

Topic Paper - Climate

ELC 003

Context: Relevant NPF policies

Introduction:

- 3.1 This section is the main section covering climate change mitigation, adaptation and sequestration. The climate and biodiversity crises are intertwined and together drive NPF4's key vision and aims for Scotland. The data on climate and the linked paper on Natural Environment show that urgent action is necessary to address these crises. All other parts of the plan will pull together to achieve climate change mitigation and adaptation whilst at the same time making steadfast progress in nature restoration.

LINKS TO EVIDENCE

ELC 63	GHG emissions by UK local authority and regional greenhouse gas emissions national statistics, 2005 to 2023 - GOV.UK https://www.gov.uk/government/statistics/uk-local-authority-and-regional-greenhouse-gas-emissions-statistics-2005-to-2023
ELC 64	UK Emissions Interactive Map
ELC 65	Scotland Reports and UK matters – Climate Change Committee (including: Adapting to climate change – November 2023) https://www.theccc.org.uk/publication/adapting-to-climate-change-progress-in-scotland/
ELC 66	Climate trends and projections – Adaptation Scotland (East Scotland) Climate change: Scottish National Adaptation Plan 2024 - 2029 - easy read - gov.scot
ELC 67	Scotland's Climate Change Plan (Update) – Scottish Government https://www.gov.scot/publications/securing-green-recovery-path-net-zero-update-climate-change-plan-20182032/
ELC 68	Climate Change Risk Assessment 3 Summary for Scotland Technical Report Technical report (CCRA3-IA) - UK Climate Risk
ELC 69	A Guide to Climate Change Impacts on Scotland's Historic Environment – HES A Guide To Climate Change Impacts Historic Environment Scotland

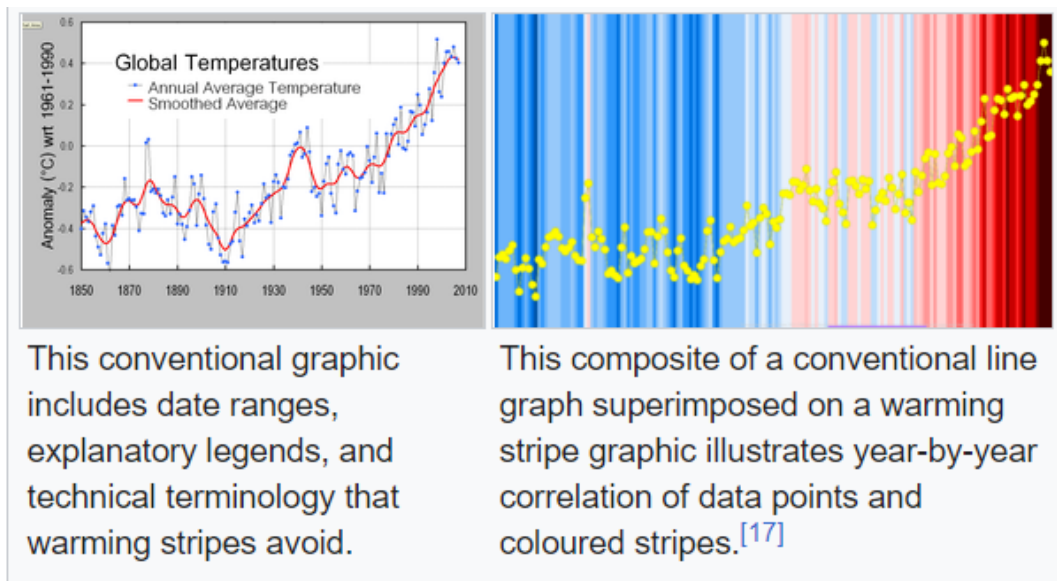
ELC 70	Developing with Nature Guidance – NatureScot Developing with Nature guidance NatureScot
ELC 71	Scottish Water Climate Change Adaptation Plan 2024 290224ScottishWaterAdaptationPlan.pdf
ELC 72	Climate Change Allowances for flood risk assessment in land use Planning – SEPA climate-change-allowances-guidance.docx
ELC 73	Potentially Vulnerable Areas GIS layer - available on request
ELC 74	Consultation on Potentially Vulnerable Areas (PVAs) for Flood Risk Management in Scotland 2024 - Citizen Space (sepa.org.uk) Consultation on Potentially Vulnerable Areas (PVAs) for Flood Risk Management in Scotland 2024 - Scottish Environment Protection Agency - Citizen Space
ELC 75	Scotland's Climate Change Adaptation Programme Adaptation Scotland Climate Ready Scotland: climate change adaptation programme 2019-2024 - gov.scot
ELC 76	Climate Projections for Edinburgh and south East Scotland and Climate Change Projections Summary Scotland and climate change - Adaptation Scotland
ELC 38	East Lothian Climate Change Strategy Climate Change Strategy East Lothian Council
ELC 78	East Lothian Coastal Change Adaptation Plan (forthcoming)
ELC 338a	East Lothian Local Heat and Energy Strategy https://www.eastlothian.gov.uk/info/210657/climate_emergency
ELC 80	Climate Action Plan 2020-25 Historic Environment Scotland Climate Action Plan 2020-25 Historic Environment Scotland HES
ELC 81	ESPON – Quantitative Greenhouse Gas Assessment tool for Spatial Planning QGAsSP - Quantitative Greenhouse Gas Impact Assessment Method for Spatial Planning Policy ESPON
ELC 82	East Lothian's Corporate Risk Register 2023 Search results East Lothian Council
ELC 83	East Lothian's Shoreline Management Plan 2002 Uploaded to Objective Connect
ELC 84	East Lothian Tree and Woodland Strategy – East Lothian Council Tree and Woodland Strategy East Lothian Council
ELC 85	Sequestration – CSGN habitat maps, TWSEL layers, Peatland Action GIS layers
ELC 86	EPC data (maps available via Earthlight) - GIS layers
ELC 87	Strategic Flood Risk Assessment of LDP1 https://www.dpea.scotland.gov.uk/LibraryDocument.aspx?id=1199
ELC 88	Get involved Climate Ready South East Scotland (climatereadyses.org.uk) Climate Ready South East Scotland A new project to support collaborative climate action in the Edinburgh and South East Scotland City Region

