overland flow paths and exceedance of the drainage infrastructure. A holistic and strategic Flood Risk Assessment will be included as further technical work within the delivery programme of ClimatEvolution to avoid a piecemeal approach. Flood Risk Assessment for individual proposals will be carried out where required.

8.47 Theme 2 includes a proposal for the undertaking of flow modelling and completion of a holistic baseline model which will allow a full understanding of risk and allow identification of mitigation models. Management of surface water aims to avoid surface water entering the sewerage system by mimicking natural drainage systems, slowing the flow. The proposed integrated approach to drainage and management of surface water before it enters the sewer or watercourse allows for increased capture and re-use of water. This approach sees water as a resource rather than something which needs to be escorted off the premises in the fastest way possible.

8.48 Water will be managed by various SUDS features including above ground storage – picking up the re-use theme this includes in potential water sports park or Lido. The key principles will be to maximise permeable surfaces, manage run-off close to sources, minimising underground drainage and ensuring flood plains are maintained and new development has flow paths.

8.49 Overall the risk of flooding will be reduced.

Water quality (including morphology)

8.50 ClimatEvolution proposes naturalise water management for surface water and recognises that surface water and minewater must be kept separated. Ponds with impermeable lining will be used to prevent mixing of water unless the proposed study shows another solution is possible. This will benefit water quality. A natural solution will have greater flow capacity than provided by pipes, as well as having the potential to become a habitat for biodiversity. It should therefore improve water quality by treating contaminants. The framework of water management buffered by planting strips in Themes 2 and 4 aim to slow and reduce run-off to ensure it is of a high standard, which will maintain the quality of the bathing water. The water courses of the area are in the main highly engineered. Theme 2 proposals for water include allowing for watercourses to be renaturalised, and for wetland areas to be created. This will improve the morphology of the water course, as they become more naturalised, benefitting water quality. The green infrastructure planting in Theme 4 will help improve bankside vegetation.

8.51 In addition to understanding of pollution and flood risk, ClimatEvolution will explore the potential for exploitation of geothermal opportunities which may arise from the heat within minewater.

Mitigation of potential adverse impacts of the Strategy- Water

8.52 The policies of the ELLDP will mitigate against proposals which might affect water quality or flood risk by controlling the details of design to ensure they do not. For example some of the proposals in ClimatEvolution for built development have the potential for increasing hard surfacing, which could increase surface water run-off. However the policies of the ELLDP will act to ensure that this does not occur. The relevant policies are: Policy NH11: Flood Risk seeks to ensure that development that would be at unacceptable risk of flooding will not be permitted. Flood Risk Assessments will normally be required for proposals within the medium to high risk category of flood risk. They may also be required in the low to medium category in certain circumstances, for example at the upper end of the probability range or for essential infrastructure and the most vulnerable uses. This policy further provides that development proposals will not be supported if they would increase the probability of flooding elsewhere. Piecemeal reduction of a functional floodplain will be resisted given the cumulative effects of reducing storage capacity.

8.53 Policy NH9: Water Environment provides that where relevant, new development should protect and, where appropriate, enhance the water environment, in line with the Water Framework Directive 2000 (WFD) and the Water Environment and Water Services (Scotland) Act 2003 (WEWS). Development proposals that would have a detrimental impact on the water environment will not normally be supported.

Conclusion – Water

8.54 ClimatEvolution in combination with the policies of the ELLDP will improve flood risk management, water quality and water morphology in comparison to 'do nothing'. This will occur through taking a holistic approach to water management which includes surface water and minewater, and projects including the re-opening of culverts and naturalising of watercourse, as well as productive re-use of water in facilities such as a water park or Lido.

8 AIR

8.1. Good air quality is essential for a good quality of life, helping to maintain human health, the climate, habitats and ecosystems. The quality of the air is affected by pollutants released into the atmosphere through human activities including transport, energy generation, industry, waste management and agriculture, and through natural sources.

8.2. Through Scoping the following issues have been considered. The Scoping Table below shows, with reasons, what existing issues are considered to be relevant to this strategy.

Scoping Table 6: Air		
Issue	**In/Out**	**Reason**
~~Impact from emissions from travel to and from the destination parkland including on the Musselburgh AQMA and Tranent High Street~~ Overall traffic emissions, including the effect on Musselburgh AQMA and Tranent High Street	**In**	ClimatEvolution is not expected to increase emissions to air other than by travel. The increase in emissions by car transport is expected to be marginal and not lead to difficulties meeting air quality standards. However as it is suspected there may be no safe level of exposure to particulates, the receptor is sensitive. Cumulatively effects could be significant.
Mine gas emissions [previously in human health]	**In**	The location is on the Lothian coal field and actions of the plan have some potential for alterations to mine gas flow
Any other air quality impacts	**Out**	No other air quality impacts are foreseen.

Relevant aspects of the current state of the environment

8.3. Air quality across most of Scotland is generally good, though levels of some pollutants still exceed objectives, mainly in urban areas[33]. A set of objectives and standards was developed for several pollutants that can harm human health. The standards are a compromise between the evidence of harm and what is practical in terms of feasibility and cost. The objectives derive from EU legislation, and substances being monitored in Scotland are shown in the box to the right. Ozone (O3) is also monitored; this is a secondary pollutant which forms through reaction of other pollutants in sunlight. Although ozone has a standard it is not included in LAQM regulations as it is relatively mobile which means it is difficult for local authorities to

[33] See Scottish Government, Air Quality in 2018, here http://www.scottishairquality.scot/assets/documents//Air_quality_scot_2018_Final_v2.pdf

Air Pollutants (Objective) and source

Volatile Organic Compounds ,including benzene (C6H6) and 1,3-butadiene (C4H6) - vehicle exhausts.

Oxides of nitrogen (NOx) - comprising nitric oxide (NO) and nitrogen dioxide (NO2), and particles (as PM10, PM2.5 and black carbon) - vehicle emissions and some industrial processes.

Carbon monoxide (CO) - incomplete combustion

Lead (Pb) and Polycyclic aromatic hydrocarbons (PAH) - combustion process.

Sulphur dioxide (SO2) – burning sulphur usually in an industrial process.

control. Scotland has set higher standards for both PM10 and PM2.5 than required by the EU. It is thought there is no safe levels for particles.

8.4. PM10s show a long term falling trend, however this may be stabilising or even increasing in some areas. Levels of NOx have generally been falling. Ozone did not meet all objectives in 9 out of 11 sites monitored across Scotland with increasing trends in around half the sites. Of the two urban sites monitored, there was a slight upward trend. In areas with traffic ozone concentrations are generally lower as exhaust gases destroy it, so rural sites generally have higher annual concentrations. in areas where there is traffic because gases in the exhaust emissions destroy the ozone hence rural sites generally experience higher annual average concentrations than urban areas; this is also due to prevailing wind conditions and long range transport of primary pollutants.

8.5. Further information on air quality can be found on the Scottish Government website at www.scottishairquality.co.uk/ .

Local Air Quality Management - baseline

8.6. The Local Air Quality Management process requires local authorities to keep air quality in their area under review to determine if air quality objectives are likely to be achieved. If it is likely they will not be, the authority must declare a Local Air Quality Management Area (AQMA), and develop an Air Quality Strategy to bring pollutants within the levels set. By far the majority of AQMAs in Scotland have been declared because of emissions from road traffic, in the form of nitrogen dioxide and PM10s.

8.7. East Lothian Council declared an AQMA in Musselburgh High Street following a progress report in 2013 showing the NO2 annual mean Air Quality Objective had been exceeded. Further information on the AQMA including a copy of the Order, the Air Quality Action Plan and Progress reports can be found on East Lothian Council's website here:

Figure 21: Musselburgh Air Quality Management Area

https://www.eastlothian.gov.uk/info/210568/environmental_health/12172/pollution/4 . This information shows that emissions from buses were the largest contributor, and that an integrated package measures that that reduced overall traffic, reduced queuing and reduced bus numbers, where appropriate, would reduce road NOx significantly. The Council produced and implemented an action plan, which included Eco Stars Fleet Recognition and the installation of a City Tree. Town Centre Strategies Supplementary Guidance set out agreed aims for each town centre. Actions also include coordination with the Local Transport Strategy and policy on air quality in the ELLDP.

8.8 Improving air quality is one of the actions for improvements to Musselburgh Town Centre. These improvements will be delivered through Transport related interventions as set out in the adopted LDP 2018, specifically Policy T19: Transport Improvements at Musselburgh Town Centre, PROP T20: Transport related Air Quality Measures and PROP T21: Urban Traffic Control System. There have been no exceedances of NO2 in the Musselburgh AQMA since 2016, and if this continues for a further year it may be possible to revoke the AQMA. PM10 levels have also reduced there since 2014.

8.9 In Tranent High Street, which is also monitored, there is no designated Air Quality Management Area, however maintaining and improving air quality is an aim of improvements proposed in the ELLDP Policy T26: Transport Improvements at Tranent Town Centre.

8.10 In East Lothian, there has been a general downward trend of NO2 concentrations between 2014 and 2018. There have been no exceedences of the Annual Mean NO2 Objective recorded at any East Lothian location, including within Musselburgh AQMA, since 2016. There were no exceedances of the Air Quality Objective for PM10s. East Lothian Council does not monitor PM2.5, sulphur dioxide (SO2), Carbon Monoxide, Lead and 1,3-Butadiene as exceedences are not expected.

8.11 Trees can help remove pollutants from the air. The benefits of trees in the urban areas of Tranent, Prestonpans and Longniddry are estimated[34] as follows:

Pollutant removed annually	Tranent	Prestonpans	Longniddry
Carbon Monoxide (lbs)	78	55	72
Nitrogen dioxide (lbs)	423	297	391
Ozone (O3) (tonnes)	2.1	1.48	1.95
Particles - PM2.5 (lbs)	205	144	189
Particles - PM10	1410	992	1304
Sulphur dioxide (lb)	266	187	246

[34] Unpublished ELC data using methodology shown at https://canopy.itreetools.org/survey.php

Background Levels

8.12 There is not thought to be any safe levels of particles, these are of concern even at low levels[35]. The following figure is an extract of DEFRA projections of background PM10 for 2020, available on www.scottishairquality.scot along with other air quality data. This shows that the ClimatEvolution area is projected to have higher than average background levels of PM10.

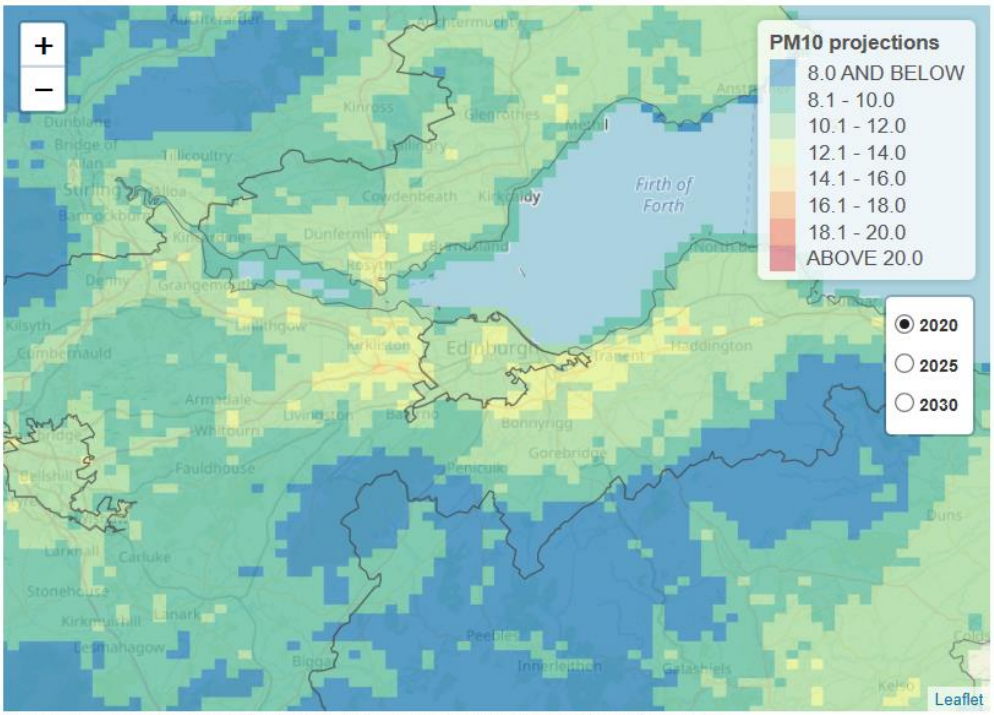
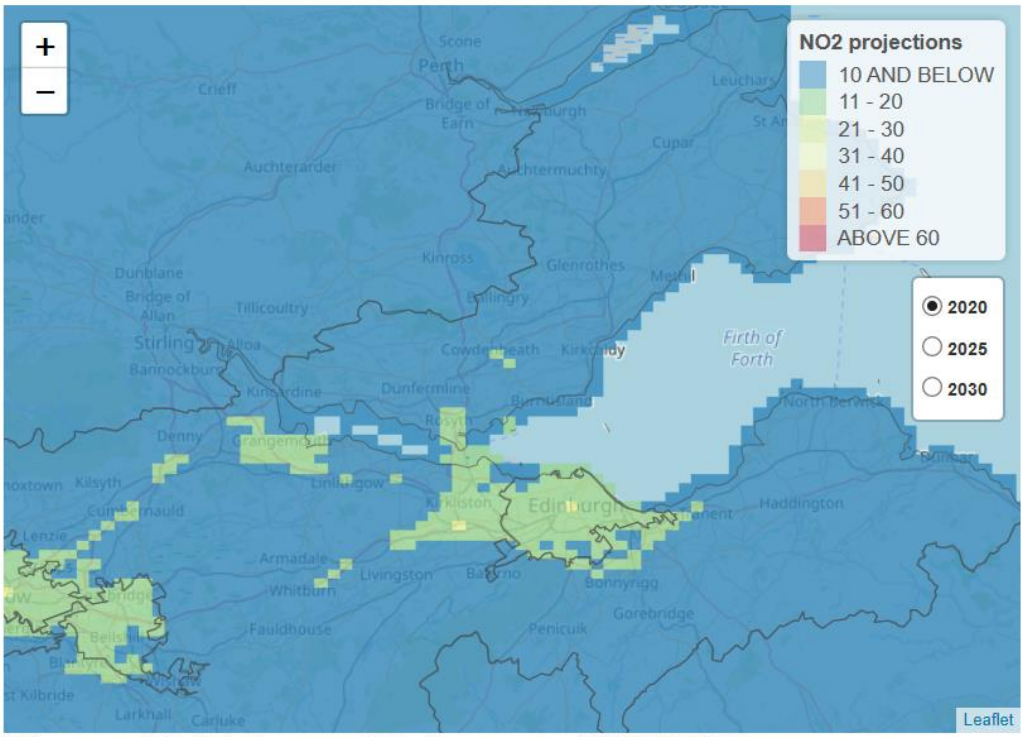


Figure 22: Estimated annual mean background PM10 maps for 2020

8.13 Parts of the area are also projected to have higher background levels of NO_2 than for Scotland as a whole.

[35] This includes increasing risk of dying from Covid-19 virus, see "Exposure to air pollution and COVID-19 mortality in the United States". Xiao Wu, Rachel C. Nethery, Benjamin M. Sabath, Danielle Braun, Francesca Dominici. medRxiv 2020.04.05.20054502; doi: https://doi.org/10.1101/2020.04.05.20054502



© Crown copyright. All rights reserved Defra, licence number 100022861 [2019].

Figure 23 Estimated annual mean background NO_2 maps for 2020; source www.scottishairquality.scot

8.14 The Scottish Pollutant Release Inventory is a database of annual mass releases of specified pollutants, including to air, from SEPA regulated industrial sites. The SPRI was checked for sites close to or in the site area (a radius of 5 miles from EH32 0PG, Seton Castle). There were 6 sites within this radius: East Lothian Council's Waste Transfer Site at Kinegar, Hamilton Waste and Recycling Centre at Wallyford Industrial Estate, Scottish Power's site at Cockenzie Ash Lagoons, and three Charles River Laboratories sites: Elvingstone Science Centre by Glasdmuir, (EH33 1EH); Elphingstone Research Centre by Tranent, and Elphinstone Research Centre, North Elphinstone (both EH33 2NE). The reported releases were checked by to and including 2014. Of these, CRL Elphinstone Research Centre had radioactive releases to air in 2015 of 12,768 MBq of Carbon-14, and 1,011 MBq of Tritium, and in 2014 of 15, 745 MBq of Carbon-14, and 372 MBq of Tritium and 2.16 of Iodine-125. The Elphinestone Research Centre has also had releases to air of non-radioactive substances below the reporting threshold, as did the Musselburgh Ash Lagoons site in one year.

Mine Gas

8.15 Mine gas has long been known of in mining communities. Mine gas refers to a number of different emissions – CO (carbon monoxide), CH4 (methane), Rn (Radon), CO2 (Carbon Dioxide) H2S (Hydrogen sulphide) and VOCs (Volatile Organic Carbons. These gases are

collectively known as 'damps'. Mine gas could potentially occur in locations across the coalfield where there have been former mine workings (see Figure 31).

Existing environmental issues

8.16 Air quality is affected by a range of substances from a variety of sources. The main sources are industrial and transport emissions, along with some agricultural processes such as intensive poultry farming. Although air quality is better now than at any time since the Industrial Revolution, it is estimated that across the UK it reduces life expectancy of every person by 7-8 months[36]. Evidence of harm, especially from traffic, is building. Bad air quality can affect biodiversity – 'acid rain' poisoning lakes in Scandinavia far from the source of pollution was an extreme example. Most semi-natural habitats and over two thirds of native wildflowers require low levels of nitrogen[37]. Increased levels of nitrogen in the air can therefore have an adverse effect on them.

8.17 The effect of climate change on air quality is complex. If the predicted hotter, drier summers come to pass, an increase in ground level ozone pollution could occur, affecting both people and ecosystems. However such weather may also encourage greater use of active travel modes. Activities that benefit air quality often mitigate climate change – energy efficiency, wind and solar energy, low emission vehicles. However some activities work in opposing directions. For example wood burning stoves and replacement of petrol with diesel vehicles can be good for climate change but bad for local air quality.

Local Air Quality

8.18 Air quality is improving, and it is hoped that objectives will be continue to be met in Musselburgh AQMA and elsewhere. Background levels of PM10 are however higher than the Scottish average in most of the ClimatEvolution area, and for NOx in part of it.

8.19 The main source of emissions in this area is traffic, including buses. The Council is planning traffic management and other changes to improve the situation both in Musselburgh AQMA and Tranent High Street however it remains important that development of the surrounding area does not worsen the situation.

8.20 Some houses in the area use solid fuel for heating. A change to a district heating system using geothermal, or electricity using hydro or solar energy would improve air quality locally and avoid emissions from fossil fuel generation elsewhere. Most domestic heating in the area is by

[36] See Scottish Government Air Quality In Scotland Website, accessed 31/03/2020 http://www.scottishairquality.scot/air-quality/

[37] SNH State of Nature Report 2019

gas. A badly maintained gas boiler can emit carbon monoxide, which can cause illness and sometimes death. Replacement with a district heating system would avoid that risk.

Mine gas

8.21 Mine gas can escape from former mineworkings and cause harm to both people and structures. Blackdamp, a combination of CO2, low oxygen and a little nitrogen oxide and water vapour, caused a significant incident at Gorebridge, which led the Scottish Government to carry out further research into the issue[38].

8.22 Blackdamp is particularly dangerous as it gives no warning – H2S is usually noticed as it gives off an odour of 'rotten egg' while escapes of methane tend to cause explosion. In addition to being odourless, CO2 also causes symptoms such as headache and dizziness typical of common ailments, so it may not be noticed unless the effects are widespread or unconsciousness or death is caused. CO2 can accrue in buildings. New build properties may be more airtight and may have an unventilated concrete slab floor meaning that without mitigation in place, they may be at higher risk than older ones.

8.23 Many of the events studied in the above research were related to proximity to old or undiscovered shafts (and adits), including unrecorded works and ones that were badly infilled; so even if a shaft is grouted it should not be assumed there is no risk. Factors affecting gas migration from mineworkings are:

- Meteorological pressure and temperature changes.
- Rising groundwater levels e.g. changes in water levels within former mineworkings
- Creation of preferential pathways by anthropogenic activity

8.24 Shallow mine workings, such as in parts of the Scottish Coalfield, are more likely to be sensitive to low atmospheric pressure. Climate change is likely to bring increased storminess, so increasing occasions where the air pressure suddenly drops. It is also predicted to bring warmer and wetter weather. Ground water is dependent on the balance between rainfall, evaporation, transpiration and extraction, so it is not obvious what will happen to ground water levels. The relationship between groundwater and mine gas is not well researched, however they do interact with volumes of methane and carbon dioxide held in solution within groundwaters. Climate change could therefore exacerbate problems with mine gas emission.

[38] "Research project to investigate prevalence of CO2 from disused mineral mines and the implications for residential buildings". RSK Stirling, at https://www.gov.scot/publications/research-project-investigate-prevalence-co2-disused-mineral-mines-implications-residential-buildings/pages/1/

8.25 Human activity associated with development can create new pathways for mine gas to surface; this includes ground investigations, abstraction boreholes for water resources, ground source heating systems, geothermal exploration (in both coal deposits and abandoned mine workings), mine stabilisation works and creation of foundations related to infrastructure or development. Ground sealing may also affect ground gas migration. The cumulative impact of development can be particularly significant.

8.26 ClimatEvolution should encourage the use of renewable energy sources and energy efficiency measures. The strategy should include promotion of active travel and must consider how visitors will travel to the park with a view to minimising emissions from traffic, especially in areas of poor air quality. The strategy must avoid displacement of emissions to other areas, especially those in the lower quartile SIMD areas which already suffer from poorer health. The strategy must not adversely impact on local air quality in Musselburgh and Tranent Town Centres. There is the opportunity to use planting to improve air quality.

Likely Significant Effects – Air

8.27 Taking into account the issues identified above, SEA objectives for Air have been identified. The following table gives the objectives and summarises the impact of each Theme of ClimatEvolution:

SEA Objectives: Air	SEA Sub-objective /questions for assessment. Does the plan….?	"Do nothing"	Comparison	ClimatEvolution Overall	ClimatEvolution				
					1 Movement	2 Water	3 Leisure	4 Biodiversity	5 Enterprise
To maintain or improve air quality and exposure to poor air quality	*Reduce or maintain levels of emissions within the area ~~any existing AQMA~~ and help to ensure that the threshold for an AQMA designation is not triggered*		?						
	~~*Maximise active travel and public transport accessibility [moved to health]*~~ *Reduce exposure to poor air quality*		?						
	Seek to mitigate, reduce or avoid issues associated with ~~contamination,~~ ground gasses ~~or other hazards~~		↓						

"Do nothing"

Local Air Quality

8.28 Emissions to air are improving in Musselburgh AQMA. Legislation requires the Council to act on poor air quality there. An increase of development to the west of particularly Musselburgh but also Tranent is predicted to increase traffic levels overall and through both Musselburgh and Tranent. Without action this would be likely to lead to a worsening of air quality. The Council is planning to improve public transport and active travel provision in both Musselburgh and Tranent High Street, to address this. ELLDP Policy also requires air quality assessment of relevant proposals and mitigation where the AQMA in Musselburgh would be adversely affected. It is likely (and required by legislation) that air quality in Musselburgh would not worsen without ClimatEvolution.

Minegas

8.29 Development in the area including at Blindwells has some potential to disturb minegas. This will be investigated in association with development there if necessary. Minegas also could appear without any specific action having been undertaken. The risk from the Strategy area would remain the same as now, otherwise.

ClimatEvolution

Local Air Quality

8.30 The impacts on local air quality are difficult to predict as they are linked mainly to overall changes in transport. As discussed under Human Health, the Strategy aims to improve active travel provision, and includes actions under Theme 1, which improve provision for active and sustainable travel considerably. The actions under this theme are likely to reduce (or given increase in population, slow the increase) of emissions from vehicles though promotion of active and public transport, including those which are airborne to other places. This will have a positive effect on air quality overall and Musselburgh AQMA, and therefore potentially on vulnerable groups such as asthmatics and overall health.

8.31 Use of geothermal energy in a district heating system as proposed under Theme 5 would displace some sources of generation which emit to air. Mostly it is likely to displace natural gas, which would be a benefit to Air as gas systems can emit NOx, SO2 and particulates, and if faulty can cause carbon monoxide leakage and poisoning. It would probably also displace some solid fuel and electricity grid mix generation, both of which also have some emissions to air.

8.32 Actions under Theme 2 and Theme 4 include creation of blue and green infrastructure and wetland habitat. Some plants can absorb air pollutants and this could have a minor positive effect. Planting along the transport corridors where shown Actions under this theme which attract people to the area – the water park and Lido – along with Actions from Theme 3 and 5 (historic trails, National Climate Change Centre, Geothermal attractors and training hotel) could have an adverse effect by increasing overall travel to this area. It is likely that not all visitors will travel to the area by electric car, public transport or active travel. This will increase emissions both overall and in this area specifically.

8.33 In addition, this area has a higher than average background level of particulates, so increasing the numbers of people that are in this area could increase exposure, including of people in vulnerable groups. This could potentially be a negative or positive effect depending if people would otherwise have been in an area with lower or higher particulate levels.

8.34 The creation of a National Climate Change centre could also be used for education about air quality, including ongoing citizen science projects, which could lead people to make different choices especially when travelling in urban areas and around domestic combustion. The Wayfinding Strategy (Theme 3) could also be used to support this by showing the emissions from different modes for the same route. Public education leading to behaviour change could help improve air quality overall.

Minegas

8.35 Mine gas could be an issue in this area. Theme 2 includes changes to the water environment, including lining of some areas, which could affect the migration of gas in ways that may not be easy to predict. Theme 5 includes investigation of geothermal potential, and formation of district heating systems. This could also adversely affect mine gas. However, the geothermal study does offer the potential for this issue to be better understood, which would reduce risk of exposure.

Mitigation of potential adverse impacts of the Strategy - Air

8.36 The ELLDP includes policies on reducing emissions to air specifically Policy NH12: Air Quality, which states that impacts on air quality will be taking into account in assessing proposals. The Developer Contributions Framework SG provides more detailed guidance on how much (and in what locations) new developments will be required to contribute towards addressing air quality issues that arise through development related impacts. It also sets out contributions for the Segregated Active Travel Corridor. The ELLDP also contains policy supporting active travel electric vehicle charging points Policy T31: Electric Car & Bus Charging Points and various policies encouraging active travel.

8.37 It is the responsibility of the developer to undertake an adequate risk assessment of a site, and if risks are identified, to propose measure to address them. However, the planning authority and building standards must ensure that developments are suitable for use. Proposals may therefore need assessment for mine gas risk. Cumulative study of impacts may also be required.

8.38 The desirability of using planting to reduce exposure to poor air quality could be explicitly considered through the strategy. This could include planting with appropriate species along busy roads to reduce the amount of emissions escaping from there. It could also consider further planting along cycle routes such as the segregated active travel corridor to form a barrier to air pollutants where people are vulnerable due to taking more air into their lungs as a result of exercise.

Conclusion – Air

8.39 The overall impact on Air from the Strategy is uncertain. Benefits will arise from the promotion of active travel and increased planting, which would include along road traffic corridors which are a source of air pollution. However the inclusion of attractors and sources of jobs and training may lead to more car based travel into the area. It would also bring visitors to an area with poor background air quality and a source of emissions to air on the SPRI; though the effect of this overall depends on where they would otherwise be.

8.40 Development of geothermal and other renewable energy would displace sources that emit to air, as well as reducing the risk of carbon monoxide poisoning. However, geothermal exploitation this might also cause disturbance to minegas through investigation and development of geothermal energy.

9 CLIMATIC FACTORS

9.1 The emission of greenhouse gases (carbon dioxide, methane, particles, water vapour and others) from both human and natural sources to the atmosphere affect the climate. The main human sources are from transport, energy use, industry, waste management and agriculture. Greenhouses gases can also be absorbed from the atmosphere by plant and algae growth and potentially technical solutions. Over thirty years ago the Intergovernmental Panel on Climate Change was set up by the UN to provide scientific advice on climate change, and to put forward mitigation and adaptation actions. In 2018 they warned that global temperature rise must be kept to under 1.5°C above pre-industrial levels to minimise catastrophic global impacts on society, human health and wellbeing, the economy, world food production and the natural environment. In response, the UK government, Scottish First Minister and East Lothian Council have declared a climate emergency. East Lothian Council has set out how it will tackle the climate emergency locally in its Climate Change Strategy 2020–2025[39].

9.2 Through Scoping the following issues have been considered. The Scoping Table below shows, with reasons, what existing issues are considered to be relevant to this strategy.

Scoping Table 7: Climatic Factors		
Issue	**In/Out**	**Reason**
Impact on carbon emissions from transport	**In**	The aim of mitigating climate change could be impacted by travel by unsustainable transport modes to or within the parkland.
Impact on carbon emissions from land use change	**In**	There is potential for planting trees, creating or enhancing areas of wetland / marshland / wildflower meadow and there may be other impacts depending on how ClimatEvolution progresses.
Impact on emissions from use of renewable heat/renewable generation	**In**	Use of heat from minewater is expected to be addressed in ClimatEvolution. There may be other renewable generation included.
Adaptation – ~~impact of choice of species for planting~~ impact on the ability of the area to adapt to climate change	**In**	The Strategy includes several proposals which could impact on adaptive capacity of the area including active travel, food growing and others
Adaptation - flooding	**In**	This is scoped in but will mainly be covered in 'Water'
All other climatic issues	**Out**	Climate impacts are wide and various and it is important to focus on the most significant effects

[39] https://www.eastlothian.gov.uk/climatechangestrategy

Relevant aspects of the current state of the environment

Mitigation

9.3 The main sources of climate change emissions in this area and elsewhere are from energy use (domestic, commercial and industrial) personal sources (consumption of food and its effects, and consumption of goods produced elsewhere) and transport, with a smaller contribution from land management and production of waste, including waste water treatment. This Strategy has the potential to impact on energy use, transport, some personal effects of food production and consumption, and land management. It will have no, or marginal, effect on production and treatment of waste (other than waste water) and consumption of goods.

9.4 In 2017 East Lothian emitted an estimated 5.2 tonnes of CO2 emissions per capita. Estimates of East Lothian's CO2 emissions within the scope of influence of Local Authorities 2005-2017 (kt CO2) – which excludes large industrial sites, railways, motorways and land-use - were as follows:

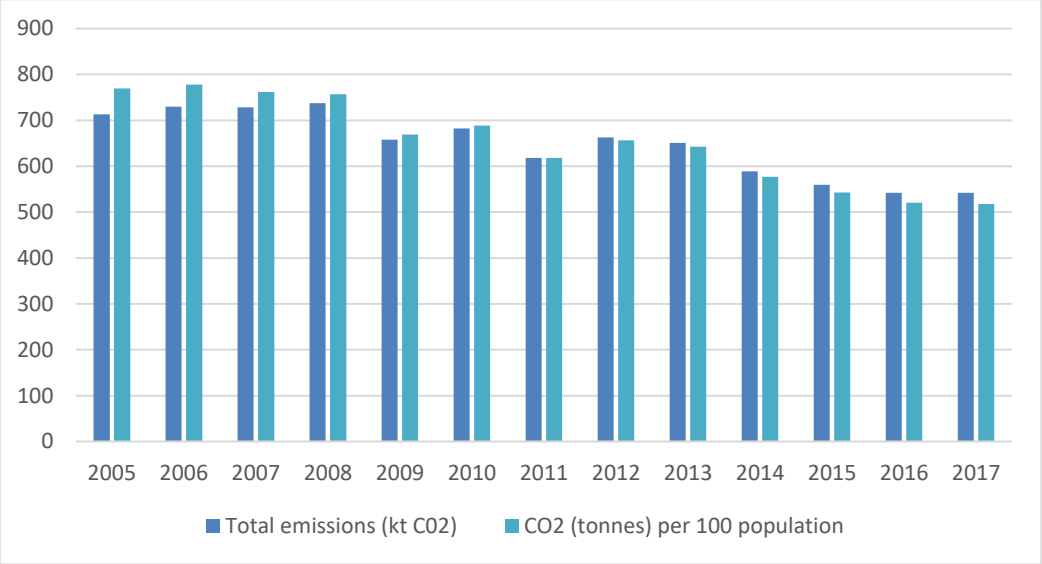


Figure 24 East Lothian emissions under the influence of Local Authorities; total CO2 trends, and per population. From UK Government National Statistics at https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2017

9.5 This shows that overall there has been a fall in CO_2 emissions since 2005, and also there has been a slight decline in emissions per capita in relation to total emissions. The following chart shows the total emissions of different sectors over the period in relation to population. In combination with the chart above, it can be seen that while total per capita emissions have fallen, domestic and industrial/commercial emissions have contributed more to that fall than transport. Although transport emissions fell, particularly between 2007 and 2009, since 2013

they have been rising in line with population growth and have more recently risen faster than population.

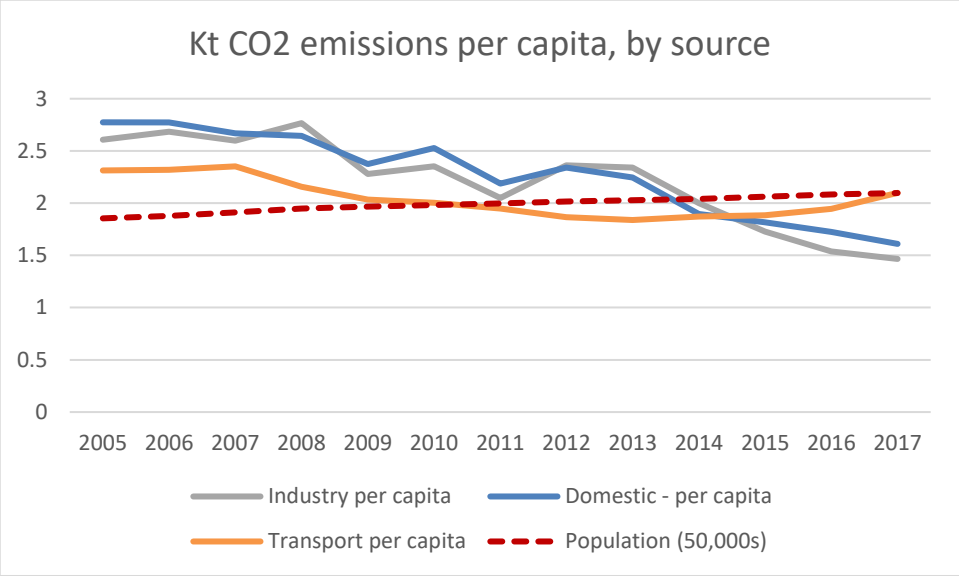


Figure 25: East Lothian CO2 emissions under the influence of Local Authorities, by source. Source: https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-201

9.6 Per capita agricultural CO_2 emissions in East Lothian are a small portion of total industrial/commercial CO_2 emissions (less than 1%), and fell between 2005 to 2009, before rising slightly. Agriculture does emit significant amounts of other greenhouse gases including methane which are not included here.

9.7 The breakdown of CO_2 emissions is not available at lower than local authority level.

Transport

9.8 The East Lothian Local Transport Strategy, Active Travel Improvement Plan and Parking Strategy set out East Lothian's approach to transport issues[40], and include supporting information. The following tables from the East Lothian Local Transport Strategy show the percentage of travel to work journeys made by different modes in East Lothian in comparison

[40] All available here: https://www.eastlothian.gov.uk/downloads/download/13256/local_transport_strategy_2018-2024v

to Scotland as a whole, and car ownership and usage.

