

East of England Implementation Plan

Green Infrastructure, Landscape, Flood
Risk, Coastal Environments: Theme
Advice

November 2008

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1: The contribution of the Theme to the two strategies

- 1.1 Without doubt, the priorities and interventions captured by this theme are critically important in relation to the long term and sustained delivery of the region's two premier strategies. In part this reflects the importance of managing risk; the East of England is low lying with a long coastline and – in the context of climate change – fluvial and tidal flooding constitute risks that need to be mitigated and managed if the region's wider aspirations are to be achieved. This is also the driest of the regions and the contribution of this theme as part of an overall more sustainable approach to water resource management will be critical as climate change will only increase these challenges. But this Theme is also about the quality of the region's natural and built environment – recognising that this has its own intrinsic value but also a clear relationship to sustainability and economic, social, and cultural well-being. And this applies equally to rural, urban and coastal areas, and to areas which are set for substantial planned growth as well as those that are in need of regeneration.

Scope of the Theme

- 1.2 For the purposes of the Implementation Plan, the following definitions are used to define the Theme's principal elements:

Green Infrastructure

Green Infrastructure is a network of multi-functional green space, both new and existing, both rural and urban, which supports the natural and ecological processes and is integral to the health and quality of life of sustainable communities.

GI includes new and established green spaces, which should thread through and surround the built environment, connecting the urban area to its wider rural hinterland. It should be delivered at all spatial scales – regional, sub-regional, local and neighbourhood levels – and should accommodate both accessible natural green spaces within local communities and much larger sites in the urban fringe and wider countryside.

Landscape:

'landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors'¹.

- 1.3 For the purpose of the Implementation Plan, there is a need also to refer to the links between landscape, wildlife and other components such as the historic environment; all of these contribute to the character and distinctiveness of a place.

¹ Definition from the European Landscape Convention
http://www.coe.int/t/dg4/cultureheritage/Conventions/Landscape/default_en.asp

Coastal Environments

The coastal zone extends seaward and landward of the coastline. Its limits are determined by the geographical extent of coastal natural processes and human activities related to the coast. For planning purposes, however, as a general rule the limit of the coastal zone in the seaward direction is mean low water mark. Above mean low water mark, local planning authorities have powers to control the development and use of land under the Town and Country Planning Act 1990. (From the Government's Planning Policy Guidance 20: Coastal Planning, October 1992).

Flood risk

Flooding from rivers and coastal waters is a natural process that plays an important role in shaping the natural environment. However, flooding threatens life and causes substantial damage to property. The effects of weather events can be increased in severity both as a consequence of previous decisions about the location, design and nature of settlement and land use, and as a potential consequence of future climate change. Although flooding cannot be wholly prevented, its impacts can be avoided and reduced through good planning and management. Climate change over the next few decades is likely to mean milder wetter winters and hotter drier summers in the UK, while sea levels will continue to rise. These factors will lead to increased and new risks of flooding within the lifetime of planned developments. All forms of flooding and their impact on the natural and built environment are material planning considerations (from Planning Policy Statement 25 – Development and Flood Risk December 2006).

- 1.4 Reflecting on the definitions set out above, for the purposes of the Implementation Plan, the scope of the Theme may be summarised as follows.

Scope of the Green Infrastructure, landscape, flood risk and coastal environments Theme

Theme includes...

- Issues and interventions relating to biodiversity, woodland and habitats
 - Landscape, including countryside access
 - Green Infrastructure within and on the fringe of urban environments
 - Interventions concerned with managing and mitigating strategic flood risk
 - Interventions concerned with environments in coastal areas, including in relation to flood risk, etc.
 - Physical / visual aspects of "place shaping" (i.e. character, identity, landscape quality) – relating to both the natural and historical environment
-

Relationship to high level regional outcome targets from RES/RSS

- 1.5 There is no high level regional outcome target from either the RES or RSS relating straightforwardly or uniquely to the overall Theme of **Green Infrastructure, landscape, flood risk and coastal environments**. However the theme is clearly visible in the vision statements for the strategies. The delivery of the Theme is implicit in relation to the key regional outcome targets set out in RSS and RES:

- firstly, delivery of the Theme is an absolute imperative in achieving sustainable development and meeting the challenges of climate change. The Theme is critical in ensuring that the region is capable of reducing its “*impact on climate change and the environment, including through savings in energy and water use and by strengthening its stock of environmental assets*” (part of the vision set out in RSS)
- secondly, delivery of the Theme is integral to quality of life across the East of England – in urban, rural and coastal areas. This, in turn, is of great importance in ensuring that the region really is “*known for exceptional landscapes, vibrant places and quality of life*” (part of the vision set out in the RES)
- thirdly, the Theme encompasses a focus on coastal environments which are particularly vulnerable to the dynamic natural processes that give rise to coastal erosion and flood risk, and which are exacerbated by the impacts of climate change and sea-level rise.
- Fourthly, green infrastructure can offer a range of natural services which, by underpinning new development, can deliver increase resilience to the predicted impacts of climate change through, for example, providing for sustainable drainage, protecting water quality, alleviating flood-risk, moderating high summer temperatures and providing new habitats for wildlife. In addition it contributes to improving the quality of life, health and prosperity of people, businesses and visitors

1.6 In recognition of all four of these processes, the Theme has important potential impacts in relation to one of the highest level headline indicators from the RES and RSS: CO₂ emissions (while this theme does contribute to climate mitigation, it is more about climate adaptation). Although more difficult to demonstrate, it also – arguably – has an important, albeit second order, role in relation to water consumption and some key economic targets, most notably GVA per capita/worker.

Table 1-1: Summary - relationship between interventions linked to the **Green Infrastructure, landscape, flood risk and coastal environments Theme and their likely impacts on high level regional targets**

Headline Indicator	Target	Direct effects	Indirect effects	“Induced”/ second order
GVA per capita / per worker	Annual growth in real workplace-based GVA per capita of 2.3 per cent and GVA per worker of 2.1 per cent between 2008 and 2031		↑	
Employment rate	Employment rate for the working population of 80 per cent and for the 16-74 population of 70 per cent by 2031			
Earnings inequality	A rise in lower-quartile earnings to 60 per cent of average earnings by 2031			
Water consumption	Per capita consumption of water by households in 2030 that is 20 per cent below 2008 levels, or 120 litres/head/day		↑	
CO ₂ emissions	End-user CO ₂ emissions in 2031 that are 60 per cent below 1990 levels	↑		
Skills – Leitch targets	Over 40 per cent of adults qualified to at least level 4, 68 per cent of adults qualified to at least level 3 and over 90 per cent of adults qualified to at least			

Headline Indicator	Target	Direct effects	Indirect effects	“Induced”/ second order
	level 2 by 2020 and maintained to 2031			
Net additional dwellings	508,000 (2001-21)			
Jobs growth	452,000 (2001-21)			
Affordable Housing	35% of new houses with planning permission granted after May 2008 are affordable			

Key: ↑ impacts ought to be positive in relation to the headline indicator; ↓ impacts likely to be negative in relation to the outcome indicator; ↔ impacts could be either positive or negative

High level projections and targets of relevance to the Green Infrastructure, Landscapes, Flood Risk and Coastal Environments Theme

1.7 These targets are a quantified expression of the region’s Vision. It is therefore appropriate to consider both how ambitious they are (i.e. the scale of the challenge that they represent), and the nature and extent of the contribution that might, logically, be provided through interventions linked to this Theme.

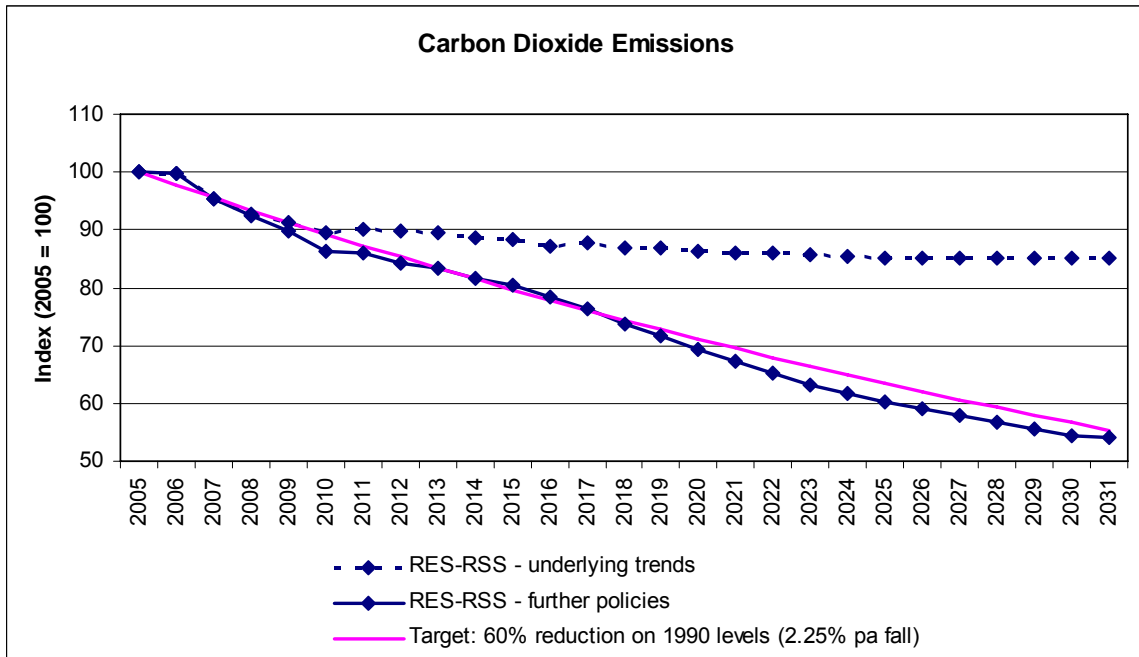
CO₂ emissions

1.8 Modelling work completed during the course of RES preparation provides some indication of the scale of the challenge linked to the CO₂ emissions target over the period to 2031: based on underlying trends, the target to 2031 is a stretching one. However the model suggests that if the policies set out in the two strategies are implemented, the target ought to be achievable. Interventions with regard to this Theme have a key role to play – although one that is difficult to quantify in very precise terms.

