Rochford New Local Plan:

Spatial Options Consultation 2021

Topic Paper 2: Climate Change and Resilient Environments

Temporary Cover

Contents

Advisory Note

The National Planning Policy Framework (NPPF) was subject to a formal revision in July 2021, just before these papers were published. As a consequence, paragraph numbers and other references to the 2019 NPPF made in this document may no longer relate exactly to the latest version of the NPPF.

The principles set out in referenced paragraphs have not been subject to extensive change and references made are therefore still considered to be accurate reflections of national policy.

1 What is this topic paper about?

1.1 Rochford District Council is preparing a new Local Plan that will cover the period up to 2040. As a comprehensive and up to date evidence base is essential for plan preparation, the Council has prepared a range of technical studies, both in house and through external consultants, to support this process.

1.2 To help summarise the key topics that the new Local Plan will need to address, a series of 'topic papers' have been prepared to explain the national policy and legislative context for key topics and to set out how those key topics relate to local challenges and opportunities. These topic papers will be published alongside the Spatial Options consultation paper, allowing interested parties to understand these key topics in greater detail than what is contained in the consultation paper alone.

2 Introduction

2.1 This topic paper has been prepared to assess the national and local policy context for biodiversity and nature to consider what should be incorporated into the new Local Plan, covering the period up to 2040.

2.2 It covers a broad range of climate change and environmental issues and summarises the latest available evidence relating to these matters. It also suggests how the Local Plan should deal with any important issues.

2.3 The topic of climate change and resilient environments takes in a range of issues that overlap. Issues covered in this topic paper include:

- Climate Change
- Energy
- Landscapes
- Flooding
- Minerals
- Waste
- Air Quality

2.4 The issues of biodiversity and open spaces contribute to resilient natural environments but have been addressed in separate topic papers.

3 National Planning Policy

3.1 Local planning authorities are required to address various requirements set out in national policy and legislation in preparing their local plans, including the National Planning Policy Framework (NPPF, February 2019) and supporting National Planning Practice Guidance (NPPG).

3.2 At the heart of the NPPF is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking.

3.3 The NPPF and accompanying NPPG sets out a number of issues relating to climate change and resilient environments that Local Planning Authorities must take into account in the preparation of their Local Plans. The climate change and resilient environment issues[1] relevant to plan-making include the following:

National Planning Policy Framework (NPPF)
Note: Minerals and Waste Planning is the remit of Essex County Council. Section 17 of the NPPF and the separate Planning Policy for Waste set out the detailed national policies for minerals and waste. These are relevant to the new Local Plan but are general implemented in separate plans prepared by Essex County Council and are therefore not included in the below summary.
Strategic policies should set out an overall strategy for the pattern, scale and quality of development, and make sufficient provision for (inter alia) the conservation and enhancement of the natural, built and historic environment, including landscapes and green infrastructure, and planning measures to address climate change mitigation and adaptation (Paragraph 20)
The planning system should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure. (Paragraph 148)
Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures.Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure. (Paragraph 149)
New development should be planned for in ways that: a) avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure; and b) can help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government's policy for national technical standards. (Paragraph 150)

[1] Biodiversity and open space issues are addressed in separate topic papers

To help increase the use and supply of renewable and low carbon energy and heat, plans should: a) provide a positive strategy for energy from these sources, that maximises the potential for suitable development, while ensuring that adverse impacts are addressed satisfactorily (including cumulative landscape and visual impacts); b) consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure their development; and c) identify opportunities for development to draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co-locating potential heat customers and suppliers. (Paragraph 151)
Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere. (Paragraph 155)
Strategic policies should be informed by a strategic flood risk assessment, and should manage flood risk from all sources. They should consider cumulative impacts in, or affecting, local areas susceptible to flooding, and take account of advice from the Environment Agency and other relevant flood risk management authorities, such as lead local flood authorities and internal drainage boards. (Paragraph 156)
All plans should apply a sequential, risk-based approach to the location of development – taking into account the current and future impacts of climate change 4– so as to avoid, where possible, flood risk to people and property. They should do this, and manage any residual risk, by: a) applying the sequential test and then, if necessary, the exception test as set out below; b) safeguarding land from development that is required, or likely to be required, for current or future flood management; c) using opportunities provided by new development to reduce the causes and impacts of flooding (where appropriate through the use of natural flood management techniques); and d) where climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to relocate development, including housing, to more sustainable locations. (Paragraph 157)
In coastal areas, planning policies and decisions should take account of the UK Marine Policy Statement and marine plans. Integrated Coastal Zone Management should be pursued across local authority and land/sea boundaries, to ensure effective alignment of the terrestrial and marine planning regimes. (Paragraph 166)
Plans should reduce risk from coastal change by avoiding inappropriate development in vulnerable areas and not exacerbating the impacts of physical changes to the coast. They should identify as a Coastal Change Management Area any area likely to be affected by physical changes to the coast, and:

a) be clear as to what development will be appropriate in such areas and in what circumstances; and b) make provision for development and infrastructure that needs to be relocated away from Coastal Change Management Areas. (Paragraph 167)
Planning policies and decisions should contribute to and enhance the natural and local environment by: a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan); b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland; c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate; d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures; e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate. (Paragraph 170)
Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should: a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life; b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation. (Paragraph 180)
Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should

be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan (Paragraph 181)

Planning policies should:

a) provide for the extraction of mineral resources of local and national importance, but not identify new sites or extensions to existing sites for peat extraction;

b) so far as practicable, take account of the contribution that substitute or secondary and recycled materials and minerals waste would make to the supply of materials, before considering extraction of primary materials, whilst aiming to source minerals supplies indigenously;

c) safeguard mineral resources by defining Mineral Safeguarding Areas; and adopt appropriate policies so that known locations of specific minerals resources of local and national importance are not sterilised by non-mineral developmentwhere this should be avoided (whilst not creating a presumption that the resources defined will be worked);

d) set out policies to encourage the prior extraction of minerals, where practicaland environmentally feasible, if it is necessary for non-mineral development to take place;

e) safeguard existing, planned and potential sites for: the bulk transport, handling and processing of minerals; the manufacture of concrete and concrete products; and the handling, processing and distribution of substitute, recycled and secondary aggregate material;

f) set out criteria or requirements to ensure that permitted and proposed operations do not have unacceptable adverse impacts on the natural and historic environment or human health, taking into account the cumulative effects of multiple impacts from individual sites and/or a number of sites in a locality;

g) when developing noise limits, recognise that some noisy short-term activities, which may otherwise be regarded as unacceptable, are unavoidable to facilitate minerals extraction; and

h) ensure that worked land is reclaimed at the earliest opportunity, taking account of aviation safety, and that high quality restoration and aftercare of mineral sites takes place.