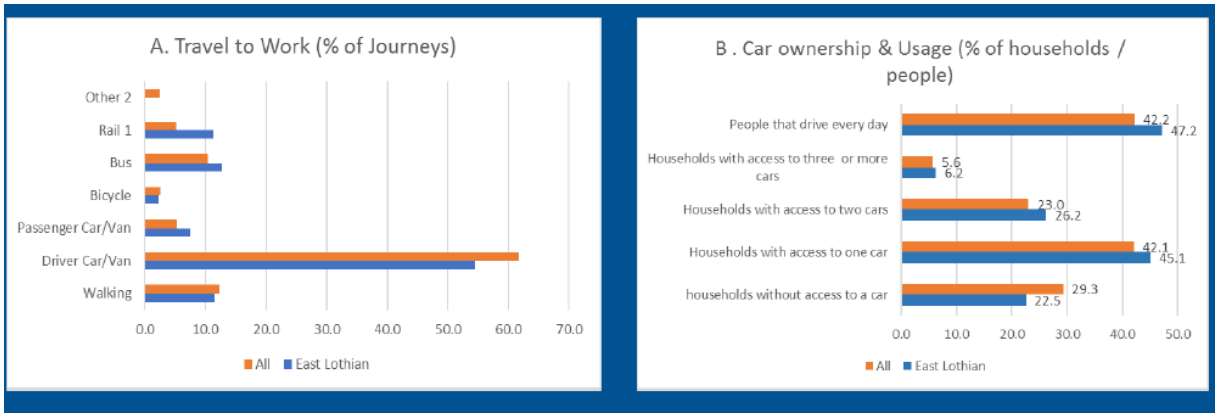


Figure 26: Travel to work (% of journeys), and car ownership. Source: East Lothian Local Transport Strategy

9.9 For travel to work, bus and train travel is higher than the Scottish average, but walking is lower. This reflects limited employment available locally in East Lothian. Car ownership is also higher than the Scottish average. However, still just over a fifth of East Lothian residents do not have access to a car. Around a third of households have access to a bicycle, however the trend is declining. According to the Local Transport Strategy, traffic growth has been decreasing over a 10 year period. Around two thirds of people say that they walk regularly for transport. Around 80% say they find public transport convenient, marginally less than the Scottish average.

9.10 In Preston-Seton-Gosford, 89% of working households commute to work by car, higher than average for East Lothian, while in Tranent-Wallyford-Macmerry it is slightly less, despite good public transport availability. Prestonpans, Tranent and the villages to the east are served by regular bus services, with frequency good other than to Longniddry, where it reduces somewhat. Consultation undertaken for the East Lothian Local Transport Strategy found that costs were considered low in this area compared to more rural areas.

9.11 There are also two rail stations in this area (Longniddry ad Prestonpans) and one just outwith (Wallyford) (see also 'Material assets'). There is good park and ride provision towards the boundary with Edinburgh but fewer spaces elsewhere. Train use is supressed at peak times in East Lothian generally due to lack of availability. This is most likely to affect those using the stations closest to Edinburgh (Musselburgh and Wallyford) as Edinburgh is the destination for most people at peak times, so the train is more likely to be full by the time it gets to stations furthest west.

9.12 There are Core Paths and other active travel routes through the area (see Human Health, Figure 11 above).

Personal, Domestic, Commercial and Industrial

9.13 For the UK as a whole, about 70% of domestic energy (in tonnes of oil equivalent) is used for space and water heating. Most of the houses in this area are heated by gas. A small number are heated by electricity, and some have solid fuel as their main heat source; some people may also use this as a secondary heat source as many of the houses are of an age where they were designed to be heated by coal and may have functional chimneys still. Figure 27 shows that both Tranent and Prestonpans have relatively high natural gas demand for heating per square meter of area.

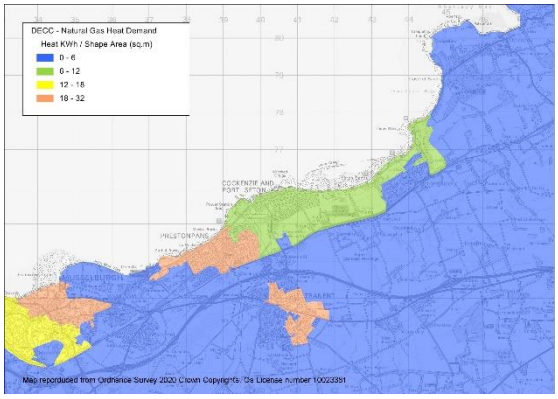


Figure 27:Natural gas heat demand KWh/m²

9.14 The East Lothian Local Housing Strategy[41] notes that houses in both Prestonpans and Tranent Town Centre have low levels of energy efficiency. It notes that energy efficiency is a particular issue for the private rented sector. East Lothian Council as a landlord is required to bring its housing up to a national standard of energy efficiency.

9.15 East Lothian's Fuel Poverty Strategy recognises the link between addressing fuel poverty and climate change. Research for East Lothian Council[42] showed Preston-Seton-Gosford and Tranent-Wallyford-Macmerry wards had lower than average fuel poverty in private housing, at around 8% (compared to 11% for East Lothian generally) however this disguises high levels of fuel poverty in private housing in both Prestonpans and Tranent Town Centre. Fuel poverty is also considered in 'Population'.

9.16 Commercial and Industrial premises in the area are also likely to use gas and electricity from the national grid system.

9.17 There are facilities for treatment of waste water for the population in this area which overall cause greenhouse gas emissions.

9.18 Unlike locations such as central Edinburgh, many of the homes in this area have gardens, which could potentially be used for food growing. A garden is the ideal location for this as it is handy for looking after and avoids having to travel with tools or produce. There are also allotments in Tranent and Musselburgh, and a small number at Cockenzie House.

[41] https://www.eastlothian.gov.uk/downloads/file/27328/east_lothian_local_housing_strategy_2018-23

[42] Reported in the Ward Profiles https://www.eastlothian.gov.uk/downloads/download/12766/ward_profiles

Renewable and low carbon energy

9.19 In East Lothian, Torness Nuclear Power station generates considerable baseload electricity for the grid, while there are large scale windfarms in the Lammermuirs. In the lowlands, there is some smaller scale wind development, a landfill gas plant at Oxwellmains, and small scale domestic and commercial solar and heat pump installations. East Lothian Housing Association have installed thermal storage and micro renewables through the EastHeat project. They have properties in Tranent, Prestonpans and Cockenzie.

9.20 The former the coal fired Cockenzie Power Station was located at the northern end of this area, but this has now been demolished after production ceased in 2013. There is some small scale renewable energy generation in the zone - a very limited number of small scale wind turbines, some small scale domestic and commercial generation from solar panels, and heat pumps. The area will also host electricity connection infrastructure at Cockenzie for an offshore windfarm at Inchcape, which will generate renewable energy on a greater scale.

9.21 This area has limited potential for wind development, although there is a good wind resource, due to constraints including nearby settlement and impact on views. There is considerable potential for geothermal energy, and also a reasonably good solar resources. There may be some potential for heat from sewage from Scottish Water's facilities.

Land Use

9.22 Land use, land use change and forestry is a category of greenhouse gas emissions accounting that covers emissions and removals of greenhouse gas from direct human land use activity such as settlement, land use change and forestry. Changes in this area have the potential to not only avoid emissions but to remove carbon dioxide from the atmosphere. The Scottish Government's aim is that the 'Land Use, Land Use Change and Forestry' sector will increasingly act as a net carbon sink[43]. Many local authority areas do have negative emissions from Landuse, however East Lothian is not among them, though net emissions from this sector are

[43] East Lothian Climate Change Strategy
https://www.eastlothian.gov.uk/downloads/file/29179/climate_change_strategy_2020-2025

decreasing (see Figure 28 below).

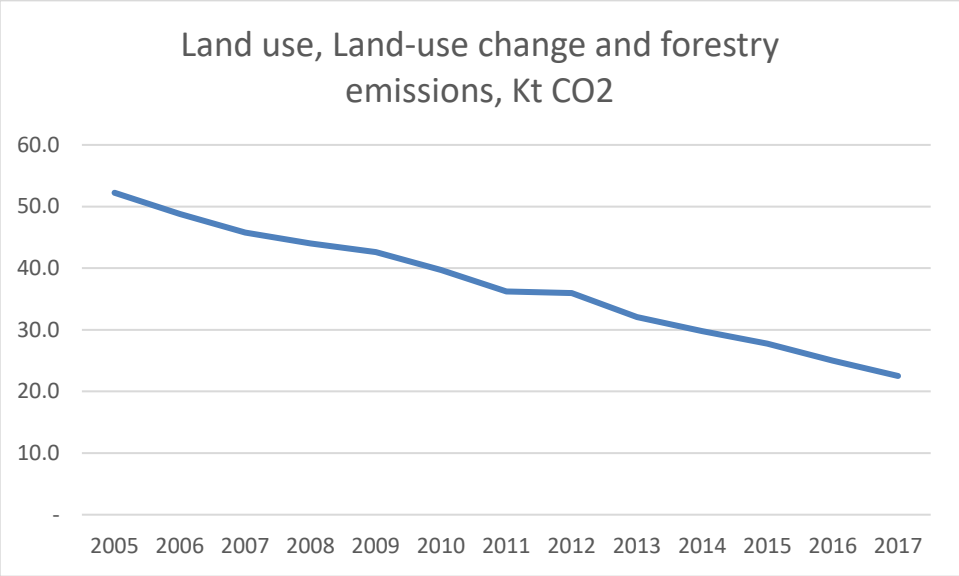


Figure 28: East Lothian Land Use Change and Forestry emissions, net. Source 2005 to 2017 UK local and regional CO2 emissions – data tables (alternative format), from https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2017

9.23 The best known contributor to sequestering emissions in this sector is trees and woodland, however there are other sources of removal including within soils, other planting including grassland, and creation and maintenance of saltmarsh and peat in good condition. The area of woodland in East Lothian, at about 10% of the area, is lower than the Scottish average. There is little woodland in the area covered by the Strategy (see Figure 5 above). The urban tree canopy comparatively low in the urban areas both Prestonpans and Tranent (see Human Health, above). Trees in Tranent urban area are estimated[44] to sequester around 430 tonnes of CO_2 annually, storing 10,800 tonnes. Those in Prestonpans were estimated to sequester 300 tonnes annually, and store 7600 tonnes, while in Longniddry the trees sequestered 400 tonnes annually, and store 10,000 tonnes. Most of the land in this area has either good or very good flexibility for the growth and management of tree crops[45] so subject to the appropriate environmental / natural habitats assessments has some potential for further woodland planting in this area. There is also potential for an increase in grassland in this area, though probably not saltmarsh, and not peat.

[44] Internal ELC data generated using https://canopy.itreetools.org/index.php

[45] National scale land capability for forestry maps at https://soils.environment.gov.scot/maps

9.24 The soil in this area is shown on Scotland's Soil maps[46] as a mineral soil, which has low possibility of containing peat; or as non-soil, which mainly includes settlements. Topsoil organic carbon concentration here is moderate or low as shown on the map below.

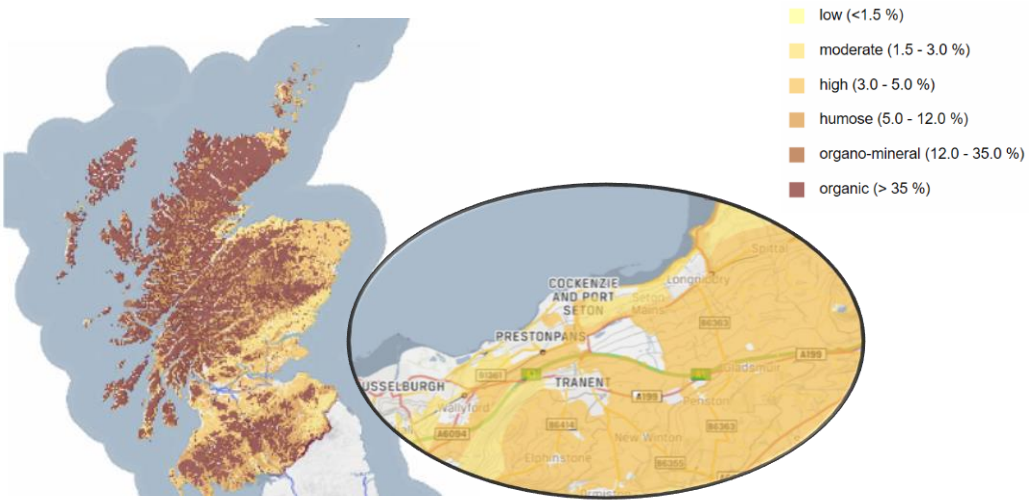


Figure 29 Topsoil organic carbon concentration. Source https://soils.environment.gov.scot/maps

Adaptation

9.25 Changes to the climate system are slow due to a lag in the system; what we are experiencing now is the result of emissions up to a point around 40 years ago. An amount of change is therefore inevitable, to which we will have to adapt. Severe changes cannot be ruled out[47].

9.26 Climate change predictions are available from the Met Office[48]. Predictions for East Lothian are for a warmer, wetter climate with periods of more intense rainfall. There is likely to be a longer growing season, linked to warmer weather.

[46] https://soils.environment.gov.scot/maps

[47] Climate Ready Scotland, Scottish Climate Change Adaptation Programme, 4th Progress Report https://www.gov.scot/binaries/content/documents/govscot/publications/progress-report/2018/05/climate-ready-scotland-scottish-climate-change-adaptation-programme-fourth-annual/documents/00535998-pdf/00535998-pdf/govscot%3Adocument/00535998.pdf

[48] https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/index

Table 6: Climate Projections

Table 10.1: Climate Projections, Scotland East, 2020's – 2080's					
		2020's	**2050's**	**2080's**	**Trend**
Winter	**Mean temperature**	1.1°C (0.2°C-2.0°C)	1.7°C (0.7°C-2.9°C)	2.2°C (1.0°C-3.7°C)	Warmer
	Precipitation	4% (-2%-12%)	10% (1%-20%)	12% (1%-25%)	Wetter
Summer	**Mean temperature**	1.4°C (0.6°C-2.4°C)	2.3°C (1.1°C-3.9°C)	3.5°C (1.8°C-5.7°C)	Warmer
	Precipitation	-6% (-17%-7%)	-13% (-27%-1%)	-17% (-33%-0%)	Drier

Source: UK Climate projections, Met Office, 2017

9.27 Adaptation Scotland has identified some of the most important impacts of climate change[49]. They note that globally, climate change may have an impact on food production, though a warming climate and longer growing season has the potential to improve conditions for growing here. Warmer, wetter conditions may allow existing pests and diseases to establish. Summer droughts may mean different uses (agriculture, domestic, industry and the natural environment) are in competition for water, which could affect both is quality and quantity. A warmer climate could lead to demand for more outdoor activity, and differently designed outdoor spaces. Climatic change could bring disruption to power generation and distribution – changes to wind, water or solar availability and damage to distribution systems caused by extreme weather. The requirements for design, construction, management and use of buildings, in particular for water management and avoidance of overheating may change.

9.28 Linked to climate change is expected sea level rise. Coastal flooding is likely to increase in vulnerable areas; this is considered under 'Water'. Rising sea levels combined with expected stormy weather will also speed up coastal erosion and accretion processes, with land potentially being lost to erosion. The coast adjacent to this zone does not appear to be particularly sensitive to change here, with a small area of erosion in Prestonpans and some accretion predicted at Seton Sands and Gosford. Musselburgh Lagoons, which is land reclaimed from the sea, is also shown as eroding however this area is defended by a sea wall.

[49] https://www.adaptationscotland.org.uk/why-adapt/impacts-scotland

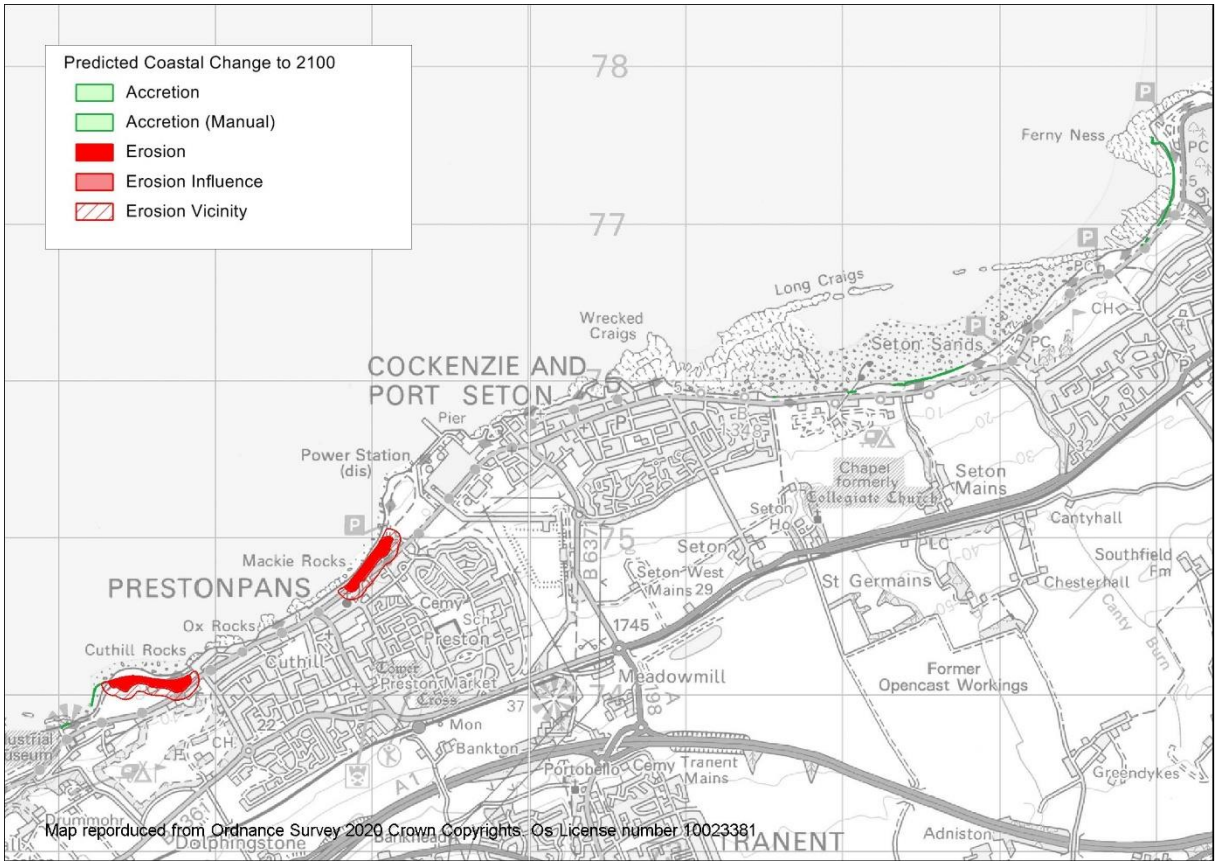


Figure 30: Source Marine Scotland National Coastal Change Assessment, http://marine.gov.scot/information/national-coastal-change-assessment-ncca-2017

9.29 Flooding issues are described in Water, but are also an important element of adaptation.

Existing Environmental Issues – Climatic Factors

9.30 The overwhelming priority is to mitigate climate change urgently. Emission reductions will be needed in all sectors relevant to the Strategy – personal, domestic, industrial, commercial and land use – to meet East Lothian and Scottish targets. There is also a need for the area to adapt to climatic changes that are unavoidable. The related challenge is to do both in an equitable manner, while maintaining or improving quality of life. The Scottish Government has set new climate change targets of net zero emissions by 2045. This is likely to mean a step change in how society is organised, both to mitigate climate change and to adapt to its effects.

Climate change mitigation

Transport

9.31 The emissions reduction targets for Scotland's transport sector[50] are significant decarbonisation of transport, with a phasing out of petrol and diesel cars by 2032, supported by a transition to ultra-low emission electric and hydrogen vehicles, and encouragement of active travel. Transport emissions per capita in East Lothian are rising.

9.32 The essential issue in this area as elsewhere for climate change with regard to transport is the number of trips made by fossil fuel powered vehicle. Many residents work, shop and/or recreate in Edinburgh and so need to travel some distance to their destination, and that once bought, a car is very tempting to use for shorter trips. Public and active modes of transport therefore need to be very good to compete. In addition, to support the transition to ultra low emission vehicles, charging infrastructure will require to be substantially upgraded in this area (as elsewhere). Freight is also delivered predominantly by road.

9.33 East Lothian's Local Transport Plan considers constraints and challenges facing active and public transport. Relevant to this area are that in some areas there is poor maintenance of footways and carriageways which can present a barrier to pedestrians, cyclists and the mobility impaired. Limited funding for maintenance of cycling and walking routes exacerbates this. There is a lack of integration between walking and cycle routes and public transport in some area. Lack of real-time information and integrated ticketing were also identified as barriers to use. Good public transport is critical to give people an alternative to the car.

9.34 Growing population in East Lothian and in this area in particular will put pressure on transport systems.

Personal, Domestic, Commercial and Industrial

9.35 There is relatively high demand in Prestonpans and Tranent for natural gas, a fossil fuel, which is likely to be mainly used for heating and hot water.

9.36 In the 3rd Report to the Scottish Climate Change Plan[51], it was noted that emissions from buildings were expected (targeted) to fall by a third by 2032. This target is likely to increase. The energy efficiency of some of the housing in this area could be improved, in particular in the private rented sector and Prestonpans and Tranent Town Centres.

[50] As set out in East Lothian Council's Climate Change Strategy https://www.eastlothian.gov.uk/climatechangestrategy

[51] https://www.gov.scot/publications/scottish-governments-climate-change-plan-third-report-proposals-policies-2018/

9.37 Not all homes in the area have access to personal food growing space and waiting lists for allotments are long with low annual turnover. There is no allotment provision in Prestonpans, Cockenzie/Port Seton or Longniddry, though in Longniddry almost all of the housing stock has a garden.

9.38 At present treatment of waste water is done in a way that results in greenhouse gas emissions.

Renewable and low carbon energy

9.39 There is little currently little exploitation of the area's renewable energy potential.

Land use

9.40 There is a relatively little woodland, grassland or wetland in this area to perform a carbon sequestration function. The amount of trees in the urban area is also low.

Adaptation

9.41 Climate change and extreme weather have already impacted many aspects of our environment and lives, and will continue to do so.

9.42 East Lothian Council's Climate Change Strategy[52] identifies key challenges for East Lothian Council. These include flood protection and flood risk management, which is considered under Water'.

9.43 East Lothian Council's Climate Change Strategy notes that changes to global food production which could affect the protection and use of agricultural land are issues for climate change adaptation. Greater food growing capacity may be needed in the future to meet our food requirements if global food production declines (see 'Soil'). This could put pressure on the agricultural land in this area.

9.44 Pests and diseases encouraged by warmer, wetter conditions could affect people, animals, plants (including crops) and ecosystems.

9.45 Competition between different uses for water could affect its quality and quantity and predicted times of drought could exacerbate this.

9.46 Outdoor space within towns here may not be adaptive to increasing heat or sudden downpours. In particular there is a low tree canopy cover in the urban areas of Prestonpans and Tranent. The availability of good quality recreational opportunities close to where people live is an important part of maintaining quality of life while meeting climate change targets

[52] https://www.eastlothian.gov.uk/climatechangestrategy

(see 'health'). East Lothian Council's Climate Change Strategy[53] identifies managing the natural environment to provide climate adaptation benefits whilst protecting our natural heritage assets as a key challenge for adaptation.

9.47 Many of the properties here depend on grid electricity, which may become less reliable (and more expensive) in the future.

9.48 Adapting our buildings, services and infrastructure to climate change is a key adaptation challenge identified in the East Lothian Council's Climate Change Strategy. Buildings were designed for a different climate, and may not suit new conditions. For example they may not provide adequate cooling in the summer, or may have difficulty shedding increasingly intense rainfall. Providing new buildings and adapting old ones requires a skilled workforce which may not currently be available.

9.49 East Lothian Council's Climate Change Strategy also stresses the need to help our communities and businesses to adapt and be more resilient to future climate impacts.

9.50 Erosion from sea level rise is not expected to be a significant issue here.

Likely Significant Effects – Climate

9.51 Taking into account the issues identified above, SEA objectives for Climatic Factors have been identified. The following table gives the objectives and summarises the impact of each Theme of ClimatEvolution:

[53] https://www.eastlothian.gov.uk/climatechangestrategy

SEA Objective, Climatic Factors: Contribute to reducing greenhouse gas emissions and energy consumption or adapting to the effects of climate change			"Do nothing"	Comparison of ClimatEvolution to Do Nothing	ClimatEvolution overall	ClimatEvolution Themes				
						1 Movement	2 Water	3 Leisure	4 Biodiversity	5 Enterprise
SEA Sub-objective/ questions for assessment. Does the plan….?	KEY									
	Positive	+								
	Neutral	0								
	Unknown	?								
	Mixed/Variable	//								
	Negative	-								
	Comparison of ClimatEvolution with "Do nothing"	Better / Worse								
Reduce the need to travel as well as the distance travelled			+	↑	0	+	+	+	0	+
Promote a travel hierarchy of active travel, followed by public transport then low emission vehicles			+	↑	+	0	0	+	0	//
Promote development that is energy and resource efficient			//	↑	+	+	+	+	0	+
Follow an energy hierarchy of reduction of demand, energy efficiency, use of renewable energy			0	//	+	+	+	+	0	//
Mitigate climate change through land use including woodland planting			//	↑	-	+	+	0	+	-
Adapt to climate change			+	↑	0	+	+	0	+	0

"Do nothing" – Climatic Factors

Travel – reduce distances travelled and promote travel hierarchy

9.52 The ELLDP aimed to locate employment and housing land in locations that reduce the need to travel as well as the distance travelled overall, and are accessible by a wide range of transport modes. As a result it has allocated both housing and employment sites in this area, where there is good public transport access and distances to Edinburgh are less than further east. However travel will still take place due to low job density and lack of leisure and training

facilities nearby. Developer contributions to both public transport and active travel will be sought for relevant proposals[54].

9.53 The Council has recently purchased the site at Cockenzie and is investigating the potential for employment uses here. Employment or leisure development coming forward here would reduce the need to travel and distance travelled.

9.54 The ELLDP also includes proposals for public transport improvement here; lengthening platforms at Longniddry and Prestonpans, as well as a potential new rail halt at Blindwells. The ELLDP requires that bus infrastructure is provided where it is required as a result of development. East Lothian Council's Climate Change Strategy[55] also includes actions to improve provision and usage of public transport.

9.55 Both East Lothian Council's Climate Change Strategy and ELLDP include support for active travel, which is planned in detail through the Local Transport Strategy, Active Travel Improvement Plan and Core Path Plan. Together, these will provide a network of active travel (walking and cycling) routes based around the Core Path Plan, and cycle improvements, notably the Segregated Active Travel Corridor which links Dunbar and Edinburgh via Prestonpans and Tranent. The Council will continue to develop the Cycle Network within a cycling Strategy for East Lothian. Preston-Seton-Gosford Area Partnership have printed a paths leaflet to promote active travel, and have formed an 'On the Move' sub-group which identifies and implements improvements. Both Fa'side Area Partnership and Musselburgh Area Partnership also have 'Active Travel' sub-groups and have also produced paths/active travel leaflets for their areas. Some improvements to active travel provision in the area are therefore underway.

9.56 The Council is working with partners to bring forward Electric Vehicle infrastructure to be the most extensive and innovative network in Scotland; numerous new EV chargepoints have already been installed around East Lothian with more underway and planned.

9.57 ELC are in the early stages of working with Transport Scotland and Network Rail to prepare a Scottish Transport Appraisal Guidance (STAG) transport assessment study that will identify how strategic (national and regional) interventions to the transport network can be delivered.

[54] East Lothian Council Developer Contributions Supplementary Guidance, at https://www.eastlothian.gov.uk/downloads/file/28187/developer_contributions_framework_supplementary_guidance_-_ldp_2018

[55] https://www.eastlothian.gov.uk/climatechangestrategy

ELC have secured funding for and are working with Transport Scotland on the development of an Integrated Multi-modal Sustainable Movement Masterplan for this area.

Energy Hierarchy

9.58 The ELLDP encourages appropriate renewable energy development in the right locations as well as the provision of low and zero carbon technologies in new development. It can help reduce energy consumption by design and in the layout of development and some guidance on this will be included in the forthcoming Design Standards for New Housing Areas. Other East Lothian Council strategies also aim to improve energy efficiency in buildings.

Land use

9.59 East Lothian Council's Climate Change Strategy [56]notes the Council will embark on an ambitious programme to plant native trees across East Lothian. It is developing a Sustainable Procurement Policy which includes environmental benefits, including carbon-offsetting projects such as native tree planting, woodland enhancement or natural habitat restoration projects, some of which could come forward in this zone.

Adaption to climate change

9.60 The ELLDP will avoid development that increases the risk of flooding; the Environment Report of the ELLDP notes that "[The ELLDP] can contribute to securing climate change adaptation and resilience by avoiding development in areas of flood risk and by preventing the risk of flood increasing as a result of new development, securing mitigation where necessary and appropriate". Flooding issues for this zone are considered in more detail under 'Water'.

9.61 The agricultural land in the area would be likely to continue in use as such, supporting food production (see 'Soil'). Pests and diseases would not be made any more or less likely. The water environment and abstraction rates would not change.

9.62 East Lothian Council's Climate Change Strategy[57] has an action to naturalise amenity grassland, with a target of 10%, and new outdoor space will be provided in line with standards in the ELLDP. Both Preston-Seton-Gosford and Fa'side Area Partnership Plans include actions to improve green and open spaces in their areas.

9.63 East Lothian Council's Climate Change Strategy also includes aims to explore renewable energy generation, and to produce a Local Heat and Energy Efficiency Strategy following confirmation from the Scottish Government, so it is likely that some form of action would come forward

[56] https://www.eastlothian.gov.uk/climatechangestrategy

[57] https://www.eastlothian.gov.uk/climatechangestrategy

through this. This may include retrofitting of existing buildings. Action will also be taken under that strategy to help communities and businesses to adapt and be more resilient to future climate change.

9.64 East Lothian Council's Climate Change Strategy further sets out some specific actions that will be taken to adapt to climate change. Theses include making sure that new Council buildings are designed to be prepared for predicted climate change impacts to ensure future resilience; road and infrastructure management to reduce climatic impacts; coastal protection to protect key coastal routes, including the John Muir Way, from erosion; and ensuring paths are constructed for climate resilience (e.g. porous surfaces).

ClimatEvolution – Climatic factors

9.65 Climate Change is one of the three objectives at the core of the Vision, the others being health and well-being and sustainable placemaking. Climate change – mitigation, adaptation and sequestration – is therefore an organising force behind the development of the strategy. The aim of ClimatEvolution is to help mitigate climate change through reducing travel, exploiting renewable energy and land-use change. It will provide jobs, training and recreational facilities which can be accessed by active travel (thus avoiding trips elsewhere) and through creative use of the areas assets, including heated mine water which could be used for renewable heat. At present the area is used mainly for agricultural or recreational purposes.

Travel – reduce distances travelled and promote travel hierarchy

9.66 The Strategy generally supports the travel hierarchy of reducing the need to and distances travelled, promoting active travel, then public transport. The Strategy improves the job, training and recreational offer of the area, reducing the need to travel. Many of the proposals will provide jobs or training – the Training Hotel, the Centre for Excellence in Sustainable Building, and jobs arising from Local Regeneration Strategies (Theme 5). Leisure attractions are also proposed in Theme 3 - the National Resilience Centre, with its Education Centre, and development and promotion of existing assets and Theme 2 includes water based attractions. This fits in with the Scottish Government aim of spreading tourism and leisure away from 'hotspots'. By improving the local offer there is less need for residents to travel for leisure. Improvements to active travel infrastructure along with green and blue infrastructure provides for local recreation.

9.67 However, there is also the potential for the Strategy to attract visitors from outside the area. This increases the need (and desire) to travel. Where visitors arrive by private car, and to a lesser extent by public transport, this will increase greenhouse gas emissions. It is not the aim

of the Strategy that this occurs, and the Strategy includes measures to improve the likelihood of visitors using public transport to get to the destination. All the same, it is likely some visitors will arrive by private vehicle. It is difficult to appraise where the balance of travel emissions lies without full transport assessment.

9.68 The Strategy will not affect freight transport.

9.69 The Local Regeneration Strategies proposed for existing communities (combined with existing work already carried out) aim to identify actions to support the vibrancy of town centre, promote local jobs and community links. This will reduce the need to travel by supporting jobs and services. It can also encourage active travel by identifying very local barriers to walking and cycling.

9.70 Promotion of high-speed broadband will enable working, shopping and recreating from home, which can reduce the need to travel. Digital connectivity can also support use of public transport, as information on timetables and real time transport information is easily available.

9.71 The strategy supports modal shift from car to public transport and active travel. Theme 1 comprises proposals for access and movement. The strategy aims to deliver a range of active and sustainable travel proposals to meet the requirements of a wide range of users and where possible, combine with links to rail and bus to facilitate longer distance access. The strategy includes creation of an integrated network of Path for All (multi-use paths) and cycleways, segregated active travel commuter and leisure routes as well as community routes. The need for appropriate maintenance of paths is included. Gateway hubs linking to public transport and with secure cycle parking and charging facilities for electric bikes, along with bikes for hire are proposed.

9.72 This strong active travel framework and will support behaviour change by creating an attractive low or zero transport alternative to the car. Increased use of active travel and efficient public transport will help to reduce emissions while keeping people on the move. Indirectly, use of active travel can also reduce emissions related to food as despite it using more calories than driving, active travel helps maintain a healthy weight; and people of a healthy weight tend to eat less (as well as the other way round!).

Energy Hierarchy

9.73 Energy efficiency is promoted through Theme 5 which includes an action to improve the efficiency of existing housing stock. This will help mitigate climate change by reducing energy needed to heat homes. The potential National Climate Resilience Centre will be built using sustainable construction methods, keeping emissions low, and will have carbon neutral

maintenance systems. Increasing use of existing buildings such as Meadowmill Sports Centre and Prestongrange Industrial Heritage Museum can help these buildings, which represent considerable embodied energy, continue in use.

9.74 The proposed Centre for Excellence in Sustainable Building has the potential to indirectly increase energy efficiency through helping to mainstream knowledge of and skills in sustainable building. This has the potential for mitigation benefits across Scotland and beyond.

9.75 This area has considerable geothermal potential. If this can be realised, it will help mitigate climate change by reducing reliance on natural gas for space heating. Theme 5 includes the Geothermal Feasibility study. There is potentially a considerable renewable energy resource in this location, and this study will help to realise it. This leads into the design and implementation of district heating within Greater Blindwells and surrounding low income communities. Using geothermal or other renewable heating in a decentralised network for all or most of the parks new features and buildings in the surrounding area will reduce emissions by replacing either gas or electricity from the national grid as a source of space and water heating. Use of micro hydro and heat from sewage will also replace fossil fuels in either heat or electricity generation.

9.76 The Holistic Surface Water Management Strategy will allow improvements to Scottish Water's drainage system which will reduce greenhouse gas emissions of this infrastructure.

9.77 However, there will be some short-term adverse impact on climate from construction of proposals across all Themes both from land use change, and transportation and production of materials; even with the use of circular economy methods and reduction of construction wastes some emissions are probable. The setting up of construction circular economy is encouraged to reduce construction waste. The IPCC is clear in its advice that it is important that climate emissions are reduced as soon as possible. This must therefore be considered in balance with medium and long term benefits.