1.9 However, we know that emissions from transport are one key contributor. We know also that part of the rationale for investing in Green Infrastructure is to encourage non-car based modes of transport – principally walking and cycling. Hence we must conclude that interventions linked to Green Infrastructure do have some bearing on the pursuit of this target overall.

1.10 Additionally – and although it doesn’t relate directly to emissions *per se* – we know that both Green Infrastructure and landscape (as defined above) are important elements within the overall “carbon economy” and determinants locally of whether carbon neutrality is achieved in particular places and with regard to specific developments.

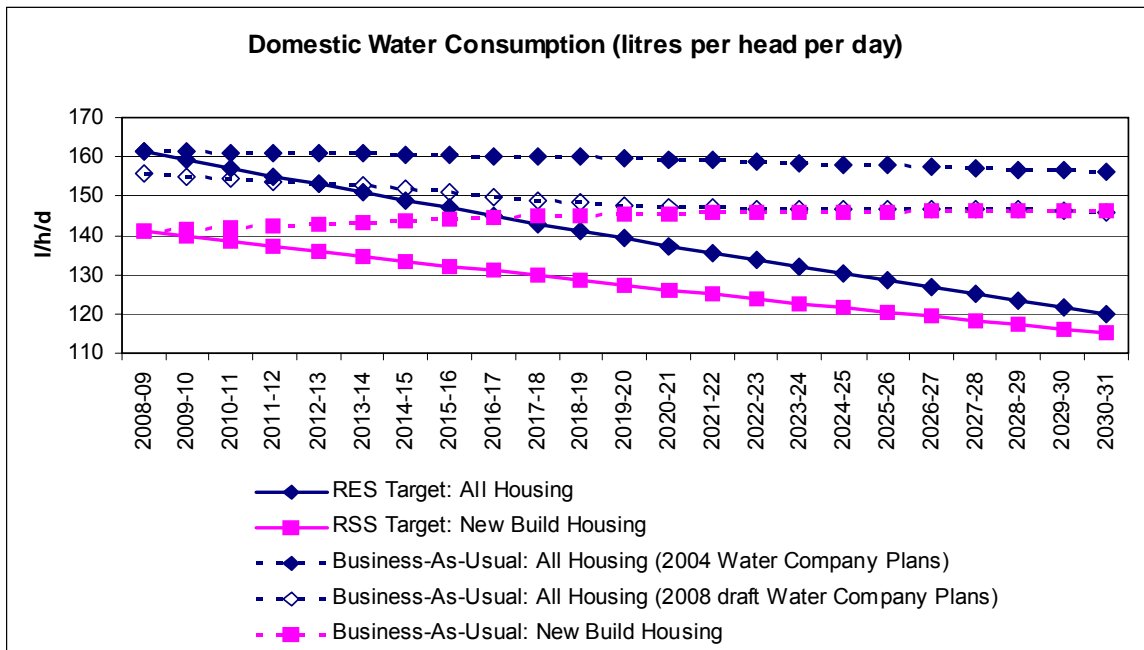
Figure 1-1: Carbon dioxide emissions – targets and trajectories



Water consumption

1.11 The East of England is the driest region in the UK and it has set itself some ambitious targets in relation to domestic water consumption, as Figure 2-2 below demonstrates.

Figure 1-2: Trajectories and targets with regard to water consumption



1.12 As part of an overall high standard of sustainable design and construction, green infrastructure has a role in helping manage our water resources more sustainably. There is a need to help to maintain water quality, by moderating run-off, reducing siltation and acting as natural purification system.

- 1.13 There is also a strong connection between the natural environment and water resource pressures. The region's characteristic wildlife depends on sufficient water availability for wetland functioning, natural processes influence water availability through aquifer re-charge, and environmental constraints influence water resource planning. Achievement of the RES and RSS water efficiency targets will make a major contribution to our natural environmental objectives. Carefully designed urban greenspace can also aid water cycle functioning.

GVA per capita

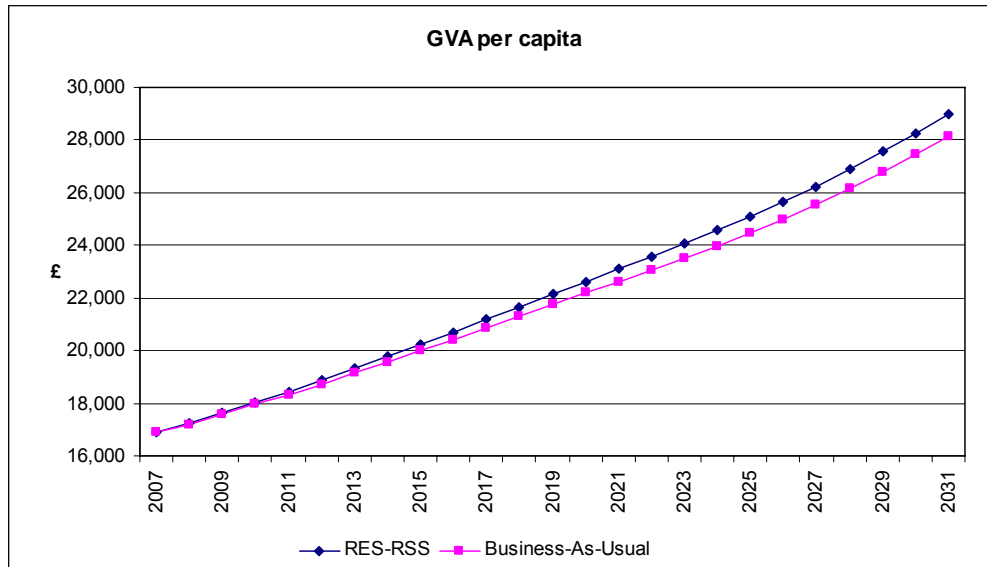
- 1.14 Figure 2-3 shows the gap between targets and trajectories in relation to **per capita GVA**. By 2031, the difference is approaching £1000 per capita per annum. Put another way, the trajectory is about 96% of the target. This suggests that the “gap” is not enormous, but it is significant.
- 1.15 The contribution of this Theme to GVA per capita outcomes is very difficult to quantify, but at least three different aspects are of importance:
- first, particularly through flood risk management, the Theme is critically important in protecting places such that businesses are prepared to invest and “do business”. It is self evident that if flood risk is not appropriately managed, business confidence declines, investment withers and output is lost. Studies have shown the GVA impacts linked to individual flood events to be substantial. In the summer of 2007, for example, the West Midlands region endured the most prolonged rainfall in 250 years. In total, nearly 1,500 businesses and over 8,000 households were flooded. The cost to the regional economy was estimated at between £159 million and £182 million in lost gross value added (GVA) output². *In extremis*, properties that are very prone to flood risk are impossible to insure and are very unlikely to be the focus of investment; if this applies at the level of whole settlements, the impact in terms of economic output is catastrophic. Climate change impacts are such that greater parts of the East of England need protection from flood risk for precisely these reasons.
 - second, landscape and Green Infrastructure are critical parts of what constitutes quality of life, and there is evidence that quality of life considerations affect business investment decisions. As set out in the RES: ‘Protecting and enhancing our green infrastructure is central to securing sustainable communities. Accessible networks of high-quality parks and other green spaces that link urban and rural areas provide diverse benefits to communities. The region should seek to create distinctive areas within and between cities and towns, enhance biodiversity, provide opportunities for leisure activities and deliver a sense of place and community’.
 - third, the coastal economies of the East of England are – in general – amongst the weakest. Improving their performance could have an important overall impact on per capita GVA. It is widely agreed that the relationship between the quality of coastal

² Economic impact of the summer floods, 2007 – Report by SQW Consulting to AWM, 2007

environments and processes of economic regeneration is an important one in the East of England³.

- fourth, both the RSS and RES put considerable emphasis on living within environmental limits. This theme has a significant contribution to the sustainability of the strategy.

Figure 1-3: Targets and trajectories: GVA per capita



How ambitions linked to Green Infrastructure, landscape, coastal environments and flood risk might be realised

- 1.16 Although indirect – and at times difficult to quantify – the Green Infrastructure, landscape, coastal environments and flood risk Theme clearly has a contribution to make in relation to the highest level targets and ambitions from the two strategies.
- 1.17 Against this backdrop, both RES and RSS set out some more specific imperatives in relation to the Theme. Overall, RSS has more to say than RES, but elements of the Theme are prominent within both strategies, as Figure 1-4 attempts to summarise.

Figure 1-4: Headline messages from both RES and RSS with regard to the **Green Infrastructure, landscape, flood risk and coastal environments** Theme

RES	RSS
Goal: Spatial Economy	Regional Policies
What will success look like, including	<ul style="list-style-type: none"> • SS1: Achieving Sustainable Development – including living within environmental limits, and adopting a precautionary approach in relation to climate change • SS7: Green Belt – maintaining the broad extent whilst revisiting some boundaries to meet development needs • SS8: Urban Fringe – appropriate use of land in urban fringe, including enhancing its character and appearance and its recreational and/or biodiversity value; providing networks of accessible Green Infrastructure linking urban areas and countryside; and setting targets for the provision of Green Infrastructure for planned urban extensions
<ul style="list-style-type: none"> • Enhanced profile for the region through its places, natural, heritage and cultural assets • Sustainability and vitality of rural areas • Renaissance of 	

³ Coastal Initiative Socio- Economic Research Final Report August 2008 Prepared by: Globe Regeneration Limited, Delta Simons and Glyn Owen Associates