SUMMARY OF EVIDENCE

- 3.2 The links provided in this Topic Paper are to national, regional or local climate strategies and their associated action plans. Collectively these actions will help to address the challenges associated with climate change. Through the site assessment methodology, spatial strategy and its policy the Proposed LDP will consider how to deliver these actions.
- 3.3 Scientists agree that the world is warming (see Fig. 1). The Intergovernmental Panel on Climate Change (IPCC) say

“It is unequivocal that human influence has warmed the atmosphere, ocean and land”i.

Figure 3.1 Conventional graphic versus warming stripes graphic (source Wikipedia)



- 3.4 IPCC – there is a wealth of evidence produced by IPCC that clearly demonstrates that the climate is changing due to human influence and there is an urgent need to act now to prevent the global temperature rise of 1.5C.
- 3.5 As greenhouse gas emissions are building up extreme weather events may occur more often. These weather events can become more impactful to our local and global economies, our society and the natural environment. Risks for food and water security, health, ecosystems and economic development increase as global temperatures rise.
- 3.6 Scotland has moved away from its previous target of reducing greenhouse gas emissions by 75% by 2030. The Scottish government has replaced this with a system of five-year carbon budgets and also retains the long-term net-zero target by 2045.
- 3.7 In March 2024, Professor Piers Forster, interim Chair of the Climate Change Committee, said:
- 3.8 “Scotland has laudable ambitions to decarbonise, but it isn’t enough to set a target; the Government must act. There are risks in all reviewed areas, including those with significant policy powers devolved to the Scottish Government.”
- 3.9 The next LDP will have to include policies and support projects to support reduction in CO2 and GHG emissions.
- 3.10 NPF4 requires that the LDP spatial strategy should be designed to reduce, minimise or avoid greenhouse gas emissions. The six spatial principles (see the Storymap and Spatial Strategy and Infrastructure Topic Paper) should form the basis of the spatial strategy, helping to guide development to, and create, sustainable locations. The strategy should be informed by an understanding of the impacts of the proposals on greenhouse gas emissions. LDPs should support adaptation to the current and future

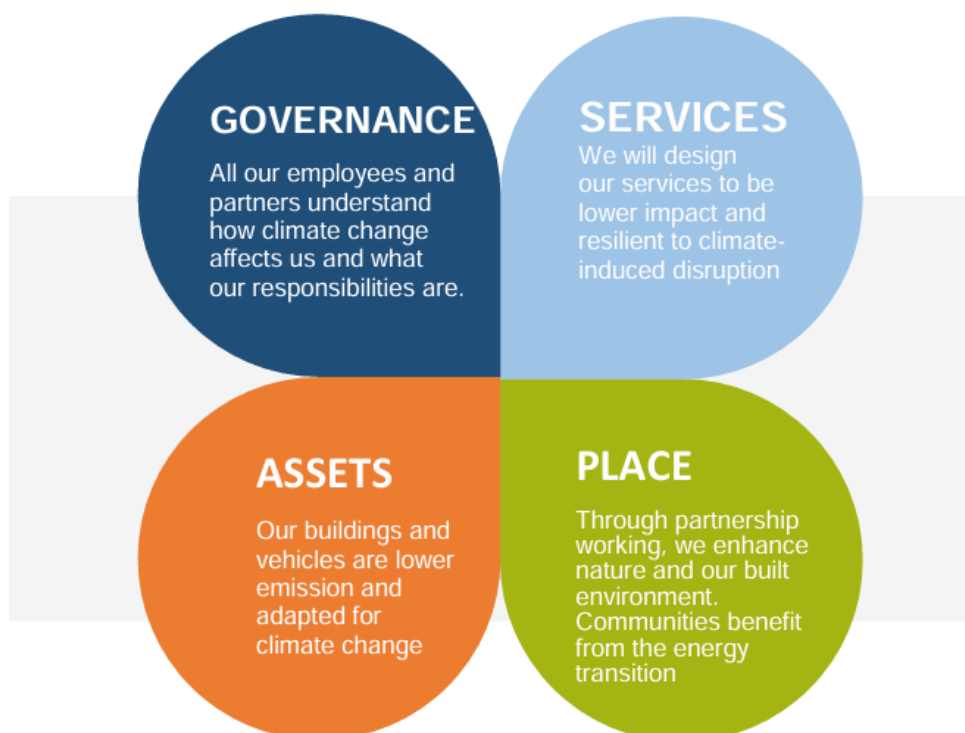
impacts of climate change by taking into account climate risks, guiding development away from vulnerable areas, and enabling places to adapt to those risks.

- 3.11 Since the adoption of the current LDP there has been some progress in reducing overall CO2 emissions in East Lothian (For instance, approx. 18.9% reduction in the domestic sector between 2018 and 2022).

East Lothian Climate Change Strategy

- 3.12 The ELC Climate Change Strategy Annual Update Report (January 2023) highlights that whilst the Council is making good progress in respect of its Climate Change Strategy and Action Plan there are significant increases in the Council's estate through new schools and community centres which are coming forward which may lead to the increase in East Lothian's overall carbon footprint. This must be seen in the context of the achievements that have contributed to reduced carbon output in a number of other areas across the Council's operations and also in the context of a growing population in East Lothian.
- 3.13 In 2025, East Lothian Council approved its revised Climate Change Strategy 2025-2030. The Strategy explains how East Lothian Council can achieve climate-positive outcomes from its various operations and roles. These functions are divided into four key themes: Governance, Assets, Services and Place. Each theme has an outcome statement, which is what we aim to achieve by 2030 (see Figure. 2).