Land use

9.78 The Strategy provides for a significant increase in new planting for biodiversity to support integrated habitat networks (Theme 4) which will mitigate climate change whether this is trees, grassland or fen/marsh/swamp. Restoration of existing habitats will also improve their carbon sequestering potential. The wetland habitat areas (Theme 2) also have potential for carbon sequestration. Theme 4 Re-designing urban open space (Theme 4) allows for increased tree planting or less carbon intensive management.

9.79 Climate change could lead to a greater number of days when Ozone (a climate forcing gas) is formed as this reaction occurs in sunlight. Planting can help combat this through absorption of pollutants.

Others

9.80 The Strategy will also mitigate climate change in some other ways. The National Climate Centre will support positive behaviour change in general through education and example. The creation of a large kitchen garden in association with a high quality training hotel facility allows education opportunities for growing and cooking and instils skills for sustainable growing methods for both young and old. This allows for promotion of a plant based diet; adopting this is one of the most significant actions an individual can take.

ClimatEvolotion – Adaptation

9.81 Flood risk management will be significantly improved by the Strategy. The Holistic Sub-regional Water Management Strategy, Surface Water Management Plan for existing settlements, renaturalistaion of watercourse and creation of open water bodies and natural wetland areas will help reduce flooding. This will allow adaptation to climate change included increasing frequency of intense rainfall events, where possible, through natural water management systems to avoid a piped solution to surface water issues. Managing water systems through such natural systems reduces vulnerability to flooding by increasing capacity and slowing surface water run-off into the piped system. This avoids surface water entering the combined sewer network alleviating issues of overflow during extreme weather into the Forth. The intense rainfall events predicted would otherwise put pressure on existing systems, potentially causing flood and discharge into watercourses. The actions in ClimatEvolution both reduce the risk of flooding and improve water quality and watercourse morphology. The Strategy notes that new buildings proposed will not be in locations which are prone to flood; this could be secured through holistic surface water management.

9.82 Theme 4 Green Space and Biodiversity Within Urban Areas includes local food growing spaces. In combination with education in horticulture and the Low Carbon Food Strategy, and East Lothian Council's Local Food Growing Strategy (in preparation) this will encourage a plant based diet (which is also effective in mitigating climate change) and increase locally grown food. This may help people adapt to the potential of higher food prices from global pressure on agricultural land arising from climatic change.

9.83 The Climate Resilient Planting Policy (Theme 4) will help by choosing plants that are adaptable to future climate change, and by using a variety of appropriate species to avoid wholescale loss through new plant diseases arising from a changing climate.

9.84 Re-naturalising watercourses and planting around them should slow evaporation of water in the area, which would retain the flow of streams. The water management proposals will also help improve water quality.

9.85 The Strategy provides extensive improvements to outdoor space. Improvement to Green Space within Urban Areas (Theme 4) will provide for outdoor recreation close to where people live. Theme 1 sets out proposals for new paths, including along re-meandered watercourses. These routes will not just be functional but provide an attractive outdoor recreational experience. Planting along transport corridors (Theme 4) can help reduce the impact of flooding onto roads and paths by slowing surface water run-off in these areas, and provide shade. This will help make paths and roads usable more of the time in climate which is likely to be both hotter and wetter than now. Theme 1 Gateways specifically note the need for provision of shade and shelter. This is in line with the East Lothian Green Network Strategy which aspired to 'oasis' areas in urban areas.

9.86 More formal outdoor leisure facilities are also included. Provision of a water park/Lido in Theme 2 will also provide an attractive outdoor facility. Theme 3 also provides for outdoor recreational experience; integration of the Prestongrange Visitor Centre masterplan; the Battle of Prestonpans visitor centre, improved access to Meadowmill Sports centre, Waggonway improvements and the Three Harbours trail. Combining this with habitat network planting (Theme 4) will help make this a networked adaptive environment.

9.87 Theme 3: Culture, Heritage and Leisure includes a National Climate Change Centre. This could help showcase and educate people about adaptation measures. Providing leisure opportunities close to where people work can also help adapt to for example potential increased costs of travelling. The training and job generating proposals in Theme 5 also allows for adaptation to higher travel costs.

9.88 Integrated Habitat Networks help the natural environment adapt to climate change through allowing species to migrate.

9.89 Education through the proposed visitor centre will help promote better adapted living. Energy efficiency improvements to the housing stock mitigate climate change but are also adaptive as this lowers fuel bills, adapting to the future possibility of higher energy costs.

Mitigation of potential adverse impacts of the Strategy

9.90 East Lothian Council's Climate Change Strategy[58] sets out actions that the Council will take across many areas. This is a live document and will evolve in particular in response to the Scottish Government's anticipated revised Climate Change Plan. Actions taken are expected to significantly reduce greenhouse gas emissions across the area in the medium and longer term.

- The following could be considered: Include that all buildings in the Zone should be sustainably constructed to a recognised standard e.g. BREEAM
- Include explicit requirement that active travel routes – especially commuter routes - should not be constructed in areas likely to flood
- The need to consider maintenance requirements for active travel routes and design accordingly could be further emphasised

Conclusion – Climate Change

Mitigation

9.91 Overall, in the medium and long term, ClimatEvolution will mitigate climate change. It will reduce the need to travel through creation of local employment, training and leisure opportunities, and education experiences / leading by example (e.g. through the National Climate Change Centre) though there may also be an increase in travel from visitors coming to the area. It will promote active travel over public transport and the private car through creation of attractive active travel networks and 'hubs' which include public transport facilities. It will promote energy efficiency through improving the existing housing stock and championing sustainable building. Tapping into geothermal and hydro potential allows for use of renewable energy which would displace gas, solid fuel or electricity for heating. Increasing the energy efficiency of the housing stock and use of sustainable materials in building, as well as the use of geothermal and other renewable energies follows the energy hierarchy.

9.92 In the short-term there will be negative effects on mitigation due to emissions associated with construction and land use change related to planting. Use of sustainable construction methods in the centrepiece buildings mitigates the impact of construction but does not negate it.

9.93 In the long run there will be climate mitigation benefits from this proposal. However, with climate change as with corona virus, there is the need to 'flatten the sombrero'; compared with "do nothing" there will be a short term increase in emissions from this Strategy. In global

[58] https://www.eastlothian.gov.uk/climatechangestrategy

terms this is neglible, however, the effort to mitigate climate change has to be a cooperative one, and reducing total short term emissions to avoid ‘tipping point’ changes is important.

Adaptation

9.94 The Strategy is highly adaptive to the effects of climate change compared to the alternative of ‘do nothing’. It looks holistically at water management, addressing flooding issues an achieving multiple benefits from blue green infrastructure. This will improve quality of life for in the area by making the environment more adapted to future climate change.

10 MATERIAL ASSETS

Relevant aspects of the current state of the environment

10.1 Material assets can cover a wide variety of assets and includes built assets such as energy, heat and distribution assets, water supply and waste water management, transport, land, and considered here are the sewage system, land and transport infrastructure. It can also include greenspace and natural assets such as minerals, watercourses, woodland and agricultural land. The value of greenspace as a material asset is recognised however it is covered in human health here. Watercourses are considered under 'Water', and woodland mainly under Landscape but also under Biodiversity. The geothermal resource is considered under 'Climate'. The capacity of the sewage system is considered both here and under 'Water'.

10.2 Through Scoping the following issues have been considered. The Scoping Table below shows, with reasons, what existing issues are considered to be relevant to this strategy.

Scoping Table 8: Material Assets		
Issue	**In/Out**	**Reason**
Impact on the strategic road network	**Out**	An increase in traffic is unlikely to affect the operation of the A1/A198. Transport issues are considered under Climate. Flooding issues are not expected to affect these roads.
Impact on the East Coast Mainline	**Out**	The East Coast Mainline is not expected to be affected, including the land safeguard for fourtrack rail as this is safeguarded in the ELLDP and proposals would have regard to this policy.
Impact on Scottish Waters drainage assets	**In**	Scottish Waters foul water systems pumps to Seafield Wastewater treatment works, and has capacity. ClimatEvolution will avert pressure on SW drainage assets .
Stable Land: Potential for impact on built development of previous mining activity	**In**	This is an area potentially affected by historic coal mining. There is the potential for built development to be affected by these workings, with consequent impact on them as material assets, and on human health if there is an accident. [noted in Scoping under 'Soil'; Vacant and Derelict land is under 'Landscape', Contaminated Land under 'Soil']
Impact on coal reserves [Noted in Scoping under 'soil']	**In**	This area is part of the coalfield, and may contain reserves of coal. Any impact on the potential for mining this should be considered.
Impact on all other material assets	**Out**	ClimatEvolution is not expected to affect the electricity transmission network or other significant material assets.

Scottish Water's Drainage Assets – background

10.3 Scottish Water's sewerage system is a material asset. The system conveys both foul and surface water drainage to xx where it is treated and discharged. The sewage system here has some capacity, however Scottish Water are no longer accepting surface water run-off into the sewer. Scottish Water, Scottish Government, SEPA and local authorities across the region have joined forces to plan for future growth and changes in climate that impact on how the area's waste water and surface water is processed.

Stable land – background

10.4 Land suitable for building on is a material asset. Previous coal mining can affect land stability, and can also bring contamination issues (contamination is considered in 'Soil'). Much of this area has been subject to past coal mining activity, and most of the ClimatEvolution area is within the Coal Authority defined Development High Risk Area. In accordance with the agreed risk-based approach in Development High Risk Areas, past coal mining activities within the site must be fully considered at project level stage. This will take the form of an appropriate risk assessment, together with any necessary mitigation measures. Coal Authority permission is likely to be required to intersect, enter, or disturb any coal or coal workings during site investigation or development work.

10.5 The following map shows that much of the area is potentially affected by former mine working, with mineshafts peppered across the area.

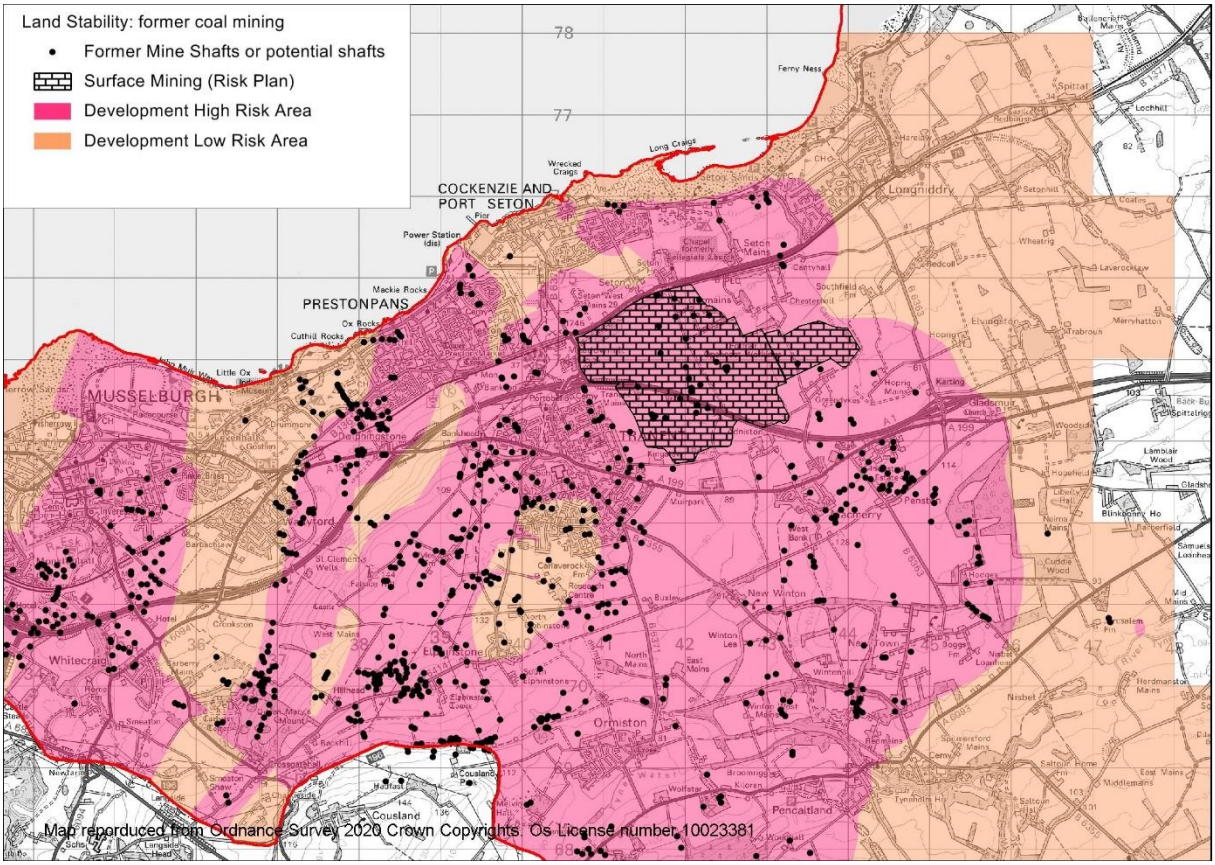


Figure 31: Former coal mining risk areas

10.6 The High Risk Area, covering 15% of the coalfield nationally, is where coal-mining risks are present at shallow depth which are likely to affect new development. In these areas, developers must submit a Coal Mining Risk Assessment in support of any relevant planning applications, which would include applications for most new built development. The aim of a Coal Mining Risk Assessment is to identify site specific coal mining risks and set out the proposed mitigation strategy to show that the site can be made safe and stable for the development being proposed.

10.7 The Low Risk Area is where past coal mining activity has taken place at sufficient depth that it poses low risk to new development. However, the history of coal mining in this area is long, and there may be unrecorded coal mining related hazards. There is no requirement to carry out or submit a risk assessment in Low Risk Areas, however, any coal mining feature discovered must be reported to the Coal Authority.

Coal resource – baseline

8.55 The ClimatEvolution area lies on the Lothian coalfield. Despite considerable mine working effort in this area in the past, both deep and opencast, some shallow coal deposits may remain. ELLDP Policy is that this should be extracted prior to development where it is feasible and environmentally acceptable to do so.

10.8 An application was made for opencast mining over 20 years ago at Harry's Burn by Tranent, which was refused by the planning authority which refusal was subsequently upheld at appeal. No applications for coal extraction have been made since. Although coal is a fossil fuel and burning it releases CO2 and other air pollutants, it is still used for domestic fuel and a small number of remaining power stations. It may be therefore that the most sustainable solution is to extract this in the UK rather than import. Therefore, in line with national policy the the East Lothian Local Development Plan requires that consideration should be given to whether prior extraction of the mineral resource is practicable and viable before development takes place.

The Strategic Transport Network – baseline

10.9 Roads, rail and paths are material assets. Nationally[59], transport has seen some positive trends. Passenger journeys on ScotRail services have increased. Registrations of ultra-low emission vehicles (ULEVs) in Scotland have increased considerably, although from a low base. Significant lengths of new paths have been delivered to enable more journeys to be made by walking, wheeling and cycling.

10.10 The A1 (T), the East Coast Main Line and the North Berwick Branch Line are the main transport corridors through East Lothian and give access to this area.

10.11 To support the ELLDP, a Transport Appraisal (DPMTAG Report) was undertaken for both strategic and local transport infrastructure. This appraisal identified that the cumulative effects of ELLDP development would be likely to cause issues without mitigation. Improvements are required to junctions onto the A1 at Old Craighall, Salters Road, Dolphinstone junction, and Bankton junction. A new Adniston A1 (T) Interchange is supported by the ELLDP though no commitment has yet been made to its delivery. Transport improvements in Musselburgh and Tranent town centres were also needed. The appraisal also identified that rail platform and car park extensions were required at stations in East Lothian and that a Segregated Active Travel Corridor should be developed.

10.12 Currently, six rail halts are located on the main line at Musselburgh, Wallyford, Prestonpans, Longniddry, Drem and Dunbar, with North Berwick Station on the branch. The rail network through East Lothian currently has limited capacity. The different requirements of local and long distance trains affects the potential for more frequent services on the North Berwick Branch line as well as services to Dunbar. Provision of a four-track section between

[59] National Transport Strategy 2

Prestonpans and Longniddry, currently under consideration, and/or high speed rail connections on other lines could improve capacity for local services on the East Coast Main Line. The ELLDP safeguards land for a four track section of the East Coast Main Line, and supports the principle of an overbridge and rail halt at Blindwells which would potentially be included. There are also new station safeguards in the ELLDP at Musselburgh (for a 'Parkway' station), East Linton and also at Blindwells.

10.13 These interventions, along with a movement framework for the Greater Blindwells area, would also make the ClimatEvolution area more accessible and potentially more attractive (in terms of vehicle journeys).

10.14 A number of ELLDP2018 strategic transport proposals coalesce around the Blindwells Development Area. There may therefore be an opportunity to develop a regionally and strategically significant integrated transport hub at the new town. This could increase areas connectivity to surrounding places and markets in a UK, national, regional and local context. This would help enable the new town's economic success and attractiveness which would be complemented by the destination parkland.

Existing Environmental Issues – material assets

Scottish Water's Drainage Assets

10.15 Over the next 25 years, Scottish Water faces three main challenges for its assets: the impact of climate change, ageing assets and reducing the emissions that contribute to the global climate crisis. Sewers and other water infrastructure in this area were built for a smaller population than it will be expected to serve. Both flooding and drought can affect the operation of drainage infrastructure, and climate change is predicted to increase both. Scottish Waters Vision is that waste water will be collected, treated and recycled in ways that add value and protect the environment[60].

10.16 Infrastructure such as sewers can have a very long life with proper maintenance, though other assets such as treatment works may require replacement in the foreseeable future. Scottish Water's current level of asset replacement is well below the long term require replacement rate. Scottish Water is making plans to transition to a sustainable maintenance and replacement programme[61].

[60] Scottish Waters 25 year strategy "Our Future Together" https://readymag.com/ScottishWater/SustainableFutureTogether/5/

[61] "A Sustainable Future Together" – Scottish Water

Stable land

10.17 As described above, the area has a history of coal mining and there could be ground stability issues in some areas. Coal mining legacy issues that can potentially pose a risk to new development and therefore should be considered within coalfield areas are:

- The location and stability of abandoned mine entries
- The extent and stability of shallow mine and open cast workings
- Outcropping coal seams, fault lines and unrecorded mine workings

10.18 In some parts of this area there may be constraints which cannot be overcome to allow development or which point to some locations within the area being preferred to others for certain types and scales of development. This applies also to the adjacent Blindwells site. These constraints may lead to a particular pattern of development in and through this area, including at Blindwells, with opportunities for biodiversity, open space and amenity areas in such places.

Coal resource

10.19 There are a small number of coal fired generators in the UK, though all are due to close before 2025as well as some domestic coal use. Coal burning has strong climate forcing effects as well as other emissions to air. Coal extraction can also cause environmental and amenity issues. It is unclear if it would be possible to extract this resource and meet environmental and amenity objectives.

Strategic Transport Network

10.20 Nationally the transport system faces challenges which are echoed in this area: some people have problems accessing services and getting where they would like to go, while congestion can also be an issue. The transport system as a whole is facing the problem of keeping Scotland moving while mitigating climate change. This will require substantial changes to both travel habits and transport infrastructure. Cycling and walking infrastructure nationally still lags behind that of some European countries.

10.21 Here there is congestion at Musselburgh at peak times in particular relating to the limited crossings over the Esk, as well as in Tranent Town Centre, and as noted above, there is limited capacity on the A1 junctions. Both bus and train services are full at peak times. This is reflected in the Council's Local Transport Strategy 2018, and its associated SEA.

10.22 Although interventions to the strategic road and rail network will make the area more accessible, there is an underlying problem of lack of capacity in transport infrastructure and in local transport services. These factors are particularly relevant in view of anticipated population growth and because travel demand is expected to increase in the coming years, issues that will exist without factoring the effects of planned growth that is yet to be delivered.

10.23 Whilst the ClimatEvolution area is accessible, the linear transport corridors including the East Coast Mainline railway running north-south also sever the area from nearby communities (and nearby communities from one another) including via active travel routes. Existing bridges such as at Meadowmill and low bridges such as at Longniddry and the level crossing at St Germains are important contributors to this issue.

10.24 There are also close relationships with the impact of transport movements and local air quality issues.

10.25 There is an opportunity to enhance existing active travel assets and relieve pressure on Scottish Waters drainage assets. A key issue will be to ensure that new hard, soft, green and blue infrastructure is designed to be 'shared' as well as 'multi-functional'. There is need to address drainage and possibly water supply requirements under the rail line and / or A1. There may be constraints in some parts of the area which cannot be overcome to allow built development or that may point to some locations within the area being better than others for certain types and scales of development.

Likely Significant Effects – Material Assets

10.26 Taking into account the issues identified above, SEA objectives for Material Assets have been identified. The following table gives the SEA objectives and summarises the impact of each Theme of ClimatEvolution:

SEA Objective, Material assets: Manage, maintain or promote the efficient, effective or appropriate use of material assets			"Do nothing"	Comparison of ClimatEvolution to Do Nothing	ClimatEvolution overall	ClimatEvolution Themes				
						1 Movement	2 Water	3 Leisure	4 Biodiversity	5 Enterprise
SEA Sub-objective/ questions for assessment.	KEY									
	Positive	+								
	Neutral	0								
	Unknown	?								
	Mixed/Variable	//								
	Negative	-								

Does the plan….?	Comparison of ClimatEvolution with "Do nothing"	Better	Worse								
Make the best use of Scottish Waters drainage assets				-	↑	+	+	+	+	+	+
Avoid the risk of loss of assets due to ground instability (stable land)				+	↓	-	-	+	-	+	-
Make an efficient use of land and / or prioritise the use of previously developed land over greenfield land				+	?	//	//	//	//	+	+
Safeguard mineral resources from permanent sterilisation unless this would be acceptable in policy terms, or seek the prior extraction of resources if appropriate				+	↓	-	-	-	-	//	-
Avoid adverse impact on the road, rail and electricity transmission networks				//	↑	+	+	+	//	+	//

"Do nothing"

Scottish Waters Drainage Assets

10.27 Scottish Waters drainage assets generally have some capacity but this may be stretched with increased rainfall. The asset is required for removal of sewage; allowing surface water to enter this facility does not make best use of it, which is the situation at present. New development in the area will be required to avoid pressure on the sewerage system. Without action to promote natural drainage, considerable investment in a piped solution would be required. This is uneconomic and unsustainable. It is also a higher risk solution as if something goes wrong it is harder to identify where the issue lies, leading to the potential for pollution.

Stable land

10.28 It is normal development management practice to require a Coal Mining Risk Assessment for relevant development. This will ascertain if the development is at risk from former mining activity. Devlopment outwith allocated sites is not proposed in this area; any relevant proposals that do come forward would be supported by a risk assessment. The risk of development being affected by past coal mining activities is therefore low.

Efficient use of land

10.29 The land here is highly suitable for a number of purposes - highly accessible and so attractive for development, well placed as a recreational asset and prime agricultural land. The land is also used as supporting habitat for the some species of the Firth of Forth SPA. The ELLDP aimed to balance these competing priorities through allocation of development land in this area, along

with indicating through designation as Green Belt and CAT where development should not generally occur.

10.30 The policies of the ELLDP prioritise where possible the use of previously developed land in sustainable locations. The ELLDP notes that in the six main towns there are few remaining brownfield sites. The former Cockenzie Power station is an exception to this. The ELLDP safeguards this site for thermal generation or most beneficial use. East Lothian Council owns this site and it is likely development will come forward here.

Coal resource

10.31 Although there has been extraction of coal in the area some resource remains. Due to the number of sensitive receptors in this area, it may be difficult to extract minerals while maintaining amenity and meeting environmental objectives. In some areas development may come forward on an ad hoc basis, which, if extraction is not currently acceptable, could sterilise the resource. However, the policies of the ELLDP do not provide for development in this area which would risk sterilising the resource. It would therefore likely to remain available for extraction should it be required and that extraction could meet environmental and amenity requirements. Extraction of mineral resources would be subject to the policies of the ELLDP.

Strategic Transport Infrastructure

10.32 A Transport Appraisal was carried out for the ELLDP which took account of development proposed through that plan. Transport interventions were identified and contributions will be sought through developer contributions and other funding sources to avoid an unacceptable impact on the transport infrastructure.

ClimatEvolution

Scottish Waters Drainage Assets

10.33 The Strategy will protect Scottish Water's Drainage Assets. Theme 2 of the strategy focusses on improvements to the water environment with a specific aim of reducing the amount of surface water entering the asset. Proposals include a holistic sub-regional water management strategy, surface water management plans for existing settlements, renaturalisation of water courses, re-opening the Bankton Adit, and creation of wetland areas and other large water bodies. This is supported by green infrastructure (as green space and biodiversity within urban areas, and an integrated habitat network plan) proposed under Theme 4, which will also help slow run-off. The Geothermal heating study in Theme 5 may also lead to greater understanding of the water environment which could have benefits for the drainage system. A natural solution to water

issues will have greater flow capacity than provided by pipes. This will allow the best use of Scottish Water's drainage asset.

Stable land

10.34 Previous mining activity may cause a mining hazard that could affect material assets such as buildings and infrastructure. Additional buildings proposed through Theme 1, 3 and 5 of this strategy could be at risk, though Coal Mining Risk Assessment would identify if there could be harm and what works are necessary to prevent this. The Geothermal District Heating Scheme could have an effect on ground stability, both through investigations or implementation, if the scheme goes ahead.

Efficient use of land

10.35 The strategy seeks to make efficient use of land by balancing competing priorities for its use within the framework set by the ELLDP. The Strategy balances this by providing for active travel and public transport improvements (Theme 1), for facilities that will create jobs and attract visitors (Theme 3 and 5)' and for recreation and leisure facilities (Themes 1 and 2). The Strategy does therefore provide an efficient use of land.

10.36 The Strategy includes proposals which could come forward on the former Cockenzie Power Station site and St Josephs school, both of which would benefit from re-development/re-use. It provides an attractive structure which would make these sites more attractive to developers.

10.37 However, the strategy does include some development on greenfield land (active travel paths, geothermal attractors, water sports facility, new rail connection). Some of these proposals (geothermal, kitchen garden linked to training hotel) can only come forward in locations such as this where the resource need, whether it is heat or agricultural land, is present.

Coal resource

10.38 The position with regard to extraction of mineral resources under the policies of the ELLDP is as for 'do nothing'. It is more likely however that mineral resources would be sterilised as all Themes of the Strategy contains positive proposals for development which would potentially result in mineral sterilisation. Theme 2 and Theme 4 includes water environment and biodiversity improvements; however even these could result in mineral sterilisation they could encourage European Protected Species to move there, which would make extraction less acceptable and increase costs.

Strategic Transport Infrastructure

10.39 ClimatEvolution aims to mitigate adverse impact on the road system by encouragement of active travel and travel by public transport, though proposals in Theme 1. Surface water management proposals in Theme 2 could also help avoid flooding affecting both road and rail.

Mitigation – Material Assets

10.40 The policies of the ELLDP protect transport infrastructure. Policy T2: General Transport Impact requires that development has no adverse impact on road safety; the convenience, safety and attractiveness of walking and cycling; public transport operations, both existing and planned, including convenience of access and travel times; or the capacity of the surrounding road network to deal with traffic unrelated to the proposed development. Policy T4: Active Travel Routes and Core Paths as part of the Green Network Strategy protects the existing core path and active travel networks and ensures that new development does not undermine them.

10.41 Coal mining Risk Assessment for relevant development will be required for relevant proposals which require planning permission.

Conclusion – Material Assets

10.42 The Strategy will help maintain the function of Scottish Waters drainage assets. Under 'do nothing' this asset would struggle to perform without affecting the environment. The Strategy could adversely affect land stability through development on areas affected by past coal mining, though this should be avoidable through detailed assessment at project level. The Strategy may cause an increase of usage of the strategic transport system due to increase in number of visitors drawn to the area. However, it could also decline especially at peak times due to an increase of jobs and training opportunities in the area, as well as better opportunities for active travel.

11 CULTURAL HERITAGE

11.1 Cultural Heritage is "an expression of the ways of living developed by a community and passed on from generation to generation. It can include customs, practices, places ,objects, artistic expressions and values, aesthetic, historic, scientific, social or spiritual aspects[62]". The historic environment is the physical evidence for human activity that connects people with places, linked with the associations we can see, feel and understand. This includes designated and undesignated assets and intangible heritage - artistic and literary responses, people's songs, stories and individual and collective memories. Built features include Scheduled Monuments, Listed Buildings, Conservation Areas, Historic Gardens and Designed landscapes, as well as undesignated archaeology and buildings. This part of the cultural heritage is finite and once lost cannot be replaced.

11.1 Cultural heritage is central to our everyday lives and our sense of place, identity and wellbeing. The best examples of Scottish and European historic environments can provide a positive reference for future development in terms of high quality place making and sustainable development.

Relevant aspects of the current state of the environment

11.2 Through Scoping the following issues have been considered. The Scoping Table below shows, with reasons, what existing issues are considered to be relevant to this strategy.

Scoping Table 9: Cultural Heritage (incl architectural & archaeological)		
Issue	**In/Out**	**Reason**
Impact on Scheduled Monuments within the area	**In**	There are 12 monuments in the area and impacts on them and their setting will be considered.
Impact on Scheduled Monuments outwith the area	~~**Out/**~~**In**	Impacts on Scheduled Monuments outwith the area are not expected although the setting of key monuments will need to be included.
Impact on Conservation Areas	~~**Out**~~ **In**	There are four Conservation Areas in the study area. ClimatEvolution includes actions in the urban area which are likely to have positive effects on some.
Impact on listed buildings in the study area but outwith urban areas	**In**	Impacts on all Listed Buildings outside of urban areas will be assessed.

[62] Historic Environment Policy for Scotland

Impact on other listed buildings	~~**Out/**~~**In**	Most Listed buildings within the urban area are not expected to be affected by development but there is the potential that a few may be and these will need to be assessed
Impact on Pinkie Cleugh and Prestonpans Battlefield	**In**	These are significant heritage assets in this area, and impact will have to be carefully considered.
Impact on other Battlefields	**Out**	Other battlefields are outwith the area and will not be affected by these proposals here
Areas on the Inventory of Historic Gardens and Designed Landscapes within the area – Seton House Designed Landscape	**In**	The ER will consider Seton House Designed Landscape. Cockenzie House Designed Landscape is considered to be too enclosed to be affected by development of the parkland: Gosford House Designed Landscape is also self contained with a mature woodland around parts of the boundary so is not considered likely to be affected.
Areas on the Inventory of Historic Gardens and Designed Landscapes outwith the area	**Out**	Inventory landscapes outwith the area are not considered likely to be affected due to distance or enclosure or both.
Local Designed Landscapes within the rural part of the area	**In**	Prestongrange House, Dolphingstone, Bankton House and St Germains, Southfield Farm, Redcot and Setonhill and Elvingston will be considered as they are in or close to the area.
Local Designed Landscapes within the urban part of the area	**Out**	The four local designed landscapes in Prestonpans will not be considered due to intervening buildings preventing open views towards the parkland.
Local Designed Landscapes outside the area	**Out**	Local Designed Landscapes outwith the area are not considered likely to be affected due to distance or enclosure or both.
Intangible Heritage	**In**	Proposals include action for interpretation of the heritage of the area, and for built change which could affect perception of the areas history

11.3 The study area is part of East Lothian's coastal plain and has been settled and exploited continuously since at least the Neolithic period (c.5000 BC). There is a high number of known Historic Assets, both designated and undesignated, and a high potential for further unrecorded remains of all periods to be present. The study are also has as a significant of amount of intangible Heritage value in the form of local stories and traditions as well as references to the area in art and literature.

11.4 From prehistoric settlements through to a 20th century power plant the landscape around Prestonpans, Cockenzie and Longniddry has been shaped and exploited by humans for

millennia. Evidence and remains of prehistoric farming; medieval industry; conflict; industrial innovation and expansion as well as settlement from all periods survive within the study area.

11.5 Visible primarily as crop marks there is a concentration of prehistoric settlement enclosures focused upon the ridge running from Longniddry in the east to Prestonpans in the west. The modern A198 approximately follows this topographical feature. The majority of these are designated Scheduled Monuments and have not been investigated. However, those that have been investigated suggest an Iron Age date.

11.6 The rich agricultural land and proximity to Edinburgh made the area attractive not only for large country estates but also for a high density of farms and attendant buildings. Often the large estates or farms in the area were not the primary income source for the owners, which allowed this area, and east Lothian in general, to often be at the forefront of agricultural innovations and this is often reflected in the architecture of the farm buildings.

11.7 Probably the most visible of the heritage in the area is the Industrial heritage with extant remains of manufacturing, mining, salt-panning and fishing all still visible. This includes the route of a Waggonway dating from 1722 part of which still survives below a modern core path. The Waggonway is thought to be Scotland's oldest rail track and its alignment forms a key spine, running north–south through the area. Prestongrange Industrial Heritage Museum at the extreme west of the study area is a particular focus for the industrial remains but many others can be seen throughout the area.

11.8 The study area also contains a number of large historic properties and sites that are open to the public including Seton Collegiate church, Cockenzie house, Preston tower and gardens, Prestongrange Industrial Heritage Museum and Bankton Doocote which all add to the cultural richness of the area. There are significant opportunities to make more of the heritage assets and to further integrate them into the wider strategy for this area.

11.9 The towns and villages in and around the study area all have historic origins and strong identities which often reflects the past industries of settlements. This aspect is one that could be enhanced and exploited by ClimatEvolution.

11.10 Overall the cultural heritage of the study area is very diverse with assets and remains ranging from prehistoric monuments to historic towns. A high proportion of the assets in this area are nationally designated as Scheduled Monuments, Listed buildings or Battlefields. The remaining assets while not nationally designated still have a significant part to play in

understanding the various senses of place that are evident across the study area.

Figure 32; Cover of Preston-Seton-Gosford Area Partnership Plan showing variety of cultural heritage themes of the area

Historic Environment

11.11 Designated assets located with the area are two Battlefields, twelve Scheduled Monuments and numerous Listed Buildings, two Inventory Historic Gardens and Designed Landscapes and four Local Gardens and Designed Landscapes. There are also Conservation Areas within Tranent, Prestonpans and Cockenzie Port Seton, however these have been Scoped out of assessment.