<p>coastal towns</p> <p>Priority 2: Increasing economic gain from the region's distinctiveness and vitality</p> <p>Priority 3: Creating sustainable places for people and business</p> <p>Priority 4: Adapting the region's places to meet the challenges and opportunities of climate change</p> <p>Implementation priorities, including</p> <ul style="list-style-type: none"> • Protecting and conserving the region's key cultural and historic landscapes • Supporting the regional cultural initiative to develop a long term strategy for the East coast to progress an integrated approach to coastal zone management 	<ul style="list-style-type: none"> • SS9: The Coast – integrated approach recognising the needs for environmental protection and enhancement; the economic and social role of ports, seaside towns, coastal areas, etc.; and adaptation to the effect of sea level change • T9: Walking, cycling and other non-motorised transport – important in access to the countryside, urban greenspace and recreational opportunities • ENV1: Green Infrastructure – GI should be developed to maximise biodiversity value, contribute to carbon neutral development and flood attenuation, and develop networks for walking and cycling, etc. LDDs should define a multiple hierarchy of GI... Assets of regional significance are identified... • ENV2: Landscape Conservation – afford highest levels of protection to designated landscapes... LPAs develop area-wide strategies for countryside character areas... • ENV3: Biodiversity and Earth Heritage – protecting and enriching biodiversity, earth heritage and natural resources • ENV4: Agriculture, land and soils – promote and encourage expansion of agri-environment schemes • ENV5: Woodlands – encourage increase in woodland cover • ENV6: Historic Environment – protect, conserve and enhance the region's historic environment • WAT4: Flood risk management – defend existing properties from flooding and locate new development where there is little or no risk of flooding <p>Sub-Area/KCDC Policies, including</p> <ul style="list-style-type: none"> • CSR3: Green Belt – maintaining and enhancing the quality of Cambridge's setting • ETG1: Strategy for Essex Thames Gateway – protecting and enhancing natural and historic environments • LA1: London Arc – more positive Green Infrastructure use of neglected areas of green belt • LA2: Hemel Hempstead KCDC – substantial improvement to the image and quality of the town's built fabric and public realm, including multi-functional green space • etc.
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1.18 In the paragraphs that follow, we set out – in more detail – the imperatives deriving from each of the strategies in relation to key elements of the overall Theme.

Green Infrastructure

1.19 With regard to Green Infrastructure (GI), the clearest statement is in the East of England Plan. This includes a specific policy for GI, Policy ENV1, which is set out in full below.

<p>Policy ENV1: Green Infrastructure</p> <p>Areas and networks of Green Infrastructure should be identified, created, protected, enhanced and managed to ensure an improved and healthy environment is available for present and future communities. Green Infrastructure should be developed so as to maximise its biodiversity value and, as part of a package of measures, contribute to achieving carbon neutral development and flood attenuation. In developing Green Infrastructure opportunities should be taken to develop and enhance networks for walking, cycling and other non-motorised transport.</p> <p>Local Development Documents should:</p> <ul style="list-style-type: none"> • define a multiple hierarchy of Green Infrastructure, in terms of location, function, size and levels of use, based on analysis of natural, historic, cultural and landscape assets, and the identification of areas where additional Green Infrastructure is required; • require the retention of substantial connected networks of green space in urban, urban fringe and adjacent countryside areas to serve the growing communities in key centres for development and change; and • ensure that policies have regard to the economic and social as well as environmental benefits of green infrastructure assets and protect sites of European or international importance for wildlife. <p>Assets of regional significance for the retention, provision and enhancement of Green Infrastructure include:</p>

- the Norfolk and Suffolk Broads; the Norfolk Coast, Suffolk Coast & Heaths, Dedham Vale and Chilterns Areas of Outstanding Natural Beauty; and the Heritage Coasts (shown on the Key Diagram);
- other areas of landscape, ecological and recreational importance, notably the Community Forests (Thames Chase, Marston Vale and Watling Chase), the Brecks, Epping Forest, Hatfield Forest, the Lee Valley Regional Park and areas around the Stour Estuary, and
- strategically significant Green Infrastructure projects and proposals, such as the Great Fen Project, Wicken Fen Vision, the Milton Keynes to Bedford Waterway Park, and Green Infrastructure projects around the fringes of Greater London and associated corridors.

1.20 From Policy ENV1, and from RSS more generally, we can distil some key implementation priorities in relation to GI:

- to **identify, create, protect, enhance and manage** areas and networks of GI in order to
 - ensure an improved and healthy environment for current and future generations
 - maximise biodiversity value (linking with **Policy Env3**)
 - contribute to carbon neutral development (linking with **Policy ENG1**) and flood attenuation (linking with **Policy WAT4**)
 - ensure the conservation and enhancement of the region’s landscapes (linking with **Policy ENV2** but also **Policy ENV1**)
 - develop and enhance networks for non-motorised transport (linking with **Policy T9** and, more generally, the Transport Theme)
 - provide opportunities to locate Sustainable Drainage (SuDS) systems (**Policy WAT 4**)
 - provide greater adaptive capacity to meet the implications of climate change (e.g. flood attenuation and addressing heat island effects)
- to ensure that **LDDs** make appropriate provision for GI
- to recognise and respond to **assets of regional significance**, including protected landscapes (Suffolk Coast and Heaths, Norfolk Coast, Dedham Vale, Chilterns and the Broads Authority Area (**Policy ENV2**)), other areas of landscape/ecological/recreational importance (notably those referred to in **Policy ENV1** such as the Brecks and Epping Forest and linking with **Policy ENV3**), and key projects (e.g. Great Fen)
- to pay particular regard to “*settlements and surrounding areas proposed for regionally significant development, notably **KCDCs***” and also urban fringe areas (complementing **Policy SS8**)

1.21 The RES has less to say explicitly on GI [JB: don’t really agree with this eg see quote inserted above and other refs in the spatial geography section – it’s just that it comes later in the doc I think]. However within the spatial economy goal, reference is made to GI in the context of **Priority 2** (Increasing economic gain from the region’s distinctiveness and vitality). The surrounding narrative emphasises the role of GI in relation to sustainable communities and

stresses that “*the region should seek to create distinctive areas within and between cities and towns*”.

1.22 Key targets from RES/RSS of direct relevance to GI are set out in Table 1-2.

Target	Source
<ul style="list-style-type: none"> To maintain and increase the region’s network of GI 	RSS Policy Env1
<ul style="list-style-type: none"> Enhanced profile for the region through its places, natural heritage and cultural assets 	RES – spatial economy RSS Policy ENV2
<ul style="list-style-type: none"> Increased use of ecosystems services techniques in deriving comparative advantage in resource efficiency and climate change adaptation 	RES – spatial economy RSS spatial strategy

Landscape

1.23 For landscape, the key “anchor” from the two strategies is **Policy Env2** from RSS. This is set out in the box below.

Policy ENV2: Landscape Conservation

In their plans, policies, programmes and proposals, planning authorities and other agencies should, in accordance with statutory requirements, afford the highest level of protection to the East of England’s nationally designated landscapes (Figure 5) – the Norfolk and Suffolk Broads, the Chilterns, Norfolk Coast, Dedham Vale, and Suffolk Coast and Heaths Areas of Outstanding Natural Beauty (AONBs), and the North Norfolk and Suffolk Heritage Coasts. Within the Broads priority should be given to conserving and enhancing the natural beauty, wildlife and cultural heritage of the area, promoting public enjoyment and the interests of navigation. Within the AONBs priority over other considerations should be given to conserving the natural beauty, wildlife and cultural heritage of each area.

Planning authorities and other agencies should recognise and aim to protect and enhance the diversity and local distinctiveness of the countryside character areas identified on Figure 6 by:

- developing area-wide strategies, based on landscape character assessments, setting long-term goals for landscape change, targeting planning and land management tools and resources to influence that change, and giving priority to those areas subject to most growth and change;
- developing criteria-based policies, informed by the area-wide strategies and landscape character assessments, to ensure all development respects and enhances local landscape character; and
- securing mitigation measures where, in exceptional circumstances, damage to local landscape character is unavoidable.

1.24 In terms of consequential implementation priorities, the focus of **Policy Env2** is on protection and conservation. Additionally, however, reference is made to three actions to be reflected in the development of an Implementation Plan:

- the development of area-wide strategies, based on landscape character assessments
- taking steps to ensure that development respects and enhances local landscape character
- the development of a regional landscape strategy to inform the next RSS review⁴.

1.25 In developing the Implementation Plan, reference must also be made to key aspects of other policies from the Environment chapter from RSS. These include, in particular:

⁴ Stage I of which has now been completed by the Regional Landscape Forum

- from **Policy Env3 (Biodiversity and Earth Heritage)**, ensuring that key resources are protected and enriched
- from **Policy Env4 (Agriculture, Land and Soils)**, encouraging the sustainable use of water and soil, and promoting expansion of agri-environment schemes
- from **Policy Env6 (Historic Environment)**, identifying, protecting, conserving and enhancing historic urban and rural environments.

1.26 Key targets from RES/RSS of direct relevance to landscape are set out in Table 1-3.

Table 1-3: Key targets in relation to Landscape

Target	Source
<ul style="list-style-type: none"> • To increase woodland cover in particular to increase woodland cover in Thames Chase, Watling Chase and Forest of MV Community Forests to 30% by 2030 	RSS Policy ENV2, ENV5
<ul style="list-style-type: none"> • To develop and implement a regional landscape framework and strategy for the East of England 	RSS Policy SS8, SS9, ENV2
<ul style="list-style-type: none"> • To maintain, restore and create habitats by 2010 in accordance with the East of England priority habitat targets set out in Appendix B of the East of England Plan 	RSS Policy SS8, SS9, ENV3

Flood risk

1.27 Given its low-lying nature, flood risk management is a key theme within both of the key regional strategies.

1.28 RSS has a policy devoted to flood risk management. This is set out below.

Policy WAT4: Flood risk management

Coastal and river flooding is a significant risk in parts of the East of the England. The priorities are to defend existing properties from flooding and locate new development where there is little or no risk of flooding.

Local Development Documents should:

- use Strategic Flood Risk Assessments to guide development away from floodplains, other areas at medium or high risk or likely to be at future risk from flooding, and areas where development would increase the risk of flooding elsewhere;
- include policies which identify and protect flood plains and land liable to tidal or coastal flooding from development, based on the Environment Agency’s flood maps and Strategic Flood Risk Assessments supplemented by historical and modelled flood risk data, Catchment Flood Management Plans and policies in Shoreline Management Plans and Flood Management Strategies, including ‘managed re-alignment’ where appropriate;
- only propose departures from the above principles in exceptional cases where suitable land at lower risk of flooding is not available, the benefits of development outweigh the risks from flooding, and appropriate mitigation measures are incorporated; and
- require that sustainable drainage systems are incorporated in all appropriate developments.