(Paragraph 204)

National Planning Practice Guidance (NPPG)

There is a wide range of guidance set out under this topic in various sections of the NPPG, including:

- Climate Change
- Natural Environment
- Renewable and low carbon energy
- Flood risk and coastal change

Because of the quantity of guidance within this topic, only the most relevant paragraphs have been included below. Separate sections of the NPPG are also available for minerals and waste.

CLIMATE CHANGE

There are many opportunities to integrate climate change mitigation and adaptation objectives into the Local Plan. Sustainability appraisal can be used to help shape appropriate strategies in line with the statutory duty on climate change and ambition in the Climate Change Act 2008.

Examples of mitigating climate change by reducing emissions:

- Reducing the need to travel and providing for sustainable transport
- Providing opportunities for renewable and low carbon energy technologies
- Providing opportunities for decentralised energy and heating
- Promoting low carbon design approaches to reduce energy consumption in buildings, such as passive solar design

Examples of adapting to a changing climate:

- Considering future climate risks when allocating development sites to ensure risks are understood over the development's lifetime
- Considering the impact of and promoting design responses to flood risk and coastal change for the lifetime of the development
- Considering availability of water and water infrastructure for the lifetime of the development and design responses to promote water efficiency and protect water quality
- Promoting adaptation approaches in design policies for developments and the public realm

Engaging with appropriate partners, including utility providers, communities, health authorities, regulators and emergency planners, statutory environmental bodies, Local Nature Partnerships, Local Resilience Forums, and climate change partnerships will help to identify relevant local approaches.

Climate change risk assessments can support the production of Local Plans by informing the Sustainability appraisal.

Local risk assessments can be used to identify those climate risks, including those arising from severe weather events, the planning system can address. Risk assessments could consider the implications for the built environment and development, infrastructure, services and biodiversity, and their subsequent implications for vulnerable groups and community cohesion. Identifying those impacts which pose most potential risk or disruption to the provision of local services will enable vulnerability to be assessed and areas suitable for development to be identified and adaptation responses to be put in place.

Other parts of a Local Plan's evidence base will also include information on climate change risks, such as the Strategic Flood Risk Assessment and Water Resource Management Plan and water cycle studies. Infrastructure providers hold information on the extent of supply and network constraints and their existing plans to reinforce

those networks and capacity. Other service providers may also have carried out risk assessments that have implications for planning, such as health and social service providers.
Every area will have different challenges and opportunities for reducing carbon emissions from new development such as homes, businesses, energy, transport and agricultural related development. • Robust evaluation of future emissions will require consideration of different emission sources, likely trends taking into account requirements set in national legislation, and a range of development scenarios. • Information on carbon emissions at local authority level has been published by the government for 2005 onwards, and can be drawn on to inform emission reduction options. Information is also available on GOV.UK on how emissions are reported against the national target to reduce the UK's greenhouse gas emissions by at least 80% (from the 1990 baseline) by 2050. • The distribution and design of new development and the potential for servicing sites through sustainable transport solutions, are particularly important considerations that affect transport emissions. Sustainability appraisal should be used to test different spatial options in plans on emissions. • Different sectors may have different options for mitigation. For example, measures for reducing emissions in agricultural related development include anaerobic digestion, improved slurry and manure storage and improvements to buildings. In more energy intensive sectors, energy efficiency and generation of renewable energy can make a significant contribution to emissions reduction.
Where energy efficiency improvements require planning permission local planning authorities should ensure any advice to developers is co-ordinated to ensure consistency between energy, design and heritage matters. Many improvements to homes and other buildings may not require planning permission. Further guidance can be found on the Planning Portal's interactive house and in the When is permission required? guidance.
The National Planning Policy Framework expects local planning authorities when setting any local requirement for a building's sustainability to do so in a way consistent with the government's zero carbon buildings policy and adopt nationally described standards. Local requirements should form part of a Local Plan following engagement with appropriate partners, and will need to be based on robust and credible evidence and pay careful attention to viability. In this respect, planning authorities will need to take account of government decisions on the Housing Standards Review when considering a local requirement relating to new homes. If considering policies on local requirements for the sustainability of other buildings, local planning authorities will wish to consider if there are nationally described

standards and the impact on viability of development. Further guidance can be found under Viability.

Different rules apply to residential and non-residential premises. In their development plan policies, local planning authorities:

- Can set energy performance standards for new housing or the adaptation of buildings to provide dwellings, that are higher than the building regulations, but only up to the equivalent of Level 4 of the Code for Sustainable Homes.
- Are not restricted or limited in setting energy performance standards above the building regulations for non-housing developments.

The Planning and Energy Act 2008 allows local planning authorities to set energy efficiency standards in their development plan policies that exceed the energy efficiency requirements of the building regulations. Such policies must not be inconsistent with relevant national policies for England. Section 43 of the Deregulation Act 2015 would amend this provision, but is not yet in force.

The Written Ministerial Statement on Plan Making dated 25 March 2015 clarified the use of plan policies and conditions on energy performance standards for new housing developments. The statement sets out the government's expectation that such policies should not be used to set conditions on planning permissions with requirements above the equivalent of the energy requirement of Level 4 of the Code for Sustainable Homes (this is approximately 20% above current Building Regulations across the build mix).