Figure. 3.2 Four themes of the ELC Climate Change Strategy 2025-2030

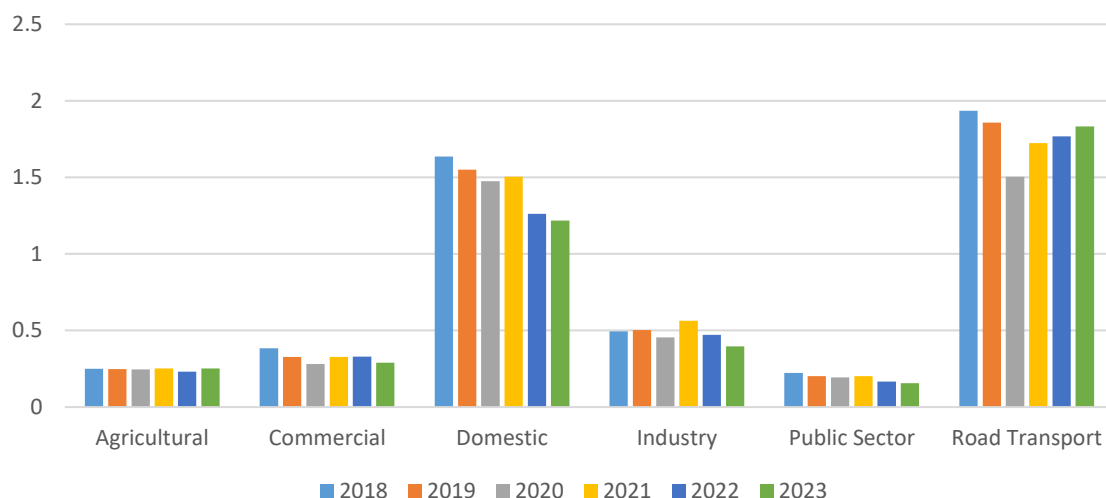


- 3.14 Actions in these themes are tied together by shared approaches and action types. Themes are broken down into Focus Areas, which address specific areas of the outcomes.
- 3.15 The Proposed LDP will need to consider all four of the above themes and associated Focus Areas, but in particular it should seek to address the Focus Areas linked to Place which include Communities, Green & Blue Networks, Commuting, Economy, and Homes. An integral part of the Climate Change Strategy is its Action Plan. Actions were co-developed with the council's services responsible for delivering them and are based on recommendations by Audit Scotland, the Sustainable Scotland Network, and actions from the Climate Change Strategy. New actions were also created to capture the excellent work on climate action being done across the council already. Some actions from the previous Strategy were not brought forward to this current Strategy because we have stopped doing them or because they are outwith our scope of influence. Actions are measured quantitatively, with either a yes/no answer or a numerical value so that year-on-year progress can be tracked objectively. A significant number of actions associated with the Strategy's Focus Areas are relevant to the Proposed LDP e.g.
- LDP2 will take areas of climate risk out of the spatial strategy consideration and guide new housing to areas of low climate risk
 - LDP2 will commit developers to connect new homes with local amenities via paths within 10 minutes walking or wheeling distance
 - Support on-site renewable energy generation for private housing
- 3.16 East Lothian remains one of the fastest growing areas in Scotland and this is reflected in the growth of its population and the provision of record numbers of new homes in East Lothian. This may present a challenge to East Lothian in meeting its obligations of reducing our overall impact on natural environment and climate change.
- 3.17 Figure 3 shows CO2 emissions in East Lothian per capita between 2018 and 2023. The largest CO2 emissions in East Lothian are from the transportation and domestic sectors, both accounting for over 73.5% of emissions in 2023. It is important to be aware that local authorities have relatively little influence over some types of emissions eg in 2023, CO2 emissions from large industrial installations in East Lothian (emissions outwith the scope of influence of Local Authorities) were higher than the combined emissions from the transportation, domestic and industry sectors (4.1 tCO2e vs 3.4tCO2e per capita).

Figure. 3.3 CO2 emissions within the scope of influence of East Lothian Local Authority (tCO2e) per capita

	2018	2019	2020	2021	2022	2023
Agricultural	0.251	0.247	0.245	0.252	0.231	0.252
Commercial	0.384	0.327	0.281	0.328	0.329	0.290
Domestic	1.636	1.550	1.475	1.504	1.261	1.219
Industry	0.495	0.504	0.455	0.563	0.472	0.397
Public Sector	0.222	0.202	0.194	0.202	0.166	0.156
Road Transport	1.935	1.858	1.505	1.725	1.768	1.833