Areas of functional floodplain needed for strategic flood storage in the Thames Estuary should be identified and safeguarded by local authorities in their Local Development Documents.

1.29 With regard to the Implementation Plan – from **Policy WAT4** – the specific priorities appear to be:

- any issues relating to the consistent and appropriate use of Strategic Flood Risk Assessments at a strategic level and sustainable drainage systems in the context of housing and other developments

- actions arising from the relationship between the region’s spatial strategy (especially in relation to KCDCs) (**Policy SS2** and **SS3**) and assessments of flood risk.
- 1.30 Issues with regard to flood risk – and the need to manage it – are recognised explicitly within the RES, particularly in the context of **Priority 4** from the spatial economy goal (Adapting the region’s places to meet the challenges and opportunities of climate change).
- 1.31 Additionally, there is a very close relationship between Implementation Priorities concerned with managing flood risk and those linked to coastal environments.
- 1.32 Key targets from RES/RSS of direct relevance to landscape are set out in Table 1-4.

Table 1-4: Key targets in relation to flood risk	
Target	Source
<ul style="list-style-type: none"> • To decrease the amount of development occurring in floodplains, other areas at risk from flooding and areas where development would increase the risk of flooding elsewhere 	RSS (Policies SS9 and WAT4)

Coastal environments

- 1.33 The final component of the Theme is coastal environments.
- 1.34 In RSS, **Policy SS9** is devoted to the coast. This calls for an integrated approach and hence is somewhat broader than “coastal environment” as defined in the context of this Theme. It sets out a requirement to protect and enhance coastal environments, and respond to the economic and social roles of the coast, and – in the context of sea level changes – to respond to the “adaptation challenge”. Clearly, however, these three imperatives may at times be irreconcilable. **Policy SS9** does not appear to provide any real guidance as to how these potential conflicts ought to be resolved. From the supporting narrative, it is however evident that the relationship between LDF processes and Shoreline Management Plans is critical and - for the Implementation Plan – it could be that the efficacy of this relationship is a particular focus.
- 1.35 The RES recognises the importance of coastal environments in the context of the spatial economy goal. It identifies – as an implementation priority – “*supporting the regional coastal initiative to develop a long term strategy for the East Coast to progress an integrated approach to coastal zone management*”.

Synthesis

- 1.36 Looking across the two strategies, Table 1-5 attempts to synthesise the principal outcome targets linked to this Theme.

Table 1-5: Regional outcome targets associated with the **Green Infrastructure, landscape, flood risk and coastal environments Theme**

Outcome targets of relevance to both RES and RSS with regard to the Green Infrastructure, landscape, flood risk and coastal environments Theme

Increased use of ecosystems services techniques in deriving comparative advantage in resource efficiency and climate change adaptation

Enhanced profile for the region through its places, natural, heritage and cultural assets recognising the tourism potential of specific regional features, both natural and built environment

Maintain and increase the region's network of Green Infrastructure and increase the amount and % of open space managed to green flag standards and accessibility

Protect and enhance the quality; diversity of and local distinctiveness of the region's designated landscapes and countryside character areas including the conservation and enhancement of key cultural and historic landscapes

Conservation of the coastal environment and coastal waters whilst ensuring that development is compatible with shoreline management plans and longer term flood management plans (also needs to reflect coastal environment links with coastal regeneration and coastal adaptation strategies)

Maintain the broad extent of green belt whilst achieving an overall regional target of 60% of development on previously developed land

Increase woodland cover (especially in the community forest areas)

Maintain, restore and create habitats by 2010 in accordance with the East of England priority habitats

Decrease the amount of development occurring in floodplains, other areas at risk from flooding and areas where development would increase the flood risk elsewhere

Maintain quality and distinctiveness by requiring complementary high quality new development

Ensuring environmental impacts of growth are limited (ENV 1)

RES commitment – development of biodiversity indicator

Source: Based on RES and RSS

2: Implementation imperatives – to 2021/31

On-going activity

- 2.1 Although the two regional strategies are new, the priorities linked to this Theme generally are not, and there is a range of on-going activity contributing to their delivery. The scope of interventions which are consistent – directly or indirectly – with this Theme, and the objectives/ambitions/responsibilities it encompasses, is enormous. In highly summarised form, Table 3-1 overleaf attempts to map some of the on-going activity onto the identified joint outcomes from RES/RSS (set out in Table 1-5).

Table 2-1: Mapping on-going activity linked to the Theme to joint outcomes from RES/RSS

Activity	Principal links to identified RES/RSS outcomes
<p>Rural Development Programme for England (RDPE). The current 7 year programme was launched as a regional programme within an overall national framework in 2007. It consists of about £50m per year agri-environment money and about £10m per year of other rural development funding. Environmental Stewardship scheme is targeted towards biodiversity, landscape and historic environment conservation and resource protection</p>	<ul style="list-style-type: none"> • Enhanced profile for the region through its places, natural, heritage and cultural assets recognising the tourism potential of specific regional features, both natural and built environments • Protect and enhance the quality; diversity of and local distinctiveness of the region's designated landscapes and countryside character areas including the conservation and enhancement of key cultural and historic landscapes • Increase woodland cover (especially in the community forest areas) • Maintain, restore and create habitats by 2010 in accordance with the East of England priority habitats • RES commitment – development of biodiversity indicator
<p>Catchment sensitive farming. This is a programme of about £2m or so per year for 3 years focussed on farm management activities to reduce river pollution</p>	<ul style="list-style-type: none"> • Outcomes linked to water quality
<p>Water company price review. Water companies produce investment plans as part of periodic price reviews, and part of this investment covers an environmental investment to reduce point source water pollution and damaging abstractions. The programme currently being negotiated includes about £70m over 5 years to improve water quality and abstraction pressures</p>	<ul style="list-style-type: none"> • Outcomes linked to water quality
<p>Green Infrastructure Strategies, many funded through GAF/PoD. GAF/PoD funding was “top sliced” in order to generate resource to funding GI strategies across the region's growth areas and growth points. Many of these strategies are now in place and a review is available at Annex A</p>	<ul style="list-style-type: none"> • Maintain and increase the region's network of Green Infrastructure and increase the amount and % of open space managed to green flag standards and accessibility • Increased use of ecosystems services techniques in deriving comparative advantage in resource efficiency and climate change adaptation • Ensuring environmental impacts of growth are limited (ENV 1)
<p>Biodiversity Action Plan funding. About £2m per year to support local recording, local biodiversity partnerships, and biodiversity projects</p>	<ul style="list-style-type: none"> • Enhanced profile for the region through its places, natural, heritage and cultural assets recognising the tourism potential of specific regional features, both natural and built environments • RES commitment – development of biodiversity indicator • Maintain, restore and create habitats by 2010 in accordance with the East of England priority habitats
<p>Protected areas programme funding. About £1m per year devoted to SSSI protection activities in the region</p>	<ul style="list-style-type: none"> • Protect and enhance the quality; diversity of and local distinctiveness of the region's designated landscapes and countryside character areas including the conservation and enhancement of key cultural and historic landscapes

Activity	Principal links to identified RES/RSS outcomes
<p>River Basin Management Plans. Major regulatory and investment programme designed to get rivers and lakes to 'good status' in terms of water quality by 2027, unless programmes are disproportionately expensive</p>	<ul style="list-style-type: none"> • Outcomes linked to water quality • Increased use of ecosystems services techniques in deriving comparative advantage in resource efficiency and climate change adaptation
<p>Coastal access / trails review. Potential legislation in 2009 to make provision for access along whole of coastline. Natural England also undertaking a national review of the role of National Trails</p>	<ul style="list-style-type: none"> • Conservation of the coastal environment and coastal waters whilst ensuring that development is compatible with shoreline management plans and longer term flood management plans (also needs to reflect coastal environment links with coastal regeneration and coastal adaptation strategies) • Enhanced profile for the region through its places, natural, heritage and cultural assets recognising the tourism potential of specific regional features, both natural and built environments
<p>Marine nature reserves. Potential legislation in 2009 to designate a series of marine reserves which would restrict fishing and other damaging activities; likely to be in place by end of strategy period</p>	<ul style="list-style-type: none"> • Conservation of the coastal environment and coastal waters whilst ensuring that development is compatible with shoreline management plans and longer term flood management plans (also needs to reflect coastal environment links with coastal regeneration and coastal adaptation strategies) • Enhanced profile for the region through its places, natural, heritage and cultural assets recognising the tourism potential of specific regional features, both natural and built environments
<p>LAA work. 7 top tier local authorities have chosen N197 biodiversity (county wildlife sites) as a designated or local indicator in the current 3 year LAAs. This is providing momentum for attention and investment in county wildlife sites. Most top tier authorities have also chosen climate adaptation as a designated indicator (N188). Go-East have recommended that the adaptation plans under this indicator should cover biodiversity and coastal adaptation</p>	<ul style="list-style-type: none"> • Protect and enhance the quality; diversity of and local distinctiveness of the region's designated landscapes and countryside character areas including the conservation and enhancement of key cultural and historic landscapes • Conservation of the coastal environment and coastal waters whilst ensuring that development is compatible with shoreline management plans and longer term flood management plans (also needs to reflect coastal environment links with coastal regeneration and coastal adaptation strategies) • RES commitment – development of biodiversity indicator
<p>Lottery funding – the £143 million lottery-funded green initiative was rolled out across England from April 2008, and NE has £25 million to roll out on the Access to Nature programme. Grants will be made up to £500k</p>	<ul style="list-style-type: none"> • Enhanced profile for the region through its places, natural, heritage and cultural assets recognising the tourism potential of specific regional features, both natural and built environments • Protect and enhance the quality; diversity of and local distinctiveness of the region's designated landscapes and countryside character areas including the conservation and enhancement of key cultural and historic landscapes
<p>Landfill Tax provision for GI in the region is through the SITA Trust Enriching Nature programme, which provides funding to support species and habitats that have been identified as a priority by the Biodiversity Action Planning process. This is an £18 m programme across England, and £1.1. million has been provided for East of England from 2005-08</p>	<ul style="list-style-type: none"> • Maintain and increase the region's network of Green Infrastructure and increase the amount and % of open space managed to green flag standards and accessibility • Enhanced profile for the region through its places, natural, heritage and cultural assets recognising the tourism potential of specific regional features, both natural and built environments • Protect and enhance the quality; diversity of and local distinctiveness of the region's designated landscapes and countryside

Activity	Principal links to identified RES/RSS outcomes
	character areas including the conservation and enhancement of key cultural and historic landscapes

How far on-going activity is likely to take us

- 2.2 From the on-going interventions outlined in Table 3-1, we estimate that the following ought to be achieved:

Green Infrastructure

- Green Infrastructure provision will be increased, particularly across the region's growth areas and growth points (see Annex A)

Landscape

- SSSI condition will be gradually improved towards the target of 95% in favourable condition. But pressures will remain / increase from economic and housing growth, water resource scarcity, coastal pressures etc.
- biodiversity in the wider countryside will be improved to an extent, especially that relating to farmland habitats and freshwater quality, but we do not have the programmes in place to meet our overall BAP targets or other longer term visions.
- there will be modest improvements in the condition of county wildlife sites
- access provision will be increased, especially around the coast, and to some extent inland
- there will be some maintenance and improvements in landscape character as a result of agri-environment, Green Infrastructure funding and other investments

Remaining challenges

- 2.3 However, in relation to the scale of ambition – set out in Chapter 1 – significant gaps remain. These will need to be addressed if the aspirations of the policies and goals set out in RES and RSS are to be achieved in the period to 2021/31.