Provisions in the Planning and Energy Act 2008 also allow development plan policies to impose reasonable requirements for a proportion of energy used in development in their area to be energy from renewable sources and/or to be low carbon energy from sources in the locality of the development.

LANDSCAPES

The National Planning Policy Framework is clear that plans should recognise the intrinsic character and beauty of the countryside, and that strategic policies should provide for the conservation and enhancement of landscapes. This can include nationally and locally-designated landscapes but also the wider countryside.

Where landscapes have a particular local value, it is important for policies to identify their special characteristics and be supported by proportionate evidence. Policies may set out criteria against which proposals for development affecting these areas will be assessed. Plans can also include policies to avoid adverse impacts on landscapes and to set out necessary mitigation measures, such as appropriate design principles and visual screening, where necessary. The cumulative impacts of development on the landscape need to be considered carefully.

For a designated landscape, the relevant management plan will contain further information on the area's particular character and beauty.

Where appropriate, landscape character assessments can be prepared to complement Natural England's National Character Area profiles. Natural England provides guidance on undertaking these assessments.

To help assess the type and scale of development that might be able to be accommodated without compromising landscape character, a Landscape Sensitivity and Capacity Assessment can be completed.

To demonstrate the likely effects of a proposed development on the landscape, a Landscape and Visual Impact Assessment can be used.

ENERGY

The National Planning Policy Framework explains that all communities have a responsibility to help increase the use and supply of green energy, but this does not mean that the need for renewable energy automatically overrides environmental protections and the planning concerns of local communities. As with other types of development, it is important that the planning concerns of local communities are properly heard in matters that directly affect them.

Local and neighbourhood plans are the key to delivering development that has the backing of local communities. When drawing up a Local Plan local planning authorities should first consider what the local potential is for renewable and low carbon energy generation. In considering that potential, the matters local planning authorities should think about include:

- the range of technologies that could be accommodated and the policies needed to encourage their development in the right places;
- the costs of many renewable energy technologies are falling, potentially increasing their attractiveness and the number of proposals;
- different technologies have different impacts and impacts can vary by place;
- the UK has legal commitments to cut greenhouse gases and meet increased energy demand from renewable sources. Whilst local authorities should design their policies to maximise renewable and low carbon energy development, there is no quota which the Local Plan has to deliver.

There is information below on community-led renewable energy initiatives.

There are no hard and fast rules about how suitable areas for renewable energy should be identified, but in considering locations, local planning authorities will need to ensure they take into account the requirements of the technology and, critically, the potential impacts on the local environment, including from cumulative impacts. The views of local communities likely to be affected should be listened to.

When identifying suitable areas it is also important to set out the factors that will be taken into account when considering individual proposals in these areas. These factors may be dependent on the investigatory work underpinning the identified area.

There is a methodology available from the Department of Energy and Climate Change's website on assessing the capacity for renewable energy development which can be used and there may be existing local assessments. However, the impact of some types of technologies may have changed since assessments were drawn up (eg the size of wind turbines has been increasing). In considering impacts, assessments can use tools to identify where impacts are likely to be acceptable. For example, landscape character areas could form the basis for considering which technologies at which scale may be appropriate in different types of location. Landscape Character Assessment is a process used to explain the type and characteristics of landscape in an area. Natural England has used Landscape Character Assessment to identify 159 National Character Areas in England which provide a national level database. Landscape Character Assessment carried out at a county or district level may provide a more appropriate scale for assessing the likely landscape and visual impacts of individual proposals. Some renewable energy schemes may have visual impacts on the marine and coastal environment and it may be appropriate to also to assess potential impacts on seascape character.

Identifying areas suitable for renewable energy in plans gives greater certainty as to where such development will be permitted. For example, where councils have identified suitable areas for large scale solar farms, they should not have to give permission outside those areas for speculative applications involving the same type of development when they judge the impact to be unacceptable.

In the case of wind turbines, a planning application should not be approved unless the proposed development site is an area identified as suitable for wind energy development in a Local or Neighbourhood Plan.

There is information in the rest of the guidance on technical considerations, criteria-based policies, buffer zones and decentralised energy.

Suitable areas for wind energy development will need to have been allocated clearly in a Local or Neighbourhood Plan. Maps showing the wind resource as favourable to wind turbines or similar will not be sufficient.

FLOOD RISK

The National Planning Policy Framework sets strict tests to protect people and property from flooding which all local planning authorities are expected to follow. Where these tests are not met, national policy is clear that new development should not be allowed. The main steps to be followed are set out below which, in summary, are designed to ensure that if there are better sites in terms of flood risk, or a proposed development cannot be made safe, it should not be permitted.

Paragraph 156 of the National Planning Policy Framework states that local planning authorities should take advice from the Environment Agency and other relevant

flood risk management bodies such as lead local flood authorities and internal drainage boards.

Lead local flood authorities (unitary authorities or county councils) are responsible for managing local flood risk, including from surface water, ground water and ordinary watercourses, and for preparing local flood risk management strategies. Local planning authorities should work with lead local flood authorities to secure Local Plan policies compatible with the local flood risk management strategy.

Local planning authorities should also take advice where relevant, from:

- Internal drainage boards: local planning authorities should confer with internal drainage boards where they exist to identify the scope of their interests.
- Reservoir undertakers: local planning authorities should discuss their proposed site allocations with reservoir undertakers to:
    - avoid an intensification of development within areas at risk from reservoir failure, and;
    - ensure that reservoir undertakers can assess the cost implications of any reservoir safety improvements required due to changes in land use downstream of their assets.
- Navigation authorities: Navigation authorities should be consulted by the local planning authority in relation to sites adjacent to, or which discharge into, canals – especially where these are impounded above natural ground level.

A change in use may involve an increase in flood risk if the vulnerability classification of the development is changed – see Table 2. For example, changing from industrial use to residential use will increase the vulnerability classification from 'less' to 'more' vulnerable. As changes of use are not subject to the Sequential or Exception tests, the local planning authority should consider when formulating policy what changes of use will be acceptable, having regard to the National Planning Policy Framework and taking into account the Strategic Flood Risk Assessment. This is likely to depend on whether developments can be designed to be safe and that there is safe access and egress.