11.12 The map below shows designated historic environment assets.

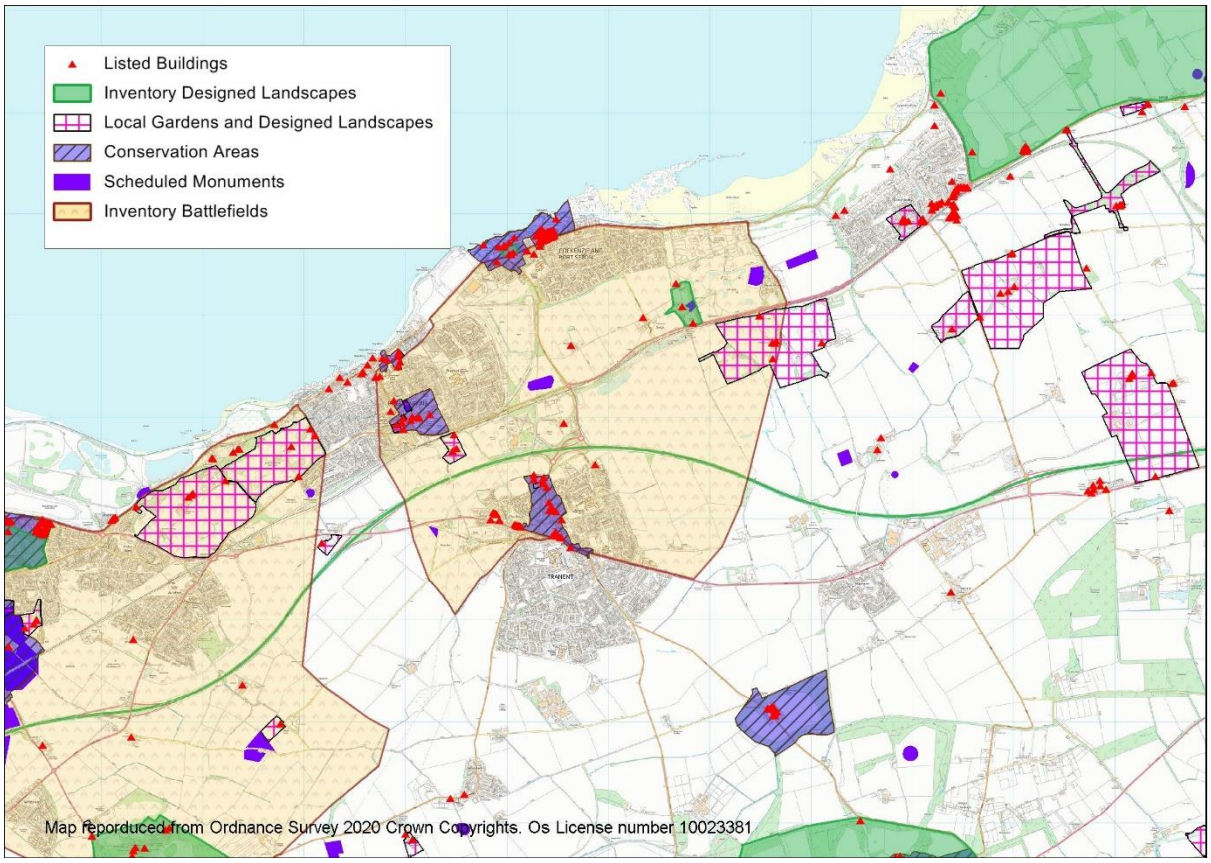


Figure 33: Designated Historic Environment Assets

Battlefields

11.13 Two major battles have occurred at least partially in the study area. The battle of Pinkie Cleugh (1547) and The Battle of Prestonpans (1745) both are included on the National Inventory of Historic Battlefields maintained by Historic Environment Scotland. Although the Battlefields have only a limited impact upon the landscape they have a high degree of intangible value for the area.

11.14 The main area of fighting associated with the Battle of Pinkie Cleugh was located immediately outside of the ClimatEvolution area but the designated Battle landscape does fall within the area. The area around Drummohr/Morison's Haven was the location of the English camp prior to the battle, having arrived from the south keeping close to the coast for naval support. The English then moved westwards across Goshen before turning southwest across what is now Wallyford, prior to the battle itself. The Battle of Pinkie was the culmination of Henry VIII's 'rough wooing' of the young Mary Queen of Scots. It was the last battle fought between the separate kingdoms of Scotland and England. Although the English army won the day Mary escaped to France. A modern commemoration stone and signposted trail allow visitors to move around the landscape of this battle.

11.15 The Battle of Prestonpans is located firmly within the study area and many of the key locators for the battle are still extant today. A rout for the Jacobite army over an inexperienced Hanoverian army it opened the way for Charles Edward Stewart (Bonnie Prince Charlie) to lead his army to march south into England. Modern information boards and a viewing spot on the Bing at Medowmill allow visitors an appreciation of the landscape of this battle.

Scheduled Monuments

11.16 There are twelve Scheduled monuments lying within the study area. These include medieval structures such as Preston Tower; Seton Collegiate Church as well as an important cluster of Prehistoric enclosures which are positioned along a landscape ridge running from the west of Prestonpans to Longniddry. Although the majority are perforce undated a few which have been excavated indicate a Late Bronze Age or Iron Age Date. These enclosures are a coherent group within a defined landscape and are therefore particularly sensitive to landscape change.

Listed Buildings and Designed Landscapes

11.17 All the settlements contain a significant number of listed structures. In addition to the listed structures there are a considerable number of historic buildings in the wider study area which add to the overall character. The context of the historic assets with the surrounding landscape is an important part of the setting of the assets and is a strong element in the sense of place for the area.

2.25 Outside of the settlements there are a number of significant Listed Buildings including Drummore House, Seton Castle, St Joseph's School, as well as numerous estate houses with related buildings and cottages. There are also a number of industrial and ecclesiastical listed buildings throughout the area. The structures which are within a wider landscape setting greatly contribute to character and feel of the area. The majority of the listed structures however lie within an urban setting and are not considered individually in this assessment.

11.18 Two Inventory Designed Landscapes lie within the area at Cockenzie House and Seton House. The Designed Landscape at Cockenzie House is self-contained and is unlikely to be affected by the proposals while the one at Seton House is focused on the House and Church. There are 13 locally designed landscapes within or partially within the study area and these will need to be properly assessed for impact going forward.

Conservation Areas

11.19 There are four Conservation Areas with in the area: Tranent, Cockenzie and Port Seton, Preston, and Harlawhill.

11.20 Tranent Conservation area is centred on Church Street and High Street. One of the main characteristics of the area is its street pattern, which features short streets in an organic layout lined with well-proportioned buildings providing street enclosure. Most of Tranent's Listed Buildings are in Church Street, including the Tranent Tower and church doocot, the Parish Church itself, manse and graveyard. The semi-enclosed open spaces in Church Street are an important part of settlement form. The High Street retains its meandering form, with an almost uninterrupted building line, and small scale buildings – an exception being the prominent landmark of the Crown Hotel. The narrow pends, lanes and alleys are important to the character of the Conservation Area.

11.21 Cockenzie and Port Seton Conservation Area includes both Cockenzie and Port Seton harbours and the planned fishing village that stretches between them. Pretty terraces characterise the area, with Cockenzie High Street comprising a more traditional irregular linear building form of terraced buildings facing directly onto the street, with the gardens to the north being bounded by sea walls. Important open space includes the harbour areas, grounds of Cockenzie House (with mature trees important to the character), garden opposite Marshall Street, and space around the war memorial.

11.22 Preston Conservation Area comprises one of the villages the combined to form Prestonpans. Most of the older, vernacular buildings in the area are grouped around the junction of Preston Road and West Loan. Preston Tower gardens was restored in the 1980s and was a major

enhancemne,t providing a setting for the Tower. The walled gardens around the Tower and Northfield House are important historic spaces, and should not be developed. Mature trees form an important part of the character of the Conservation Area.

11.23 Harlawhill Conservation area is a distinct grouping of vernacular buildings within Prestonpans, with the Prestongrange Parish Church and clock tower being one of the landmark buildings of the town. Several large houses have mature trees in their gardens which are a feature of the area, as are boundary stone walls. Coronation Garden is a significant area of open space facing onto the High Street.

11.24 A Conservation Area Regeneration Scheme has been operating in Tranent and more recently, Cockenzie, leading to improvement of shop fronts and other works.

Undesignated Archaeology

11.25 In addition to the designated sites within the study area there are over 600 other historic assets. These range from cropmarks through to industrial remains. This includes sites such as Scotland's earliest rail track. There is also a high potential for as yet undiscovered archaeological remains to be present within the study area.

Intangible Heritage

11.26 By its very definition Intangible Heritage is less obvious than the physical assets or landscapes but it is equally as important to how we appreciate the character of the area.

11.27 As noted above, both Pinkie and Prestonpans battlefields have a high value to the area in terms of intangible heritage.

11.28 The Battle of Prestonpans in particular has international recognition in terms of its cultural reach with numerous poems, songs and artistic works being associated with it. The figure of 'Bonny Prince Charlie' looms large in the romantic notion of Scotland and along with the Battle of Culloden the Battle of Prestonpans almost act as bookends to the martial parts of his story.

11.29 The intangible heritage for the Battle of Pinkie is not as widely recognised but is increasingly of local value, although as part of the Mary Stewart (Mary Queen of Scots) story there is some national and international cognisance of it. Signposted walks and commemorations as well as numerous outreach activities by the local battlefield group have all heightened the local appreciation and understanding of the battle landscape.

11.30 Both Battlefields have had their intangible heritage value enhanced with tri-annual re-enactments now taking place (the third battle being Dunbar II which lies outside of the area)

which attracts 1000's of visitors to the area. The landscape and location of the battlefields are now firmly a part of the local consciousness and sense of place.

11.31 The local communities in the study area all have a strong sense of cohesion forged in part by the industries that dominated the area in the past. Whether it is fishing, mining, or other heavy industries the traditions of the area reflect these activities. None more so than the local Galas which each have their own feel and traditions specific to each town or village. It will be important that while the proposals seek to forge a distinctive identity of their own they do not adversely affect these pre-existing identities which are often based upon the heritage of the area.

11.32 There are also local traditions, superstitions, stories and practices which are all rooted in the history of the area. Many of these may not be documented or indeed fully understood and there is the potential for the proposals to seek to understand these and use them to start to create a coherence of place for the area which integrates the traditional with the new. Examples of this might be how the remains of old industry are helping new industries. E.g. While there is often immense pride on a community level if large proportions of the community worked in the pits the increasing understanding of the environmental impact of mining runs the risk of becoming a negative. The reuse of the remains of this industry to help turn around negative impacts has the potential not only to strengthen the historic link a community has with the pits but also brings a renewed level of pride in what is happening now. In essence it creates a sense of continuity and strengthens the sense of place and brings a new development into the story of the area.

Existing Environmental Issues

11.33 There are considerable cultural heritage assets in this area but they are not as widely visited or understood as might be expected. There are multiple reasons for this including transport infrastructure, perception of the area as not attractive for visitors, a lack of coherence in the tourism draw for the area as well as a lack of investment in the heritage infrastructure of the area. There is also a tendency to view the heritage of this area as a solely as a constraint, and it must be acknowledged that there are constraints as there are with all environmental areas, however there are also great opportunities which the Historic Environment presents. This can range from simply making a place more attractive to live work and visit through to helping integrate new and old communities and places.

Historic Environment

11.34 There are currently a number of challenges that the Historic Environment faces ranging from changes in land use through to changes in population demographic. Outside of the

development regime there is no formal mechanism by which many of these impacts can be mitigated.

11.35 Changing land use, whether it is from development, farming practices or simply changing management practices has the potential to adversely impact upon the historic environment if not undertaken sensitively. Impacts can be both direct (where a monument or asset is physically impacted upon) or indirectly (where changes to the wider environs affect how we appreciate and understand a monument). Much of this can be avoided or lessened by ensuring that the historic environment is considered as having the potential to add value to an area and not just looked upon as a constraint.

11.36 Traditionally tourism is seen as a natural ally of the historic environment. However, this can be a double edged sword if not properly considered. It is true that heritage tourism can bring significant revenue into an area (Heritage tourism day visitors brought in £171m to East Lothian in 2017/18). However, without considering the pressure of visitors to an area in terms of aspects like transport infrastructure, erosion to sites, or visitor experience then this can quickly turn into a negative.

11.37 One of the emerging pressures on the Historic Environment is our changing climate. The full impact of this is not yet understood but we are seeing impacts upon both built and buried heritage.

11.38 Undoubtedly one of the biggest issues the Historic Environment faces in this area is underinvestment. What could be fantastic assets are in danger of becoming liabilities. This is especially true of many of the industrial remains which dominate this area. The revitalising of these would go a significant way of enhancing the environs of the area as well as potentially stimulating inward investment.

11.39 Some of the Conservation Areas, in particular Tranent and Cockenzie, have scope for improvement through restoration of key buildings, shop fronts and use of appropriate hard and soft landscaping features. Some work has been done on this through the Tranent Conservation Area Regeneration Scheme, while work is starting on a similar scheme in Cockenzie and Port Seton. An ongoing issue is lack of maintenance where many of the properties are owned by people on low incomes. Harlawhill Conservation Area would also benefit from public and private investment in buildings and the public realm, for example in the public closes that lead to and from High Street. Cockenzie Harbour is in need of significant environmental improvement while Port Seton Harbour would also benefit from improvement

to some of the buildings and quayside. Incremental loss of original features of buildings of the Conservation Areas is an issue throughout.

11.40 There is the potential for as yet unidentified remains in the area and they will be required to be taken account of in developing proposals for the area. It is likely that prior to any form of development that pre-determination fieldwork may be required.

Intangible heritage

11.41 As noted above, Intangible heritage can be harder to identify and protect than physical assets especially in a development setting. However, it has been shown that taking the time to understand what is important, in heritage terms, to those who live, work and visit an area mean that decisions on how the historic environment is managed are stronger and more sustainable. Plans which are based upon a sound understanding of what people value as their intangible heritage often have a stronger community buy in and are often more successful in the longer term.

Likely Significant Effects – Cultural Heritage

11.42 With regard to the issues identified above, the following SEA objectives for Cultural Heritage have been identified and the impacts appraised by theme:

SEA Objective, Historic Environment: Preserve or, where appropriate, enhance East Lothian's historic environment			"Do nothing"	Comparison of ClimatEvolution to Do Nothing	ClimatEvolution overall	ClimatEvolution Themes				
						1 Movement	2 Water	3 Leisure	4 Biodiversity	5 Enterprise
SEA Sub-objective/ questions for assessment. Does the plan….?	KEY									
	Positive	+								
	Neutral	0								
	Unknown	?								
	Mixed/Variable	//								
	Negative	-								
	Comparison of ClimatEvolution with "Do nothing"	Better / Worse								
Reflect intangible heritage				↑						
Preserve and if appropriate enhance: - *the character or appearance of Conservation Areas [Scoped out];* - *listed building or their settings;*				↑						

- *Historic Gardens or Designed Landscapes;* - *sites included in the Inventory of Historic Battlefields;* - *Scheduled Ancient Monuments or their settings;* - *archaeological sites*								

Do nothing"

Intangible heritage

11.43 While the primary role of the East Lothian Council Archaeology Service is to provide technical information and advice to the Council and wider community of East Lothian it also undertakes a programme of outreach and support for heritage events across East Lothian. The Council's Museum Service manages Prestongrange Industrial heritage Museum which has a permanent display relating to the industrial heritage of Prestongrange and its surroundings. The Museum also hosts a number of outreach and interpretation events through the year. Preston Seton Gosford Area partnership plan also includes the aim "capitalise on the area's rich cultural and industrial heritage to increase visitors and increase employability skills". There are also a number of local community heritage groups such as the 1722 Waggonway group and the 1745 Prestonpans Battlefield Trust, who have exhibition spaces and undertake regular events to promote the heritage of the area both tangible and intangible. Within Prestonpans the Mural Trail depicts the history of the town and surrounding area through large scale murals and artworks. There are also a number of projects which have or are taking place across the area with local heritage as a focus such as Salt of Earth and the Cockenzie Conservation Area Regeneration scheme.

11.44 There is therefore ongoing action to reflect and promote intangible heritage.

Historic Environment assets

11.45 National legislation and the policies of the ELLDP provide protection for the historic environment, which covers both designated and undesignated assets. Both national and local policies note that both direct and indirect impacts need to be taken into account through the planning regime. As noted above however there are multiple pressures on the Historic Environment and this can lead to significant unmanaged change happening incrementally. The ELLDP cannot require positive action to enhance Listed Buildings. However, where there is a Scheduled Monument or archaeological remains on a development site, Policy CH4 requires

that where feasible the asset should be preserved or enhanced, and interpretation and integration of these features and if appropriate public access to them, will be expected.

11.46 There are also projects and proposals in this area to enhance historic assets. Historic Environment Scotland has a programme of funding for historic Town Centres, the Conservation Area Regeneration Schemes. These schemes are leading to restoration and improvement of the built environment in Tranent and Cockenzie/Port Seton. There is also a council driven project to improve the heritage infrastructure at Prestongrange Industrial Heritage Museum currently underway. The Fa'side working draft Area Partnership Plan seeks restoration of Tranent Tower, seeing potential to make this a visitor attraction in relation to its links with the Battle of Prestonpans. The Council also has powers to require the repair of Listed Buildings, and has exercised these to secure the repair of Harlaw House, Prestonpans, however resource and other issues mean these powers are a last resort.

11.47 Under 'do nothing' Historic Environment assets will be considered in the formal development planning regime under both national and local policies. It is likely that some assets will also benefit from individual enhancement projects and that community efforts to explore and promote aspects local heritage will continue.

ClimatEvolution

11.48 The Vision for ClimatEvolution is "A destination ….that responds positively to place, resonating with its natural, cultural and historic assets and traditions, reinforcing local identity….". This vision feeds through into the strategy overall. The Strategy aims to enhance both tangible and intangible heritage. This includes through specific proposals for enhancement – a visitor centre for the Battle of Prestonpans, and improved access to that at Prestongrange Industrial Heritage Museum; Cultural Trails and a Cultural Arts Heritage Strategy, as well as zone branding partly based on heritage. The Strategy aims also to increase visitors to the area and its heritage, which will allow for increased income for conservation as well as increased appreciation of the heritage of the area.

Intangible heritage

11.49 Tangible and intangible heritage are linked, and actions to protect or enhance historic assets will also have an impact on intangible heritage. ClimatEvolution Theme 3 focusses on culture, heritage and leisure. It proposes a Cultural Heritage Arts Strategy, a multi-media strategy which "helps define the area and connects the communities tougher through their sense of identity". The National Climate Resilience Centre is proposed to have links to Prestongrange Visitor Centre to demonstrate a vision 'from coal to carbon neutral'. Cultural Heritage Trails are proposed to 'tell the story' of the area. These include the Waggonway route, which has

links to mining, and the Three Harbours, which gives an opportunity to explore fishing heritage. Theme 3 also includes proposals for a Battle of Prestonpans Visitor Centre and improving active travel connection to Prestongrange Museum; these centres help keep intangible heritage through interpretation. All of these proposals could help support the intangible heritage. However, it is important that this be taken forward with community involvement and approval.

11.50 Theme 3 proposes Zone Branding for the area. This may, as the document suggests, 'promote the unique cultural and heritage identity of the area by focussing on the key message of "building the future from the past"'. However, there is also a risk that this could lead to heritage being taken from the people whose it is and commercialised.

11.51 Proposals in Theme 5 for employment and training are also likely to support intangible heritage. Some of the employment uses are directly linked to traditional sources of employment in the area, for example, the Horticulture Inward Investment study and kitchen garden have clear links with the market gardening history in the area. Employment that in the area of any sort that allows young people to make a living in the communities they grew up in also supports intangible heritage. Local family history is often related to place on a micro level – where your granny met your grandad, the tree your Dad was stuck in as a boy. These stories are a direct living link with the past and with place and can easily be lost when people and communities are very mobile. There is also the local 'lore' of an area, which may or may not be rooted in verifiable historic events or places but never the less is important in how communities understand their area and shared past.

11.52 Overall ClimatEvolution should have a positive effect on intangible heritage provided care is taken to engage the community in the details of the project.

Historic Environment

11.53 Positive actions on the intangible heritage could have an indirect effect on the historic environment through increasing appreciation of specific assets. This in turn makes it more likely that historic assets will be preserved.

11.54 The Strategy does not mention Pinkie Battlefield, though this battle was partly within the area. Around Prestongrange Museum (near the location of the English Camp) active travel improvements as well as a further potential geothermal or attractor are proposed. Potentially this attractor could make use of the connection with Pinkie and link with the already existing battlefield trails and memorials which lie immediately outside of the area.

11.55 At Prestonpans, the battle landscape is already heavily modified, however this is probably one of the best-known Scottish battlefields. A potential geothermal attractor, and modifications to the water environment with both planting and an active travel route are shown by Thornfield. This general area was previously the site of a planning application for a substation, now to be located further toward the coast. The planning application was opposed by a very well supported petition, made on the grounds that this was near the centre of the location, and potentially also a burial ground in relation to the battle. There are potential adverse effects on the battle landscape from this attractor, as well as other proposals; the Western Gateway, the Central Hub, the Outdoor Leisure Water Park, and training school will be within the battlefield landscape. The intention however is to build on the heritage of the area however care would be required to incorporate proposals into the battlefield landscape. There is the potential for significant adverse impact on the Prestonpans battlefield, however on balance there is a greater potential for positive outcomes for the understanding of the battle landscape if planned properly.

11.56 A full list of the Scheduled Monuments, along with appraisal of the effect of the Strategy on them is included in Appendix 3. There is the potential for direct effects from land-use change on some Scheduled Monuments as this may result in changes to the hydrology of the area. There is the potential for indirect (setting) effects on some of the monuments arising from planting. Extreme care needs to be taken that any proposals do not impact either directly or indirectly on any of the Scheduled areas as this is contrary to both national and local policies.

11.57 Proposals of ClimatEvolution proposals of Theme 2 include renaturalising watercourses to manage surface water. Along with the planting of Theme 4, this should allow the return to a more natural looking landscape. This potentially creates some difficulties from the historic Environment perspective as the landscape of this area (and Scotland in general) has never been ‘natural’ and has since at least the Neolithic period (c.5000 BC) been exploited and adapted by human action. The general perception of ‘natural’ has been shown to include the palimpsest of remains of past human activity. Care will need to be taken to acknowledge this and to ensure that the Historic Environment elements of any landscape are given due cognizance in any plans.

11.58 Theme 2 includes changes to watercourses and potentially hydrology. Some of the Scheduled Monuments could be adversely affected by this, in particular SM6287 Seton Mains, enclosure and ring ditch, 300m NE of; SM5687; Seton West Mains, enclosures 500m SW of; and SM10373, South Lodge, enclosure 200m SE of; S Greendykes, enclosure 310m SSE of. The extent of the risk of this is not clear and further study or investigation is required. Changing

the hydrology of the area could have unanticipated impacts on designated assets and the historic landscape in general particularly in combination with climate change. We are already seeing unanticipated impacts from increased rainfall and conservation management practices on sites such as Traprain Law.

11.59 There is the potential for impacts on unknown remains in the area, which obviously cannot currently be identified. Any adverse impact would require to be avoided or mitigated. In addition to development, planting also has the potential to harm archaeological sites (although legislation would prevent this without consent in Scheduled Monuments). Some changes to the water environment also may be permitted development and so not require planning consent. Where the proposals do not require planning permission assets will not be protected through the operation of the policies of the ELLDP. This could lead to harm in particular to unknown archaeology although in many cases the Historic Environment is specifically excluded from permitted development rights and mitigation measures still need to be put in place.

Mitigation – Cultural Heritage

11.1 The policies of the ELLDP protect listed buildings (Policy CH1) and Scheduled Monuments and their settings (Policy CH4), as well as archaeological sites, Historic Gardens and Designed Landscapes (Policy CH6) and Battlefields (Policy CH5). There is also ELLDP policy protecting archaeological sites from development, or requiring recording where they are lost. These policies will provide protection for assets which might otherwise be affected by proposals for development contained within ClimatEvolution.

11.2 Some projects will require further assessment for impacts on the cultural heritage, including historic environment assets. Appendix 3 notes where particular assets could be impacted and will require to be further assessed at project level. It is also possible that some of the proposals (gateway hubs, planting, Local Regeneration Plans) could have both positive and negative impacts on listed buildings within towns not included in Appendix 3 as the ClimatEvolution proposals are not spatially specific enough to allow this. Any such impacts should also be assessed at project level.

11.3 It is important that there is community involvement with the project to make sure that the history of the place continues to connect with those who live there.

Conclusion – Cultural Heritage

11.4 ClimatEvolution intends to make the most of the areas cultural assets, pulling them together, enhancing and celebrating them. The overall effects are positive. However, some of the projects (gateway hubs, regeneration schemes, planting, alterations to the water environment) have the potential for adverse effects on particular historic environment assets. This should be assessed

at project level and negative impacts avoided through good design. Projects as they come forward must also ensure that the community is fully engaged. Provided this is done, the project will have an overall positive effect on the cultural heritage.

12 LANDSCAPE

12.1 Landscapes play a large part in forming identity and distinctiveness of place. Good landscapes support quality of life and encourage us outdoors. They also have economic value for tourism, attracting economic development and promotion of brands. Poor and degraded landscapes restrict social and economic opportunity, and adversely affect quality of life. Landscapes can change when open ground, woodlands, wetlands and other habitats are fragmented or replaced by buildings, roads, utilities, and other forms of development. However, sensitively designed development can provide opportunities to enhance local outdoor recreational opportunities, valued views and vistas and habitat and green networks.

12.1 Through Scoping the following issues have been considered. The Scoping Table below shows, with reasons, what existing issues are considered to be relevant to this strategy. The impact on Inventory Gardens and Designed Landscapes and Local Designed Landscapes is recognised as relevant for landscape however this is considered under 'Cultural Heritage'.

Scoping Table 10: Landscape		
Issue	**In/Out**	**Reason**
Impact on Designated Sites - Special Landscape Areas – Garden County and North Berwick to Seton Sands Coast - Edinburgh Green Belt - Tranent/Prestonpans/Cockenzie Port Seton/Longniddry Countryside Around Town area	**In**	Impact on Garden County Farmland SLA and North Berwick to Seton Sands Coast SLA will be considered. Garden County Farmland SLA is in the area, while North Berwick to Seton Sands Coast reaches up the Seton deans so may also be affected. As the study area has expanded, Prestonpans Coast SLA and Elphinestone Ridge SLA have been included. The Edinburgh Green Belt is a regional policy to protect the landscape setting of Edinburgh, which is the driver of the economy of the area. The Countryside Around Town designation is important to protect the setting of settlement in this area, as well as providing recreational opportunities.
Impact on other Special Landscape Areas and Countryside Around Town area - others	**Out**	Other SLAs and Countryside Around Town are not considered likely to be affected due to the distance and likely nature of proposals
Impact on local landscape – coalescence and landscape character	**In**	ClimatEvolution should play a significant role in providing the setting of existing and new built development, and preventing coalescence.
Impact on TPO trees and woodland	**In**	There are some TPO trees in this area, including an extensive area to the west. They

		make a significant contribution to the landscape of the area.

Relevant aspects of the current state of the environment – landscape

12.2 Scotland is renowned for its high quality landscapes. There are some high quality landscape assets in this area including Special Landscape Areas and Designed Landscapes, with fine views to be had including across the Firth of Forth, towards Edinburgh and the Pentlands, and the Lammermuir and Garleton Hills. There are also areas where the landscape could be enhanced, including derelict land and land affected by previous mining activities.

Local Landscape

Landscape Character

12.3 East Lothian is a predominantly agricultural area in east central lowland Scotland east of Edinburgh. In terms of settlement pattern, it has had settlements spread linearly along the coastal edge with further towns and villages inland. Settlement is more concentrated in the west and more dispersed in the east. Views to prominent landmark buildings, landward features and to the coast provide a sense of place and help people orient themselves.

12.4 The landscape of ClimatEvolution area is in general highly modified. The Tranent ridge forms the backdrop to the area, with extensive views across the Forth. From here, the land slopes gently to the Forth, with intensively worked agricultural fields, extensive settlement, transport and electricity infrastructure and some land in recreational use. The area has seen considerable settlement expansion recently due to its proximity to the vibrant, growing city of Edinburgh, and more is planned. Opencast mining has removed landscape features in extensive areas here, on the eastern end of the Tranent ridge and at Blindwells. However, areas of smaller scale field patterns, field boundary features and mature trees remain, both at the western end of the Tranent Ridge and east of Blindwells. There are also some areas of policy woodland notably at Drummohr and Gosford, with the Royal Musselburgh Golf Course also containing mature trees.

12.5 SNH have recently carried out a National Landscape Character Assessment Review. This area is at the intersection of 4 Landscape Character types – Settled Coastal Farmland; Lowland Hills and Ridges – Lothians, Lowland Farmed Plain, and Coastal Terrace – Lothians. East Lothian Council has also carried out a recent review of its landscapes, published as part of the Special Landscape Area SPG. The identified Landscape Character Areas are similar to those of SNH in

this area, although the area SNH define as Lowland Farmed Plain – Lowlands is subdivided locally.

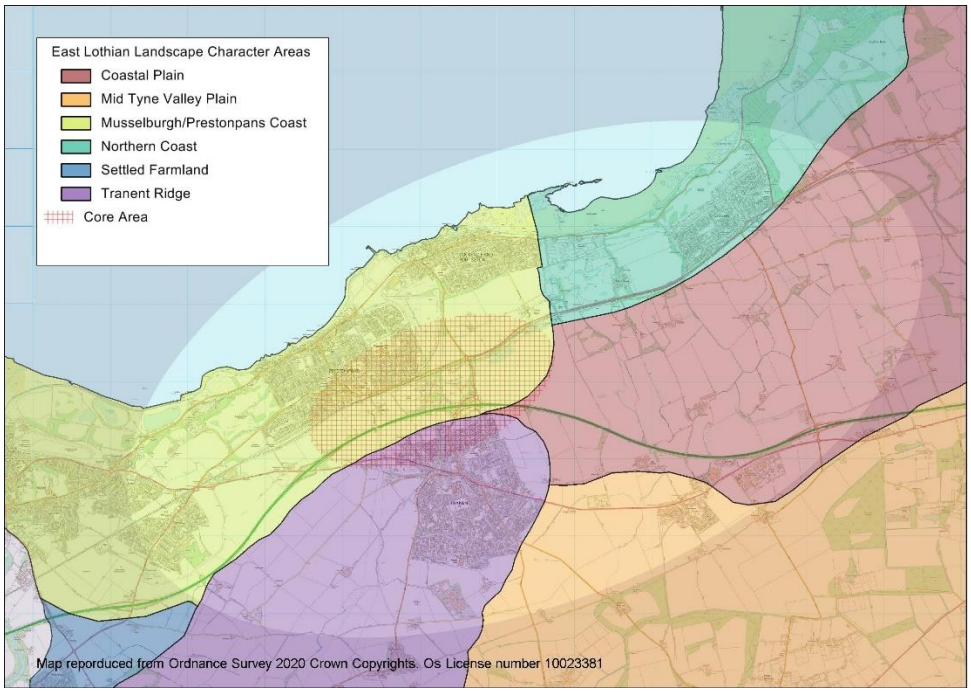


Figure 34: East Lothian Landscape Review Landscape Character Areas

12.6 The key characteristics of the SNH Settled Coastal Farmland include the coastline itself, the dominant urban/industrial character of the coastal strip; extensive fields of prime agricultural land, and prominent main road and rail transport corridors, with a dense network of minor roads. The area also contains vertical structures described as 'clutter' and notes that development can curtail views across the coastal plain. The policy woodlands of Drummore and wooded Royal Musselburgh Golf Course mentioned. The mining heritage of the area is noted as well as the predominance of settlement along the coast. Views of Bankton House passing Prestonpans are pointed out. In terms of perception the Statement notes the "extensively settled, industrialised nature of much of this area dominates the stretches of unspoilt farmland and woodland" and that "settlement expansion is increasing the settled nature". The occasional open views across the plain are noted.

12.7 In East Lothian this area is known as Coastal Margins – Musselburgh/Prestonpans Fringe. The positive attributes relevant to the area are its mature woodland, fields of prime agricultural land, and the open land between settlements which provides landscape variety, protecting setting and reducing the appearance of coalescence. Coastal scenery and habitats are noted, along with open views across the area to the Firth of Forth, Fife and Edinburgh. Relevant Guidelines are to retain the wooded character at Drummohr and Prestongrange. Diversity of species in any new woodland planting should be increased, with tree and woodland planting to

integrate existing and new built development with the surrounding countryside and within the urban area to reduce the appearance of coalescence of built development. The need to balance visitor management, tourism, recreation and other development is noted.

12.8 The key characteristics of the Coastal Terrace – Lothians include the diverse coastal scenery and habitats, as well as numerous designed landscapes (Gosford Designed Landscape is noted) with policy woodland and built elements forming important landscape features. The windshorn 'Toll Belt' trees at Gosford are also noted. The recreational value of the scenery, golf course and holiday facilities is high. There are extensive views across the sea and inland to the Lammermuir Hills. The attractive coastal villages, including the old weaving village of Longniddry, are noted. In terms of perception "Extensive estate woodlands, locally distinctive villages, and a varied coastline create a highly attractive landscape of great diversity. Long range views across the sea, as well as inland to the Lammermuir Hills to the south, are common to most of the area, emphasising the open, level nature of the coastal plain."

12.9 In East Lothian, this area is known as Northern Coastal Margin. The positive attributes of the area include diversity of coastal scenery and habitats, major estate woodlands, extensive views including of igneous outcrops, and attractive coastal settlements. Negative attributes include potential visitor pressure from successful tourism and recreation industry and pressure for residential expansion of coastal settlements. Management Guidelines include conserving the current equilibrium between diverse elements and pressures and carefully visually integrating new development. The Guidelines also seek to ensure long-term management of key estate landscape features, retain the wide-open character of sandy beaches and their immediate hinterlands including at Gosford and Seton sands, including avoiding extensive woodland plantation, which could affect this character.

12.10 The Lowland Hills and Ridges – Lothian Landscape Character Type has among its key characteristics: hills with distinctive profiles; arable landcover giving way to pasture; small farm woodland and mixed shelter bels; small traditional villages within the hills, with larger expanded settlement in the Tranent area; recreational access to hilltop viewpoints and landmarks; they are also visual focal points from the surrounding landscapes, providing outward views over the plains and beyond. The policy woodlands at Carberry are noted as a prominent feature. Medieval remains are scattered through the Tranent Ridge area, one of the most visible being the tower house of Fa'side. In terms of perception, the elevation of these areas allows for extensive and dramatic views.

12.11 In East Lothian, this landscape character area is "Lowland Hills and Ridges – Tranent Ridge". Its positive attributes are the long-range views over Edinburgh and urban settlement and coast to

the north; and that it forms a prominent ridge to the south of the coastal plain. Management Guidelines include restoration of its rural character by reinstatement and expansion of the field boundary network, including hedge and stone wall field boundaries, maintenance and improvement of recreational routes through the area, as well as maintaining the character of minor roads; improvement of viewpoints particularly at Fa'side and renewal of interpretation boards.

12.12 The key characteristics of the Lowland Farmed Plain – Lothians are smoothly rolling, large scale arable plain landforms with occasional igneous intrusions, with small streams forming shallow breaks in smooth slopes. High quality agricultural land is divided into a chequerboard pattern of fields, sometimes with the historic field pattern retained. Field boundaries are scattered hedgerow tree, post and wire fences and occasionally stone walls; occational small scale woodlands and shelterbelts related to watercourses and reinforce field pattern. Policy woodlands are noted in this area also, as are open views across the landscape to Edinburgh, the coast and hills to the south. The A1 is noted as being relatively well integrated into the landscape, while the pylon lines are described as highly visually intrusive. There are small scale wind turbines throughout the area. In terms of perception, the farmland is low and gentle; with wide-reaching views especially from higher ground. Pressure for residential development is seen as a negative attribute.

12.13 This area is known as Coastal Plain in the East Lothian review. The positive attributes are the dominant arable land cover, with distinctive large scale field pattern; extensive views and prominent views of distinctive igneous outcrops, including the Garleton Hills. Management Guidelines include the retention of arable character, though some increase in woodland planting could be accommodated. Existing trees and stone wall boundaries should be maintained, and hedgerows re-instated. The Guidelines note the need to carefully integrate new built development.