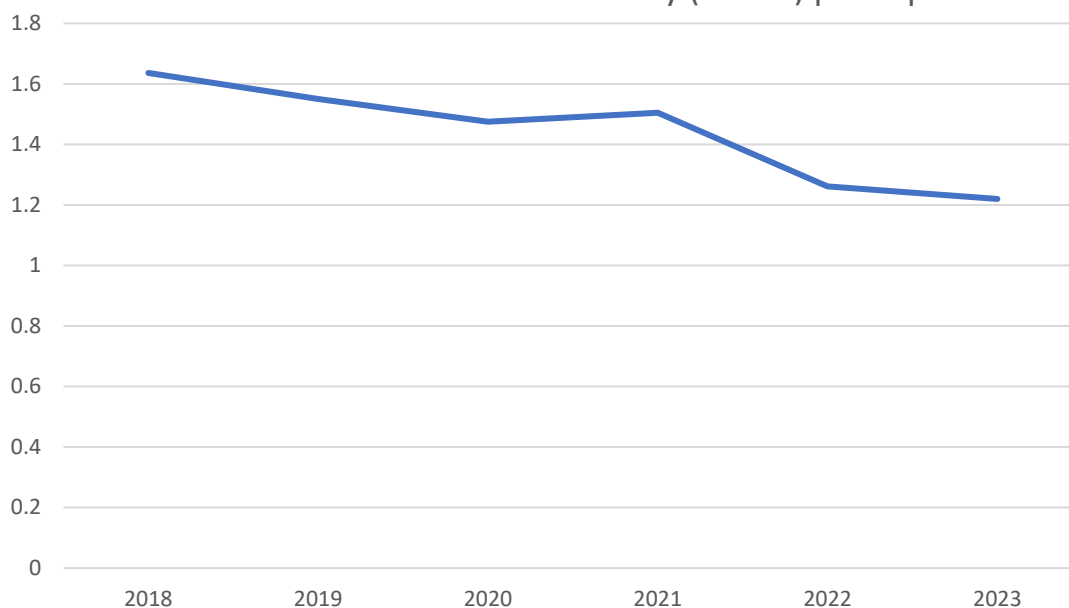
CO2 emissions within the scope of influence of East Lothian Local Authority (tCO2e) per capita



3.18 The domestic sector is the second greatest contributor to end-use emissions in East Lothian (please note that only emissions within the scope of influence of the Council are taken into account here). Emissions within this sector can be influenced by a number of factors e.g. the fuel types used, the type, layout (both internal and of the housing scheme as a whole) and condition of the housing (including its insulation), the average temperature (urban areas can be much warmer and therefore easier to heat than rural areas), average household size, type of household and the income and preferences of the occupiers. Figure 3.4 shows a general decreasing trend in CO2 emissions in the domestic sector in East Lothian (over 25% reduction in CO2 emissions between 2018 and 2023)

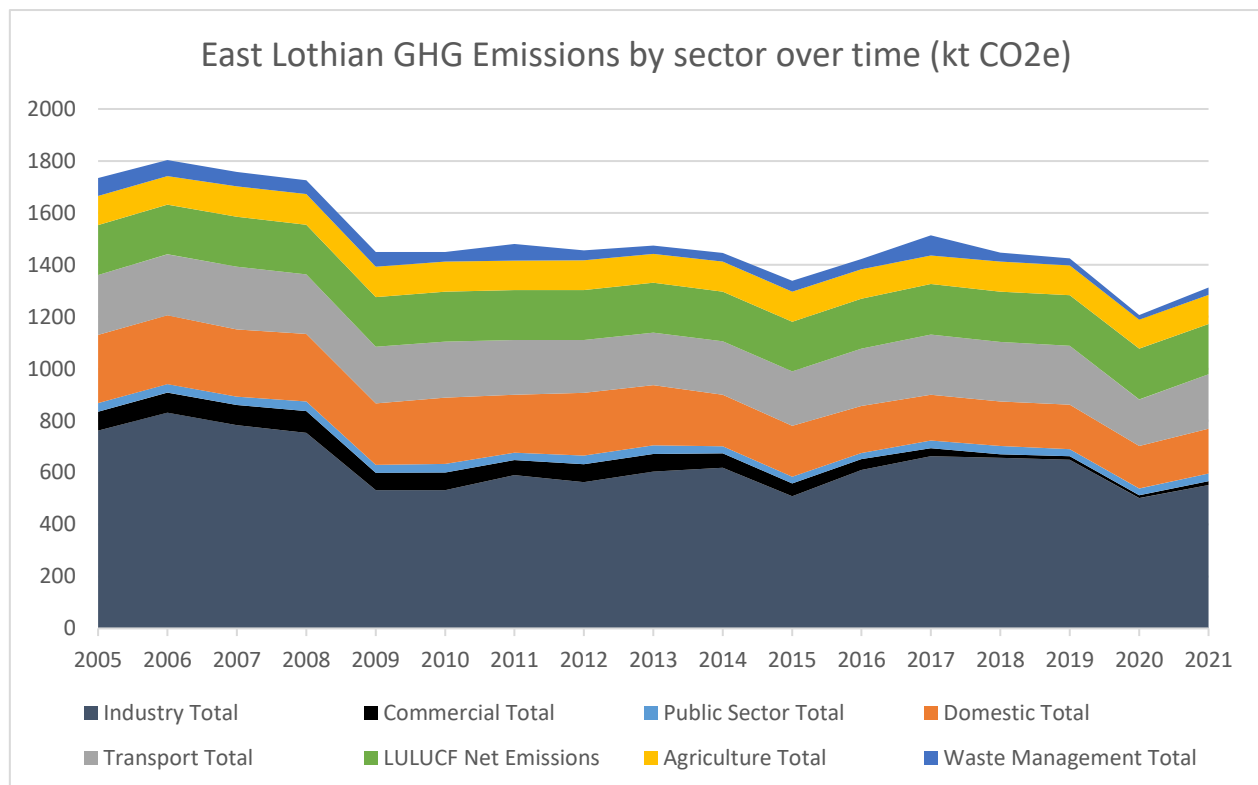
3.19 *Figure. 3.4 Domestic sector - CO2 emissions within the scope of influence of East Lothian Local Authority (tCO2e) per capita*

Domestic sector - CO2 emissions within the scope of influence of East Lothian Local Authority (tCO2e) per capita



3.20 Greenhouse gas emissions have fallen in East Lothian since 2005. However, the biggest driver of the trend is changes in the 'industrial' category. This includes large installations which often serve national or international markets and therefore have a disproportionately large impact on the overall figure for an area (see Figure. 3.5).