The Strategic Flood Risk Assessment will be used to refine information on river and sea flooding risk shown on the Environment Agency's Flood Map for Planning (Rivers and Seas). Local planning authorities should use the Assessment to:

- determine the variations in risk from all sources of flooding across their areas, and also the risks to and from surrounding areas in the same flood catchment;
- inform the sustainability appraisal of the Local Plan, so that flood risk is fully taken into account when considering allocation options and in the preparation of plan policies, including policies for flood risk management to ensure that flood risk is not increased;
- apply the Sequential Test and, where necessary, the Exception Test when determining land use allocations;

• identify the requirements for site-specific flood risk assessments in particular locations, including those at risk from sources other than river and sea flooding; • determine the acceptability of flood risk in relation to emergency planning capability; • consider opportunities to reduce flood risk to existing communities and developments through better management of surface water, provision for conveyance and of storage for flood water.
This general approach is designed to ensure that areas at little or no risk of flooding from any source are developed in preference to areas at higher risk. The aim should be to keep development out of medium and high flood risk areas (Flood Zones 2 and 3) and other areas affected by other sources of flooding where possible. Application of the sequential approach in the plan-making process, in particular application of the Sequential Test, will help ensure that development can be safely and sustainably delivered and developers do not waste their time promoting proposals which are inappropriate on flood risk grounds. According to the information available, other forms of flooding should be treated consistently with river flooding in mapping probability and assessing vulnerability to apply the sequential approach across all flood zones.
As some areas at lower flood risk may not be suitable for development for various reasons and therefore out of consideration, the Sequential Test should be applied to the whole local planning authority area to increase the possibilities of accommodating development which is not exposed to flood risk. More than one local planning authority may jointly review development options over a wider area where this could potentially broaden the scope for opportunities to reduce flood risk and put the most vulnerable development in lower flood risk areas.
Residential development should be considered for a minimum of 100 years, unless there is specific justification for considering a shorter period. For example; the time in which flood risk or coastal change is anticipated to impact on it, where a development is controlled by a time-limited planning condition.

3.4 Above national policy there is a diverse legislative framework governing the role of planning in addressing climate change and resilient environments. These include:

- The Town and Country Planning Act 1990 which provides the overall planning law framework for England
- The Planning and Compulsory Purchase Act 2004 created a legal obligation on local planning authorities to mitigate and adapt to climate change
- The Climate Change Act 2008 introduced a statutory target of reducing carbon dioxide emissions to at least 80% below 1990 levels by 2050, with interim targets
- The Flood and Water Management Act 2010 addresses the threats of flooding and water scarcity

- The Planning and Energy Act 2008 sets out powers for local authorities to require a proportion of the energy need related to new development to be sourced in the locality of the development, through renewable or low-carbon generation

3.5 It is clear from legislation and national policy that local plans are one of the strongest tools to help a local area adapt to and mitigate the impacts of climate change, alongside providing protections to important landscapes, water sources and areas of coastal change.

4 What is the climate change and resilient environmental context for Rochford?

Flood Risk and Coastal Change Context

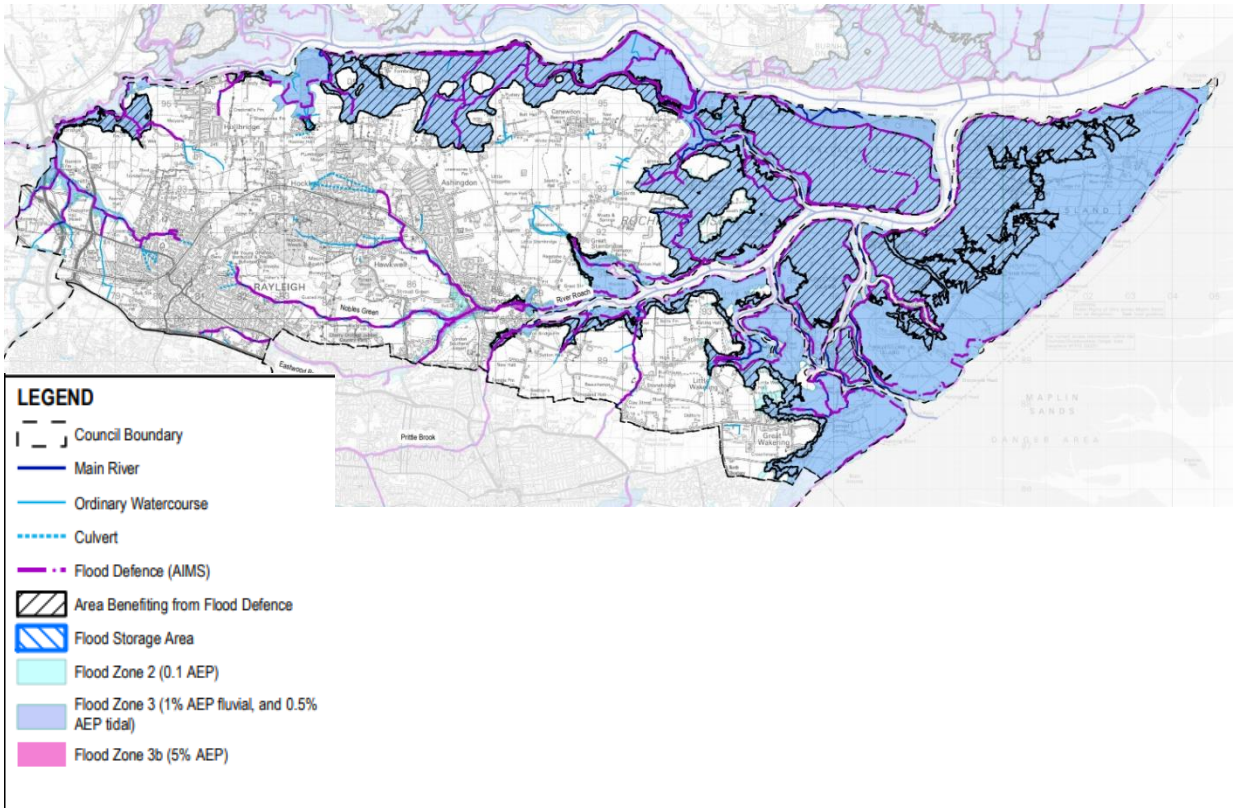
4.1 Significant parts of Rochford District are at greater risk of flooding from a variety of sources, including tidal, fluvial (rivers) and surface water.