Green Infrastructure

- 2.4 While the provision of Green Infrastructure should increase significantly, it is unlikely to be provided elsewhere to the extent envisaged by the strategies that have been prepared across many of the region's growth areas and growth points (which map onto many of the region's KCDCs). Some of the key issues emerging with regard to the delivery of GI strategies are examined in detail in Annex A. A review of these strategies suggests that across the region:

- local authorities could secure the provision of GI through making its provision a key part of the Local Development Framework, and making the appropriate connections to its role for health, recreation etc. within Sustainable Community Strategies, through Local Strategic Partnerships and in Local Areas Agreements.
- in many cases, the number of priority GI projects identified within local partnerships is sizeable – generally over 20. With funding in short supply, it may be that more

attempt should be made to prioritise, based on some assessment of value for money and strategic impact, etc.

- in some cases, the sheer number of partners involved in the development of GI strategies is causing challenges with regard to prioritisation and implementation. Looking ahead, there may be a need for firmer governance arrangements and clearer decision-making in order to accelerate delivery. This appears to be a particular issue where regional boundaries are involved
- in a number of areas, GI officer posts are being funded (through time-limited GAF/PoD resources) as part of the delivery process. There may be a need to consider the sustainability of these arrangements and to assess – region-wide – whether there are economies of scale to be gained through any kind of centralised resource and/or whether there is anything to be gained by “mainstreaming” the delivery of GI
- some strategies are stronger than others in making the links between investment in GI and wider outcomes/impacts which are highlighted in RES/RSS
- all of the strategies appear to rely heavily on GAF/PoD monies for their implementation, although other sources – notably from local authorities – have also been levered in. The sustainability of funding must be a concern.

2.5 In the light of these – and other – concerns, it is likely that there will be a shortfall against best practice norms e.g. Accessible Natural Greenspace Standards (ANGST). This will include gaps in strategic Green Infrastructure provision (e.g. meeting the objectives of the Green Arc vision). There will also be gaps in revenue funding to ensure continuing management and quality of the Green Infrastructure resource.

2.6 However, there are a range of potential funding streams – e.g. GAF, CIL, RIF, RFA – which could potentially be used to enhance the Green Infrastructure of the Region and these revenue streams will be critical in relation to longer term asset management. To meet the objectives of the RSS/RES, Green Infrastructure needs to be put on a par with more conventional infrastructure requirements. The RFA2 process, and future funding provision, needs to rank Green Infrastructure alongside the other pre-requisites for sustainable communities. It needs to feature in the sums allocated in funding streams such as Growth Area Fund and from the Community Infrastructure Levy (CIL).

2.7 Developer contributions should work with other public funding streams to ensure that Green Infrastructure underpins new areas of growth. The delivery of Green Infrastructure will benefit from local authorities using the powers which will be enacted through the Planning Bill to set a Community Infrastructure Levy (CIL). Failing this, individual S106 agreement negotiations can help fund GI. The advantage of CIL is that contributions can be pooled and used to address strategic areas of growth, including sub-regional growth initiatives, involving one or more local authorities.

2.8 When operational the Regional Infrastructure Fund should be used to advance fund GI which may be partly reimbursed through S106 developer contributions or CIL

- 2.9 Overall then, there will be continuing pressures on Green Infrastructure and the quality of landscapes and habitats as a result of the planned developments in the RSS. The magnitude and nature of these pressures will depend on location and design but are likely to require increased investment in mitigation and buffering.

In Chapter 3 we set out a programme which has been developed in response: **Sustaining investment in Green Infrastructure.**

Landscapes

- 2.10 Significant gaps remain in terms of ambitions to re-build the fragmented countryside and to develop more regionally significant natural assets, and improve local distinctiveness across the region, especially in the context of significant growth. This is despite efforts of successful projects such as the Great Fen. Moreover, there are currently no consistent programmes addressing how landscape character will be protected, enhanced and restored across the region.
- 2.11 Additionally, there will be remaining gaps in water quality and water resource needs where existing programmes are potentially insufficient to cope with major issues (e.g. Broads water quality). This may act as a constraint on development objectives. There will be significant difficulties in ensuring enough water for our landscape and habitat objectives given the pressures of growth and climate change. In Chapter 3 we set out a programme which has been developed in response: **Developing regionally significant landscapes and habitats.**
- 2.12 There will be a significant gap in programmes and resources to meet Biodiversity Action Plan (BAP) habitat and species targets that are less reliant on agri-environment or water sector investment. In Chapter 3 we set out a programme which has been developed in response: **Restoring habitats consistent with Biodiversity Action Plan (BAP) targets.**
- 2.13 Historic environment: in Chapter 3 we set out a programme which has been developed in response: **Improving the distinctiveness and quality of urban places in the East of England.**

Flood risk

- 2.14 In Chapter 3 we set out a programme which has been developed in response: **Flood risk and climate change adaptation.**

Coastal Environments

- 2.15 In Chapter 3 we set out a programme which has been developed in response: **Synergies between high quality coastal environments and the regeneration of coastal communities.**

3: Programmes

3.1 In the light of the remaining delivery imperatives set out in Chapter 2, a number of regional Programmes have been identified as a basis for moving forward. The delivery of these Programmes ought to be consistent with achieving the immediate aspirations for this Theme, as well as contributing substantively to the high level outcome targets for RES and RSS, set out in Chapter 1.

Programme name	1: Understanding the role of the historic and natural environment in relation to RES/RSS outcomes and impacts
Objectives and key components	<p>This programme is aimed at developing a robust evidence base through which the relationship between historic and natural environments and high level RES/RSS outcomes might be established and – where appropriate - quantified</p> <p>Underpinning this programme are essentially these key objectives:</p> <ul style="list-style-type: none"> • to recognise fully the role of the historic and natural environments in achieving the vision – and the high level targets – set out in the two premier regional strategies • to “make the case” for investment in the historic and natural environments, not just because of their intrinsic value, but also because of their contributions to wider objectives, specifically relating to the regional ‘quality of life offer’ • to generate meaningful indicators relating to biodiversity and the character of the historic and natural environments that might be used as part of a suite of indicators for monitoring progress towards the visions set out by RES and RSS at a high level • to develop the contribution of new tools and concepts such as the landscape framework and ecosystem services
Rationale for intervention	<p>The strategies emphasise the role of high quality landscapes for quality of life and attracting mobile entrepreneurial talent; we need to develop evidence to guide programme development for this objective.</p> <p>The RES has a specific commitment to biodiversity indicators and the RSS to the landscape framework</p> <p>Both strategies emphasise the need to live within environmental limits but it is widely acknowledged that our evidence base is insufficient for a robust assessment.</p>
Stage of development and delivery timescale (including phasing)	<p>Significant support for landscape and biodiversity recording but this still needs boosting to develop comprehensive evidence base</p> <p>More depth of research needed on types of natural environment investment that would raise profile of region</p> <p>Work on ecosystem services in the region has started but requires more research, especially in relation to opportunities for business.</p> <p>More work needed on cumulative impacts following Thames Gateway research</p> <p>Regional Intelligence centre has been established by EEDA but currently focussing on economic objectives.</p> <p>Need to develop more research evidence on potential contribution of natural environment to a healthy workforce</p>
Resource requirements, including total cost. Public sector funding secured, public sector funding required, and gap	<p>Overall resource requirements of £75-100k per annum</p>
Delivery processes and responsibilities	<ul style="list-style-type: none"> - Biodiversity indicator: EEDA with NE and biodiversity forum - Regional profile research: EEDA with NE, EET, EH

	<ul style="list-style-type: none"> - Landscape framework: EERA with regional landscape forum - cumulative impacts: EERA with EEEF and Sustainability East - Ecosystem services: Go East with EEDA and EEEF
Key constraints and issues regarding delivery	<p>Sufficient research funding to ensure a robust long terms monitoring and development programme.</p> <p>Ecosystem services evidence at early stages and likely to develop slowly over strategy period</p>
Expected outputs and outcomes	<p>Better understanding of state of wider biodiversity and sensitivity of landscapes.</p> <p>Better understanding of role of natural environment in economic strategy</p> <p>Better policy design to mitigate environmental impacts</p>
Link to high level RES/RSS outcomes	<p>Direct link to RES vision. Living with environmental limits underpins headline targets. Strong link via health and education to skills and hence to GVA. Healthy historic and natural environment will help attract and retain key workers – another key link to GVA.</p>
Spatial Dimensions	<p>Not specific</p>