Figure. 3.5 East Lothian's greenhouse gas emissions by kt CO₂e, 2005 – 2023: source UK National Statistics at <https://www.gov.uk/government/statistics/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics-2005-to-2021>



3.21 Action to reduce greenhouse gas emissions must increase. In recognition of this, in 2019 the Scottish Government and East Lothian Council and others declared a Climate Emergency.

What can planning do – mitigation

3.22 There are lots of ways planning can help reduce emissions. For example we can:

- reduce the need to travel by locating work, education, retail and leisure destinations close to each other, and to where people live
- make travel by foot or cycle or public transport easier
- support renewable energy production
- reduce the amount of greenhouse gas emissions through choice of materials and techniques of construction
- reduce waste and promote the circular economy
- encourage energy efficiency in our homes and other buildings
- Protect, expand and enhance woodland, peatland, saltmarsh, grassland and other habitat that absorbs CO₂
- Integrate habitat creation with development and promote creation of new habitat

What can planning do – adaptation

3.23 We can also help adapt our places to climate changes that cannot now be avoided. Climate trends and projections are explained by Adaption Scotland. They report that Scotland's 10 warmest years on record have all occurred since 1997. The average temperature for the last decade (2014-2023) was 1.02°C

warmer than the 1961-1990 average, and the warmest year on record was 2022. There has been an increase in rainfall over Scotland in the past few decades. The annual average rainfall in the last decade (2014-2023) was 10% wetter than the 1961-1990 average, with winters 29% wetter.

- 3.24 Predictions from CCRA3 Evidence Report reports that temperatures in Scotland are expected to rise by about 1.1 O C by the 2050's, and between 1.1 and 2.0 degrees by the 2080s from a 1981-2000 baseline. Associated risks, such as more extreme heatwave events are likely to become more prevalent. Winter rainfall is expected to increase by around 7% by the 2050's, and 7-13% by the 2080s on a 1981-2000 baseline. This is expected to lead to an increase in the likelihood of flooding of infrastructure, businesses and homes. Summer rainfall is expected to decrease by 6-7% by the 2050s and by 12-16% by the 2080s. Periods of water scarcity are expected to become more prevalent. The frequency and intensity of extreme temperatures and rainfall events is also likely to increase in future. Sea levels are also predicted to rise.
- 3.25 Mean sea level around the UK has risen by approximately 18.5cm from the start of the 20th century and the rate of sea level rise has increased over the last 30 years.
- 3.26 CCRA (Climate Change Risk Assessment) Evidence Report Scotland: Summary of climate risks and opportunities for Scotland report identifies the main risks relevant to land-use planning as:
1. Flooding: overall in Scotland this remains a key risk to people, communities and businesses. Flooding can affect some groups disproportionately, including the elderly, those with disabilities, those on lower incomes (including transgender people, minority ethnic groups and gay men who are more likely to be on lower incomes), women, pregnant women and children.
<https://www.gov.scot/binaries/content/documents/govscot/publications/impact-assessment/2025/01/equality-impact-assessment-fairer-scotland-duty-assessment-national-flood-resilience-strategy/documents/equality-impact-assessment-fairer-scotland-duty-assessm>
 2. Flooding is a risk for East Lothian from rain, rivers and seawater. A key area of risk is at Musselburgh, mainly potentially affecting areas falling into the lowest and second lowest quintiles on the Scottish Index of Multiple Deprivation mapping. A flood protection scheme is under consideration there. SEPA has developed mapping to allow the identification of areas of land at different levels of risk of flooding. For planning purposes, the 1:200 year flood, with an allowance for climate change, is usually considered the maximum level of acceptable flood risk for vulnerable uses, including homes. SEPA have updated guidance on allowance for climate change in their revised guidance.

SEPA have also identified Potentially Vulnerable Areas designated for flood risk management where actions could provide the most benefit [<https://www.data.gov.uk/dataset/36c7c693-03fb-4c9b-ab47-de2a796e60d8/potentially-vulnerable-areas-pvas>]. In addition to built development, flooding can also affect agriculture, forestry, roads, landscapes and habitat.
 3. Spread of pests and pathogens, and invasive species: this is relevant as changes to blue/green infrastructure can inadvertently support the spread and so needs to be carefully planned. The risks of vector-borne illness will potentially increase for all communities, but particularly those in rural areas or with limited access to healthcare.
 4. Risk of damage to infrastructure – energy, transport, water and ICT from climate impacts, including cascading failures: some of our infrastructure was designed and sited before climate change risks were well known and/or is reaching end of life. East Lothian hosts electricity infrastructure including high voltage lines and, currently, Scotland's largest single electricity generating plant at Torness.

There are at least 274 bridges maintained by East Lothian's Roads Services, about two thirds of which are over watercourses. About half of them in total are masonry arches.

The impact of extreme temperatures, high winds and lightening on the transport network. Local living can help mitigate the effects of loss of transport capacity to some extent however some systems such as food distribution are national/international.

Damage to individual properties, both homes and businesses, is also likely to increase. Lower income households in owner-occupied accommodation may be particularly vulnerable, as they may have no or inadequate insurance, or where insurance is not available.