4.2 The areas of greatest risk of flooding are those along our coastline, including our estuaries. Our inland areas, where much of the population resides, are generally well protected from tidal and fluvial flood risk, although some risk remains along the courses of brooks within main settlements.

4.3 A Level 1 Strategic Flood Risk Assessment (SFRA) has been prepared to identify the overall risk of flooding to different areas of the District over an extended period. This complements the Environment Agency Flood Map for Planning approach which seeks to categorise land based on the likelihood of a flood event in a given time period (e.g. 100 years).

4.4 Figure 1 below shows the overall risk of flooding from fluvial and tidal sources for Rochford District.

Figure 1: Risk of Flooding from Fluvial and Tidal Sources (SFRA, 2018)



4.5 Surface water flood risk in the Rochford District is predominantly located around the watercourses located within the district. Localised surface water flooding within the district can be accredited to topographic depressions and obstructions to surface water flow. A number of high risk surface water flow paths are located within the centre of Rochford as well as areas of Rayleigh and Hullbridge.

4.6 The lead local flood authority (LLFA) for Rochford District is Essex County Council. The Environment Agency (EA) also possess statutory responsibilities for managing flood risk across the country.

4.7 The new Local Plan will need to set a strategy that takes appropriate account of the risk of flooding from all sources. This includes taking the sequential approach to flood risk advocated in national policy, which means that vulnerable development like new housing should not be located in areas of higher risk of flooding unless there are no suitable areas available at lower risk of flooding.

4.8 Development will also need to ensure that localised flood risk is mitigated and managed through the appropriate use of Sustainable Drainage Systems (SuDS). These could include attenuation basins and ponds within a development that restrict the flow of flood water, mitigating the risk of a surge event. More information on SuDS is available in the Essex Design Guide.

4.9 In addition to flood risk, it is recognised that the District is also an area undergoing shoreline change. The Essex and South Suffolk Shoreline Management Plan was prepared in 2010 and aims to identify the best ways to manage flood and erosion risk to people and to the developed, historic and natural environment. It also identifies opportunities where shoreline management can work with others to make improvements.

4.10 The Shoreline Management Plan divides the coastline into sections and identifies by both section and timescales, areas where management realignment or no active intervention will be undertaken to prevent coastal change, including around Wallasea Island and Paglesham.

4.11 The new Local Plan will need to consider the implications of coastal change over a long period of time and ensure that current and future communities are safe from coastal changes. Plans are able to identify Coastal Change Management Area where rates of coastal change are likely to be significant over the next 100 years and restrict development which takes place in these areas.

Energy Context

4.12 Rochford District is an important location for local energy distribution, containing a large electricity distribution facility to the west of the District.

4.13 However in the context of energy generation, including low carbon and renewable energy, the District currently has fairly limited energy generating facilities, restricted to a small number of photovoltaic (solar) farms and one landfill gas plant.

4.14 The District is located relatively close to the potential new nuclear power station at Bradwell B. However, whilst a new power station in this location would likely provide opportunities for the District's economy, it is unlikely that land use requirements would result. Therefore, the ability for policies within the new Local Plan to influence Bradwell B is limited.

4.15 Given its coastal location and supply of undeveloped land, it is possible that Rochford District could be an appropriate location for low carbon and renewable energy generation of an appropriate scale. However at this time, the demand for locations in the District is difficult to determine as no approaches have been made requesting the allocation of an appropriate site in the context of the new Local Plan.

4.16 It may be appropriate to prepare an Energy Study either alongside other South Essex local authorities or alone, to establish how long term energy security can be guaranteed, including exploring opportunities for low carbon and renewable energy generation in the District itself.

4.17 At a smaller scale, an increasing number of buildings, including both homes and commercial facilities, are taking up opportunities for localised energy generation such as photovoltaic (solar) panels. The new Local Plan could set ambitious requirements relating to low carbon and renewable energy generation associated with new developments, including requiring a fixed percentage of energy demand from new developments to be met from low carbon and renewable sources.

4.18 The new Local Plan will also need to explore wider opportunities to minimise energy usage and promote energy self-sufficiency. This will require a joined up and integrated approach, ensuring that new buildings are as energy efficient as possible alongside ensuring that the energy they use is as renewable as possible. One possible initiative worth further exploration is the concept of district heating, where a large number of

houses are heated through integrated groundheat networks, as opposed to natural gas or electricity from a central grid.

4.19 The aforementioned Energy Study could be an appropriate mechanism for exploring how localised initiatives such as those identified above could be implemented in both existing and future neighbourhoods through appropriate policies in the new Local Plan.