Programme name	2: Improving the distinctiveness and quality of urban places in the East of England
Objectives and key components	<p>The East of England will only be a place in which people want to live, work and visit if the distinctiveness and quality of places – particularly urban environments – can be sustained (and even improved) in the context of the growth agenda. Within this overall context, the objectives of this programme are:</p> <ul style="list-style-type: none"> • to identify and then invest in good practice with regard to urban distinctiveness, particularly in the context of growth • to enhance the image of the region, especially as a high quality place in which to live and work • to conserve and promote the distinctiveness of smaller towns, including market towns
Rationale for intervention	<p>The East of England has unique environmental and cultural assets that can differentiate it from other regions in the UK and abroad. This includes the distinctive urban fabric and heritage of the region's cities and market towns, exceptional landscapes, habitats and coastal areas. Growth must be managed carefully to conserve these assets – but growth also offers opportunities to increase access, enjoyment and resources to manage these assets. Protecting and establishing a network of greenspaces in our, amongst the other services provided, will make urban places more attractive and desirable and attract inward investment .</p>
Stage of development and delivery timescale (including phasing)	<p>Front-load requirement to establish greenspace networks in SCS, throug LAAs and in LDFs. Establish early to secure through detailed masterplans rather than more complex retrofitting</p>
Resource requirements, including total cost. Public sector funding secured, public sector funding required, and gap	<p>Through local authority capital funding and revenue, support by GAF where available but everywhere by CIL/S106.</p>
Delivery processes and responsibilities	<p>As above</p>

Key constraints and issues regarding delivery	As above
Expected outputs and outcomes	Green space, heritage and biodiversity to be key aspects to design guidance and masterplanning for new communities
Link to high level RES/RSS outcomes	As above
Spatial Dimensions	As above

Programme name	
3: Sustaining investment in Green Infrastructure	
Objectives and key components	<p>A good number of the region's KCDCs and other growth locations have been successful in securing investment for Green Infrastructure through the planning process and through the Growth Area Fund / Programme of Development. Many have prepared Green Infrastructure strategies, plans and investment programmes. However there is a need to supplement and to sustain the long term benefits of this investment. In response, a number of programme-level objectives have been identified:</p> <ul style="list-style-type: none"> • to provide advice and guidance to ensure a comprehensive and appropriate approach to Green Infrastructure in each of the KCDCs • to develop new funding mechanisms (e.g. Community Infrastructure Levy, Regional Infrastructure Fund) to ensure that environmental and quality of life gains are delivered through growth • to identify sources of revenue funding and establish funding mechanisms such as endowments and trusts to sustain and maintain high quality Green Infrastructure assets, after the initial capital investment has been made • to provide advice and guidance to local authorities to facilitate the better negotiation and use of planning contributions such as S106 resources
Rationale for intervention	<p>Investment in high quality Green infrastructure networks helps deliver sustainable communities which meet climate change challenges and help support Government's wider policy agenda (health, education, skills, etc) . GI adds tangible value to a settlement in economic as well as social and environmental terms. By firmly establishing a high-quality natural environment in and around growth location, GI can significantly reduce costs for individuals, businesses and public bodies while enhancing the quality of life and health of residents, workers and visitors.</p> <p>GI provision delivers multiple services including:</p> <ul style="list-style-type: none"> • climate change adaptation and mitigation (through naturalistic sustainable urban drainage and flood management, green roofs, urban cooling from tree planting plus providing locations for non motorised travel, renewable energy, carbon sinks and local food production) • access, recreation, leisure and sustainable travel, improving the health and quality of life of residents, visitors and workers • sites, corridors and networks for enhanced biodiversity and landscape. • Enhancing the attractiveness and image of an area, helping to attract inward investment, increase property values and reduce crime
Stage of development and delivery timescale (including phasing)	<p>As above – factor in early – difficult to retrofit.</p> <p>Many growth locations have GI strategies in place or are in preparation (see Appendix c) and some have started on implementation. GI provision must be planned and help guide the development process and cannot be retrofitted, so investment and planning is a particular priority in the short term though GI delivery will continue over the growth cycle.</p>
Resource requirements, including total cost. Public sector funding secured, public sector funding required, and gap	<p>It is too early in the growth process in many areas to accurately cost the resource requirements for green Infrastructure delivery, but the early years of Growth areas Fund allocations were top-sliced 10% for GI investment, recognising the significant services and benefits that GI brings, and this continue in several KCDCs</p> <p>Ideally investment in Green Infrastructure would be covered by developer contribution fed back into landowner payment via CIL or S106 and through HGF, but there is evidence that this will be insufficient. Gaps include revenue funding for staff posts to coordinate GI implementation, upfront investment before development, revenue funding or endowments/trusts for long term maintenance, strategic or large scale GI that it is not immediately adjacent to development and</p>

	<p>finally regional scale assets that may serve several KCDCs (see programme 4 below),</p> <p>Around 5% of the proposed Regional Infrastructure Fund should be allocated to green infrastructure projects and programmes and GI aspects should also be included in other large infrastructure investments</p>
Delivery processes and responsibilities	<p>Local planning Authorities and Sub regional and growth partnerships – Local Development Frameworks, programmes of delivery,</p> <p>Natural England, Environment Agency, Forestry Commission, English Heritage</p> <p>As above</p>
Key constraints and issues regarding delivery	As above
Expected outputs and outcomes	Networks of multi-functional GI underpinning all major growth with ongoing management supported through S106, CIL, HGF, RIF and others.
Link to high level RES/RSS outcomes	<p>[This needs to set out the contribution of the programme to one or more of the high level RES/RSS targets, quantified if possible]</p> <p>CO2 emissions – role as carbon sink</p> <p>Net additional dwellings</p>
Spatial Dimensions	As above

Programme name	
4: Managing and developing regionally significant landscapes, habitats and green infrastructure assets	
Objectives and key components	<p>The quality of the wider natural environment is critically important in terms of perceptions of a region. The RES makes clear the need for the region to improve its 'offer' in terms of distinctive landscapes and both the RES and RSS recognise and support the importance of the region's landscapes, wildlife and open spaces. These include such unique and vulnerable environments as the Fens and the Broads, the Brecks and Thetford Forest, our extensive and varied coastline and areas of tranquil countryside. The existing AONBs and the Broads (part of the National Park family) are important national and regional assets and great strides have also been made through the multi-Agency Great Fen project. The aim must be to manage this existing assets carefully and develop similar scale initiatives elsewhere. Hence the objectives are:</p> <ol style="list-style-type: none"> 1. to invest in better management of The Broads, AONBs and other existing regional assets to ensure that these remain high quality assets and to mitigate for the effects of increased growth and associated visitor and recreation impacts • 2. to invest in a limited portfolio of major new large scale projects (to complement the green infrastructure programmes in key growth centres) which would (a) raise the profile of the region and offer new visitor destinations (b) provide integrated benefits in terms of landscape character, biodiversity and access provision and (c) address the shortfalls in the provision of access and accessible natural greenspace in some parts of the region • 3. to invest in one or more iconic species recovery projects – e.g. sea eagles, water voles, etc
Rationale for intervention	<p>This programme complements the sustained investment in green infrastructure (Programme 3 above) . Building on the success of projects such as the Great Fen, we need to develop the portfolio of major natural landscapes that will help emphasise the distinctiveness of a region and raise its profile, and act as a visitor and tourist resource.</p> <p>Recent research for EET emphasises the value of such assets. Tourism in the protected landscapes (Broads AONBs) and the Brecks in the East of England is worth over £844m, which accounts for 16% of the total value of tourism to the region. In 2006, there were over 13 million day and overnight trips to the East of England's protected landscapes and tourism-related employment totalled 17,313.</p> <p>All the new projects here are identified on the basis that (a) they have been scoped, (b) they are regionally significant in scale (c) they have the potential to make real contributions to large scale natural environment objectives, as well as wider social and economic goals. It may be that some of these big projects overlap with growth area strategies in which case they would be dealt with under</p>

	that investment programme.
Stage of development and delivery timescale (including phasing)	<p>1. £x million currently goes in to the direct management costs of the Broads and AONBs with well established governance arrangements and statutory management plans. The plans have identified: areas in need of enhancement; areas vulnerable to, or experiencing, damage and loss from increased growth; and priorities for projects to address these pressures.</p> <p>2.a. Some schemes are well established but need further investment to deliver the next stage of the vision: e.g.</p> <ul style="list-style-type: none"> - Great Fen - Wicken Fen - Brecks vision - Green Arc (inc Pincey & Stort Valley) <p>2b. Other schemes such as the Community Forests are well established but in need of further investment to secure the RSS objectives, eg:</p> <ul style="list-style-type: none"> - Thames Chase Community Forest - Marston Vale Community Forest <p>2c. Others are in earlier stages but represent a portfolio from which to prioritise investment in a small number of major landscape restoration schemes: eg:</p> <ul style="list-style-type: none"> - Cambridgeshire Hundreds & Chalk projects - Bedfordshire Chalk & Greensands projects - Wallasey managed realignment (see also coastal programme) - Nene Valley vision - Norfolk river valleys & Bure marshes - Hertfordshire wildwoods - Thameside Nature Park <p>Other, smaller scale, landscape restoration projects should be incorporated into the green infrastructure programme (below) or the biodiversity programme (below).</p> <p>3. Iconic species restoration or reintroduction programmes eg Sea eagles, water voles</p>
Resource requirements, including total cost. Public sector funding secured, public sector funding required, and gap	£5m per annum over strategy period
Delivery processes and responsibilities	<p>Some existing assets have good funding and governance/management mechanisms in place and</p> <p>HLF and other major sources, including Regional Infrastructure Fund and various biodiversity and landscape funds, plus developer contributions . Possible EU sources.</p>
Key constraints and issues regarding delivery	Needs sub-regional partnership with nothing coherent to bring partner Las and agencies together. Needs wide-buy, strong drive by initiating individuals or bodies
Expected outputs and outcomes	<p>Improvement in external perceptions of the region and strengthened regional identity</p> <p>Contribution to regional, national and international biodiversity and landscape objectives and obligations</p> <p>Higher numbers in outdoor recreation, increased economic value and employment in tourism and recreation sector</p>
Link to high level RES/RSS outcomes	<p>RES spatial geography priorities</p> <p>RSS objectives for landscape and biodiversity</p> <p>Contribution to rural tourism businesses</p>
Spatial Dimensions	<p>Particular focus in areas identified where there is a probable deficit in accessible greenspace and access infrastructure; these include fens, Cambridgeshire, SE Essex coast, parts of Norfolk and parts of south east of region.</p> <p>Focus mainly outside of current large scale protected areas eg AONBs for the creation of new assets, but focus for the programme for better management of</p>