12.14 The East Lothian Landscape Review also defined some regional landscape features/elements which characterise Eastern Coastal areas of Lowland Scotland, the Central Lowlands and the Southern Uplands of South Scotland. Maintenance of these features will help maintain the distinctiveness of these areas in relation to the rest of Scotland and the UK. This area has elements of both Eastern Coastal Lowland Scotland and the Central Lowlands, however the features noted as defining the Central Lowlands in East Lothian do not occur here. The relevant features of Eastern Coastal Lowland Scotland are:

- undulating fertile arable land;

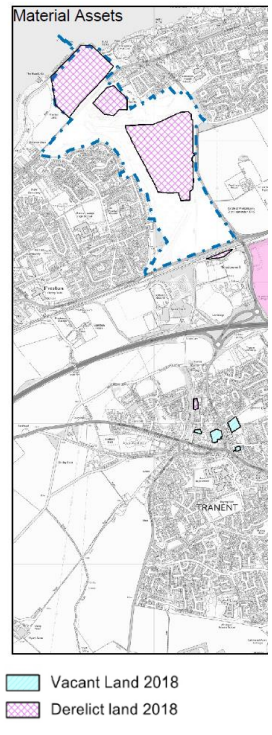
- coastline of interspersed sandy beaches and rocky shoreline;
- plantation, shelter belt and policy tree-planting;
- use of pantiles especially on more humble buildings, with use of slates for grander buildings; use of local stone and red sandstone in traditional buildings;
- links golf courses;
- relatively dense network of single lane rural roads often lined with hedges or drystone walls; and closely spaced designed landscapes.

12.15 The development management considerations for eastern coastal area include retaining the arable appearance of the area and promoting integrated coastal zone management balancing visitor management, tourism, recreation and other development. Woodland should be retained and enhanced in appropriate locations, with avoidance of reliance on single species. Pantiles are encouraged on humbler buildings, and slate for grander ones. If solar panels are used they should be designed to blend in. Re-use of local stone is encouraged. Development should avoid harming the character of links course, local minor roads and designed landscapes.

Vacant and Derelict land

12.16 At 2007 East Lothian had 59ha of vacant and derelict land. The 2018 Vacant and Derelict Land Survey shows that this this figure has increased to nearly 88ha. Whilst a number of vacant and derelict sites have been brought back in to use since 2007, the overall area of such land has increased. This is largely due to the closure of the Cockenzie Power Station and the inclusion of three sites there that overall have an approximate area of 35ha.

Figure 35: Vacant and Derelict Land 2018



Designated Areas – landscape

12.17 East Lothian does not contain any National Scenic Areas, though there are some locally designated areas – Special Landscape Areas, the Edinburgh Green Belt and Countryside Around Towns areas as shown on the map below:

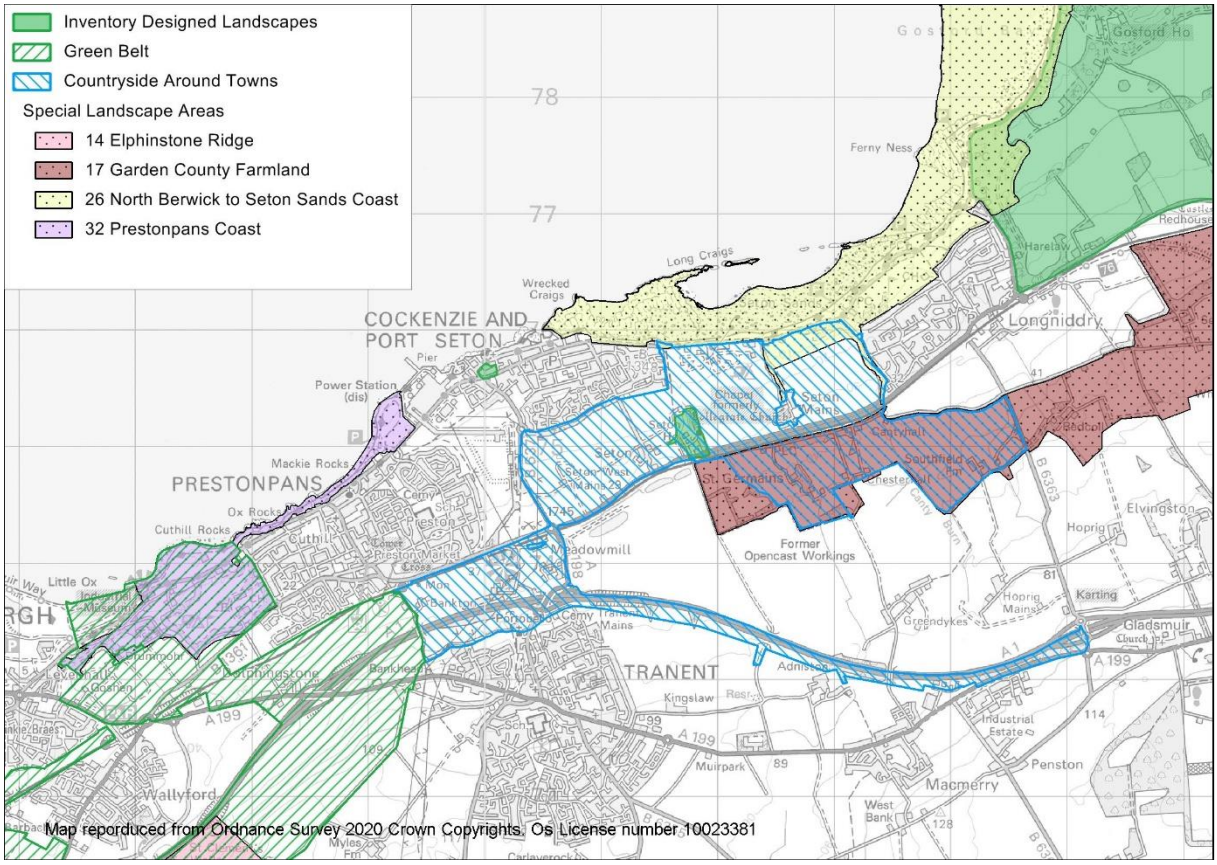


Figure 36 Designated Landscapes

Green Belt/Countryside around Towns

12.18 The core of the ClimatEvolution area lies within the designated Countryside Around Town (CAT) area in the ELLDP. It adjoins and forms a natural continuation of the designated Edinburgh Green Belt. The two large towns of Prestonpans and Tranent and the Blindwells New Town are visually separated by this area of land within the CAT designation.

12.19 The west of the ClimatEvolution area lies within the Edinburgh Greenbelt. The purpose of the Green Belt as set out in the ELLDP is to:

a. Maintain the identity and character of Edinburgh and its neighbouring towns, and prevent coalescence, unless otherwise justified by the Local Development Plan settlement strategy;

b. Direct planned growth to the most appropriate locations and support regeneration;

c. Maintain the landscape setting of these settlements; and

d. Provide opportunities for access to open space and the countryside.

12.20 A Report, "Edinburgh Green Belt, Lansdcape Character Asessment"[63] was carried out in 2008. The purpose of the report was to characterise the landscapes within the Greenbelt, and review the landscape character areas against the second and third Green Belt objectives of the then Scottish Planning Policy 21: Green Belts. These were, to protect and enhance the character, landscape setting and identity of towns and cities, and to protect and give access to open space within and around them, as part of the wider structure of green space. As a result, the report notes there will be a strong presumption against inappropriate development in the Green Belt, a policy aim carried forward into current ELLDP policy.

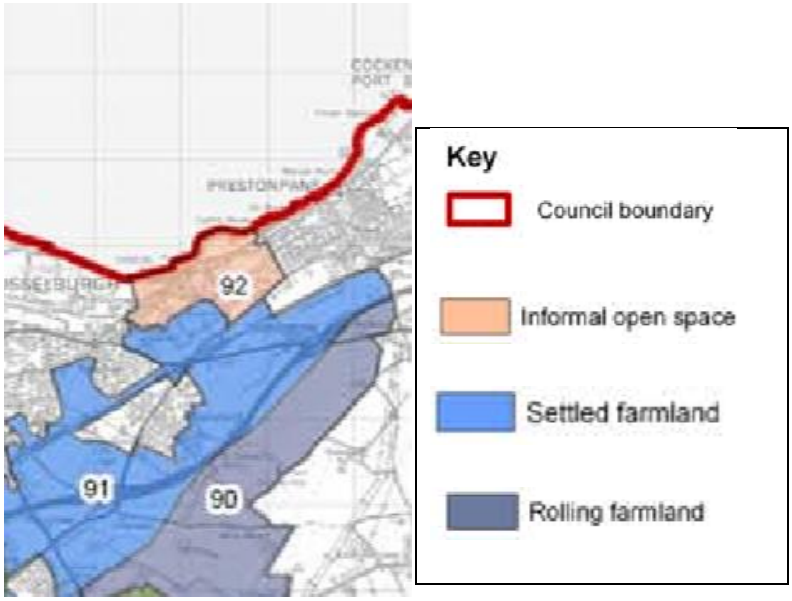


Figure 37: Extract from Landscape Character Type Map, Edinburgh Green Belt Study Report

12.21 The report identified the Lansdcape Character Types found in the Lothian's, shown in the map extract above. Following this, Landscape Character Areas were identified and described, three of which are within the ClimatEvolution study area. These are: 90: Fa'side Slopes; 91: Wallyford Farmland; and 92: West Prestonpans recreational area. The description for each area draws out its perceptual qualities and characteristics, and note its condition and forces for change. Its visibility is assessed in terms of both prominence and number of receptors (people viewing the landscape).

12.22 The description for Landscape Character Area 90:Fa'side Slopes notes that the hill slopes form a containing edge and backdrop to the low lying farmland and settlements which border the Firth of forth. The smooth, even hill slopes are laid out in large arable fields enclosed by hedgerows and stone walls in more elevanted areas, with few trees and woodlands. Narrow

[63] At https://www.sesplan.gov.uk/assets/files/docs/supporting-studies-and-docs/GB_Landscape_Character_Assessment_December_Final.pdf

roads cut deep into the slopes and provide access onto the open and exposed ridge. The hill is low, but is prominent due to its juxtaposition with low lying coastal farmland, with Fa'side Castle (and the telecom mast) prominent on the ridge. The landscape is highly visible from the A1, coastal settlements and roads. It has value in providing a backdrop and containing edge to coastal settlement. It was considered well managed arable farmland.

12.23 Landscape Character Area 91: Wallyford Farmland is part of the settled farmland landscape character type. This area forms a broad swathe of low-lying farmland, with the steep slopes of Fa'side hill forming a containing edge. The arable fields are bounded by fences and intermittent hedges; with little woodland this landscape has an open, expansive quality. Major transport routes of the A1 and railway line dissect the area. The area is highly visible from transport routes and settlement. The area is valuable in providing a setting to settlement. The arable farmland is considered well managed.

12.24 Landscape Character Area 92: West Prestonpans is coastal, with topography rolling gently to the coastal edge, where there is a long history of industrial use, with reclaimed land now used for recreation. Above this are the policy landscapes around Drummohr and Preston Grange; Drummohr is a striking red stone building visible from some distance from the south. To the east is the Royal Musselburgh Golf course, with Preston Grange as it's clubhouse. The grounds include perimeter woodland and parkland trees. The coastal area is important for recreation and the B1348 road provides views across the coast. New housing has been developed to the south of Prestonpans. This is a mixed landscape with reclaimed land at the coast and historic character from policy landscapes. Visibility is limited by the estate walls and policy woodlands around Preston Grange. The coastal area is well used for recreation, and both this and the Royal Musselburgh golf course are important recreational areas. The landscape is strongly influenced by the policy landscapes here. There is some tranquillity within the golf course, but it is limited elsewhere. As to condition, the report notes that the policy woodlands were not actively managed and the mixture of landuses conveys a fragmented character.

12.25 The Countryside Around Town SPG[64] describes the Tranent/Prestonpans/Cockenzie Port Seton/Longniddry CAT area. This area extends from the eastern edge of the Green Belt to include all land between Prestonpans and Tranent, and land around the Blindwells site (allocated and safeguarded). The majority of the area between Tranent and Prestonpans appears as open countryside, despite containing the A1 and East Coast Main Railway line, as well as high voltage powerlines. The area has strong recreational value, with the sports

[64] East Lothian's Countryside Around Towns SPG, here: https://www.eastlothian.gov.uk/downloads/file/28998/countryside_and_coast_spg

complex at Meadowmill, as well as core paths and the Prestonpans Battlefield viewpoint. The area between Cockenzie/Port Seton and Blindwells is made up of farmland, Seton Sands golf course and the wooded designed Inventory landscape of Seton House (Palace), for which it provides a setting. The strip of land east of Port Seton between it and the caravan park continues the historical visual link to the sea that forms part of the setting of the castle. The land between Longniddry, Seton Mains and Blindwells provides a clear landcape setting for Longniddry, especially from the A198 and East Coast Mainline railway. It also provides a setting for the small farm estates of the area. The land along the A1 to the south of Blindwells provides containment for the future Blindwells development as well as offereing recreational potential, and widening the visual and physical barrier between the A1.

Special Landscape Areas

12.26 Special Landscape Areas replaced Areas of Great Landscape Value as the local landscape designation. There are four SLAs in this general area.

12.27 The farmland and designed landscape around St Germains forms part of the **Garden County Farmland Special Landscape Area (SLA).** Its scenic value derives from fertile farmland with closely spaced farm/estate houses with mature broadleaved woodland. Built development here is mainly traditional, with a large 'main' house with associated lodges and smaller cottages. This area epitomises the agricultural landscape of small estates based around grand estate houses, steadings and small rows of estate cottages, generally built by merchants who made their money from the law courts or Parliament in Edinburgh rather than farming. Its special qualities include the undulating, broad scale landscape, with large open fields generally uninterrupted by built development. The broadleaved woodland shelterbelts and avenues are noted. The pattern of closely spaced estate houses and attractive farm cottages is a feature. Attractive small watercourses such as Canty Burn are noted. Rural recreational routes are also a feature of the area. Views of some of the notable buildings in and around this area are important. Although much of the attraction of this area is in its tamed farmland, the wilder feel of Redhouse Dean is also a feature. Guidelines for development suggest development must not harm the arable character of the area; large widely visible development should be avoided. The existing character of a balanced pattern of large houses with smaller scale cottages and arable lands and dividing woodland should npt be harmed. Proposed development must not harm the small-scale rural character of the roads. Proposed development must not impact detrimentally on open views north from the B6363; east and west across the area from the minor road from Redcoll to Coates; and north from St Germains. Potential for landscape enhancement includes reinstatement of traditional field boundaries; consideration of planting roadside or field boundary trees to replace over mature ones; and woodland planting in scale

with landscape character as an advance landscape framework for future mineral extraction or urban development.

12.28 Most of the coast area is designated as SLA. **SLA32: Prestonpans Coast** is a narrow rocky strip of coastline forming the boundary of the settlement of Prestonpans with the sea and surrounding coastal foreshore and woodland. This area is important for recreation – it includes part of the John Muir Way, the Prestongrange Heritage Museum and camping site at Drummohr as well as Royal Musselburgh Golf Course and open areas at Morrison's Haven and Preston Links. Special features include the Green Hills at Preston Links, which are important for local recreation and have excellent views across the Forth, and the heritage links to the sea. The woodlands west of Prestonpans and at Drummohr are noted, as is Drummohr House designed landscape. Proposed development should not harm the coastal character of the area, or habitat and openness of the coastal grasslands or areas of reclaimed land, or harm the mature woodland setting west of Prestonpans. The need to improve recreation facilities is noted, along with the need to carefully manage the coast for both recreation and wildlife.

12.29 **SLA26: North Berwick to Seton Sands Coast** takes in a large area, of which only a small part is in ClimatEvolution zone. This area as a whole is the heart of East Lothian's recreational coast. The coast east of Port Seton is a long sandy expanse popular with visitors and easily accessible, framed inland by wind shorn trees. The area is important for outdoor recreation, and its sandy beaches and bays have strong aesthetic appeal. Guidelines for development include that it should not harm the coastal character of the area, or habitat and openness of the coastal grasslands. Large, widely visible development that reduces the scale and contrast of the landform should be avoided. Management guidelines recognise the need to manage the coast for both recreation and wildlife.

12.30 **SLA14: Elphinestone Ridge** encompasses the most representative section of the significant lowland ridge at the western entrance to East Lothian from Edinburgh, forming the backdrop to coastal settlements of Musselburgh and Prestonpans and the wider coastal plain. Views from here are wide ranging and there are many recreational routes through the area. Its Special Qualities and Features include its importance as a backdrop to setting of settlement on the coast; the Inventory Garden and Designed Landscape; Fa'side Tower; the excellent views; tranquil rural landscape in the south of the area with numerous walking, cycling and horse-riding routes. The coherent landscape of prehistoric settlement along the ridge as well as Medieval remains scattered throughout the area are also a feature. Guidelines for development include that it should not harm the status of Fa'side Castle as the focal point on the ridge or the rural character of the area especially the recreational routes and the open,

rural nature of the ridge. Open views from key points should not be harmed. The landscape character of the area should not be harmed by large, widely visible development that reduces the scale and contrast of the landform. Potential for landscape enhancement of this area includes reintroduction of hedgerows and tree planting, along with management of field boundary trees. Walking and cycling access through the area should be maintained and improved, and interpretation boards renewed.

Tree Preservation Orders

12.31 There are several Tree Preservation Orders within the ClimatEvolution area, in particular the mature trees surrounding Bankton House and two feature trees within the field to the north of St Germains. Other significant trees exist around Seton Collegiate Church and House.

Existing Environmental Issues – Landscape

12.32 Nowhere stays the same forever. Good landscapes can become degraded, poor ones improved. The spirit of a landscape comes from the play between its geology and topography, vegetation cover and land use. Places must evolve to balance the needs of environment, community, and economy. Professor Brian Mark Evans warns "Landscape change is slow and pernicious: it is cumulative, and when finally obvious to all is hard, if not impossible, to reverse[65]".

Local Landscape

Landscape Character

12.33 The European Landscape Charter values all landscapes. Scotland and East Lothian have a reputation for clean, green outdoor landscapes with attractive coast and countryside.

12.34 There is considerable existing and planned urban development in the area. Some of the existing urban development is poorly integrated into its surroundings or has landscaping which is yet to mature. Some sites allocated for development here are in fairly open locations and their landscape setting must be carefully considered. Open land between settlements is narrow in places here and there is a need to avoid coalescence, recognised through the designation of some of the area here as Green Belt or Countryside Around Town.

12.35 Issues noted through Landscape Character Assessment include the high voltage power lines traversing the area. These are out of scale with surrounding development and difficult if not impossible to adequately screen. Although the area includes the A1 and East Coast Mainline

[65] Quoted in "Landscape for Scotland" Landscape Institute (undated) https://scotland.landscapeinstitute.org/wp-content/uploads/2017/12/Landscape-for-Scotland-2017.pdf

Railway, the A1 is relatively well integrated into the landscape; the railway is not generally intrusive either.

12.36 The pressure for residential expansion and the need to integrate it successfully into the landscape is a live issue for this area. The high visual sensitivity of flat unwooded terrain here increases the visual impact of new development. The dominant urban/industrial character of the area is noted as a negative attribute – this refers in part to the pylon lines but also urban development generally. New development at Blindwells will increase the urban character of the area. The visual sensitivity of the Tranent ridge is identified as an issue as it makes it vulnerable to impact from development, including both electricity and telecom infrastructure which have adversely impacted this landscape.

12.37 The need to manage recreational development and visitor pressure at the coast and conserve equilibrium between diverse elements and pressures is also a landscape issue.

12.38 There is a need to diversify species in new woodland planting. Climate change brings this to the fore as new diseases to which the existing trees and plants do not have natural immunity can survive warmer winters; more varied planting can help the woodland overall to survive.

12.39 There is a need for long term management of key estate features and also field boundaries. The desirability of retaining rural character where relevant, including maintaining the character of minor roads and improving recreational routes through the area is an issue given the expected increase in population.

12.40 Maintaining distinctiveness of the different areas of Scotland in relation to each other and the rest of the UK is important. As part of Eastern Coastal Central Scotland, the retention of features that help make Eastern coastal Scotland distinctive is important, even if – or perhaps because - they are common here. The most relevant features for this for ClimatEvolution are: retaining the arable appearance of the area; balancing visitor management, recreation and other development at the coast; retention and enhancement of plantation, shelter belt and policy trees and woodland in appropriate locations. Also relevant are the use of traditional materials including pantiles, slate and stone and avoidance of harm to the network of hedge or stone lined single lane roads and closely spaced designed landscapes.

Derelict land

12.41 The 2016 Scottish Vacant and Derelict land survey showed that 59% of people in the most deprived SIMD decile had derelict land within 500m of their home, compared to only 13% in the top decile. Although the closest residential areas to the former Cockenzie Power Station site- the only derelict land in the area - are not deprived, Prestonpans overall scores relatively highly on this index, as do areas of Cockenze/Port Seton. The presence of this large derelict site is likely to affect people in those towns as they go about their daily lives.

Designated Areas – existing issues

Green Belt/Countryside Around Towns

12.42 Pressure for development is an issue for both Green Belt/Countryside Around Town areas.

12.43 In parts of the Green Belt there is pressure for settlement expansion, industrial development and possible upgrading of roads, as well as other sporadic development. This would have the potential to harm to the landscape setting of towns (including in the case of the Green Belt, the setting of the City of Edinburgh), and cause coalescence. The Green Belt should also provide opportunities for access to open space and the countryside. These uses can sometimes conflict with the farming uses that occur in the area. Lack of a sense of tranquillity are noted for both the Wallyford farmland and Fa'side Slopes area of the Green Belt due to transport routes. These areas were also considered in the Edinburgh Green Belt report to have a lack of intrinsic scenic quality, with a lack of field trees and woodland, and some intermittency in hedgerows. In the Wallyford Farmland area, industrial warehousing and housing on the urban edge is often highly visible due to the openness of the landscape. The landscape at West Prestonpans conveys a fragmented character.

12.44 The objectives of the Tranent/Prestonpans/Cockenzie Port Seton/Longniddry are the protection of the landscape setting of settlements, prevention of coalescence of settlements retain the distinctive identities of separate communities; as well as provision of green networks and recreation. This reflects the issues of threat to landscape setting of existing settlements, as well as a need to provide for a landscape setting for the new settlement of Blindwells in a landscape that is currently fairly open. Lack of provision of landscape suitable for multifunctional green networks in the general area is also an issue.

12.45 The Countryside and Coast SPG[66] notes that with the development of Blindwells the land between it and the nearby settlements will increase in importance to prevent the potential coalescence of settlements, in order to protect their character and identity. The SPG notes it is important to retain the largely open and undeveloped nature of the area between Prestonpans and Tranent to preserve the individual identities of the two towns and provide setting. The historic visual link between Seton Castle and the sea has been reduced to a small strip due to development at Port Seton and the arrival of the caravan site; it is therefore important to retain this open strip. The retention of undeveloped land between Longniddry, Seton Mains and Blindwells is important to ensure the continued separation between Longniddry, Seton Mains and Blindwells.

[66] East Lothian Countryside and Coast SPG, at https://www.eastlothian.gov.uk/downloads/file/28998/countryside_and_coast_spg

Special Landscape Areas

12.46 Issues for the Special Landscape Areas are avoidance of harm and maintenance of their character. Management of woodland and maintenance of field boundaries is important, and also in some areas retention of openness. For some of the areas, the ability to maintain views of and from them, and their rural, tranquil nature in the face of development pressure is an issue. Some of the (Garden Country Farmland SLA and Elphinstone Ridge SLA) are sensitive to large, widely visible development.

Tree Preservation Orders (TPO)

12.47 Tree Preservation Orders bring a considerable level of protection for trees from direct action against them. However once a protected tree comes to the end of its natural life the landowner does not have to replace it. The main threat to TPO trees is development which can include changes to watercourses; and the second is lack of appropriate management. The third threat is diseases such as ash die back disease. Changing the direction of a water course would have a potential impact on the health and vigour of any trees growing adjacent to it.

Likely Significant Effects – Landscape

12.48 With regard to the issues identified above, the following SEA objectives for Landscape have been identified and the impacts appraised by theme:

SEA Objective, Landscape: Conserve or enhance the character and appearance of settlements and the landscape			"Do nothing"	Comparison of ClimatEvolution to Do Nothing	ClimatEvolution overall	ClimatEvolution Themes				
						1 Movement	2 Water	3 Leisure	4 Biodiversity	5 Enterprise
SEA Sub-objective/ questions for assessment.	KEY									
	Positive	+								
	Neutral	0								
	Unknown	?								
	Mixed/Variable	//								

Does the plan….?	Negative	-								
	Comparison of ClimatEvolution with "Do nothing"	Better	Worse							
Protect the separate identity of settlements (local landscape - coalescence)				+	↓		0	0	+	+	
Ensure that high quality new development is delivered within a high quality landscape framework (Local landscape - character)				0	+	+	0	+	0	+	0
Prevent development from harming locations containing built or natural landscape features of significance (Designated Sites)				+	+	+	0	+	0	+	+
Create, conserve or enhance open / green space (open space and TPOs)[this is covered under Human Health CSGN]				Not applicable – moved to Human Health, CSGN							
Mitigate areas of poor landscape quality (Derelict land, others)				+	+	+	0	+	+	+	0

"Do nothing" – Landscape

Local Landscape

Landscape Character

12.49 The ELLDP protects Countryside Around Towns in part to provide landscape setting of settlement. The forthcoming Design Standards for New Housing Areas aims to improve standards of design and landscape setting for development. ELLDP Policy DP1: Design requires integration into the landscape. The East Lothian Green Network Strategy seeks design for this countryside that defines different identities for each town, and to provide attractive greenspace around towns however the timescales for this are anticipated to be medium-long term. A landscape framework in association with consented development at Blindwells, and further development in the safeguard area should that come forward, will provide a setting for that development, however it has only got the site itself to work with. As parts of that site are in an exposed location there may be the potential for some residual landscape impact from that development.

Derelict land

12.50 Proposal EGT1: Land at former Cockenzie Power Station ELLDP safeguards land at that site for thermal generation or failing which, the use that makes best use of the area's assets. The Council owns this site and is seeking new beneficial use. It is therefore likely that the derelict land issue here will be resolved.

Designated Sites

Green Belt/Countryside Around Towns

12.51 The policies of the local plan aim to protect the setting of settlements, in particularly DC7: Development in the Edinburgh Green Belt, which protects the setting of Edinburgh and surrounding towns; and DC8: Countryside around Towns, which has among its aims to provide a setting for settlement. The Countryside and Coast SPG sets out how this should be done in greater detail. Through these policies it is likely that the setting of towns as it now is would be protected, and coalescence avoided.

Special Landscape Areas

12.52 Policy DC10 Special Landscape Areas provides for the protection of these designated landscapes. East Lothian's Special Landscape Area SPG includes Management Guidelines to enhance these areas but there is no mechanism for achieving this.

ClimatEvolution – landscape

Local Landscape

Landscape Character

12.53 Planting and re-naturalising watercourses is generally seen as beneficial for the landscape. Reinstatement of traditional field boundaries, roadside planting and woodland planting in scale with landscape character as an advance landscape framework for development will improve landscape and will provide a high quality landscape setting for development especially at Blindwells. The green infrastructure proposed has the potential to improve landscape variety and scenic value. The presence of a water bodies has the potential to improve perception of beauty of a view, especially one that is naturalistic. Theme 2 includes re-meandering watercourses and the creation of large water bodies, while Theme 4 proposes Habitat Network. Considering the watercourses holistically brings the opportunity to create different character areas within the area, which will lead to more distinctiveness and variety in the landscape.

12.54 Theme 1 Access and movement proposes increased active travel in the area. This will help people to access and appreciate the landscape around where they live. Some of the active travel features could themselves adversely impact on the landscape, including features such as the proposed A198/A1 link road. The buildings proposed (National Climate Centre, Training Hotel, transport and energy infrastructure) have the potential for adverse landscape impact in what is a generally open and inter-visible landscape where such interventions could be highly visible. The Gateways also have the potential for townscape impact. Care would be required with their design to make sure they fit into the landscape and townscape.

12.55 ClimatEvolution retains some land in agricultural use, and Theme 5 includes a kitchen garden in association with a training hotel. Theme 4 proposes a low carbon food strategy. Retention of agricultural land and growing is important in retaining landscape distinctiveness as part of Eastern Coastal Central Scotland. This is also supported by the provision of alternative attractions to those on offer at the coast, helping with pressure for recreational development there; and retention and enhancement of shelterbelt and policy trees and woodland.

12.56 Theme 4 proposes a climate resilient habitat creation policy, and this will help diversity species in new woodland planting.

12.57 The strategy recognises the need for long term maintenance, and considers potential sources of revenue funding.

Derelict Land

12.58 The Strategy includes proposals for improving water management and planting green infrastructure at the former Cockenzie Power Station site; the area is also shown as a potential as a location for one of the training centres or geothermal attractor. This would improve derelict land.

Designated sites

Green Belt/Countryside Around Towns

12.59 The results of the Strategy in protecting the separate identity of settlements is likely to be mixed. Creation of waterbodies along with green infrastructure (Theme 4) will help provide an attractive setting for new and existing settlement. Trees can help reduce the appearance of coalescence as they can make it appear there is more greenery and therefore space between settlements than there actually is in plan view. Action on Town Centres as proposed in Theme 5 will also support settlement identity.

12.60 However, built development or even coutured greenspace risks the appearance of coalescence. There is a limit to the amount of such development that can come forward in the rural area around settlement without causing issues. The land between Prestonpans and Cockenzie/Port Seton, Prestonpans and Tranent, and all three towns and Greater Blindwells, is limited and careful treatment of these areas is needed to retain the separate identity of the towns. Themes 3 and 5 include built development; a potential geothermal attractor site as well as new inland water sport and leisure facility. A National Resilience Centre, and Training Hotel and Kitchen Garden, and the Centre for Excellence in Building, are proposed, as well as thinning the screening around Meadowmill Sports Centre. These alone or in combination could affect the appearance of coalescence and the setting and separate identity of settlement here. Shared facilities could also affect the separate identity of settlements.

Special Landscape Areas

12.61 SLA17: Garden County Farmland is largely within this zone. The 'tamed' nature of the land here and its relationship with the buildings within it is important. Theme 4: Biodiversity and greenspace includes a planting framework. The extensive green and blue infrastructure indicated to the south of Southfield and Chesterhall will help visually separate potential new development in the safeguard area at Blindwells from the Garden County Farmland SLA, and this is positive for the SLA.

12.62 However, care should be taken; it is likely that some of the drainage channels were worked in the 18th century along with the building of the estates, and have an element of design as well as function. There is a strong pattern of mature shelterbelts and agricultural land here. The intention would have been to show opulence and security that was seen as coming from imposing human order and control over nature. Tree planting (and re-naturalising of watercourses) would have to be done carefully to respect this character and landscape pattern. It should also avoid obscuring key views, in particular northwards. The new railway station shown at St Germains would include pedestrian access over the line, and to meet disabled access standards this is likely to be a sizable structure. This is adjacent to the Garden County Farmland SLA and could have a minor adverse impact on the site. Views north from St Germains are noted as important.

12.63 SLA14 Elphinstone Ridge is on the edge of the Strategy zone. Improving recreation routes is a Guideline for this SLA, as is maintaining the tranquil rural nature of the area. Improving walking and cycle routes through ClimatEvolution would support these aims as it would improve the path network; with increasing population in the area good path network nearby would help this SLA keep its tranquil nature. Reintroduction of hedgerows and tree planting, along with management of field boundary trees, has been identified as a potential landscape enhancement in SLA14: Elphinestone Ridge. Although not proposed here, planting could potentially extend to this area, which would be a positive benefit for this SLA.

Mitigation – Landscape

12.64 The policies of the ELLDP aim to secure good design. This mitigates the risk that the design of individual buildings and other development will harm the landscape. For example ELLDP Policy DP2: Design requires that proposal are appropriate to their location in terms of its positioning, size, form, massing, proportion and scale and use of a limited palate of materials and colours that complement their surroundings. ELLDP Policy DP1 Landscape Character requires that all new development will be well integrated into their surroundings by responding to and respecting landform. Policy DC8 on Countryside Around Towns requires that in such areas – which much of ClimatEvolution area is – any new development must not harm the landscape

setting of the countryside location and must be of a scale, size and form that would not harm the objectives for the countryside around towns designation. Proposals in the Edinburgh Green Belt must comply with ELLDP Policy DC7 which states that proposals should be of a size, scale and nature that do not harm green belt objectives or the character or appearance of the local area.

12.65 Policy DC9: Special Landscape Areas provides that proposals that harm a Special Landscape Area will not be supported unless the public benefit of the proposal outweighs the impact on the Special Landscape Area. Policies of the plan only concern proposals that require planning permission however. Elements of ClimatEvolution which may or do not require planning permission, namely planting and re-naturalising water courses, could impact on the Garden County Farmland SLA. This should be taken into account in the details of proposals for renaturalisation of watercourses, the Integrated Habitat Network Plan and new green infrastructure.

12.66 These policies should ensure that there are no adverse impacts from the development proposals of ClimatEvolution on landscape.

12.67 In addition ClimatEvolution could consider:

- Emphasising the features that make this area distinctive in Eastern Coastal Scotland; the arable appearance of the area; balanced use of the coast; retention and enhancement of plantation, shelter belt and policy trees and woodland in appropriate locations; use of traditional materials; retention of hedge or stone walled field boundaries and single lane roads; closely spaced designed landscapes.

Conclusion – landscape

12.68 Overall, ClimatEvolution will bring landscape change with considerable positive benefits over 'do nothing', while respecting the area's location in Eastern Coastal Central Scotland. The strategy minimises the danger of small scale incremental damage to the landscape through providing landscape structure for the area as a whole. It will provide a high quality landscape setting for new development, and increase the diversity of the landscape while respecting its essential character. On balance, it will help reduce the appearance of coalescence. It will improve derelict land. It will reduce the apparent domination of urban/industrial development.

12.69 However, there could be some adverse impacts on coalescence of settlement, and care must be taken over the siting and design of both new built development and green infrastructure to avoid this. Care must also be taken on the design of planting and water environment interventions in and around the Garden County SLA.

12.70 Some landscape issues in this area will remain. This includes the influence of built development, and transport and electricity infrastructure on this area. Although the Strategy notes and considers the need for long term management of proposals it is beyond its remit to secure funding for this.

13 SECONDARY, CUMULATIVE AND SYNERGISTIC EFFECTS

13.1 Secondary effect are side effects – something that is not the main effect of the action. Cumulative effects are those that act additionally with effects elsewhere to increase the effect. Synergistic effects are effects resulting from multiple sources or combined effects different in nature from the individual effects, but which act together to effect a different receptor.