Landscape Context

4.20 Rochford is a semi-rural area that benefits from some high quality and special landscapes.

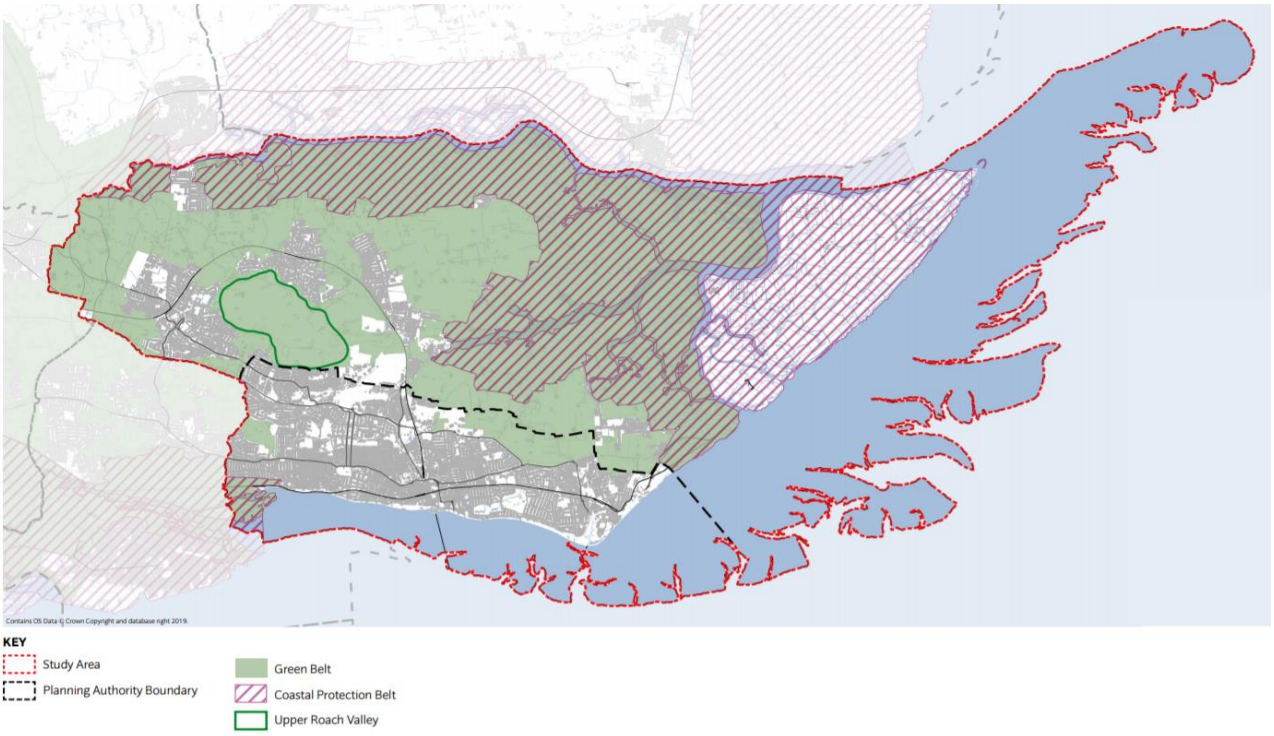
4.21 There are no statutorily protected landscapes in Rochford District, such as Areas of Outstanding Natural Beauty (AoNB), however the Council's existing Core Strategy identifies two areas with special landscapes and affords both of these areas protection from forms of development that would harm this special landscape character.

4.22 These two areas are:

- The **Coastal Protection Belt**: an area of land around the District's estuaries, protected for its special coastal landscape quality
- The **Upper Roach Valley:** an area of land in the heart of the District, protected for its special environmental landscape quality

4.23 These two areas are mapped in Figure 2 below.

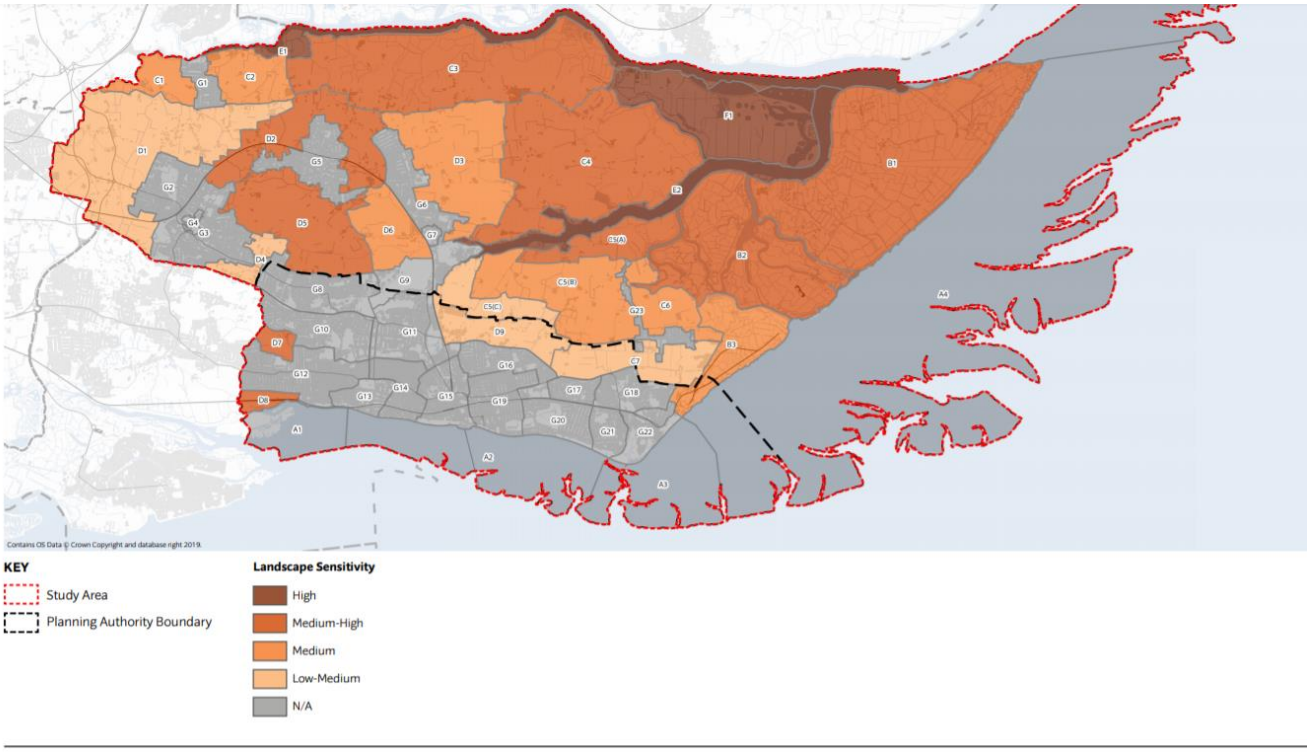
Figure 2: Existing Landscape Designations in Rochford District



4.24 In order to assess the character, sensitivity and capacity of landscapes and townscapes across the District, the Council commissioned Chris Blandford Associates to prepare a Landscape Character, Sensitivity and Capacity Study in 2020.