	these assets.
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Programme name	
5: Restoring habitats consistent with biodiversity action plan (BAP) targets	
Objectives and key components	<p>This programme will also help deliver RSS policies for the regional biodiversity priorities that (a) can be more easily aligned to outcomes of the planning system, and (b) are likely to remain undelivered by other programmes such as agri-environment.</p> <p>The aim of this programme is to restore habitats which might otherwise be depleted/eroded as a consequence of growth processes. There are two immediate priorities:</p> <ul style="list-style-type: none"> • to invest in heathland recovery, possibly including dedicated access • to develop species plans for species affected by planning decisions (e.g. reptiles, invertebrates, etc.) • there may also emerge an objective around the regional woodland targets
Rationale for intervention	<p>Government legal and policy commitments to biodiversity – see PPS9 and biodiversity duty Address serious habitat fragmentation, create habitat networks, better ecosystem functionality and resilience to climate change. May in some cases allow new development to satisfy tough legal test imposed by Habitats Regulations.</p> <p>Some of the region's BAP objectives will be delivered by the agri-environment programme; others by initiatives such as water company investment plans and the Water Framework Directive. There will, however, be an element where the planning system, for example, can play a particular role, either through development plan policies or approaches to mitigation and after-care in individual planning decisions. This programme helps deliver some of the RSS policies for biodiversity.</p>
Stage of development and delivery timescale (including phasing)	10-15 year planning horizon for heathland restoration
Resource requirements, including total cost. Public sector funding secured, public sector funding required, and gap	<p>Approx £100,000 per year in direct heathland restoration programme</p> <p>Plus implications of planning obligations etc.</p>
Delivery processes and responsibilities	<p>Through work of Local Biodiversity Partnerships</p> <p>Through local planning authorities / LDDs</p>
Key constraints and issues regarding delivery	Funding and grant-aid constraints
Expected outputs and outcomes	<p>Regional (RSS) BAP heathland targets achieved</p> <p>Impacts of growth on biodiversity reduced</p>
Link to high level RES/RSS outcomes	<p>Living within environmental limits underlying theme</p> <p>RSS policies</p>
Spatial Dimensions	

Programme name	
6: Flood risk and climate change adaptation	
Advice to be developed	

Programme name	
7: Flood and coastal erosion risk management	
Objectives and key components	<p>We are committed to managing the risk and impact of flooding and coastal erosion. Our programme is prioritised nationally by the delivery of outcomes of the projects. These outcomes measure the number of households protected, habitats created and finances. Our programme comprises; construction of new capital assets, maintenance of existing assets, flood forecasting, flood warnings, habitat creation and flood mapping.</p>

	<p>The risk of flooding and coastal erosion is managed by:</p> <ul style="list-style-type: none"> • Defending areas where risk is significant and the proposed scheme is affordable and feasible • Maintaining defences where it is in line with our plan, affordable and feasible • Identifying areas at risk and warning people of the risks and imminent events • Informing people how they can mitigate risk, and cope with the effects of either flooding or coastal erosion • Managing development in areas at risk
Rationale for intervention	<p>The East of England Region has significant pressures on flooding from the sea and from rainfall. Our coastline is the most diverse in the United Kingdom, from Europe's largest area of Salt Marsh to the crumbling cliffs of North Norfolk. Our region is the driest in the country with the south of our region hosting a high proportion of the country's population. This area has significant development pressures especially regarding the Thames Gateway development.</p>
Stage of development and delivery timescale (including phasing)	<p>Our programme of works is driven by high level plans for catchments (Catchment Flood Management Plans) and sections of the coast (Shoreline Management Plans). These plans take a 100 year look at the geographical area and make recommendations as to the possible options. The programme takes a rolling 20 year view, though the certainty of specific schemes is reduced the further in the future they are planned.</p> <p>As an organisation we are also responsible for overseeing programmes of work delivered by other operating authorities (local authorities and inland drainage boards) to ensure that the high level plans are being adhered to.</p> <p>There are on-going planned strategies to review, maintain, improve or withdraw from existing defences. All strategies will take account of climate change and Government priorities for funding.</p>
Resource requirements, including total cost. Public sector funding secured, public sector funding required, and gap	<p>We have recently changed our structure and grown in size due to our new role. Our responsibilities have been extended to take an overseeing role of the coastline and to support the other operating authorities in their programmes.</p> <p>Funding is received in two ways; grant-in-aid and local income. Grant-in-aid is received from Defra and in the future it will be dependent upon the relative priority of schemes and activities within the Region compared with other schemes and activities identified for England as a whole. We have indicative figures for the next 3 financial years.</p> <p>The total annual investment for flood risk in the East of England is predicted to be £72M, which is split into £40M for capital schemes, £18M for maintenance activities, £14M for overheads and other costs. We expect the need for investment to rise, but this needs to be in line with current guidance and priorities.</p> <p>Our key schemes in the East of England over the next 3 years are:</p> <ul style="list-style-type: none"> • Happisburgh/Winterton 3B Works • Gt. Yarmouth Flood Defence - Remaining Works • Suffolk Estuarine Strategies, Blyth • Ipswich: Tidal Barrier • Ipswich: Implementation • Ipswich: East Bank Works • Ipswich: West Bank Works • Minsmere Flood Management Project • Brightlingsea Tidal Defences Phase 2 • Great Wakering <p>Small amounts of local funding raised through Regional Flood Defence Committees may be available for specific schemes that are locally important and not eligible for grant-in-aid. Schemes identified for this funding include the St Neots Flood Alleviation</p>
Delivery processes and	<p>The Delivery of the Flood and Coastal Erosion Risk Management Programme will be through the Environment Agency, Local Authorities (with responsibilities for</p>

responsibilities	fresh water and/or tidal flooding) and Inland Drainage Boards. A small proportion of our programme will be through enforcement of third party assets and developers through local planning process.
Key constraints and issues regarding delivery	Our key constraints are funding, resources and politics. Currently flooding is a politically sensitive topic, as we have limited funding and resources our decisions are always going to be scrutinised by stakeholders. A number of our habitat schemes (which are legal obligations and required by European Directives) are reliant on land purchase, a process notoriously slow and difficult due to protocol.
Expected outputs and outcomes	The programme is driven by delivery of benefits, called Outcome Measures (OMs). OM1 is the cost benefit ratio and it is averaged over the national programme. OM2 is the number of households moved from one risk band (either flood or coastal erosion) to a lower one. OM2b is the number of OM2 households which move from the very significant or significant risk bands to the moderate or low risk bands. OM3 is the number of households that fall in to the lowest 20% of Super Output Areas (SOA) when ranked by Indices of Multiple Deprivation. OM4 is the number of hectares of Site of Special Scientific Interest (SSSI) in recovering or favourable condition as identified by Natural England. OM5 is the net gain in hectares of Biodiversity Action Plan (BAP) habitat. From 2008-09 to 2010-11 our forecasts for OMs for the East of England are: OM2 11,057 Households OM2b 4,719 Households OM3 2,736 Households OM4 11,143 ha OM5 174 ha Because these figures are forecasts they are dependant on our schemes being of a high enough national priority to be awarded funding.
Link to high level RES/RSS outcomes	
Spatial Dimensions	

Programme name	8: To harness the synergies between high quality coastal environments and the regeneration of coastal communities, in the wider context of climate change
Objectives and key components	The objective of this programme is to address the range of issues that are facing coastal communities within the East of England, focusing principally on making the most of environmental assets as a lever for economic regeneration whilst also responding to the impacts of climate change. In essence, this Programme will develop and deliver integrated action plans in relation to four coastal areas: <ul style="list-style-type: none"> • Zone A: the coastal areas of King's Lynn and West Norfolk, and North Norfolk • Zone B: Great Yarmouth and Lowestoft • Zone C: coastal areas within the Haven Gateway • Zone D: coastal areas within Thames Gateway, plus Maldon
Rationale for intervention	The coast of the East of England is among the most environmentally rich, most scenic and economically diverse landscapes in the country. It is an extremely complex and dynamic environment. It is one of the region's most valuable – and often underrated and underutilised – assets. The coast is also home to some of our most deprived communities. Our coastal communities and economies face changes and pressures that, although different in character, are as challenging and far reaching as those facing communities directly affected by growth.