5. Impact of increasing high temperatures on health and wellbeing Prolonged high temperatures including at night can particularly affect older people and those with existing health conditions, people living in deprived areas, and those in certain occupations including outdoor workers. Planning can support the creation of climate resilient green infrastructure to allow people to find shade outdoors. Attention to siting and layout design can help avoid creating inhabited buildings, in particular houses, that are too hot in summer or too cold in winter. Urban heat is likely to become more of an issue, particularly in more densely populated urban areas and will affect the aging and more vulnerable groups within our population. Some existing buildings and green spaces in East Lothian were not designed for warmer temperatures.
6. The viability of coastal communities and the impact on coastal businesses due to sea level rise, coastal flooding and coastal erosion. Recent storms have led to damage along our coastline, including to infrastructure such as at North Berwick and Dunbar harbours and to natural features such as sand dunes on beaches. Musselburgh is at risk of both coastal and river flooding, exacerbated by sea level rise. Coastal erosion risk is increasing and may affect our area in a number of ways including infrastructure, transport and power. East Lothian's Shoreline Management Plan 2002 (SMP) identifies infrastructure at risk from coastal erosion and existing sea defences. It makes recommendations for an appropriate response along the coastline. Although this work would benefit from revisiting it contains much relevant information. It is anticipated that a Coastal Change Adaptation Plan (CCAP) will be developed to supersede the SMP in the near future. Details are set out below. Although many of our coastal areas are affluent, this is not always the case, with some coastal areas of Musselburgh and Prestonpans in particular being within lower SIMD areas.
7. Damage to cultural heritage assets as a result of temperature, precipitation, groundwater and landscape changes.
8. International impacts with consequent effects here including risks to food availability, safety and security, and others including multiplication of risks across systems and geographies. NPF4 seeks greater protection of prime agricultural land. There could be changes to migration patterns however the levels of this could vary widely depending on the policy response and it is not feasible to plan for this at local level without a national steer.

3.27 Key messages from Adapting to climate change - Progress in Scotland - Climate Change Committee (theccc.org.uk)

- Overall progress on adapting to climate change in Scotland remains slow, particularly on delivery and implementation. For only one out of the 33 outcomes identified by the Committee for climate resilience across devolved areas do we find good progress on adaptation delivery. For four outcomes we find clearly insufficient progress; 16 show mixed progress; and for 12 there are insufficient data to meaningfully evaluate progress.
- Monitoring and evaluation of adaptation is slowly improving but remains limited. Since our last report in 2022, more analysis of public body reporting on adaptation has become available and data on wildfire incidents are now being recorded, but in many areas insufficient data collection is hampering adaptation efforts.
- The next national adaptation plan must embed adaptation in upcoming legislation and drive delivery. SNAP3, coming in 2024, must build on SCCAP2. It needs to ensure that there are quantified targets for climate resilience, that there are clear linkages between activities and outcomes, with clear ownership of delivery, and must finally address the long-standing absence of an effective monitoring and evaluation system. For it to address the current shortfall in adaptation delivery it must seek to unlock public and private investment in adaptation, and be fully integrated with upcoming legislation and cross-Government objectives on decarbonisation, health and nature.

NatureScot's 'Developing with Nature' Guidance notes that climate change is one of a number of pressures on biodiversity. Pressures on biodiversity can impact species dispersal and genetic mixing, reducing the ability of species to adapt to climate change. Well-designed development integrating nature-based solutions can address the causes of climate change but also help biodiversity adapt to climate change. Solutions such as SUDS, green roofs and walls, street trees and biodiverse green space can provide a cost effective and climate resilient solution to issues such as extreme temperatures, high energy use, noise, water quality and quantity, and poor amenity.

More information on climate projections for Edinburgh and south East Scotland and Climate Change Projections Summary is available at <https://www.adaptationscotland.org.uk/why-adapt/climate-trends-and-projections>

SUMMARY OF STAKEHOLDER CONSULTATION

- 3.28 The summary below highlights the themes of comments received during the preparation of the Evidence Report. Information on engagement with Key Agencies and an overview of the consultation steps taken can be found in the Summary of Evidence Report Engagement Topic Paper (ELC 060).

SUMMARY – MAIN POINTS

ELC's Climate Change Strategy should be central to the LDP so developers have to meet its objectives;

- Encourage local renewable energy provision;
- Decarbonising energy partnership working with Midlothian for heat capture from the waste plant;
- Use more brownfield sites for new development;
- Denser housing development means 20 min neighbourhoods are needed to support local services; The LDP should focus on compact growth around existing communities and place-based; infrastructure-first

development as per NPF4. Also, denser development means less land area; needed for buildings and infrastructure which means more agricultural land;

- Need for more energy efficient social housing;
- Quality cycle lanes and secure bike parking needed;
- Better public transport needed e.g. build rapid transit bus routes, more frequent bus and train services;
- There is no joined up public transport options;
- Park and ride schemes should be provided for those who are not able to live and work locally;
- New estates to have car club spaces;
- Keep village schools open, to reduce required car transport, so children can walk to school;
- Put recycling bins on streets;
- East Lothian farmland was always protected, we should value productive land and go back to being as self-sufficient as possible by growing food;
- What assessment is being made about how many additional homes can be realistically built in relation to expected future water stocks which will be affected by climate change;
- Protect woodland and focus on planting more trees, meadows etc – nature benefits and carbon storage;
- Protecting green space and encouraging nature corridors;
- Musselburgh Flood Protection scheme – opportunity for nature based-solutions/opportunities;
- Climate planning should not overlook the needs of residents here and now;
- The LDP needs to raise awareness of how one individual's small change can add up to a significant impact.

Online Survey

- 3.29 There was no dispute about the importance of tackling climate change but there was a wide range of opinions on the best course of action. The main issues raised by respondents in terms of mitigating climate change were improving **public and active transport**, encouraging **local renewable energy generation**, the **density of housing development and its location** vis-à-vis services, and **energy efficiency in housing**, particularly social house.
- 3.30 In terms of adaption, the need to respond to flood risk, water scarcity and food security were the main issues noted. Sequestration was mentioned by a number of respondents, mainly protection woodland. Issues around the Just Transition were also raised.
- 3.31 In response to the question '**How do you think the LDP can help to address the Climate Emergency?**' respondents mentioned a wide variety of issues as shown by the word cloud created from the answers:

- Put recycling bins on streets
- Build local authority affordable and social housing to higher norms
- Energy efficient social housing.
- Housebuilding in East Lothian is progressing too quickly and should be slowed down. Making those houses more energy efficient won't reduce the impact of the building works, nor will it reduce the use of cars.