4.25 This Study identified the most sensitive landscapes along the coastline (incorporating much of the existing Coastal Protection Belt) and to the north and south of Hockley (incorporating the existing Upper Roach Valley). These areas were also amongst those with the least capacity to accommodate new development without harming their landscape character. Figure 3 below maps how different parts of the District performed in terms of landscape sensitivity, with darker shades indicating greater sensitivity.

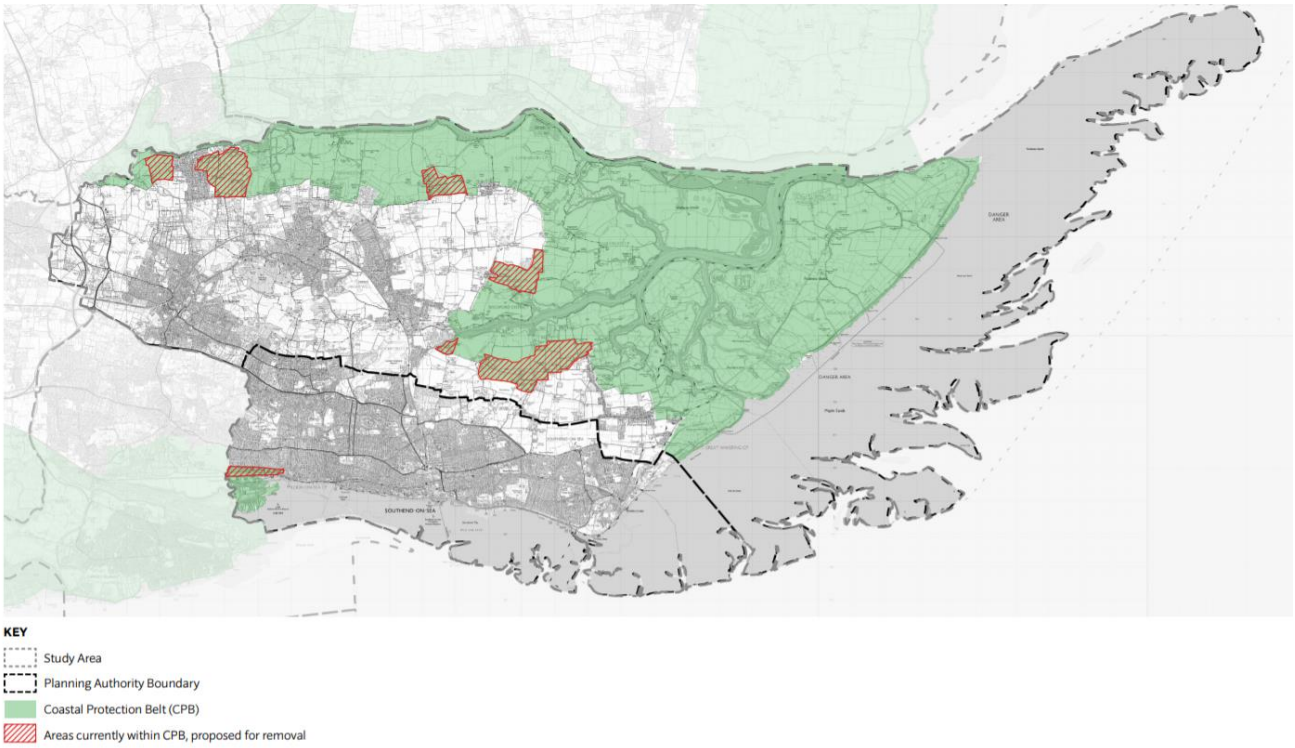
Figure 3: Landscape Sensitivity of Rochford District



4.26 The Study made a number of recommendations including to retain the existing boundary of the Upper Roach Valley special landscape area and to make minor amendments to the boundary of the Coastal Protection Belt where parts of the existing area do not hold the landscape quality to warrant their inclusion. The proposed amended boundary for the Coastal Protection Belt is illustrated in Figure 4 below.

4.27 Whilst landscape can be an important consideration in development across the District, the new Local Plan could continue to afford these two areas greater protections from forms of development that would harm their special landscape character.

Figure 4: Suggested Amendments to Coastal Protection Belt Boundary



Air Quality Context

4.28 Each local authority is required to review and assess air quality in their area in light of the national air quality objectives.

4.29 In Rochford, one area along Rayleigh Town Centre has been identified as an Air Quality Management Area (AQMA) in light of observed exceedances of NO2 levels in this area.

4.30 An Air Quality Management Plan has been published setting out how air quality will be improved in this area.

4.31 In the planning context, the new Local Plan will need to ensure that its strategy does not lead to any exceedances to air quality targets both within the Rayleigh Town Centre AQMA and in other areas. Until the air quality levels in the AQMA improve such that the AQMA can be revoked, development in or adjacent to this area will need to be restricted.

4.32 Whilst general air quality is getting progressively better in most places, due to a reduction in car and industrial emissions, new development can still create localised air quality issues. Evidence will need to be prepared as the new Local Plan is progressed to ensure the impacts of new development on air quality are well understood and appropriate mitigation is delivered, where necessary.

Minerals and Waste Context

4.33 Minerals and Waste Planning is the responsibility of Essex County Council. Separate Minerals and Waste Local Plans are prepared which set policies and make allocations for minerals and waste across Essex County, including Rochford.

4.34 As a result, there is a limited role for the Rochford new Local Plan to set minerals and waste policy; however it is important that the strategy and policies in the new Local Plan are compatible with the policies set out in minerals and waste plans.