	Receptor	Cumulative, Synergistic and indirect effects
	Biodiversity:	**Unknown/Potentially Negative:** This strategy could increase disturbance of birdlife at the coast and inland due to increased recreation in the area, leading to loss of effective habitat and potentially an impact on the distribution of species over the Special Protection Area. This is in addition to impacts from the East Lothian Local Development Plan, Edinburgh City Plan and Midlothian Local Development Plan, all of which allocate housing in this area which will increase the total number of residents and visitors to the area. This could cumulate with other trends such as increasing outdoor recreation and leisure time to adversely affect the birdlife of the Firth of Forth and consequently the designated SPA, SSSI and Ramsar site. **Positive:** The strategy mitigates the cumulative effect of these plans and trends by aiming to provide an attractive outdoor recreational offer which should relieve pressure on the coastal area. This is cumulative with Proposal MH16 of the ELLDP, which allocates land for nature conservation between Musselburgh and Prestonpans. The strategy overall aims to improve habitat; this will have cumulative benefits in line with the ELLDP and the East Lothian Green Network Strategy, as well as regional initiatives such as the Central Scotland Green Network which also aim to improve biodiversity. The Strategy's aim of mitigating climate change, cumulatively with many other PPS, would also benefit biodiversity.
	Population	**Positive** High population density can have an effect on the water environment due to high rates of sewage effluent discharge. ClimatEvolution aims to address this by avoiding sewer overflow events. Sediment loading from construction and pre-construction activities could affect downstream areas. ClimatEvolution aims to address this through provision of a framework for surface water management. There will be cumulative positive effects on socio-economic factors with other PPS such as the East Lothian Economic Development Strategy. There will be cumulative positive effects on older people with other Aging Well strategies.
	Human Health	**Positive:** There are many programmes, projects and strategies which aim to improve human health, or which impact on it. ClimatEvolution overall is expected to have a positive cumulative effect by supporting active travel, supporting safe, vibrant communities, reducing flood risk, improving air quality and in a small way, mitigating climate change which has been described as an existential threat.
	Soil:	**Negative:** While development in Scotland aims to avoid prime agricultural land it is a fact of geography that many settlements are built on this type of soil and sometimes

		this can be the best place to build for other good planning reasons. Although the strategy does not propose high density development some agricultural land will be lost to water uses, built development and biodiversity improvement. In combination with land allocated for development in other plans, including the East Lothian Local Development Plan, the overall impact is one of loss. There could be synergistic effects on food production capacity which is likely to be adversely affected by climate change. The amount and location of prime agricultural land is a national and global issue. The extra contribution of ClimatEvolution is likely to be negligible, however the receptor is sensitive.
	Water	**Positive** Changes to the water environment will improve biodiversity value. Lessening the risk of flooding can help avoid the physical damage to species and habitats, as well as flushing of pollutants and sediments that it can cause. Positive cumulative effects are expected with the Forth Estuary Flood Risk Management Plan, and the Fisheries Management Plan for the Forth Catchment.
	Air	**Unknown/Potentially Negative**: There will be cumulative effects with the East Lothian LDP and City of Edinburgh LDP and many others which allocate sites for development, of increasing traffic emissions. However, the balance of increase from ClimatEvolution is uncertain. There may be an increase in vehicular traffic form visitors to attractions however there should also be displacement of local private car trips by public transport and active travel. If there is an increase, this will have an adverse cumulative effect on many receptors. Emissions to air of NOx could lead to acidification of soils and/or eutrophication of water bodies often at far removed locations; this and/or deposition of particulates can lead to detrimental effects on ecosystems sometimes at far removed locations. On Human Health, NOx emissions can cause inflammation of the airways due to short term exposure; long term exposure may affect lung function and respiratory symptoms. NOx enhances the response to allergens in sensitive individuals. Exposure to particulates can lead to respiratory and cardio-vascular illness and mortality as well as other ill-health effects. Emissions of NOx can alter climate and particulates can have warming or cooling effects on climate both locally and globally. Climate change can increase the production of ground level ozone. NOx is a contributor to acid rain which cumulatively can damage buildings and cultural heritage assets. The extra contribution of ClimatEvolution is likely to be negligible, however some of the receptors are sensitive.

		Positive ClimatEvolution also aims to increase levels of public transport use and active travel locally. Cumulatively with the East Lothian Transport Strategy and the Active Travel Improvement Plan, this may reduce emissions to air from local travel. This will reduce the effects noted above and below in relation to vehicle emissions. Use of Geothermal, heat from sewage and hydro energy to replace fossil fuel use will also have positive effects on air quality cumulatively with East Lothian Council's Climate Change Strategy, and Scottish and UK policy supporting renewable energy generation. There are likely to be cumulative and synergistic positive effects on socio-economic factors with the East Lothian Fuel Poverty Strategy, East Lothian Local Housing Strategy and others.
	Climate	**Positive:** There are likely to be cumulative positive long term benefits to climate with the Scottish Climate Change Strategy, East Lothian Climate Change Strategy and many others on climatic factors. The extra contribution of ClimatEvolution is likely to be minor, however the receptor is very sensitive. **Negative:** In the short term, development and land use change is likely to give rise to greenhouse gas emissions, which will have cumulative adverse effects with all other sources of greenhouse gas emissions which lead to climate change. Although the medium and long term effects are likely to be beneficial, short term emissions are important as a higher overall peak in emissions could lead to known and unknown 'tipping point' type changes. Transport infrastructure interventions could also deliver synergistic benefits, such as improving water management and for delivering active travel and energy or heat networks over or under strategic transport corridors on the Zone.
	Material assets	**Positive:** There will be positive impacts from this strategy on Scottish Water's Drainage Assets, which will combine with the potentially negative impacts arising from the ELLDP from increasing hard surfacing and population in the area.
	Historic Environment	**Positive**: there is the potential for cumulative positive impacts with other strategies including the Prestongrange Museum masterplan for improved understanding of cultural heritage. Unknown/Potentially Negative: There is the possibility that some elements of this strategy in combination with the development proposed in the ELLDP could have cumulative effects on some assets.
	Landscape	**Positive:** The Strategy is likely to have cumulative positive benefit for landscape along with the protective policies of the ELLDP and the East Lothian Green Network Strategy.

14 ENVIRONMENTAL PROTECTION OBJECTIVES OF RELEVANT HIGHER TIER PPSS

14.1 A wide range of international, national and other local level plans, programmes and strategies (PPSs) contain policy and objectives relevant for ClimatEvolution. These include legislation such as the EU Habitats Directive, the EU Water Framework Directive, the Climate Change (Scotland) Act 2009, the Town and Country Planning (Scotland) Act 2019, the National Planning Framework (NPF), the Zero Waste Plan (ZWP) and Scottish Planning Policy (SPP), the Strategic Development Plan (at this stage SDP1) and the ELLDP. Appendix 3 of this scoping report sets out the relevant PPSs together with a brief summary of what each is intended to achieve and their implications for ClimatEvolution.

14.1 The emerging ClimatEvolution strategy and this draft Environment Report have taken into account PPSs that set a context for its preparation. In particular, ClimatEvolution must be consistent with the ELLDP. The ELLDP was prepared, as is required by law, with the objective of contributing to sustainable development, having regard to any related guidance from Ministers[67]. That guidance currently takes the form of Scottish Planning Policy 2014. Scottish Ministers in preparing Scottish Planning Policy considered environmental protection objectives relevant to planning 'established at international, community or member state level'. These have therefore been taken into account during the ELLDP 2018 preparation process. The environmental objectives are also relevant to the emerging Strategy. The environmental protection objectives of Scottish Planning Policy as interpreted through the ELLDP 2018 are the key considerations for ClimatEvolution.

14.2 Scottish Planning Policy states that planning decisions should:

- contribute to the reduction of greenhouse gas emissions with the commitment to reduce emissions by 42% by 2020 and 80% by 2050 [these targets have now been revised to net zero by 2045]
- contribute to reducing energy consumption and to the development of renewable energy generation opportunities;
- support the achievement of Zero Waste objectives, including the provision of required waste management installations;
- protect and enhance the cultural heritage;
- protect and enhance the natural environment, including biodiversity and the landscape;

[67] Scottish Government Circular 6/2013 Development Planning paragraph 12 - 14

- maintain, enhance and promote access to open space and recreation opportunities;
- take into account the implications of development for water, air and soil quality; and
- support healthier living by improving the quality of the built environment, by increasing access to amenities, services and active travel opportunities, and by addressing environmental problems affecting communities.

14.3 Scottish Planning Policy also sets out objective for the location of new development, which are:

- promote regeneration and the re-use of previously developed land;
- reduce the need to travel and prioritise sustainable travel and transport opportunities;
- promote the development of mixed communities;
- take account of the capacity of existing infrastructure;
- promote rural development and regeneration; and
- prevent further development at risk from flooding or coastal erosion.

14.4 Scottish Planning Policy continues that decisions on the location of new development should therefore:

- encourage the use of and enable access to active travel networks and public transport and support habitat connectivity;
- promote the efficient use of land, buildings and infrastructure;
- encourage energy efficiency through the orientation and design of buildings, choice of materials and the use of low and zero carbon generating technologies;
- support sustainable water resource management;
- support sustainable waste management;
- consider the lifecycle of the development; and
- encourage the use of sustainable and recycled materials in construction.

15 LIMITATION AND DIFFICULTIES IN THE ASSESSMENT

15.1 Due to the stage of the planning process at which supplementary planning guidance is prepared it is not possible to establish the detailed environmental effects of development at this stage: this is why the SEA is to focus on likely significant environmental effects. Such detailed assessment is to be undertaken at later stages of the planning process - for example, through the preparation of Transport Assessments, Flood Risk Assessments and other technical assessments. These more detailed assessments would be submitted with planning applications, once the nature of proposals are fully understood and can be assessed in detail. Where relevant project level proposals will be subject to Environmental Impact Assessment and Habitats Regulation Appraisal, and the details assessed then, as well as any mitigation that might be needed.

15.2 Additionally, the actual effects of ClimatEvolution will depend on the consistency with which all of its strategy, policies and proposals are applied. For the purposes of this assessment, therefore, it has to be assumed that decisions will be made in accordance with ClimatEvolution. The actual effects of ClimatEvolution will depend on what proposals actually come forward as well as decisions taken on them. This means that some long-term, cumulative and synergistic effects of ClimatEvolution may not be predictable at this stage.

15.3 Some data is not published at local level. In particular information on obesity is not easily available at local authority level, far less local levels below this. This means it is not possible to tell if national trends, for example of increased obesity levels in more deprived areas apply here. There is some evidence that they may not: for example in Preston-Seton-Gosford areas the levels of obesity of children entering Primary 1 (as reported in the Area Statistics) are lower than the Scottish average.

15.4 Data on climate change emissions are also not easily available below local authority scale. Information on travel patterns does form part of this though, which allows for trends to be considered.

15.5 Lastly, during the preparation of this draft Environment Report, restrictions on movement were in place to combat Covid-19. This had led to difficulties in visiting the site for the purposes of appraisal. This has affected in particular the cultural heritage assessment and landscape assessment. Appraisal has not been able to be done other than as a desk study, and use of resources such as Google Streetview, OS aerial photography, existing ELC photographs and the knowledge of officers.

16 MEASURES ENVISAGED TO PREVENT, REDUCE AND OFFSET ANY SIGNIFICANT EFFECTS ON THE ENVIRONMENT OF IMPLEMENTING THE PLAN

16.1 Measures to prevent, reduce or offset any significant effects are set out in the 'Mitigation' section under each chapter. Many of these sections include the policies of the ELLDP as mitigation. The ELLDP is part of the development plan for the area. Nothing in this Strategy will prevent proposals from being required to meet the terms of its policies. The most relevant policies are noted under 'Mitigation' for each topic chapter however the plan should be read as a whole. It's policies are designed to prevent harm to particular environmental features, and as such are a significant mitigation to the potential for unforeseen harm arising from the Strategy, or from proposals being implemented in a way that could harm those interests.

16.2 The environmental receptors protected include elements of the cultural and natural heritage including Special Protection Areas, Sites of Special Scientific Interest, Local Biodiversity Sites, Special Landscape Areas, Conservation Areas, Listed Buildings, Scheduled Monuments, Battlefields. Policies also protect undesignated elements of the natural and historic environment, amenity, open space, core paths and rights of way. They provide for promoting active travel, good air quality, a green network, good design and many other objectives. Flood Risk Assessment will be carried out on any qualifying proposals. The policies of the Plan provide a strong protective framework for decisions, which will reduce or prevent significant environmental effects which could arise from ClimatEvolution.

16.3 Scottish Water is currently undertaking a Strategic Drainage Impact Assessment and Strategic Water Impact Assessment for this sub-region, which is due for completion later in 2020. This work will identify impacts on drinking water and drainage, and will help inform decisions on development.

16.4 Work on ClimatEvolution should be aligned with any existing or future work on addressing the legacy of mine workings and using these to achieve benefits from them for the wider area.

17 MONITORING

17.1 The impacts of the proposals of the strategy will be monitored through the submission of planning applications, which will be accompanied where relevant by Environmental Impact Assessment, Transport Assessment, Habitat Regulation Appraisal, Landscape and Visual Impact Assessment, Flood Risk Assessment and others. The overall impacts will be monitored along with the effects of the East Lothian Local Development Plan.

17.2 SEPA continue to monitor various aspects of air, water and soil quality.

17.3 East Lothian Council is currently considering how to collect data on climate change emissions. Information on climate change emissions under the influence of the local authority level will continue to be collected at national level.

17.4 SNH will monitor the condition of SSSIs and Natura sites. Impacts on the Firth of Forth SSSI/SPA/Ramsar from changes to access arrangements in the area will require to be monitored. East Lothian Countryside Rangers work extensively along the coast, and will informally monitor changes. Both organisations are open to reports from members of the public or organisations, some of whom take an interest in the birdlife of the coast and the quality of the coastal experience generally. Both ELC and SNH would respond to any issues raised. The British Trust for Ornithology coordinate the Wetland Bird Survey along the coastline. This survey monitors the numbers of birds at the coast.

18 NEXT STEPS

Proposed consultation timescale

18.1 The Council is now consulting on ClimatEvolution, and in tandem both this Draft Environmental Report and draft Habitat Regulation Appraisal and Appropriate Assessment. The consultation period ends on xx/xx/xxxx. Comments should ideally be made on the East Lothian Consultation Hub, at www.eastlothianconsultation.org.uk. Alternatively comments can be emailed to ldp@eastlothian.gov.uk , or sent by writing to Policy and Strategy Team, Planning Service, John Muir House, HADDINGTON, EH41 3HA.

Anticipated milestones in the SEA and processes related to preparing the ClimatEvolution

18.2 The current programme intentions for the preparation of ClimatEvolution and thus its associated ER is set out below:

Date	ClimatEvolution Activity	SEA activity
30th August 2019	Appointment of consultant	Pre-screening sent to Gateway
4th September 2019	Inception meeting and project start; workshop with key client agencies	--
4th – 6th September 2019	Transfer of data from client agencies to consultant	Comments received from Consultation Authorities that pre-screening is not considered appropriate
23rd September 2019	First progress update and direction of travel check	Screening and Scoping Report prepared and sent to SEA Gateway 24 September 2019: start of preparation of draft ER; pre-screening withdrawn
14th October 2019	Second progress update and direction of travel check	Comments received from Consultation Authorities on Scoping
January 2019	Delivery of draft Vision to Council and partners by consultant for public consultation	Draft ER concluded by 13 April 2020

May 2020	ELC decision on the draft ClimatEvolution for consultation	ELC to note draft ER
Xxx – xx/xx/xxx	xx week public consultation process on ClimatEvolution	Consultation on draft ER
Xx/xx/xxxx	Consider consultation responses and modify the draft vision and action programme for a Blue-Green Infrastructure Delivery Framework by consultant	Finalise ER
Xx/xx/xxxx	ELC decision to adopt the vision and action programme for the Blue-Green Infrastructure Delivery Framework	ELC notes and accepts ER and Habitat Regulation Appraisal is satisfactory to allow decision on ClimatEvolution

APPENDIX ONE

Climate Change Park Vision and Action Programme: CONTEXT, ROLE AND KEY CONSIDERATIONS FOR SPATIAL STRATEGY OPTIONS

The Development Planning Regime

A1.1 The Town & Country Planning (Scotland) Act 2019 has led to alterations in the Scottish Planning system. Local Development Plans will continue to be prepared, along with strategic level plans (though the exact arrangements for these are not yet clear). Local Place Plans have also been given a statutory footing. The National Planning Framework will be amalgamated with Scottish Planning Policy and become part of the development plan.

A1.2 Local Development Plans are to be reviewed at least every five years. These plans can be supported by statutory or non-statutory supplementary planning guidance. Such guidance should be used to address matters that are too detailed for inclusion within the main plan. Whilst statutory Supplementary Guidance must be revoked with the plan to which it relates, this is not the case for non-statutory guidance. It is therefore appropriate to publish ClimatEvolution as non-statutory supplementary planning guidance so it can remain in place when the ELLDP is reviewed.

The National Planning Framework

A1.3 The Scottish Government prepares a National Planning Framework for Scotland (NPF) and reviews it around every five years. The NPF sets out the Scottish Government's spatial strategy for Scotland for a 20-30 year period. The NPF describes and illustrates key national as well as regional issues with a spatial dimension, such as where growth in the Scottish economy ought to be encouraged and how it ought to be facilitated.

A1.4 NPF3 (June 2013) includes an on-going focus on the Edinburgh city region, of which East Lothian is a part, as the driver of the Scottish economy. It notes that planning has an important role to play in supporting and sustaining this city region's growth by providing sufficient and appropriate sites to enable sustainable and inclusive growth to take place in the area. NPF3 points out that a more concerted effort is required to enable more housing delivery in south east Scotland, and solutions to enable this include provision of the necessary supporting infrastructure. NPF3 sets out ambitions for a series of national development sites and areas within south east Scotland, including the former Cockenzie Power Station site in East Lothian.

A1.5 NPF4 is anticipated to be in place sometime in 2020/21. NPF4 now has enhanced status as part of the development plan. It is likely that NPF4 will identify future nationally important development sites and areas.

A1.6 In the period up to 2033, the population of south east Scotland is expected to grow by a further 220,000 people. This is comparable to introducing a new population that is the same size as the city of Aberdeen to the region. Successive national and regional planning strategies for the region have sought to distribute some of the growth generated by the city of Edinburgh to locations beyond its boundaries, including to East Lothian.

A1.7 New housing is being delivered at a major site in Wallyford. Tranent is expanding to the south, and Prestonpans to the west. Whilst the Cockenzie site has an existing national development designation within NPF3, it is now owned by East Lothian Council, which has ambitions for a wider range of uses there. On-going population and economic growth, and the transition to a low carbon economy means it is worth considering how the ClimatEvolution area can maximise its potential to deliver benefits.

A1.8 The ClimatEvolution area is adjacent to both the Blindwells Development Area and the former Cockenzie Power Station site. At Blindwells, of some 540 hectares, 130 hectares have been allocated for development, with 410 hectares safeguarded for the delivery of the larger new town. The new town at Blindwells now has planning consent for a mixed-use development, in the western part of the site, which is now under development. This is likely the largest such development opportunity in Scotland. It is also one of seven key strategic sites identified within the Edinburgh and South East Scotland City Region Deal. The Scottish Government has committed to help enable the delivery of such sites. The neighbouring former Cockenzie Power Station site provides a further 90 hectares of land in public ownership (much of it brownfield) the development of which should be considered synergistically with the larger new town; the ClimatEvolution area has a clear role in achieving this.

A1.9 The ClimatEvolution area includes parts of the UK cross-border road and rail infrastructure. There are emerging national plans and opportunities to enhance these cross-border assets at key locations here. Enhancing UK cross-border connectivity in a way that is integrated with the delivery of the nearby sites would make this area more attractive to international and wider UK markets (e.g. in the north east of England). Integrated delivery would maximise the collective impact of developing these assets, nearby housing/economic development sites, and the destination parkland. The associated potential infrastructure enhancements in the area of particular note currently include:

- proposals for four-tracking the east coast main rail line, which could deliver a new station and rail overbridge between the larger new town at Blindwells and the former Cockenzie Power Station site. This could significantly reduce inter-urban journey times and increase capacity of the east coast main line for freight and local services for future residents and businesses at the new settlement and former Cockenzie Power Station site and beyond;
- potential for a new trunk road interchange at the new town at Blindwells , which could be connected through the new settlement to the new rail station and overbridge. This could provide the basis for a wider access strategy and movement framework that is shared with surrounding regenerating communities and sites in the former East Lothian coal field, including the former Cockenzie Power Station site, and beyond;
- The Cockenzie site has frontage to the Firth of Forth as well as a jetty. This site also offers a connection to the national grid. There is consent for a substation to connect Inchcape offshore windfarm in part of this area. A masterplan for the Cockenzie site has been prepared. Work is on-going in relation to port / cruise and there may be scope to consider other energy and mixed use development of national significance there too, perhaps through the Edinburgh and South East City Region Deal (e.g. Skills and Construction Innovation) or beyond;
- High-speed digital networks exist in the area, and there is scope for decentralised heat and energy networks to develop as well as other opportunities for innovation;
- In to the longer term there may be potential to dual the A1 to the Scottish border to meet equivalent plans to do the same south of the border.

Together these infrastructure interventions could help positively unlock the potential of the area for development in the national interest, as well as deliver synergistic benefits for the wider city region and the local area.

A1.10 Accordingly, there would be significant national, regional and local benefit in the designation of a national development area within NPF4 that centres on the larger new settlement and former Cockenzie Power Station site. The geography of such a designation could include the Blindwells Development Area and the former Cockenzie Power Station site as well as the land between these sites and their neighbouring regenerating communities. This would be in recognition of the nationally significant opportunities for sustainable and inclusive growth in this area and the need for co-ordinated action and collective impact to deliver and maximise positive outcomes in the national, regional and local interest. The purpose of such a designation would therefore be to identify and promote:

- the area as a nationally important one for sustainable inclusive growth at pace and scale over the short, medium and longer term;
- the need to deliver the package of national, regional and local infrastructure required to enable and support this growth while ensuring it addresses the inter-relationships and dependencies between challenges and opportunities – i.e. delivers multi-functional shared solutions; and
- the need for organisational alignment, co-ordinated action and collective impact to maximise positive outcomes and long term benefits.

A1.11 ClimatEvolution aligns with the potential role this area could have in unlocking the overall benefits that might arise from the designation of such a nationally significant development area – i.e. '*An Area of Opportunity and Co-ordinated Action'*. Separate technical work is on-going for the former Cockenzie Power Station site. The council continues to engage with key stakeholders, including Key Agencies and Consultation Authorities, communities of interest and local communities in relation to the new town and Cockenzie sites.

The Existing Development Plan

A1.12 East Lothian Council has recently adopted the ELLDP in line with SESPlan, the strategic development plan for the area. This plan contains Proposals BW1 and BW2, which define the W Blindwells Development Area (circa 540 hectares). The Council's vision is to find a comprehensive solution to create a single new town there. Proposal BW1 allocates circa 130 hectares for a mixed use predominantly housing development that now has planning permission and is under construction; this project was subject to a development framework approved by the Council in 2010. Proposal BW2 safeguards circa 410 hectares of land for the expansion of the new settlement. The ELLDP sets out the planning context for the larger new town.

A1.14 The key regional and local benefit of the larger new settlement is the delivery of a positive comprehensive planning solution that facilitates on-going sustainable and inclusive growth at pace and scale in the city region and locally over the short, medium and long term. Ensuring that the new town becomes an attractor will require strategic and local connectivity in the area to be enhanced. ClimatEvolution has a clear role in this neighbouring, encouraging the benefits of growth to be shared with regenerating communities and sites. It would help support the new town (and wider area) as a regional

employment and service hub, helping to make the area including the new town a destination.

A1.15 There is considerable potential to enable environmental improvement in the area in parallel with development. This would include extension of the Green (and Blue) Network. The sub-regional parkland created in the area could deliver an enhanced setting for economic development and communities. Within this regional parkland there is scope to provide active travel links between communities and attractors, and to positively and sustainably address existing foul drainage, surface water, ground water, mine water and flooding issues. The parkland could contribute to the conservation, enhancement and interpretation of cultural and natural heritage assets (e.g. battlefield / history of energy production / Firth of Forth SPA) as well as improve habitat networks and biodiversity generally. Such a parkland could improve access to the countryside and provide open space for recreation to help improve health and well-being. If designed comprehensively, and with a focal point, such a parkland could become a destination in its own right – e.g. Helix Park. A key aim will be ensuring that all infrastructure, and particularly transportation and green and blue infrastructure, is designed from the outset to be shared and multi-functional in this respect – i.e. to deal with challenges and opportunities in the round – and to create the framework within which new development can occur. This could '*change perceptions and create destinations*' within the area as well as address some of the social, environmental, economic and regeneration issues in the locality.

Preparing the Climate Reslience Zone Strategy and Action Programme

A1.17 ClimatEvolution is intended to set out a deliverable vision and development strategy for ***how*** the zone can be fully integrated with surrounding urban areas, including Blindwells new town. The land at Blindwells is also one of seven key strategic sites identified within the Edinburgh and South East Scotland City Region Deal. The Scottish Government has committed to help enable development of these significant strategic sites, including through the City Deal. Blindwells new town will require supporting transport and drainage infrastructure, some of which could be delivered alongside the Strategy. The spatial strategy within ClimatEvolution will require to be coordinated with the pursuit of a comprehensive solution for the delivery of a single new town in the Blindwells Development Area.

A1.19 ClimatEvolution is being developed through partnership working. Its preparation consists of a number of key stages, as set out below:

Engagement

A1.20 The council has engaged with relevant agencies (Scottish Natural Heritage, Scottish Environmental Protection Agency, Historic Environment Scotland, Scottish Water) all of which have interests in this area. This has helped in identifying opportunities and constraints as well as potential for mitigating actions. This engagement is part of a process, which ClimatEvolution will assist, of considering the issues of this area in a coordinated way and seeking multi-benefit solutions.

Developmental Stages of the Climate Reslience Zone Strategy and Action Programme

Consultation Draft ClimatEvolution

A1.34 The brief for ClimatEvolution was developed following a meeting between East Lothian Council, SEPA, SNH, HES and Scottish Water. A further meeting was held with OPEN, the appointed consultancy, to discuss the draft strategy as it emerged. Following this, subject to Council approval, the draft will be opened to public consultation and amendments made following this. It is hoped the strategy will then be adopted before the end of the financial year. The SEA process will run alongside this.

A1.35 The strategy option(s) that will be carried forward to the public consultation will be the result of engagement with the Council and key agencies and consideration of constraints and opportunities.

A1.38 The consultation period on the draft ClimatEvolution will last for eight weeks. The consultation will be available on the Council's electronic survey hub.

Finalised ClimatEvolution

A1.39 Following consideration of the consultation responses on the draft ClimatEvolution, OPEN will finalise the draft ClimatEvolution. The Council will complete the Environment Report, with input from the Key Agencies. The finalised ClimatEvolution accompanied by the Environment Report and Habitat Regulation Appraisal including Appropriate Assessment, will be taken to Council for approval as supplementary planning guidance.

Role of ClimatEvolution: Informing LDP2 & Setting a Context for Subsequent Project Level Proposals

A1.40 Setting out a deliverable vision for the development of a parkland in an area with varied constraints and on the doorstep of a new town and national development is a complex task that requires collaborative working and bespoke technical work to find a deliverable solution. Blindwells new town will be planned for separately but in parallel with preparing ELLDP2. ClimatEvolution has links to the new town, and proposals in ClimatEvolution, as with the new town, will be taken into account when preparing LDP2. It is the intention that ClimatEvolution will set the context for project level proposals.

Form & Content of the Climate Reslience Zone Strategy and Action Programme

A1.43 Overall, it is envisaged that the framework will comprise a vision with aims and objectives that are expressed spatially. ClimatEvolution will therefore serve the dual purposes of

setting out how the vision and ambition will be delivered on the ground well as be a tool against which any development proposal can be assessed once submitted.

APPENDIX TWO

RELEVANT PLANS POLICIES AND STRATEGIES TO BE TAKEN ACCOUNT OF IN PREPERATION OF CLIMATEVOLUTION

A2.1 In addition to the development plan the PPSs set out below are of relevant to the preparation of ClimatEvolution.

NAME OF PLAN	ENVIRONMENTAL REQUIREMENTS OF PLAN	IMPLICATIONS FOR ClimatEvolution	Comments	Complies?
BIODIVERSITY, FLORA AND FAUNA				
Nature Conservation (Scotland) Act (2004)	Introduced a 'duty to further the conservation of biodiversity' for all pubic bodies, and sets out more specific provisions within this (e.g. for SSSIs). Also states a requirement for the preparation of a Scottish Biodiversity Strategy, to which all public bodies should pay regard.	Biodiversity: ClimatEvolution should aim to conserve biodiversity for future generations by conserving habitats and species and raising public awareness of the importance of biodiversity.	Current action for this area is likely to include some biodiversity improvement for example continuing work by the Countryside Rangers especially at the coast, as well as some actions through the Area Partnerships. Policy MH16 in the ELLDP which proposes management of a site at Levenhall for biodiversity. ClimatEvolution proposes intervention at scale including proposals which will generally improve the biodiversity of the area, with the caveat that increased numbers of visitors to the coast could adversely affect the designated sites there. The HRA and appropriate assessment for this plan shows that this can be done without harming Natura sites. However, this will require further assessment at project level, where care would be needed.	

Wildlife and Countryside Act 1981 (as amended)	Details a large number of offences in relation to the killing and taking of wild birds, other animals and plants.	Biodiversity: ClimatEvolution should have due regard for protected species.	ClimatEvolution is a strategic level plan where the provisions of this act would be most relevant for the project stage. The Strategy sets out improvements for wildlife and does not include proposals for alteration of existing sensitive habitat.	
Wildlife and Natural Environment (Scotland) Act 2011	Affects the way land and the environment is managed. The Act also amended earlier environmental legislation, including the Wildlife and Countryside Act 1981 and the Deer (Scotland) Act. Among other things the Act strengthens protection for badgers, requires annual reports to Parliament on wildlife crime and three yearly reports by public bodies on their compliance with the biodiversity duty.	ClimatEvolution must ensure relevant environmental legislation can be met, that wildlife crimes are not committed during investigative, construction and operational phases of development. It must ensure that the council's biodiversity duties are met and that wherever relevant associated steps are recorded in the biodiversity duty reports.	The intention of ClimatEvolution is to improve the biodiversity of this area. This plan should therefore help the Council to fulfil its biodiversity duty. ClimatEvolution should note in relevant sections the need to comply with WANE for example the Geothermal Feasibilty Study and Geothermal District Heating System	
Protection of Badgers Act 1992	Covers various offences related to harming badgers, including intentional or reckless interference with a badger sett.	Activities that would result in interference with a badger sett must be avoided. There are some reported badger setts in this area.	The Council has records of badgers from TWIC, and it is unlikely that proposal will impact on known badger setts. However survey at the project level would be required to ensure statutory provision is met. ClimatEvolution should note in relevant sections the need to comply with WANE for example the Geothermal Feasibilty Study and Geothermal District Heating System	
The Conservation (Natural Habitats, &c.) Regulations 1994 (commonly known as the 'Habitats Regulations')	Regulations originally derived from the EU Habitats Directive. Provides the basis for sites that are important for nature conservation – the Natura sites; and gives strict protection to certain species including otter, great crested newt, bats, marine mammals.	ClimatEvolution must meet the terms of legislation and avoid harm to protected habitats and species.	HRA and Appropriate Assessment show the strategy can meet the terms of this legislation with regard to Natura sites. There are some records of bats in the area, and also otter. Tree planting should benefits bats however there may be some loss of foraging habitat. Morphological improvements to watercourses should benefit otter and great crested newt (there are historical records of these but at some distance). There	

			may be a need for survey in some locations to ensure legislative requirements are met. ClimatEvolution should note the requirement fo an appropriate level of ecological survey.	
Environment Strategy for Scotland	The Vision is "One Earth. One Home. One shared future. By 2045; By restoring nature…our country is transformed for the better" Notes the scale and urgent action needed to halt global biodiversity loss. The natural environment should be restored and resilient. Makes the link between ecological and climate action. An outcome is that Scotland's Nature is protected and restored with flourishing biodiversity and clea and healthy air, water, seas and soils. The strategy notes that our ability to survive and thrive is fundamentally dependent on the health of our natural world, which provides basic life support for humanity including clean air and water, fertile soils, pollination, buffering from extreme weather; material goods e.g. food.	Aim to avoid biodiversity loss and seek opportunities to restore nature. Biodiversity should be planned and supported to be resilient. Action on biodiversity should be mindful of the climate challenge. Proposals and the plan overall should not adversely affect biodiversity, on land or at sea. The strategy should recognise the ecosystem services of the natural world and seek to support and work with them.	ClimatEvolution aims to restore watercourses and provide an integrated habitat network. "Do nothing" would protect designated sites and biodiversity on development sites. There is some habitat enhancement proposed through ELLDP Proposal MH16. East Lothian Council has an ongoing conservation programme.	
Scotland's Biodiversity - It's in Your Hands 2004 & **2020 Challenge for Scotland's Biodiversity 2013.** **A strategy for the conservation and enhancement of biodiversity in Scotland.**	Sets out Scottish aims relating to biodiversity over 25 year period. Seeks to go beyond a previous emphasis on protecting individual sites to achieve conservation at a broader scale. Aims to halt loss and reverse decline of key species, to raise awareness of biodiversity value at a landscape or ecosystem scale, and to promote knowledge, understanding and involvement amongst people.	Biodiversity: ClimatEvolution should aim to conserve Scotland's biodiversity for future generations by conserving habitats and species and raising public awareness on the importance of biodiversity.	"Do nothing" would protect designated sites and biodiversity on development sites. There is some habitat enhancement proposed through ELLDP Proposal MH16. East Lothian Council has an ongoing conservation programme. ClimatEvolution proposes enhancements to biodiversity through planting and habitat creation, as well as beneficial changes to the water environment.	

Scottish Planning Policy: Valuing the Natural Environment **(para 193-218)** **PAN 60 Planning for Natural Heritage** **(2000)**	The conservation of Scotland's plants, animals, landscapes, geology, natural beauty and amenity is important and should be considered in all development plans. Improving the natural environment and the sustainable use and enjoyment of it is one of the Governments national outcomes. Plans should therefore support opportunities for enjoyment and understanding of the natural heritage.	Biodiversity and Landscape: these priorities should be taken into account and progressed as far as possible within ClimatEvolution. ClimatEvolution should not adversely affect designated natural heritage sites, and should aim to support conservation and appreciation of natural heritage at a landscape scale.	"Do nothing" would protect designated sites and biodiversity on development sites. ClimatEvolution must avoid harm to the Firth of Forth SPA which HRA shows is the case. Through Integrated Habitat Networks	
Getting The Best From Our Land: A Land Use Strategy For Scotland 2016 - 2021	Sets a framework for sustainable land use. It recognises the importance of ecosystem functions and services. It recognises that maximising the benefits provided by nature often requires co-ordinated action at a landscape scale. This is a scale at which natural systems tend to work best and where there is often most opportunity to make changes which can have real and lasting benefits.	ClimatEvolution should consider how best to support ecosystem functions and services.		
Scottish Forestry Strategy **(publication postponed due to Covid-19)** **The Scottish Forestry Strategy Implementation Plan (2015-18) and Progress Report (2014-15)** **Scotland's Forestry Strategy 2019-2029 Environmental Report**	The vision is for Scotland to have more forests and woodlands, sustainably managed and better integrated with other land uses. Objectives include improving the resilience of Scoltands forests and woodlands and increasing their contribution to a healthy and high quality environment and increasing their use to enable more people to improve their health, well-being and live chances.	Biodiversity: aims to conserve and enhance biodiversity which needs to be taken on board by ClimatEvolution. Population & Human Heath: aims to improve health and well being by providing biodiversity and green infrastructure benefits, ClimatEvolution should enhance this.		