Adaptation

- Denser development means less land area needed for buildings and infrastructure which means more agricultural land.
- LDP must identify areas that are at rising risk of flooding due to climate change
- East Lothian farmland was always protected, we should value productive land and go back to being as self-sufficient as possible by growing food.
- What assessment is being made about how many additional homes can be realistically built in relation to expected future water stocks which will be affected by climate change?

Sequestration

- Protect woodland and focus on planting more trees, meadows etc – nature benefits and carbon storage
- Denser development means less land area needed for buildings and infrastructure which means more woodland.

Just transition

- NPF4 explains that an important part of addressing the Climate Crisis is ensuring a just transition
- Climate planning should not overlook the needs of residents here and now
- The LDP needs to raise awareness of how one individual's small change can add up to a significant impact.

Public Events

3.32 Several drop-in events were held as part of the Evidence Report public engagement in 2023 and below comments represent the most frequently raised issues relevant to climate change:















- Concerns about climate change and how its managed;
- Use of minewater as source of low carbon energy;
- Use more brownfield sites for new development;
- Protecting green space and encouraging nature corridors;
- Importance of green spaces;
- Impact of climate change on coastal paths (disappearing);
- Water have we got enough for more houses? In such a dry climate? Grey water for toilets, gardens;
- Aim towards complete self-sufficiency. Energy Food. East Lothian was the breadbasket of Scotland;
- Climate Forest Tree Planting;
- Musselburgh Flood Protection scheme – opportunity for nature based-solutions/opportunities;
- Park power opportunities for low carbon energy;
- Consideration of how to use this the site at Carberry for renewable energy (fewer land fill);





- Biodiversity net gain – combination of on-site delivery and off site/in local area e.g. climate forest [Crookston]
- Decarbonising energy partnership working with Midlothian for heat capture from the waste plant
- Use the Climate Change Strategy - it should be considered in every decision.

Children and Young People's consultation

Secondary Schools

3.33 Children and young people were asked what they would like to see done to help tackle climate change by questionnaire. Their suggestions were:

	Waste less food		Limit new building
	Better education on climate change		Protect nature and green areas
	Street lighting to encourage walking		Plant trees
	Bike to school scheme Bike shelters and rentals		Promote walking and cycling
	Limit flights		More buses / trains and cycle lanes
	More bins – especially recycling bins		More green energy
	Litter picking / beach cleans Volunteer groups		More env friendly packaging

	Encourage use of local products versus imported goods		Less reliance on palm oil and pesticides
	more Electric cars and chargers		More green spaces

Primary schools

3.34 One of the key findings of the engagement with Primary Schools were that children care about the world around them. Through the consultation process they showed an interest in engaging with discussions about housing and climate change. With regard to climate change, children recognised the role of trees, flowers and bees in looking after the planet. There is a lot of concern about this and a crossover with the theme of nature crisis. Creating diverse habitats is described as beneficial for wildlife and humans. For the future of East Lothian children would like to see more trees, ponds, flowers and animals. Trees are often mentioned as children are concerned that trees are being cut down, and there is a desire from children to plant more trees, ensure they are looked after and protected. Children describe this as important for wildlife, for us and to help address climate change.

3.35 Littering was mentioned in every school and was often a key concern for children. Littering was linked with concern about wildlife and climate change. While children recognised everyone's responsibility to use bins and recycle, they felt there should be more bins available.

"I care about the world around me. Stop littering and pollution." Child at Dirleton Primary School

3.36 Traffic has a significant impact on children's daily lives, affecting their ability to play out, how they travel to school and places they can visit. Cycle paths were a frequent suggestion as fun, environmentally friendly and a way to stay healthy. Children also mentioned the need to use cars less.

"We need fewer cars on the road and more safe crossing." Child at Sanderson's Wynd Primary School



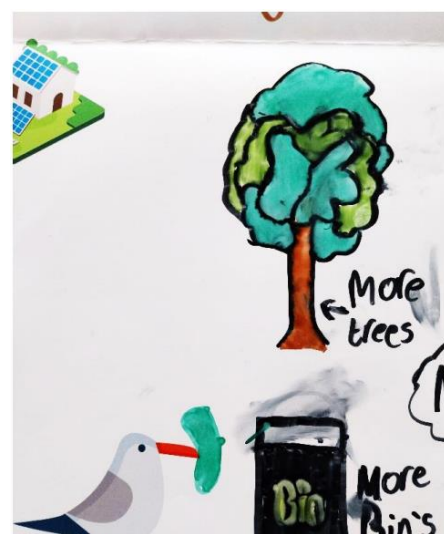
"Less cars more crossing" by child at Sanderson's Wynd Primary School

3.37 Nature crisis and climate change are closely connected for children. Many of the children's drawings of the future they'd like in East Lothian show trees, flowers, ponds, a clean environment. Unlike the other topics, climate change wasn't raised in all schools. When it was, children were passionate and knowledgeable about alternative energy sources.

"Trees, because if we have trees we can breathe, we should plant more woodland" Child at Aberlady Primary School
think we need more charging points for electric cars in the future." Child at Cockenzie Primary School

3.38 The Report of consultation with primary school children summarised what was important to the children for the LDP. In terms of climate change this was:

- More electric car charging points



"More trees, more bins." Child at Sanderson's Wynd Primary School

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next

- More use of solar and wind power
- More bins and recycling facilities.