4.35 The Essex Minerals Local Plan 2014 identifies a number of safeguarding and consultation areas relating to active and potential minerals resources. In Rochford, safeguarding areas exist for brickearth and sand and gravel. The Council will need to work closely with Essex County Council to ensure the strategy and policies of the new Local Plan give appropriate weight to the need to safeguard and/or extract these mineral resources.

4.36 The Essex and Southend-on-Sea Waste Local Plan 2017 sets out the local policies that apply to waste management across Essex County and the Southend-on-Sea unitary authority. The Waste Local Plan identifies a site for inert landfill at Dollymans Farm in the west of the District, close to the border with Basildon Borough. The Council will need to work closely with Essex County Council to ensure the strategy and policies of the new Local Plan give appropriate weight to the need to safeguard waste facilities.

5 Issues for the Local Plan to Address

5.1 The issue of climate change is a universal issue that has many components, including spatial issues such as flood risk, air quality and landscapes, and overarching issues such as energy use and carbon. As a result, there are a large number of spatial options for the plan to pursue, many of which would not be exclusive.

5.2 In addition to the key issues identified in this topic paper, it is also recognised that one of the key tools for planning to address climate change is in the application of standards for new buildings and developments. The Planning and Energy Act 2008 allows plans to set minimum standards for new housing that exceed the basic Building Regulations up to equivalency with Level 4 of the Code for Sustainable Homes, and up to no limit for commercial development. Our current plan requires commercial buildings to be built to the BREEAM ‘Very Good’ standard, subject to viability. Commercial buildings could in theory be built to even higher BREEAM standards, including the ‘Excellent’ standard, but the impacts of doing so on most commercial developments are prohibitive without external investment, e.g. from Government. It is noted that the Government is considering introducing a Future Homes Standard which aims to mandate net-zero carbon homes by 2050, with ‘zero carbon ready’ homes expected to be standard by 2025. At this time, it is not therefore fully known whether the new Local Plan will need to set detailed carbon and energy standards for new

buildings or whether standards will be set centrally. Nevertheless, options remain for the new Local Plan to set ambitious standards where justified as part of a wider strategy.

5.3 The options that have been identified for addressing climate change and resilient environments through the new Local Plan are:

Option	Explanation
Ensuring that the Plan strategy takes a sequential approach to flood risk including to locate vulnerable development away from areas at greater risk of flooding where possible	National policy requires plans to take a sequential approach to flood risk, that is to locate vulnerable development such as new houses away from areas at greater risk of flooding. In a practical sense, this would mean ensuring that land allocated in the plan for vulnerable new development was not located in areas at greater risk of flooding where suitable land exists at a lower risk of flooding and applying the same approach through planning applications. This would be informed by the existing Level 1 Strategic Flood Risk Assessment and a Level 2 Strategic Flood Risk Assessment looking at specific sites.
Supporting the delivery of on-site sustainable drainage systems to ensure that new developments do not worsen flood risk elsewhere and, where possible, lessen the risk	This option would be to ensure that new development sites were safe from flooding and that their development does not increase the risk of flooding elsewhere. The main way this can be achieved is to work with Essex County Council as lead local flood authority to ensure that sustainable drainage systems are used on all development sites where needed to address flood risk. Such systems could include attenuation basins, ponds or swales, or more sophisticated works where a need is identified.
Requiring certain new developments to source a proportion of their energy from renewable and low-carbon sources	The Planning and Energy Act 2008 allows plans to require new developments to source a proportion of their energy needs from renewable and low-carbon sources. This option would be to require new developments,

	including new housing and commercial sites, to provide for on-site or off-site low carbon or renewable energy generation at a suitable percentage of the ongoing needs of that development. The Council's current policies require this at 10% but it could theoretically be higher if justified by evidence
Designating appropriate locations within the District for low-carbon and renewable energy generation projects	The District may be an ideal location for low-carbon and renewable energy generation projects, such as solar or wind. This option would be to identify specific areas in the District where such projects are deemed appropriate, potentially informed by a dedicated Energy Study.
Identifying areas with special landscape character, such as the Coastal Protection Belt and Upper Roach Valley, and protecting them from inappropriate development through the plan	This option would be to continue protecting areas with special landscape character from forms of development that would harm that character, including the Coastal Protection Belt and Upper Roach Valley. The boundaries of the areas identified could be amended in line with the Landscape Character, Sensitivity and Capacity Study to ensure they best reflect the areas with greatest landscape sensitivity and avoid unduly restricting development in areas with more limited landscape quality.
Ensuring the plan supports the principles of the Essex and South Suffolk Shoreline Management Plan, including to consider designating coastal change management areas and ensuring the distribution of new development is compatible with planned coastal change	The District is an area that is expected to undergo some coastal change over the next 100 years as a consequence of coastal erosion and climate change. This option would be to ensure that the new Local Plan takes account of this coastal change and avoids vulnerable development in areas where coastal change is expected. This option could also include specifically identifying areas of land as coastal change management areas where the rate of coastal change is expected to be significant.
Requiring new development to be carbon neutral wherever possible, including as a first step requiring new	The Planning and Energy Act 2008 allows plans to set standards for new development in excess of the minimum building regulations. This option would

houses to be built to an energy efficiency standard equivalent to Level 4 of the Code for Sustainable Homes and new commercial developments to be built to BREEAM Excellent standard, and moving towards any net-zero standards introduced by Government at the earliest opportunity	be to ensure that all new domestic and commercial buildings are built to high sustainability standards, such as Level 4 of the Code for Sustainable Homes or the BREEAM 'Excellent' standards, or equivalent standards as may be introduced. This option could also include taking active measures to move towards net-zero standards introduced by Government at the earliest opportunity, including the proposed Future Homes Standard. It is likely that the planned Viability Study will need to consider the impact that these higher standards would have on development viability to ensure the requirement for higher standards does not prevent development coming forward. The alternative to this option is to simply require the minimum standard from the Building Regulations, which would not require a specific requirement in the new Local Plan.