		Climatic Change: aims to reduce impact on and adapt to climate change.		
A Fisheries Management Plan for the Forth Catchment – review of actions, reprioritisation and update for 2015-2020	Strategy to promote a self-sustainable Forth fishery. Includes objectives of tackling Invasive non-native species at catchment level (including giant hogweed); monitor the impacts of point source pollution; reduce diffuse pollution of water; work cooperatively to restore natural morphology of rivers and remove fish barriers; stop excess water flow entering the river system through management of land use pressures			
Local Biodiversity Action Plan: East Lothian (2008 – 2013) **(not available online)**	The Local Biodiversity Action Plans translate national targets for species and habitats into effective local action, stimulates local working partnerships into tackling biodiversity conservation, raises awareness, identify local resources, identify local targets for species and habitats, ensure delivery and monitor progress.	Biodiversity: ClimatEvolution should support the aims of the LBAPs and avoid adversely affecting key habitats and species as identified therein. Although this strategy is out of date it contains useful information about priorities and habitat in East Lothian. Its priorities are now contained in the Green Network Strategy SPG and the East Lothian Biodiversity Action Plan will be updated in due course.	See under 'Green Network Strategy' below.	N/A
Edinburgh and Lothians Forestry & Woodland Strategy (ELFWS) 2012-2017	The purpose of the Edinburgh and Lothian's Forestry & Woodland Strategy 2012-17 is to guide woodland expansion and management across the Lothian's in a manner that optimises their contribution to the region's people, economy and environment.	Biodiversity: aims to conserve and enhance biodiversity which needs to be taken on board by ClimatEvolution. Population & Human Heath: aims to improve health and well being	See under 'Green Network Strategy' below.	N/A

		by providing biodiversity and green infrastructure benefits. This Strategy is now out of date. As it was based on field work much of which remains valid it is likely that a future Forestry Strategy would be similar. Action on woodland is included in the Green Network Strategy.		
The Pollinator Strategy for Scotland 2017-2027	The Strategy aims to address the causes of declines in populations, diversity and range of pollinator species; and to help them thrive in future.	ClimatEvolution should support objectives to halt and reverse the decline in native pollinator populations e.g. by targeting land use and management incentives in areas where there will be greatest benefit and minimal impact on pollinator habitats.	ClimatEvolution includes action for pollinators, including connecting isolated habitat within urban areas. Formation of grassland as part of an integrated habitat network would also support this. The Green Network SPG also contains action for pollinators, so ClimatEvolution supports this. Action has been taken by Buglife with support from the Council on B-lines and this would be likely to continue under the 'do nothing' scenario, however ClimatEvolution would push forward action in this zone.	
East Lothian Green Network Strategy SPG	The SPG sets out how the CSGN will be delivered in East Lothian. It aims to contribute to reversing the decline in quantity and quality of biodiversity, and protect geodiversity. It aims to protect and enhance the water environment, and reduce pollution issues, and strengthen landscape character and diversity. It includes actions for the Western Sector, Urban, Coast, Countryside and Nature Network.	Biodiversity. ClimatEvolution should consider how it can contribute to reversing the decline in quantity and quality of biodiversity. Population. ClimatEvolution should consider how it can reduce the impacts of income inequality and create resilient communities. Human health. ClimatEvolution should consider how it can contribute to the improvement of physical and mental health	ClimatEvolution includes and expands many of the actions for this area and overall of the Green Network Strategy. This is therefore also included in the 'do nothing' strategy, however ClimatEvolution helps to push the actions closer to implementation. ClimatEvolution also proposes a comprehensive natural solution to water management, and planting of woodland, which is not considered under 'do nothing'.	

		through provision of green infrastructure and active travel improvements. Water. ClimatEvolution should consider natural solutions to water management and reducing pollution. Climatic factors. ClimatEvolution should consider how climate change could be mitigated through landuse, and how the design can be adaptive to climate change.		
POPULATION				
Scotland's Economic Strategy, 2015	Sets a framework for a more competitive and fairer Scotland. It forms the strategic plan for existing and future Scottish Government policy. It prioritises boosting investment and innovation, supporting inclusive growth and maintaining our focus on increasing internationalisation.	ClimatEvolution should support the implementation of this strategy in terms of the provision of new infrastructure and land for economic development as well as encouraging integration with other nearby sites and operations / businesses such as the former Cockenzie Power Station site.		
Fairer Scotland Action Plan 2016	Aims to change deep seated, multi-generational, deprivation, poverty and inequalities. One of the key ways they will do this is by eradicating child poverty. Includes actions to help people to have a say in their local areas; deliver warm, affordable homes; make society fairer; enabling more people to have access to affordable, healthy, nutritious food;	ClimatEvolution should engage with local people, and support the other aims of the strategy.	"Do nothing": ELC is preparing a Local Food Growing Strategy, partly to meet demand for allotments. ClimatEvolution proposes a Training Hotel and Kitchen garden, and a Low Carbon Food Strategy, which would support the aim of access to healthy, low cost food. Its proposes improvements to housing stock, and a Centre for Excellence for Sustainable Construction, which would spread knowledge of construction methods which in the long term would support the aim of delivering	

			warm homes. The strategy will engage local people in its formation.	
East Lothian Council Plan	Has a vision of an "even more prosperous, safe and sustainable East Lothian, with a dynamic and thriving economy, that enables our people and communities to flourish". The overarching objective is "reducing inequalities within and across our communities".			
East Lothian Economic Development Strategy 2012-2022 (refreshed)	Set out the council's strategy for economic development. The Strategy contains environmental objectives including increasing the proportion of East Lothian residents working in East Lothian, and to be Scotland's most sustainable local economy.	ClimatEvolution should support the environmental objectives of the strategy in looking to provide local, sustainable employment.	The East Lothian Local Development Plan and actions under the Economic Development Strategy should increase local employment. ClimatEvolution will help implement this through provision of an improved environment to encourage investment, and through local employment in projects such as the attractors.	
East Lothian Poverty Action Plan 2017-2019	Aims to tackle the causes and effects of poverty in East Lothian and reduce the gap between the poorest and the richest people	ClimatEvolution should aim to reduce inequalities and the causes and effect of poverty.	ClimatEvolution includes actions which are regenerative and provide employment in area affected by low pay. It includes actions to improve the environment around areas of multiple deprivation.	
East Lothian Green Network Strategy	Supports the aims of the Economic Development Strategy by providing a high quality landscape and recreational setting. It aims to help people feel they live in resilient communities, and not in isolation, to feel safe in and take pride in their environment. Provides that green infrastructure should be designed to be accessible to all.	ClimatEvolution should provide a high quality landscape and recreational setting. It should support resilient design, and bear in mind the need for green infrastructure to be accessible for all.	ClimatEvolution proposes an improved green and blue landscape framework for existing and new development. Paths for All is proposed, which will enable accessibility of the path network for all abilities. The need for users to feel safe should be considered through design at project level.	
HUMAN HEALTH				
Water Environment and Water Services (Scotland) Act 2003	Enabling legislation in Scotland for the Water Framework Directive. Sets out	ClimatEvolution should avoid and address pollution in the water	At present there are instance of overflow from the combined sewer due to the entry of surface	

	measures for the protection of the water environment. Describes pollution in relation to the water environment in terms of substances resulting from human activity which may give rise to harm, including harm to the health of human beings.	environment in terms of substances which may give rise to harm to human health. This is relevant in this area in terms of pollution of bathing water from overflow of the combined sewer.	water. Increased heavy rainfall due to climate change is likely to increase the frequency of this. "Do nothing" will not address this. ClimatEvolution proposes a holistic surface water solution which aims to address this.	
Flood Risk Management (Scotland) Act 2009	Introduces a framework to reduce the adverse consequences of flooding; transposes EU Floods Directive; updates legislation on flooding; amends reservoirs legislation. Describes flood risk as the combination of the probability of a flood and of the potential adverse consequences, associated with a flood, for human health, the environment, cultural heritage and economic activity.	Some parts of this area are vulnerable to flooding, mainly from surface water. ClimatEvolution should avoid increasing flood risk and where possible reduce it.	"Do nothing": flood risk is likely to increase with climate changes. The ELLDP provides that development should not increase flood risk however will not address existing flood risk. SEPA and East Lothian Council are working to address flooding however progress is likely to be slow. In this area the aim is to maintain existing protection and avoid worsening the situation rather than physical improvements. ClimatEvolution proposes holistic surface water improvements that will address flooding.	
National Planning Framework 3	Vision includes reference to a Scotland where We live in high quality, vibrant and sustainable places with enough good quality homes. Our living environments foster better health and we have reduced spatial inequalities in well-being. Highlights the role of green networks, addressing vacant and derelict land and active travel as constituents to enhance health and wellbeing.	ClimatEvolution should aim to support the provision of vibrant places with good quality homes, reduce spatial inequalities, have regard to the role of green networks, including their role in providing active travel, and address vacant and derelict land.	ClimatEvolution supports Town Centres, and includes facilities which will provide local jobs; it proposes increasing the energy efficiency of homes; it provides for extensive green network improvements which will also support active travel. Directly and through provision of an attractive environment which should encourage investment, it supports re-use of the large vacant former Cockenzie Power Station site.	
Scottish Planning Policy 2014	Introduces a presumption in favour of development that contributes to sustainable development to be guided by a set of principles which include those relating to improving health and wellbeing. Highlights the role of planning	ClimatEvolution should aim to enhance health and well being. Green Networks, Sport and recreation are an important part of	ClimatEvolution aims to provide a healthy environment through increase provision for active travel, as well as improvements to green space within low SIMD areas.	

	in achieving opportunities to enhance health and wellbeing. SPP also seeks to maximise the benefits of green infrastructure: • To protect and enhance open space and multi-functional green networks; • To ensure a strategic approach to open space and other opportunities for sport and recreation by requiring local authorities to undertake an open space audit and prepare an open space strategy for their area; • To protect and support opportunities for sport and recreation; • To provide guidance on the quality and accessibility of open space in new developments and on providing for its long term maintenance and management; • To provide guidance on planning for development of new indoor and outdoor facilities for sport and recreation.	a healthy life and therefore areas for these activities should be protected and enhanced within ClimatEvolution.	It provides further facilities for water sports and explores the possibility of a Lido. There are links between air quality and health; see under 'Air'.	
PAN 65 Planning and Open Space (2008)	Provides advice on the role of the planning system in protecting and enhancing existing open spaces and providing high quality new spaces.	Landscape and Townscape: ClimatEvolution should enhance existing open space and provide high quality new spaces.		
Scottish Government Cleaner Air for Scotland Strategy (2015)	Strategy sets out how the Scottish Government and its partner organisations propose to achieve further reductions in air pollution and fulfil their	This area has higher levels of background PM10s and NOx than the Scottish average. Changes in traffic levels could affect local air quality. ClimatEvolution should	See under 'Air'	

	legal responsibilities. There are links between poor air quality and ill health.	avoid worsening air quality and increasing exposure to poor air quality.		
Review of Public Health in Scotland 2015	Identifies environmental factors (water, air and general environment) as a key determinant to health. Advocates addressing environmental determinants of health and health inequalities. Notes the importance of tackling poverty and inequalities given the clear links between social deprivation and poorer health outcomes. Priorities are inequalities, inactivity, nutrition, obesity and poor mental wellbeing, concurrent with the demography of an ageing population.	This area contains a concentration of the lowest SIMD datazones in East Lothian. There are also air and water quality issues in the area. ClimatEvolution should aim to improve environmental quality and reduce inequalities.	"Do nothing": the ELLDP allocates housing and employment sites in the area which if developed should have a positive effect on regeneration. Various ELC strategies aim to address inequalities and environmental quality, along with the Area Partnership Plans for the area. This will not tackle water quality issues or improve the CAT area. ClimatEvolution proposes actions which will increase physical activity, reduce inequalities by providing local employment and improving environmental quality.	
Equally Well	A public health strategy for Scotland with a focus on health inequalities. A key principle is reducing people's exposure to factors in the physical and social environment that cause stress, are damaging to health and wellbeing and lead to health inequalities. Recommends providing physical environments that allow for activity, and promote healthy weight, tackling poverty.	As above	As above	
Good Places Better Health	The Scottish Government's strategy on health and the environment. The approach recognises that the physical environment has a significant impact on the health of Scotland's people and that action is required to create health-nurturing environments for everyone	ClimatEvolution should aim to provide a health nurturing environment.		
Scotland's Environment Strategy	Includes outcome 'Our healthy Environment supports a fairer, healthier,	ClimatEvolution should ensure that the plan overall links into		

	more inclusive society" while another notes the importance of clean and healthy air. The strategy makes the link between human health and the health of the natural world.	areas of deprivation and is inclusive. The strategy should look for opportunities to improve air quality and avoid exposure of sensitive receptors to bad air quality. The strategy should recognise and look for nature based solutions to health issues.		
Public Health Priorities for Scotland, Cosla and The Scottish Government	Priority 1 A Scotland where we live in vibrant, healthy and safe places and communities: Priority 2 A Scotland where we flourish in our early years: Priority 3 A Scotland where we have good mental wellbeing Priority 4 A Scotland where we reduce the use of and harm from alcohol, tobacco and other drugs: Priority 5 A Scotland where we have a sustainable, inclusive economy with equality of outcomes for all: Priority 6 A Scotland where we eat well, have a healthy weight and are physically active			
Health and Social Care Delivery Plan (2016) – Scottish Government **East Lothian Integrated Joint Board Strategic Plan**	The Delivery Plan aims to promote and support healthier lives from the earliest years, reducing health inequalities and adopting an approach based on anticipation, prevention and self-management.	ClimatEvolution should support a health and social care system that is integrated; focuses on prevention, anticipation and supported self-management; makes day-care treatment the norm, where hospital treatment is required and cannot be provided in a community setting; ensures people get back into their home or community environment as soon as appropriate, with minimal risk of re-admission.	ClimatEvolution supports the aim of focussing on provision by aiming to provide an environment where people have access to exercise and contact with nature, which is good for both physical and mental health.	

Place Standard Tool	The Place Standard tool lets communities, public agencies, voluntary groups and others find those aspects of a place that need to be targeted to improve people's health, wellbeing and quality of life. It is promoted by the Scottish Government			
East Lothian Core Paths Plan (2010)	Core Paths Plans look to promote themes of: • green spaces • human health and well being • Accessibility • inclusion • biodiversity	ClimatEvolution should contribute towards improving the health and well being of East Lothian by promoting core paths and accessibility to the countryside and green spaces. Built development should have an awareness of Core Path routes and not undermine them or affect their quality.		
Central Scotland Green Network **Vision for Central Scotland and Action Plan**	The Central Scotland Green Network aims to make a step change to environmental quality across central Scotland through five themes: • A place for growth: creating and environment for sustainable economic growth • A Place in Balance: creating an environment more in balance, to thrive in a changing climate • A Place to feel good: creating an environment which supports health lifestyles and well-being • A Place to Belong: creating an environment that people can enjoy and where they choose to live	ClimatEvolution should contribute towards delivering the aims of the Central Scotland Green Network through creating an environment for business to invest, providing attractive green space and including space for nature.	"Do nothing": The ELLDP provides that developers should contribute to the green network where relevant. The Green Network Strategy SPG sets out how this is planned to be done. ClimatEvolution will implement some of the Tasks of the Green Network Strategy	

	• A Place for Nature: creating an environment where nature can flourish			
Strategic Noise Action Plan for the Edinburgh Agglomeration (2014)	This plan is one in a suite of six draft noise action plans produced under the terms of the Environmental Noise Directive (END). The three main objectives of the Directive are as follows: • To determine the noise exposure of the population through noise mapping • To make information available on environmental noise to the public To establish Action Plans based on the mapping results, to reduce noise levels where necessary, and to preserve environmental noise quality where it is good	ClimatEvolution should not add to noise levels and seek to preserve noise quality where it is good.		
East Lothian's Green Network Strategy SPG	The Strategy takes the five themes of the CSGN and applies them to the East Lothian context. The ELC Green Network Strategy identifies action in this geographical area as a priority. The Strategy recognises the role of the Green Network in health and includes among other things, action to improve the core paths, increase trees and plants in towns, and provide multifunctional open space.	ClimatEvolution should accord with the strategy set out in the Green Network SPG in providing for a healthy environment including considering improvements to urban areas and strengthening the active travel network.	Do nothing": The ELLDP provides that developers should contribute to the green network where relevant. The Green Network Strategy SPG sets out how this is planned to be done. ClimatEvolution will implement some of the Tasks of the Green Network Strategy. It goes beyond the aims of the Strategy in provision of attractors and significant blue and green infrastructure.	
East Lothian Open Space Strategy 2018	Set out East Lothian's approach to planning for and maintaining the quantity, quality and accessibility of open space within the area. The related audit shows where there are shortfalls in quantity or quality of open space.	ClimatEvolution should have regard to the findings of the Open Space audit, and if applicable follow the standards in the Open Space strategy.		

East Lothian Play Policy	Aim: All children and young people will have access to a range of opportunities to play in East Lothian's built and natural environment and their right to play will be recognised and supported by adults. Principles include that adults should positively promote and support children and young people's right to play.	ClimatEvolution should consider how play could be incorporated into the strategy.	ClimatEvolution recognises the need to address play (para 4.4.4.). It provides for a Paths for All strategy which recognises that a lot of play takes place moving from one place to another, and that leisure routes should take the opportunity to incorporate playfulness. The Water Sports facility also enables both formal and informal play.	
WATER				
The Marine (Scotland) Act (2010)	The Marine (Scotland) Act provides a framework which will help balance competing demands on Scotland's seas. It introduces a duty to protect and enhance the marine environment and includes measures to help boost economic investment and growth in areas such as marine renewables	ClimatEvolution should avoid adverse impact on the marine environment.		
Water Environment and Water Services (Scotland) Act 2003 **And** Water Environment and Water Services (Scotland) Act 2003 (Designation of Scotland River Basin District) Order 2003	Ensures that all human activity that can have a harmful impact on water is controlled.	Water Status: ClimatEvolution should follow all appropriate guidance and legislation.		
Flood Risk Management (Scotland) Act 2009	The Scottish Ministers, SEPA and responsible authorities must exercise their flood risk related functions with a view to reducing overall flood risk through: promotion of sustainable flood risk management, acting with a view to raising public awareness of flood risk, and acting in the way best calculated to contribute to the achievement of sustainable development.	Water Status: flood risk management across Scotland is important; ClimatEvolution should not create flood risk and should actively promote sustainable flood risk management.		

Scottish Planning Policy: managing Flood Risk and Drainage **(para 254-268)**	The planning system should take a precautionary approach to flood risk from all sources – surface, water course, coastal, ground, sewer. It should safeguard functional floodplains and conveying capacity, and avoid increasing flood risk.	Water Status: ClimatEvolution should not contribute towards or create flood risks within East Lothian. Use of impermeable surfaces should be minimised.		
East Lothian LDP SFRA (2018)	Sets out the approach to strategic flood risk management within the East Lothian Local Development Plan 2018, including the identification of where floor Risk Assessment will be needed for sites.	ClimatEvolution will need to follow the ELLDP2018 Strategic Flood Risk Assessment as appropriate.		
The river basin management plan for the Scotland river basin district 2015 - 2027	• Identifying areas of the water environment for protection and improvement • Identifying where current or historic activities are • constraining the quality of the water environment and the biodiversity it supports Details the actions required to ensure waters of special value (e.g. drinking, biodiversity, shellfish, bathing) are up to standard and maintain the quality where they already meet economic regeneration of settlements whose livelihoods is dependent on coastal or marine activities and features.	Water Status: ClimatEvolution Proposals should prevent deterioration and enhance the status of the water environment; promote sustainable water use; reduce pollution; and contribute to the mitigation of floods and droughts		
Flood Risk: Planning Advice **(updated 2015)**	Supports and integrated approach to Flood Risk Management. Recognises desirability of avoiding new development in areas of flood risk but also that it may sometimes not be possible.			

SEPA Statement on the Culverting of Watercourses (2015)	SEPA's policy sets out the environmental issues associated with culverting and presents a consistent and pragmatic approach to this aspect of river engineering.	Water Status: ClimatEvolution should take account of the environmental issues associated with culverting.		
Forth Estuary Flood Risk Management Plan	Sets out the agreed goals or objectives of local flood risk management; and the specific actions that will deliver these actions over the short to long term. Actions in this area (10/23) include a Flood protection study, strategic mapping and modelling, maintenance of flood protection and flood warning, self help, awareness raising and use of planning policies.	ClimatEvolution should take into account the flood protection study and need to maintain flood defences.	Under Do Nothing, there will be increased understanding of flooding in the area and maintainance of flood protection. Planning policies will operate to avoid further flood risk. With ClimatEvolution, in addition to the above a holistic solution to surface water management involving planting and naturalisation of water courses will be promoted, which will achieve multiple benefits.	
SEPA Scotland's National Water Scarcity Plan	The water scarcity plan sets out how water resources will be managed prior to and during periods of prolonged dry weather. This is to ensure the correct balance is struck between protecting the environment and providing resource for human and economic activity.	ClimatEvolution will need to take account of the National Water Scarcity Plan.		
Better Bathing Waters , Scottish Government	Regulations provide that waters that are popular for bathing are given special protection to ensure they are safe for people to swim in. The strategy sets out how it will meet water quality standards, ensure public participation in decisions and provide information on bathing water.	There are two bathing waters which could be affected by development in this area. ClimatEvolution should support the water quality of these waters and consider supporting provision of information.	Meeting bathing water standards is required by legislation. ClimatEvolution will help ensure this is achieved through holistic surface water management.	
East Lothian Green Network Strategy SPG	The strategy aims to adapt to climate change by reducing flooding, and by providing adaptive environments.			

SOIL				
Scottish Planning Policy (2014)	Contains a presumption in favour of development that contributes to sustainable development, protection of soils from damage such as erosion or compaction and consideration of the implications of development for soil quality and effects on carbon dioxide emissions.	ClimatEvolution should maintain soil quality including avoiding impacts of erosion, sealing or compaction, and take into account the effects on carbon dioxide emissions of changes to soil through built development, changes to water management and planting.		
National Planning Framework 3	Recognises land is Scotland's principal asset, and notes that our most productive soils extend down the East Coast. Natural assets should be respected, enhanced, and made responsible use of.	ClimatEvolution should take into account the productive nature of prime agricultural land in this area and seek to enhance and make responsible use of it.	ClimatEvolution proposes a kitchen garden linked to a training hotel, which will make use of the productive soils here. The Climate Resilient Planting plan also notes this should take into account diversification of food production to supply local needs. However, some other proposals will lead to loss of agricultural land.	
PAN 33 Development of Contaminated Land (Revised Oct 2000)	Document provides advice with regards to the development of contaminated land, which any developments will need to adhere to.	Soil: ClimatEvolution should follow this guidance on development in areas of contaminated land if any.		
The Contaminated Land (Scotland) Regulations (2005) And Statutory Guidance Edition 2	Details activities that are prohibited to prevent the contamination of land and watercourses.	Soil: ClimatEvolution should not conflict with these regulations.		
Scottish Soil Framework (2009)	The main aim of the Framework is to promote the sustainable management and protection of soils consistent with the economic, social and environmental needs of Scotland. Activities identified for focus include: • soil organic matter stock protected • soil erosion reduced	Soil: ClimatEvolution should promote the sustainable management of soils, including consideration of erosion, greenhouse gas emissions from soil, biodiversity in soil and its use as agricultural land. ClimatEvolution should investigate ways of conserving or enhancing	ClimatEvolution proposes land use change, with some agricultural and being used for green and blue infrastructure. ClimatEvolution mentions historical farming techniques in relation to soil and the need for a soil study to identify climate resilient planting. However ClimatEvolution might benefit from a clearer focus on soil to draw out the risks and opportunities here.	?

	• greenhouse gas emission from soils reduced • soil's capacity to adapt to changing climate enhanced • soil biodiversity as well as above ground biodiversity • protected soils making a positive contribution to sustainable flood management	soil quality. It should prioritise locations for new development which reuse previously developed land and buildings, and minimise the loss of greenfield and prime quality agricultural land.	See overall assessment of Soil, above.	
Getting the best from our land: A Land Use Strategy for Scotland 2016 – 2021	The second Land Use Strategy, retains the long term vision and objectives relating to the economy, environment and communities, and the principles for sustainable land use set out in the first strategy to guide policy and decision making. Where land is highly suitable for a primary use (for example food production, flood management, water catchment management and carbon storage) this value should be recognised in decision making	The ClimatEvolution should consider the different qualities the land within the zone has and if it is highly suitable for particular use. Some parts of this zone are very suitable for more than one use, in particular agricultural land, economic development and water management. The tensions between uses need to be considered.	The ELLDP protects some of this land to provide a setting for development, receation and biodiversity through designation as CAT or Green Belt. The Cockenzie Masterplanning process has considered the assets of that site and how to make best use of them. ClimatEvolution considers the potential of the zone for economic development, biodiversity, providing a setting for new development and water management. However it also is particularly suited to agricultural production.	?
East Lothian Contaminated Land Strategy	ELC Strategy for inspection of land to identify contaminated land based on the source-receptor-pathway model with a bias towards protection of public health and enhancing the well-being of communities. The Strategy aims to support economic development through the provision of attractive sites and the re-use of brownfield land.	ClimatEvolution will need to take account of the strategy. The strategy must recognise that a developmer must ensure that any risks associated with contamination are mitigated to a level that is suitable for the intended new use of the land.		
East Lothian Climate Change Strategy 2020 - 2025	The Climate Change strategy seeks primarily to mitigate and adapt to climate change. The Strategy recognises the role of soil in absorbing rainfall, helping to avoid flooding. It notes that	ClimatEvolution should recognise the role of soil in preventing flooding, and aim to avoid loss of topsoil.		

	the next Local Development Plan will evaluate development location to avoid loss of topsoil.			
AIR				
Clean Air Programme for Europe (2013)	Includes measures to ensure that existing ambient air quality targets are met by 2020 and new air quality objectives set to reduce emissions by 2030.			
Air quality plan for nitrogen dioxide (NO2) in UK (2017) Air Quality Plan for tackling roadside nitrogen dioxide concentrations in Edinburgh Urban Area (UK0025)	Statutory air quality plan for nitrogen dioxide (NO_2), setting out how the UK will be reducing roadside nitrogen dioxide concentrations. Implemented locally by the Edinburgh Urban Area plan; measures include promoting park and ride, walking and cycling, electric charging of vehicles to support modal shift targets.	ClimatEvolution should support actions taken and planned to reduce NO2.	Action will be taken under the East Lothian Active Travel Improvement Plan, and improvements to rail infrastructure is planned through the Local Transport Strategy and ELLDP. Some improvement is likely. ClimatEvolution includes positive measures including additional active travel infrastructure and public transport hubs which will support achievement of the objectives.	
Clean Air Strategy 2019 **(UK)** **and** Scottish Government Cleaner Air for Scotland Strategy (2015) **(Air quality targets are set at a UK level however air quality is largely a devolved matter)**	The Clean Air Strategy 2019 sets out the air quality strategy for the UK with objectives and targets, and notes that the UK government will work closely with devolved administrations. The Strategy is implemented by the Cleaner Air for Scotland Strategy. Actions include: reducing peak levels of air pollutants especially in local communities: driving down background levels of preventable air pollution; behaviour change in relation to transport; reducing transport emissions by supporting the uptake of low and zero emission fuels and technologies, and supporting modal shift towards low	Air Quality: ClimatEvolution should contribute to reduction in local and background air pollution through behaviour change in relation to transport, reducing transport emissions through supporting e.g. electric cars and reducing the need to travel. It should use placemaking to reduce exposure to pollutants through location of development and use of green infrastructure Promotion of renewable energy	The comments immediately above apply. The ELLDP includes policy to avoid worsening air quality in the AQMA and to encourage installation of electric charging points. ClimatEvolution includes green infrastructure along travel routes which will reduce exposure to pollutants. It includes electric bike and car charging facilities at Gateway hubs. The linkage of gateway hubs with active travel addresses the 'last mile' although for visitors rather than deliveries. The National Climate Resilience centre could include educational resource to promote behavioural change. It promotes improvement of greenspace and additional planting including along road corridors	

	emission modes and active travel; reducing the need to travel through spatial planning and digital technologies; using intelligent traffic system management to use assets efficiently; consider workplace car parking levies with ULEV exemptions; reviewing speed limits for air quality; look into 'last mile' logistics; Placemaking: integrate greenspace into new and existing development to act as a buffer against noise and air emissions; plan for active travel; Climate change; energy efficiency, renewable energy, low emission fuels; public engagement		to act as a buffer between sources of emissions and development.	
Local Air Quality Management Guidance, 2016 **(Part of the Environmental Act 1995)**	Sets out duties requiring local authorities to review and assess air quality in their area from time to time, the reviews forming the cornerstone of the system of local air quality management.	Air Quality: sets out requirements to reduce air pollution which ClimatEvolution should contribute to. Human Health and Safety: looks to maintain and improve air quality for the benefit of human health to which ClimatEvolution should make a contribution.	ClimatEvolution promotes increased use of public transport and active travel. There may be some increased travel by private vehicle to attractors (the Western hub has space for car parking) and some of these may come through Musselburgh. This could adversely affect its air quality however it is not clear what the overall balance would be.	?
Musselburgh Air Quality Management Plan	Sets out actions to tackle NOx in Musselburgh. As well as coordination with the ELLDP and LTS actions include enforcement against idling; SCOOT signalling changes and SUSTRANS active travel study; awareness campaign on the impact of emissions; bus stop relocation; promotion of green travel plans; electrification of buses; longer trains and platforms at Musselburgh station	ClimatEvolution should support the aims of the Musselburgh Air Quality Management plan including through promoting active or public transport to the area from Edinburgh; requiring Green Travel Plans of the major attractors and employers; projects should contributing as shown in the Developer Contributions framework to rail improvements	ClimatEvolution promotes increased use of public transport and active travel. There may be some increased travel by private vehicle to attractors (the Western hub has space for car parking) and some of these may come through Musselburgh. This could adversely affect its air quality however it is not clear what the overall balance would be.	?

CLIMATIC FACTORS				
Climate Change (Scotland) Act 2009	Act to: • set a target for the year 2050, an interim target for the year 2030, and to provide for annual targets, for the reduction of greenhouse gas emissions; • to provide about the giving of advice to the Scottish Ministers relating to climate change; • to confer power on Ministers to impose climate change duties on public bodies; • to make further provision about mitigation of and adaptation to climate change; • to make provision about energy efficiency; • to make provision about the reduction and recycling of waste	Climatic Change and Air Quality: reduction in greenhouse gas emissions through target setting and implementation of measures to improve energy efficiency and consider the treatment of waste following the waste heirarchy. ClimatEvolution should promote and contribute towards the targets set by the bill. ClimatEvolution should also allow the Council to adhere to the public body duties in Section 4 of the Act. This means exercising functions: in the best way calculated to contribute to delivery of the Act's emission reduction targets, deliver any statutory adaptation programme; and in the most sustainable way.		
Climate Change (Emissions Reduction Targets) (Scotland) Act 2019	Act of the Scottish Parliament to amend the Climate Change (Scotland) Act 2009. The Act set new targets for the reduction of greenhouse gases emissions of net zero by 2045 with an interim target of 75% by 2030; required Scottish Ministers to prepare a Climate Change plan; and embedded the 'just transition' i.e. reducing emissions in a way which tackles inequality and promotes fair work.	ClimatEvolution must take account of the targets set in the Act, aiming to reduce greenhouse gas emissions, and recognise that these should be achieved in a way that reduces inequality and promotes fair work.	The aim of ClimatEvolution is to mitigate and adapt to climate change through actions such as improved travel and biodiversity improvements. There may be some initial emissions through construction and landuse change, as well as transport of visitors however overall the effect should be positive. The Strategy also includes training for work in sustainable construction so supporting the Just Transition in supporting workers to re-train.	
The Environment Strategy for Scotland: Vision and Outcomes	Strongly links the crisis in climate and nature, and seeks nature based solutions			

	to climate mitigation and adaptation. The vision is for "One Earth. One home. One shared future. By 2045: By restoring nature and ending Scotland's contribution to climate change, our country is transformed for the better - helping to secure the wellbeing of our people and planet for generations to come." The strategy states that in Scotland we will play our full part in responding to the global climate crisis.			
Scottish Planning Policy (2014) **Climate change issues and Promoting Sustainable Transport and Active Travel section (para 269-291)**	Shares the Outcome 2 for the planning system, "A low carbon place" with NPF3. SPP sets out how the Climate Change Act targets will be delivered on the ground and notes that by seizing opportunities to encourage mitigation and adaptation measures, planning can support the transformational changes required. Notes that development plans should seek to ensure an area's full potential for electricity and heat from renewable sources is achieved (paying heed to environmental factors). Provides support for heat networks, heat recovery and heat mapping. Plans should include policies for protecting and enhancing woodlands and their resilience to climate change. Planning can reduce vulnerability to flooding. Also notes the role of planning in influencing patterns of production and consumption in order to contribute to a low carbon future. In transport, the national focus is on improving connectivity and	Climatic Change (and Air Quality): ClimatEvolution should take account of the potential for using the resources of the area for providing renewable heat. It should consider the potential for renewable energy generation in the area and promote low and zero carbon development. It should aim to promote climate resilience woodland, and plan to reduce vulnerability to flooding.		

	promoting more sustainable patterns of transport and travel.			
National Planning Framework 3	Vision includes reference to achieving economic growth whilst reducing emissions. Outcomes include making Scotland a low carbon place and reducing carbon emissions. Includes reference to role of energy and heat generation, industry, transport.	ClimatEvolultion should aim to mitigate climate change to help make Scotland a low carbon place.		
Climate Change Plan (2018-2032)(3rd Report)	Sets out the Scottish Government's decarbonisations plans to 2032.	ClimatEvolution will need to take account of the Climate Change Plan and avoid proposals which undermine it. This will require both the proposals themselves and their potential for traffic generation to be considered.		
The future of energy in Scotland: Scottish Energy Strategy (2017)	The strategy vision is a flourishing, competitive local and national energy sector, delivering secure, affordable, clean energy for Scotland's households, communities and businesses.	ClimatEvolution will need to complement the national strategy as embedded within lower level plans and strategies.		
Scotland's Energy Efficiency Programme (SEEP) and Heat Policy Statement	Aims to improve energy efficiency in homes, non-domestic buildings and across Scotland. Sets out goal of decarbonising heat. The Heat Policy Statement sets out policy for how we use, distribute and generate heat, with an ambition of achieving 1.5TWh of Scotland's heat demand to be delivered by district or communal heating by 2020.	ClimatEvolution should support the aims of this strategy by seeking opportunities for sustainable heat, and promoting energy efficiency.	ClimatEvolution proposes development of geothermal heat energy to be used in housing and attractors. It also promotes energy efficiency improvements to housing.	