In terms of Nature, which is linked to the climate crisis, what children identified as important to them was:

- Protect natural areas, parks and green spaces
- Create diverse habitats, including ponds
- Plant more trees and flowers
- Develop safe access to beaches, woods, parks and green spaces so children have frequent access to natural areas.

3.39 Other aspects they identified as important also have links to climate change such as cycle paths and safe walking routes, facilities for all ages and abilities.

3.40 'Significant points' identified in the report were that Engagement with children highlights the connections between the LDP themes of places we live, nature crisis, heath and climate change.

"Fewer cars would help with pollution and also make roads safer to walk." Child at Sanderson's Wynd Primary School.

3.41 Further details of the children's consultation process can be found in the Appendices to the Summary of Evidence Report Engagement Topic Paper (ELC 060).

WHAT THIS MEANS FOR THE PROPOSED PLAN?

3.42 The development of the Spatial Strategy will be underpinned by the need to address climate change and promote sustainable living. This will manifest itself in not just the consideration of housing, employment etc but also infrastructure e.g. substations, battery energy storage systems (BESSs), active travel routes, public transport connectivity.

3.43 The HLR proposed in the Evidence Report is set at a level that should be able to be accommodated without a negative impact on the climate, assuming that the most sustainable sites are chosen and proposals are delivered in the most sustainable manner.

Coastal Adaptation Plan

3.44 Over the next year, and to assist with the development of corporate policy a Coastal Adaptation Plan will be developed. Consultants have been engaged to progress this work and it will follow the following main steps:

- **Start-up, Site Walkover and Visual Assessment and Reporting of Existing coastline (Structures and natural defences)** including general structural inspection of the coastline. This will allow for a baseline assessment of the built and natural defences along the coast to be outlined and any key areas of risk identified.
- **Data Collation and Initial Consultation** This will include engagement on data with key stakeholders such as Nature Scot, Transport Scotland, Network Rail, and from local stakeholders, as required.
- **Define objectives of project and creation of key documents** Define objectives including reference to Scottish Government policy outcomes, features, benefits, issues and agree with stakeholders.
- **Technical Analysis of Existing and Future Coastal Change Risk Baseline Scenario**
- **Identification of key coastal change risks from erosion and flood risk**

- **Identification of the key risks in each proposed Coastal Zone.**
- **Strategic Environmental Assessment (SEA) Scoping Report, as required**
- **Consultation** With key stakeholders and/or the community. An opportunity for the public to input their thoughts on current risks to both built and natural environmental features and infrastructure in the initial phase to assist understanding of risks along the coast.

Phase 2 – Adaptation Plan (Policy Development)

Review of Phase 1 and management principles

- **Development of preferred policy scenarios and management approach** Different scenarios and policy options for management will be considered and discussed and potential scenarios (e.g. No Active Intervention, Managed Realignment etc.)
- **Identify preferred policy for each Coastal Change Management Area** The Preferred Plan will be drafted and will set out the intent of the plan within each area of the **Coastal Change Management Area**.

Public Consultation on the Proposed Approach (and Draft Plan in later stage)

- **Confirm consultation strategy**
- **Public Consultation**
- **Prepare consultation report and response**

Preparation of CCAP Document

- **Prepare CCAP Document** Using the Coastal Change Management Units (CCMU), policy scenarios and trigger point assessment, the document will outline a range of actions, linked to trigger points to outline a managed adaptive approach to managing East Lothian's coastline in the short and long term.

Finalise Plan

- **Agree revision and edits to the draft CCAP**
- **Finalise the CCAP**
- **Publish CCAP**

Liveable Neighbourhoods

- 3.45 New residential developments should be located and designed with pedestrians and cyclists' accessibility as a primary consideration. The context of the site and its surroundings as important factor as it will influence any final design. It needs to be remembered that new residential developments can support existing as well as new services such as retail, hospitality and leisure but can also put pressure on other existing services and infrastructure such as schools, health, or transport.
- 3.46 Building lifecycle considerations – we need to ensure that buildings are resilient to damage and can be reused, and where this is not possible that materials from the demolition process should be reused and recycled.
- 3.47 Can future LDP include requirements for developers to design buildings in a way that makes it easy to use them for different purposes (flexible design) and enable a maximum disassembly / recycling at the end of their life.

Resilient buildings

- 3.48 Climate change effects need to be considered by designers, developers and planners. We can expect:

- More frequent and intense rain, leading to pressure on drainage, and a higher risk of flooding;
- More frequent 'extreme weather' such as storms, which may damage buildings.
- Buildings and the site layouts including trees and general landscape will need to be designed to mitigate these climate effects. Elaborate but in principle focus on overheating, reducing the urban heat island effect, reducing the risk of flooding by using green roofs and walls, which capture water, and using sustainable drainage systems (SuDS) etc;

Retrofit

3.49 As well as thinking about how new buildings can reduce carbon emissions and be resilient against climate change, we also need to think about how our existing buildings can be upgraded to make them more efficient. This is known as 'retrofit'.

Food availability

3.50 NPF4 gives greater emphasis on the protection of agricultural land. However, much of the land around settlement in East Lothian is prime agricultural land. Locations close to existing settlement, especially that with good facilities and transport links, may be the best for climate change mitigation in terms of local living and availability of public transport. The LDP will have to consider how to balance this. Could more personal growing space be provided (gardens) which could be used in times of need? Or would that be outweighed by reduction in density that would be likely to increase transport emissions?

AREAS WHERE THERE IS AGREEMENT OR DISPUTE ON ISSUES AND POSSIBLE APPROACHES.

3.51 There are no disputes on this Topic. NatureScot, SEPA and Historic Environment Scotland commented on this Topic Paper. When they were consulted and the themes they raised are highlighted in the Summary of Evidence Report Engagement Topic Paper (ELC 060).