Climate Ready Scotland: climate change adaptation programme 2019-2024	Scottish Government's statutory five year programme for adapting to climate change. It sets out the Scottish Government's policies and proposals for the next five years to increase the capacity of Scotland's people, communities, businesses and public sector to adapt to climate change. Outcomes include Outcome 1, that communities are inclusive, empowered, resilient and safe in response to changing climate; Outcome 2: the people in Scotland who are most vulnerable to climate change are able to adapt and climate justice is embedded in policy;Outcome 4: Our society's supporting systems are resilient Outcome 5: Our natural environment is valued, enjoyed, protected and enhance and has increased resilience to climate change	ClimatEvolution should look for opportunities to adapt to climate change including adapting to flooding, adapting infrastructure and providing a suitable 'human habitat' for predicted climatic conditions. ClimatEvolution should make sure that communities are resilient to climate change and that the burden of adaptation to climate change does not fall on the most vulnerable and benefits are fairly distributed.	Under 'do nothing' and the policies of the ELLDP communities are protected from an increase in flood risk. The Forth Estuary Local Flood Risk Management Plan sets out actions to reduce the risk of flooding. ClimatEvolution proposes re-naturalising watercourses which is adaptive to climate change. Increasing planting and green infrastructure also allows people to seek shade and shelter outdoors. Climate resilient planting will help make landscaping more resilient.	
East Lothian Climate Change strategy	The strategy aims: To engage, support and work with all relevant agencies, partners and communities to reduce Council services to net zero by 2045; To set out a coordinated approach, framework, outcomes, priorities and action plan for the implementation of climate change mitigation and adaptation across East Lothian; To contribute to the development of a sustainable, resource efficient and equitable East Lothian, with a thriving low carbon economy, a healthy and	Landuse change should allow for mitigation of climate change including through woodland planting		

	diverse natural environment, and flourishing low carbon communities that are resilient to the effects of future climate change; To prepare our communities for the impacts of climate change, and adapt to future predicted changes in our climate locally.			
East Lothian Green Network Strategy SPG	The Strategy aims to help people make choices which have less climate impact and mitigate climate change through landuse.			
Scotland's National Transport Strategy 2 (2020)	The vision is for a sustainable, inclusive, safe and accessible transport system, where people choose walking and cycling or public transport over other modes and where businesses make sustainable choices to support the reliable delivery of goods and services.	Material Assets: ClimatEvolution should seek to integrate with the aims of the National Transport Strategy. Impacts on national road and rail infrastructure are Scoped out.		
Strategic Transport Projects Review (STPR) (2008) **STPR2 (expected in 2020)**	Strategic Transport Projects Review complements the National Transport Review and seeks to: • improve journey times and connections – to tackle congestion and the lack of integration and connections in transport which impact on our high level objectives for economic growth, social inclusion, integration and safety • reducing emissions – to tackle the issues of climate change, air quality and health improvement which impact on our high level objective	Material Assets: ClimatEvolution should seek to integrate with the aims of the Strategic Transport Projects Review Population & Human Heath: ClimatEvolution should support the Strategic Transport Projects Review interventions aimed at reducing congestion, emissions etc and improving human health. Climatic Factors and Air Quality: ClimatEvolution should support the Strategic Transport Projects Review interventions aimed at		

	for protecting the environment and improving health, and • improving quality, accessibility and affordability – to give people a choice of public transport, where availability means better quality transport services and value for money or an alternative to the car	reducing congestion, emissions etc such as tackling issues of climate change and the availability of better forms of public transport to reduce dependency on cars.		
SESTRAN Regional Transport Strategy (refreshed 2018) **(2008-2023)**	• to ensure that development is achieved in an • environmentally sustainable manner: reducing greenhouse gas emissions and other pollutants and enabling sustainable travel/ reduce car dependency • to promote a healthier and more active SEStran area population	Climatic factors: ClimatEvolution should contribute to ensuring that development is achieved in an environmentally sustainable manner, reducing greenhouse gas emissions, and reducing air pollutants and thus also improving air quality Human Health: ClimatEvolution should promote a healthier and more active population		
PAN 75 Planning for Transport	PAN 75 accompanies SPP and aims to create greater awareness of how linkages between planning and transport can be managed. It highlights the roles of different bodies and professions in the process and points to other sources of information.	ClimatEvolution should plan land use in a manner which assists in reducing the need to travel and contributes to sustainable transport nodes		
East Lothian Local Transport Strategy 2018 and daughter documents	The Strategy has been developed around five main themes reflected in four action plans: Active Travel Improvement Plan (ATIP); Parking Management Strategy (PMS); Roads Asset Management Plan (RAMP); Road Safety Plan (RSP).	ClimatEvolution will need to ensure proposals comply with the Local Transport Strategy and its Action Plans, including in relation to air quality, reducing congestion, improving connectivity and use of public transport, encouraging		

		active lifestyles, improving integration etc.		
MATERIAL ASSETS				
Scottish Planning Policy 2014 **Planning for Zero Waste (para 175-192)** **Promoting Responsible Extraction of Resources (para 234-248)**	Contains a presumption in favour of development that contributes to sustainable development including reducing waste, facilitating its management and promoting resource recovery. Resource efficiency is included as one of the six qualities of a successful place with reference to natural resources, climatic factors, flooding, heat and waste management. Supports planning for zero waste, promotes minimising use of primary materials and the efficient use of secondary materials, and promotes sustainable management of waste and resource recovery. Scottish Planning Policy (SPP) sets out the national planning policy framework for minerals, including the working of opencast coal. [Heat resources see 'Climatic factors' above, land in relation to flooding, see 'Water']	ClimatEvolution should aim to take plans for zero waste and the waste hierarchy into account. It should plan land use in a manner which assists in reducing the need to travel and contributes to sustainable transport modes.	ClimatEvolution recognises that waste is an issue for climate emissions but does not address it as a resource. The National Climate Resilience Centre will showcase the best in sustainable architecture which is likely to include whole life consideration. The Centre for Excellence in contruction is also like to support circular economy. Use of waste as a resource is not explored, although the proposal includes the Macmarry Civic Amenity site Kinegar Waste Transfer Station.	
Scotland's Infrastructure Investment Plan **Progress Report 2019-20** **Scottish Government's Infrastructure Commission for Scotland's Blueprint for Scotland**	Sets out why, how and what strategic, large scale investments the Scottish Government intends to take forward over the next 20 years for transport, education, health, water, waste management, sports, business, flood prevention and regeneration. The principles underlying investment include delivering sustainable economic			

	growth through increasing competitiveness and tackling inequality; managing the transition to a more resource efficient, lower carbon economy; and supporting employment and opportunity across Scotland. The progress report notes the next Infrastructure Plan will focus on Inclusive Economic Growth, the Climate Emergency and Building Sustainable Places. The Blueprint considers that the definition of infrastructure should be expanded to include natural infrastructure.			
Making Things Last: A Circular Economy Strategy for Scotland	Aims to increase the circularity of Scotland's economy with a focus on food and drink, remanufacture, construction and the built environment, and energy infrastructure	ClimatEvolution should look for opportunities to promote the circular economy through its projects.	ClimatEvolution does not explicitly recognise the circular economy, but does provide for a Centre for Excellence in construction, which could promote this, and the kitchen garden for the training hotel, which could consider food and foodwaste. The Low Carbon Food Strategy proposed would be expected to address this.	
Getting The Best From Our Land: A Land Use Strategy For Scotland 2016 - 2021	Sets out Scotland's approach to land as a resources, with principles including that where land is highly suitable for a primary use (for example food production, flood management, water catchment management and carbon storage) this value should be recognised in decision making.			
Zero Waste Plan (2010)	The aims of the Zero Waste Plan are to create a stable framework that will provide confidence for the investment necessary to deliver a zero waste Scotland over the next 10 years by minimizing Scotland's demand on	Material Assets: ClimatEvolution should support measures to improve resource efficiency and implement zero waste objectives in East Lothian.		

	primary resources, and maximizing the reuse, recycling and recovery of resources instead of treating them as waste.			
Scottish Water Delivery Plan 2015 – 2021 and Delivery Update 2019	Sets out Scottish Waters priorities for delivery of drinking water and waste water network.	ClimatEvolution should avoid adverse impacts on Scottish Water infrastructure		
25 Year Water Resource Plan (2015) Scottish Water	Scottish Water sets out its strategy to ensure that all customers have a secure supply of clear, fresh, safe drinking water to 2031/32 and beyond. The key environment challenges for Scottish water is to adapt to pressures on water resources due to climate change and environmental constraints.	ClimatEvolution should avoid adverse impacts on Scottish Water infrastructure		
CULTURAL HERITAGE (INCLUDING ARCHITECTURAL AND ARCHAEOLOGICAL HERITAGE)				
Historic Environment (Scotland) Act 2014	Set up Historic Environment Scotland and amended previous legislation on elements of the historic environment.	ClimatEvolution should be aware of legislation regarding changes and harm to listed buildings and Scheduled monuments.		
Historic Environment Policy for Scotland (2019)	Contains policy for managing the historic environment including that decisions affecting any part of the historic environment should be informed by an inclusive understanding of its breadth and cultural significance; that its understanding and enjoyment as well as preservation are secured; that unavoidable detrimental impacts should be minimised; that opportunities for enhancement should be identified; and that decisions on it should contribute to sustainable development of	ClimatEvolution should seek to protect and enhance the historic environment based on an inclusive understanding of it, and with regard to intangible as well as tangible heritage. It should minimise any unavoidable impacts.		

	communities and places; be informed by an inclusive understanding of the potential consequences for people and communities. It highlights intangible heritage as an underdeveloped area.			
Scottish Planning Policy: Valuing the Historic Environment (para 135-151)	The historic environment is a vital contribution to Scotland's cultural heritage and contributes to our understanding of the past and present. The conservation of the historic environment should be carefully integrated with other policies to ensure its survival.	Cultural Heritage: ClimatEvolution should impact as little as possible on the historic environment. ClimatEvolution should outline the strategic importance of the historic environment as a resource in its own right and as a driver for sustainable economic development and regeneration. ClimatEvolution should be informed by considerations including the character of settlements and areas of countryside as well as individual historic assets, and look to accommodate development in a way that enhances their historic value.		
PAN 2/2011: Planning and Archaeology	Sets out the considerations in determining the importance of archaeology and recommends seeking professional advice when this issue arises.	There may be unknown archaeology and undesignated remains in this area as well as designated assets, and ClimatEvolution should take these into account relative to their importance, informed by professional opinion.		
Our Place in Time: The Historic Environment Strategy for Scotland	Sets out a vision for the historic environment, including understanding it by investigating and recording;	ClimatEvolution should seek to support these aims		

	protecting it by caring and protecting; valuing by sharing and celebrating. It expects these aims to be delivered by collaborative working through a range of bodies and individuals and other plan policies and strategies.			
Managing Change in the Historic Environment: Guidance Notes	A range of guidance notes that set out the principles that apply to developments of different types that affect the historic environment. They should inform planning policies and the determination of applications	ClimatEvolution should seek to reflect these guidance notes.		
LANDSCAPE				
European Landscape Convention	The aim of the convention is to promote landscape protection, management and planning, and to organise European cooperation on landscape issues. To be achieved by: • recognising landscapes in law as an essential component of people's surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity • establishing and implementing landscape policies aimed at landscape protection, management and planning through the adoption of the specific measures set out in Article 6 • establishing procedures for the participation of the general public, local and regional authorities, and other parties with an interest in the	Landscape and Townscape: ClimatEvolution should support the articles of the European Convention on Landscape in particular noting the 'all landscapes' approach.		

	definition and implementation of landscape policies • integrating landscape into regional and town planning policies and in cultural, environmental, agricultural, social and economic policies, as well as in any other policies with possible direct or indirect impact on landscape In addition member parties should adhere to Article 6- Specific Measures which includes: awareness raising, training and education, identification and assessment.			
Creating Places (2013)	Policy statement sets out the overarching policy on design including architecture and place. The document contains an action plan that sets out the work that will be taken forward to achieve positive change.	ClimatEvolution should seek to create a sense of place through good planning and design.	ClimatEvolution seeks to provide a coherent vision of place for existing and future residents.	
Scottish Planning Policy: Placemaking (para 36-57) **Green Belts (para 49-52)**	The SPP sets out the national planning policy framework for creating better places, using a design-led approach. Key objectives of green belt policy are: • To direct planned growth to the most appropriate locations and support regeneration; • To protect and enhance the character, landscape setting and identity of towns and cities; and To protect and give access to open space within and around towns and cities, as part of the wider structure of green space	ClimatEvolution should reflect national policy on placemaking. ClimatEvolution should safeguard designated green belts within East Lothian.		

Pan 52 Planning in Small Towns (1997)	Identifying factors which threaten the important legacy of small towns: • Providing for regeneration and expansion • Enabling lively, active and vibrant town centres within small towns Enabling efficient and effective transport to support economic growth and accessibility	ClimatEvolution should seek to enhance the vitality of existing town centres.	ClimatEvolution aims to provide 'oasis' areas in town centres, as well as improvements to shop fronts and street design, a derelict building strategy and community led change. This will improve the vitality of town centres and is intended to be regenerative. This will also support work done by the Area Partnerships.	
Green Infrastructure: design and place-making - Scottish Government	Provides an overview of the policy context for green infrastructure and sets out design issues and techniques for integration into place-making	ClimatEvolution should take account of the good practice shown in this guidance where relevant.		
East Lothian Design Standards for New Housing Areas Supplementary Planning Guidance (in preparation)	Extension of national policy on place-making and design.	ClimatEvolution should follow this guidance once in place where relevant.		
Natural Heritage Futures and Update SNH	Produced as a non-proscriptive visionary document describing the regional distinctiveness of the Eastern Lowlands and looking at what they could become in the future.			
People, Place and Landscape – Joint Position Statement by SNH and HES	The vision is that "All Scotland's landscapes are vibrant and resilient. They realise their potential to inspire and benefit everyone. They are positively managed as a vital asset in tackling climate change. They continue to provide a strong sense of place and identity, connecting the past with the present and people with nature, and fostering wellbeing and prosperity."		There will be consultation on ClimatEvolution to allow communities to have their views taken into account.	

	Actions include engaging people in decisions about landscape, strengthening the role of landscape in planning			
Scottish Landscape Character Types and Descriptions (SNH)	The aim of Landscape Character Assessments is to classify landscape within certain areas, to identify the forces for change which may affect their distinctive character, give guidelines for conservation/enhancement of the different types of landscape and to find opportunities for landscape conservation, restoration or enhancement	Landscape and Townscape: LDP should seek to support conservation and enhancement of different types of landscape in East Lothian.		
Scottish Living Landscapes Places for People – Report to Scottish Ministers 2007				
Edinburgh Greenbelt Landscape Character Assessment (2008) (Report to SESPLAN)	Detailed report on Green Belt issues using landscape character assessment to identify what is needed to protect the landscape setting of towns and avoid inappropriate development.			
Fitting Landscapes – Transport Scotland	Transport Scotland policy on the landsdcape design and management of our transport corridors. It aims for them to be designed and managed not only to meet their functional objectives but also to fit with the landscape through which they pass - reflecting local distinctiveness, conserving and enhancing areas of high quality or, where appropriate, creating a positive contrast to the natural setting.	ClimatEvolution should take account of the design and management objectives of this policy as they apply to the A1 and East Coast Main line railway in particular.		

East Lothian's Special Landscape Areas SPG **(2018)**	This SPG describes the Lansdcape Character Areas of East Lothian, with guidance on how their character can be strengthened. It provides Statements of Importance for each of the Special Landscape Areas designated in the ELLDP, including the qualities and features which led to their designation, guidelines for development and management recommendations.	Landscape: ClimatEvolution should seek to reinforce the landscape character of the different areas of East Lothian, and avoid harm to Special Lansdcape Areas, in line with this guidance.	See main assessment under 'Landscape'. ClimatEvolution aims to improve the landscape setting of the area. Details of the planting plan, and some particular projects, will require to be assessed at project stage to make sure that this is achieved.	
East Lothian Green Network Strategy SPG	The Strategy supports the aims of the Economic Development Strategy by aiming to provide a high quality landscape and recreational setting.		Climate Evolution will alter the landscape setting of existing and new settlement in the area. This aims to improve the landscape setting. The details will require to be assessed at project level.	
OVERARCHING				
National Planning Framework 3 **and and** SPP **(2014)**	Set out the national planning framework and the main purpose and tasks for land use planning, development planning and control for Scotland.	All: underpins the development and implementation of ClimatEvolution	Overall ClimatEvolution conforms to SPP and NPF3 by strengthening the Green Network, and providing sustainable locations for employment. There are some areas where objectives are not met in full including the loss of agricultural land.	
East Lothian Council Plan 2017-2022	The East Lothian Council Plan 2017-2022 sets a vision for an even more prosperous, safe and sustainable East Lothian, with a dynamic and thriving economy, that enables our people and communities to flourish The 2017-2022 Objectives and Strategic Goals: Reducing Inequalities: Growing our Economy; Growing our People; Growing our Communities; Growing our Capacity.	ClimatEvolution should contribute to delivering the Council Plan.	ClimatEvolution improves the environment around East Lothian's more deprived areas. This reduces inequalities. It also provides for employment in a sustainable location, and provides for active recreation close to where people live.	
East Lothian Local Development Plan 2018	Sets out the spatial strategy for the use and development of land within the area, and includes an associated	ClimatEvolution should conform to the development plan.	ClimatEvolution conforms to the development plan by providing for recreation and biodiversity in the Countryside Around Towns area around Tranent/Prestonpans/Longniddry. Uses that are	

	developer contributions framework for infrastructure delivery.		potentially acceptable in countryside or green belt areas are proposed, which would be subject to detailed consideration against these policies.	
East Lothian Green Network Strategy SPG	The Strategy supports the aims of the Economic Development Strategy by aiming to provide a high quality landscape and recreational setting. IT proposes action within lower SIMD areas and projects in the Western Area to improve active travel links and promotion of heritage (subject to impacts on the Firth of Forth SPA).	ClimatEvolution should implement the Green Network Strategy by providing a high quality landscape setting for development and taking forward the proposals for the Western Sector.	Climate Evolution will alter the landscape setting of existing and new settlement in the area. This aims to improve the landscape setting. The details will be assessed at project level. improve active travel links and promote the heritage of the area. It proposes some actions within nearby lower SIMD areas, which will improve them. HRA has been carried out on the Strategy which shows this can be taken forward (subject to assessment at project level) without an adverse impact on the Firth of Forth SPA. ClimatEvolution provides for active travel and recreation within the CAT area. There are some proposals which could affect the openness of the area between Prestonpans and Tranent, however some open space will remain. This would be subject to assessment at project level to ensure this objective is met. The area around Seton House GDL is included in proposals for planting and potentially a railway crossing. Again this would be subject to assessment at the project stage to ensure the objective of retaining its setting is met. Planting is proposed for the strip between Port Seton and the caravan park however this is indicative. The planting scheme could be refined at project level to ensure this objective is met. Planting and development of a water park/Lido are shown around Longniddry/Seton mains. At the moment the setting is open. This would require consideration at the project stage to ensure the objectives for this area could be met.	
ELC Countryside and Coast SPG 2019	The SPG gives guidance on the operation of ELLDP policy towards the Countryside and Coast, within the framework set by the ELLDP, including the Countryside Around Towns (CAT) areas. It aims to improve design in coastal areas through guidance on character of the different coastal areas. The main objectives for the CAT areas are: protection of the landscape setting of settlements; prevention of coalescence of settlements to retain the distinctive identities of separate communities; provision of green networks and recreation. The guidance for the Blindwells &c CAT notes: • this space provides opportunities for recreation and active travel links close to, but outwith, developed areas. • land between Tranent and Prestonpans visually separates the	ClimatEvolution should conform to the SPG.		

	towns and it is important to retain its largely open and undeveloped nature of the area to preserve the individual identities of these towns by providing landscape setting • land between Cockenzie/Port Seton and Blindwells provides a landscape setting for the nationally significant GDL of Seton House • the strip of land between Port Seton and the caravan park marks the definitive edge of Port Seton as well as continuing the historic visual link to the sea that forms part of the setting of the castle • Agricultural land between Longnidddry and Seton Mains and Blindwells provides a clear landscape setting for Longniddry particularly in views on the approach from the west along the A198 and the East Coast Main Rail Line and B6363 to the south. • The area to the south of the A198 and East Coast Main Rail Line lies within the Garden Country Farmland SLA and includes the designed landscapes of St Germains and Southfield. It is important to retain the setting of these small farm estates.		Planting and alterations to watercourses are shown in the area. Detailed assessment at project level will be required to ensure the objective of retaining the setting of the small farm estates in the area.	
East Lothian Plan 2017-27 **(Local Outcome Improvement Plan)**	The Plan: is intended to tackle inequalities of outcome, particularly for groups of people who do less well than others because of socio-economic inequality; is focused on what partner organisations can achieve by working	ClimatEvolution will need to contribute to achieving the environmental outcomes set out, including helping people to find jobs, growing local business, enhancing digital connectivity and	ClimatEvolution will provide more jobs in the area, and will help address inequalities through improving the environment of lower SIMD areas. It will support resilient communities through provision of a strengthened green network, which	

	together, over and above what they already do as single organisations. It is based on the following themes: prosperous; community minded; fair.	skills; strong resilient communities; strong resilient communities with a high quality environment; tackling poverty and health inequality.	supports increased physical activity that can improve health outcomes.	
Fa'side Area Partnership Plan (working document)	The themes are Sustainable Economy, Resilient People and Safe and Vibrant Communities. Within this, the priority areas for action are: 1. Improving our Town and Villages 2. Supporting a thriving local economy 3. Improve travel options and reduce traffic congestion throughout the Area 4. Increasing opportunities for physical activity in day to day life 5. Supporting families to create healthy environments for children 6. Making it easier to choose healthy and locally grown food 7. Improving Community information, facilities and resources 8. Ensuring all Residents of Fa'side feel Safe and Secure in their Community 9. Becoming a more supportive and inclusive community	ClimatEvolution should have regard to the environmental objectives and priority areas for action.	ClimatEvolution aims to improve towns in the area through action on town centres and supporting existing actions throught Local Regeneration Plans. It supports a thriving economy through the sustainable construction training centre, which will support local people in training for jobs related to construction, and other businesses included as projects. It will improve the active travel and recreational offer of the area, helping to reduce congestion and supporting families to create healthy environments for children. The kitchen garden attached to the training hotel could support people in learning to grow food, as could actions under the Local Food Growing Strategy.	
Preston Seton Gosford Area Partnership Plan	1: Encourage social enterprise and small business development in the area. 5: Capitalise on the area's rich cultural and industrial heritage to increase visitors and increase employability skills. 6: Promote the sense of a village identity and cultural heritage in the communities of Prestonpans, Longniddry, Cockenzie & Port Seton and develop the	ClimatEvolution should have regard to the environmental objectives and priority areas for action of this plan.	ClimatEvolution aims to promote the areas cultural heritage, including through improvements to some historic environment assets. The strategy does span the area between settlements, and this will have to be carefully treated to make sure towns and villages retain their separate identitiesThe planting and water management proposals along with active travel connections will help connect people to the	

	understanding that the area is made up of a variety of local neighbourhoods, each with their distinct needs and identities. 7: Protect green spaces and connect people with their natural environment within and between communities to increase health and wellbeing. 12. Our communities are better able to make healthy choices, reduce isolation and access the services they need in order to maintain a positive level of physical and mental health. 14. Improve access to the places, spaces and facilities for everyone. 18. Help ensure roads and pavements are safe and accessible. 19. Actively encourage people to walk and cycle and use the path networks within and between our communities.		natural environment. This will also help communities make healthy choices around exercise, and could also help reduce isolation (as people meet with others in their communities in such areas).	

APPENDIX THREE

CULTURAL HERITAGE SPECIFIC ASSET APPRAISAL

The following table shows the sensitivity and potential for impact on specific heritage assets. Not all the assets in the area are considered; many listed buildings within settlement are not expected to experience significant impacts, and were consequently scoped out of assessment. Some Listed Buildings not assessed individually here may require project level assessment and it is possible that there could be significant impacts on some of these. However, ClimatEvolution is not spatially specific enough to identify if this is the case, or which assets it would apply to, at this stage.

Further information on all nationally designated assets is available from Historic Environment Scotland.

Searchable database of nationally designated assets: HES Portal at http://portal.historicenvironment.scot/search . This database can be searched using the name or asset numbers as shown in the table below

General information about Listed Buildings: https://www.historicenvironment.scot/advice-and-support/listing-scheduling-and-designations/listed-buildings/

General information about Scheduled Monuments: https://www.historicenvironment.scot/advice-and-support/listing-scheduling-and-designations/scheduled-monuments/

General information about Battlefields: https://www.historicenvironment.scot/advice-and-support/listing-scheduling-and-designations/battlefields/

General information about Inventory Gardens and Designed Landscapes: https://www.historicenvironment.scot/advice-and-support/listing-scheduling-and-designations/gardens-and-designed-landscapes/

Further information on Conservation Areas can be found in the ELLDP at https://www.eastlothian.gov.uk/downloads/file/27791/local_development_plan_2018_adopted_270918 . Character Statements for each Conservation Area, as well as further information about the operation of ELLDP policies within them, are to be found in the Cultural Heritage Supplementary Planning Guidance at https://www.eastlothian.gov.uk/downloads/file/27907/cultural_heritage_and_the_built_environment_spg

Further information about items on Historic Environment Records, and Local Designed Landscapes, can be obtained from East Lothian Council Archaeology Service at heritage@eastlothian.gov.uk

Assets	Designation and Reference number	Sensitivity	Impact
Drummohr House; with its boundary wall and Gatepiers	A Listed LB 17552	High	Proposals include improving active travel links to nearby Prestongrange, and planting including of woodland. There may be scope to investigate restoration of some of the original landscape features here as part of this planting. The impacts both direct and indirect will need assessed at a project level.
Drummhor East Lodge Entrance	C listed LB 47012	Moderate/Low	

Assets	Designation and Reference number	Sensitivity	Impact
Drummhor West Lodge	C Listed LB 38379	Moderate/ Low	
Drummohr Local GDL	Local MEL 10828	Undefined	
Prestongrange Pump House and Pump	A Listed LB 17534	High	The Strategy includes a Western Arrival Hub for car travel to this area, and a further attractor linked to geothermal energy. Both of these would have to be carefully considered at project level in line with the Prestongrange masterplan to avoid adverse impact on the listed buildings. There is the potential for significant impacts on the listed buildings of this group and upon the general museum site and this will need assessed at project level.
Prestongrange Generating House	B listed LB 17535	Moderate	
Prestongrange Hoffman Kiln and Chimney stalk	B Listed LB 47020	Moderate	
Prestongrange Industrial Heritage Museum	Undesignated – numerous assets inc Bathhouse Canteen/ visitor centre Glass Works/ Air raid Shelter Winding engine	Various	
Prestongrange House	A Listed LB 17537	High	The main house and landscape is well enclosed by high walls and mature trees, which are protected through Tree Preservation Order No. 1. The proposals will have no impact on the main house or group though the North Lodge could have indirect
Prestongrange House Boundary wall	B Listed LB 47021	Moderate	

Assets	Designation and Reference number	Sensitivity	Impact
Prestongrange House East Lodge	C listed LB 47022	Moderate/ Low	setting effects from proposals for a Western Arrival hub or attractor, as with the Prestongrange Industrial Heritage group above. Will need assessment once project details are available.
Prestongrange House South Lodge and Arch	C listed LB 47023	Moderate/ Low	
Prestongrange House North Lodge	C listed LB 17538	Moderate/ Low	
Prestongrange House	Local Designed Landscape	Undefined	
Bankton House (Colonel Gardiners House) and walls	B listed LB 17546	Moderate/ High	The Strategy proposes daylighting the Bankton adit, east of Bankton House. It notes that Bankton House is important in the history of the area but does not form a major draw. The Strategy proposes a Cultural Strategy, in which this could be included. Increasing visitors to the area is likely to increase interest in the house, and potentially visits. This area is in the core of the ClimatEvolution strategy area. The Western Gateway shown indicatively close to this and the Strategy also aims to improve active travel connections between this and Meadowmill; the setting of which it proposes opening up by thinning the surrounding tree belt. Despite its location between major transport routes, the setting of Bankton House still appears remarkably tranquil. There is the
Bankton House Colonel Gardiners Monument	B Listed LB 17547	Moderate/ High	
Bankton House Garden House and Dovecote	C Listed LB 17548	Moderate/ Low	
Bankton House	Local Designed Landscape	Undefined	

Assets	Designation and Reference number	Sensitivity	Impact
			potential for setting affects from the Western Gateway and new active travel provision, though this may come from the Segregated Active Travel Corridor rather than ClimatEvolution. The opening up of Meadowmill could also have indirect effects on the site. Impacts will need assessed at project design level.
St Joseph's School with Gates and Gatepiers	B Listed LB 19076	Moderate	St Josephs is identified as an opportunity site, possibly for a training hotel though this is not a firm proposal. The building is expensive to maintain, and finding a beneficial new use for it that could secure its maintenance into the future would be a positive impact. Impacts will need assessed at project design level.
Battle of Prestonpans	National Inventory Battle BTL16	High - Low	The battle landscape lies within the core of the proposals and there is a good potential to enhance the battle landscape through this project. Care should be taken with at the detail design stage to ensure that adverse impacts are avoided. Potential adverse impacts may arise from planting, changes to water infrastructure (especially bodies of standing water proposed to the south of Cockenzie); proposed geothermal opportunities.

Assets	Designation and Reference number	Sensitivity	Impact
			The changes to the landscape that the strategy proposes will need to be managed and designed carefully to enhance the battle landscape
Battle of Pinkie Cleugh	National Inventory Battle BTL15	High - Low	Potentially only limited impacts on the Battle landscape from the proposals but this will need to be assessed once project details are available. Care will need to be to ensure that any proposals enhance rather than detract from the battle landscape
South Lodge, enclosure	Scheduled Monument SM 10373	High	Cropmark. Will need assessed dependent upon project details. Particularly sensitive to direct impacts. HES should be consulted once project details are available
Birsley Brae, Medieval Coal Mine	Scheduled Monument SM 3352	High	Will need assessed dependent upon project details. Sensitive to planting impacts. HES should be consulted once project details are available
Preston, Market Cross	Scheduled Monument SM 90242	High	Likely low Impact from proposals
Preston Tower & Dovecot	Scheduled Monument SM774	High	Will need assessed dependent upon project details. Sensitive to both setting and direct impacts. Also potentially increased footfall will have a negative impact upon the monument and garden

Assets	Designation and Reference number	Sensitivity	Impact
			HES should be consulted once project details are available
Tranent Tower	Scheduled Monument SM778	High	Likely low impact from proposals
Seton West Mains Enclosure	Scheduled Monument SM5687	High	Cropmark. Will need assessed dependent upon project details. Particularly sensitive to direct impacts arising from potential geothermal opportunities, planting and changes to water infrastructure. HES should be consulted once project details are available
Seton Collegiate Church	Scheduled Monument SM 13368	High	Will need assessed dependent upon project details. Sensitive to changes in setting arising from planting and changes to water infrastructure particularly the introduction of open bodies of water. This site is an existing visitor attraction, managed and run by HES. Close co-peration will be needed with them to ensure that the strategy meshes with their plans etc. HES should be consulted once project details are available
Seton House (Palace)	Inventory Garden and designed Landscape GDL 00340	Moderate	Will need assessed at project level dependent upon project details. Sensitive to changes in setting arising from planting and changes to water infrastructure particularly the introduction of open bodies of water.

Assets	Designation and Reference number	Sensitivity	Impact
			Increased visitor number to Seton Collegiate Church may adversely impact upon the Inventory Garden and Designed Landscape if not carefully managed.
Seton Mains enclosure	Scheduled Monument SM 6191	High	Cropmark. Will need assessed at project level dependent upon project details. Particularly sensitive to direct impacts arising from planting and changes to water infrastructure. HES should be consulted once project details are available
Seton Mains enclosure and ring ditch	Scheduled Monument SM 6287	High	Cropmark. Will need assessed at project level dependent upon project details. Particularly sensitive to direct impacts arising from planting, changes to water infrastructure (including open bodies of water) and potential geothermal opportunities. HES should be consulted once project details are available
Greendykes West enclosure	Scheduled Monument SM 6574	High	Cropmark. Will need assessed at project level dependent upon project details. Sensitive to direct impacts such as planting and changes to water infrastructure. HES should be consulted once project details are available
Greendykes SSE enclosure	Scheduled Monument SM 4101	High	Cropmark. Will need assessed at project level dependent upon project details. Sensitive to direct impacts such as planting and changes to water infrastructure.

Assets	Designation and Reference number	Sensitivity	Impact
			HES should be consulted once project details are available
Southfield ringditch	Scheduled Monument SM 5688	High	Cropmark. Will need assessed at project level dependent upon project details. Sensitive to direct impacts such as planting and changes to water infrastructure. HES should be consulted once project details are available.
Dolphingstone	Local Designed Landscape MEL 103	Undefined	Unlikely to be impacted by proposals
Harlaw Hill House	Local Designed Landscape	Undefined	Unlikely to be impacted by proposals
Hamilton House	Local Designed Landscape	Undefined	Unlikely to be impacted by proposals
Northfield House	Local Designed Landscape MEL2422	Undefined	Unlikely to be impacted by proposals
The Manse, Tranent	Local Designed Landscape	Undefined	Unlikely to be impacted by proposals
St Germains	Local Designed Landscape	Undefined	Will need assessed at project level dependent upon project details. Sensitive to both direct and indirect impacts arising from planting and changes to water infrastructure including the introduction of open bodies of water
Longniddry House	Local Designed Landscape MEL 10950	Undefined	Unlikely to be impacted by proposals

Assets	Designation and Reference number	Sensitivity	Impact
Southfield	Local Designed Landscape	Undefined	Will need assessed dependent upon project details. May be affected by planting and changes to water infastructure
Redcoll House	Local Designed Landscape	Undefined	Will need assessed dependent upon project details. May be impacted by planting proposals
Cockenzie House	Inventory Garden and designed Landscape GDL 00105	Moderate	Unlikely to be impacted by proposals
Gosford House	Inventory Garden and designed Landscape GDL 00200	Moderate	Unlikely to be impacted by proposals
MacMerry Airfield/ Penston Aerodrome	Key HER site MEL 2146	Moderate	Will need assessed dependent upon project details. May be impacted by planting proposals and changes to water infrastructure
Tranent, Cockenzie Waggonway	Key HER site MEL 589	High - moderate	Will need assessed dependent upon project details. Particularly sensitive to direct impacts particularly from planting, changes to water infrastructure and the proposed geothermal attractors. This site is also a marketed visitor attraction with a small museum located at Cockenzie Harbour. Close co-operation will be needed to ensure that the strategy meshes with the plans of the 1722 Waggonway group.

Assets	Designation and Reference number	Sensitivity	Impact
Seton West Mains enclosed settlement	Key HER site MEL 9610	Moderate	Will need assessed dependent upon project details. Particularly sensitive to direct impacts
Tranent Conservation Area	Shown in ELLDP and Cultural Heritage SPG – Article 4 applies	Moderate	Will need assessed at project level dependent on project details. The Southern Hub has the potential to impact on the Conservation Area, and if within or affecting it, should be designed to preserve or enhance the area. Planting along core paths could enhance the Conservation area but would need to be carefully designed to respect its character. Regeneration of Council owned spaces is expected to have a positive effect. Cultural Heritage Trails, and improvement to the Waggonway could enhance appreciation of the Conservation Area. Local Regeneration Plans supporting work already carried out are also expected to have a positive effect as this includes improved town centres.
Cockenzie and Port Seton Conservation Area	See ELLDP and Cultural Heritage SPG – Article 4 applies	Moderate	Will need assessed at project level dependent on project details. Regeneration of Council owned spaces is expected to have a positive effect. Promotion of the three harbours Cultural Heritage Trails, and improvement to the Waggonway could enhance appreciation of the Conservation Area. Local Regeneration Plans supporting work already carried out are also expected to have a positive effect as this includes improved town centres. An increase in visitor numbers could affect the

Assets	Designation and Reference number	Sensitivity	Impact
			Conservation Area through e.g. increased car parking and pedestrian activity, alone and cumulatively with increased promotion of the John Muir Way and development within the ELLDP.
Preston Conservation Area	Shown in ELLDP and Cultural Heritage SPG – Article 4 applies	Moderate	Will need assessed at project level dependent on project details. Regeneration of Council owned spaces here must be carefully done, the historic spaces around Preston Town and Northfield House being an important part of the character of the Conservation Area. The proposal for Cultural Heritage Trails could enhance appreciation of the Conservation Area. Local Regeneration Plans supporting work already carried out could are also have a positive effect.
Harlaw Hill Conservation Area	Shown in ELLDP and Cultural Heritage SPG	Moderate	It is unlikely that the proposals will have an impact on this Conservation area. It is not in a town centre and no planting or regeneration of Council owned space is identified here. There could be a positive effect from Local Regeneration Plans.
HER sites and unknown archaeological sites	Consult East Lothian Council Archaeology Service	Various	These should be taken into account during the project design stage. These are particularly sensitive to direct impacts. Mitigation provision will need to be in place – East Lothian Council Archaeology Service should be consulted for advice