	<p>The coast and its communities also need to address some significant challenges associated with climate change; a fragile, changing coastline; and significant areas of high-value agricultural land and rare habitats vulnerable to flooding and salting.</p> <p>Within this overall context, there are significant risks to be managed and market failures to be addressed. For both reasons, there is a strong rationale for intervention.</p>
<p>Stage of development and delivery timescale (including phasing)</p>	<p>The East of England Coastal Initiative is a multi agency project, initiated by the Government Office, and steered by a partnership of EEDA; EERA; English Partnerships; the Environment Agency; Natural England; the coastal Local Authorities, represented by Norfolk County Council and Suffolk Coastal District Council; and Sustainability East</p> <p>It has identified a work programme which is divided, broadly, into three phases:</p> <ul style="list-style-type: none"> • Phase I: Information Gathering • Phase II: Development of a shared vision • Phase III: Action <p>Over recent months, substantial progress has been made with regard to Phase I. This culminated in the publication of two studies:</p> <ul style="list-style-type: none"> • North Norfolk Coastal Management Evidence Gathering Study: The focus of the study was on managing change, to minimise the negative consequences of coastal erosion. In many cases, this will require a process for moving assets (including property, infrastructure, utilities, etc.) from areas at risk and relocating them, here, defined as roll-back. This is likely to require some form of financial intervention or funding to enable property owners, businesses and organisations to roll-back. The combination of funding, enabling mechanisms and minimisation of negative consequences is defined as adaptation to coastal erosion. The impacts described in the study focused mainly on the individuals, businesses and communities at risk of erosion along NNDC's operational frontage (i.e. the eroding coastline); no consideration was given to assessing the impacts on the areas to which roll-back occurs (e.g. as a result of increased development in those areas). • Coastal Initiative Socio-Economic Research: This study was concerned with an analysis of economic, spatial and environmental contexts, the development of a scenario of growth and security for the coast and the development of a number of recommendations for development by the Coastal Initiative. <p>Following the publication of the two studies, a major conference was held on 13th October 2008. This was attended by well over 100 people, including representatives from 10 of the 14 local authorities from coastal areas in the East of England. The conference largely endorsed the evidence which was presented and agreed on the need for joint action.</p> <p>In this context, there are proposals to establish a Coastal Forum which may, potentially, have decision-making powers. Work is underway currently to define appropriate terms of reference and arrangements with regard to governance.</p> <p>Assuming the Coastal Forum – or something like it – goes ahead, there will then be a need for sustained action over the years ahead. The Globe Report set out three key recommendations in seeking to progress the Coastal Initiative:</p> <ul style="list-style-type: none"> • the development of an integrated plan of coastal actions for each of four coastal sub-areas which addresses the spatial, environmental and economic challenges of each area discretely cross referenced against appropriate RES targets and based on a clear pragmatic assessment for each areas of the scope to achieve better alignment between employment and housing moderated against flood risk • that a formal commitment to coastal proofing is made by all public sector organisations involved in coastal development and that the coastal initiative takes forward the responsibility of establishing and codifying the methodology for this • the development of a process of assessing environmental values and threats that is within the Green Book methodology, but wider than current Defra departmental guidance.
<p>Resource requirements, including total cost. Public sector funding secured,</p>	<p>The resource implications of advancing the Coastal Initiative are – at this stage – unknown. They are likely to be substantial.</p> <p>That said, the Coastal Initiative ought to embrace – and to some extent join up – a</p>

public sector funding required, and gap	<p>raft of on-going activity (the development of Shoreline Management Plans, etc.). Hence part of the cost will be one of co-ordination.</p> <p>More substantively, however, the Coastal Initiative needs to be part of a wide-ranging approach to climate change adaptation, focusing on the region's coastal areas. The key resource requirements will therefore relate to the implementation of the four integrated plans identified above</p>
Delivery processes and responsibilities	<p>The East of England Coastal Initiative was initiated by the Government Office, and steered by a partnership of EEDA; EERA; English Partnerships; the Environment Agency; Natural England; the coastal Local Authorities, represented by Norfolk County Council and Suffolk Coastal District Council; and Sustainability East. It is likely that all of these agencies and organisations will have a role with regard to its delivery</p>
Key constraints and issues regarding delivery	<p>The Coastal Initiative is attempting to address some seriously difficult and complicated issues and potentially, it needs to help make decisions about which parts of the coastline are defended and which are not. The governance of this process is extremely difficult and working this through will be a major challenge. It will need to involve a large range of partners and – given the nature of some of the issues – it will need to tie into political processes.</p> <p>Thereafter, the lack of available funding is likely to be a significant constraint.</p>
Expected outputs and outcomes	<p>In principle, the Coastal Initiative ought to result in coastal communities that are more sustainable in every sense – environmental, social and economic.</p> <p>The more immediate output from the initiative should be agreement as to the way forward with regard to the identification of priorities in each of four coastal "Zones".</p>
Link to high level RES/RSS outcomes	<p>This Programme relates to all nine of the high level RES/RSS outcomes insofar as they relate to the East of England coast.</p>
Spatial Dimensions	<p>This Programme is targeted at coastal locations throughout the East of England.</p> <p>Within this context, four distinct areas are identified and the issues relating to each will be addressed in a targeted way. They are:</p> <ul style="list-style-type: none"> • Zone A: the coastal areas of King's Lynn and West Norfolk, and North Norfolk • Zone B: Great Yarmouth and Lowestoft • Zone C: coastal areas within the Haven Gateway • Zone D: coastal areas within Thames Gateway, plus Maldon

Annex A: Review and assessment of existing Green Infrastructure strategies

- A.1 As part of the process of assessing the evidence base in relation to this Theme, existing Green Infrastructure strategies – which relate to many of the region’s Key Centres for Development and Change – were reviewed. Most of these had been developed with the assistance of funding from the Growth Area Fund (GAF) or Programmes of Development (PoD) process; this top-sliced available monies to ensure that steps were put in place to identify and respond to priorities locally with regard to Green Infrastructure as part of the development process.
- A.2 In the pages that follow, we summarise these existing GI strategies and plans, using a structured and consistent approach. At the end of the Annex, we make some summary observations with regard to the challenges linked to their long term implementation; these are issues that will need to be taken seriously in the context of the East of England Implementation Plan.

Review of individual strategies

Table A-1: Thames Gateway South Essex Greengrid Strategy	
Question	Summary
Area covered	<ul style="list-style-type: none"> • Thames Gateway Growth Area (part of Thurrock and Basildon, all of Castle Point)
Who developed the strategy and why	<ul style="list-style-type: none"> • TGSE Greengrid partnership (Las, LDVs, Govt env agencies, NGOs). Strategy 100% funded by CLG under GAF1 to provide a long term vision and strategic framework for environmental enhancement across the Growth Area. Strategy development 2004-early 2006
Summary of baseline conditions	<ul style="list-style-type: none"> • Key area for regeneration and growth with a wealth of existing environmental and historic assets, but with a negative image for both residents and inward investment. Poor linkage between settlements and assets due to East West aligned roads and railways
Future priorities identified	<ul style="list-style-type: none"> • Main opportunities and 3 strategic areas are identified spatially but no detailed business/action plan as yet, but to be prepared in 2009.
Targets and timescale	<ul style="list-style-type: none"> • None in the Strategy. Business Plan work aborted, due to restart 2009.
Implementation status/process	<ul style="list-style-type: none"> • Business/action planning was attempted, but constrained by TG wide policy development. 11/2007 Parklands Vision set out Govt’s 5 priority themes and 10/2008 TG wide strategic framework announced with Parklands funding package which will now shape Greengrid Implementation now largely focused on large projects through Parklands programme expected to receive govt. support of ?c.£10M for delivery 2008-11(Canvey Wick, Thurrock Thameside Nature park, Wildspace Thurrock, Wat Tyler Country park and central South Essex Marshes)
Issues/constraints identified with regard to implementation	<ul style="list-style-type: none"> • Presence of 3 LDVs, Thames Chase Community Forest, Groundwork Trust, RSPB and Wildlife Trust, Land Restoration Trust helps implementation through this staff resource to coordinate, seek funding and deliver projects. Lack of a governance structure for Greengrid and lack of dedicated Greengrid officer (since early 2007) has also slowed progress. Cross Regional status and central government driven policy have delayed local funding and delivery.
Examples of good practice/lessons learnt from the strategy that could be relevant	<ul style="list-style-type: none"> • Doorstep to countryside/estuary approach and principles led well into local policy making as they worked across all spatial scales. Worked well to provide sub-regional context for later borough level strategy in Thurrock. Lack of business plan, good governance and dedicated officer (for last 2 years) has slowed overall progress (see above) but individual delivery partners have delivered priority projects.

Question	Summary
elsewhere	

Table A-2: Harlow Green Infrastructure Plan

Question	Summary
Area covered	<ul style="list-style-type: none"> 72 sq. km of Harlow Area within the London – Stansted – Cambridge – Peterborough Growth Area. Covers non urban areas of Harlow D.C, much of Epping forest DC, part of East Herts DC (and small areas of Uttlesford and Broxbourne)
Who developed the strategy and why	<ul style="list-style-type: none"> Initiated by GO-East with Countryside Agency and 100% funded by ODPM under GAF 1 to inform the preparation of RSS 14 in 2004-5. Led on from the earlier Harlow Area Landscape and Environment Study, 2003-4. (ODPM funded). Managed by steering group of GOEast, EHDC, EFDC, Essex CC, Herts CC, Harlow DC, Groundwork Herts, EN, CA (Chair) to address cross boundary planning issues. Steering Group agreed on an ecological focus to the work and it was prepared ahead of PPG17 strategies
Summary of baseline conditions	<ul style="list-style-type: none"> Harlow is a key regeneration centre requiring substantial growth in housing and employment to address existing social and economic conditions. Existing strong landscape based town layout due to Gibberd's initial Masterplan from 1947. 2 River valleys, wooded ridge and motorway mark Harlow's boundaries and strongly influence future growth and GI. Also has concentrations of designated ecological sites and distinctive landscapes. New ecological surveys and air photo coverage were commissioned to support evidence base. Maps at 1:10,000 scale allow for detail.
Future priorities identified	<ul style="list-style-type: none"> Identifies a typology of strategic green spaces and corridor links with various themes (e.g. Stort valley, gateways and greenways). 8 geographical areas are identified, each with a list of projects
Targets and timescale	<ul style="list-style-type: none"> None in the Strategy beyond identifying priority projects. Business plan being developed in 2008.
Implementation status/process	<ul style="list-style-type: none"> Steering group expanded in 2006 to include delivery partners with Groundwork and Wildlife Trusts playing leading roles. Business Plan for whole GIP area delayed until late 2008 as waiting for RSS to identify main sites for growth. Meanwhile implementation efforts have focussed on Stort Valley area and its projects (including a detailed feasibility study and HGF money for towpath project). Also £2M of GAF2 CLG investment in 10 access and habitat management projects in 2006-8, plus additional CLG investment and project activity via GreenArc Partnership projects.
Issues/constraints identified with regard to implementation	<ul style="list-style-type: none"> Having the Plan in place at an early stage has led to successful bids under GAF2 and has given the GI partnership an influential role on the HGV POD Board
Examples of good practice from the strategy that could be relevant elsewhere	<ul style="list-style-type: none"> Good model of wider strategy followed up by detailed feasibility study (for the Stort area) through to projects being identified, bid for and delivered. The Plan was detailed enough to be used at a site based level by Development Control planners. Planning led approach to the Strategy was key, with lead planners involved in the process and Developer Guidance produced to guide detailed masterplanning. Strong GI partnership has delivered better, more coordinated projects and an influential role in the overall decision making process. CA/NE have played a strong leadership role and are seen as honest brokers

Table A-3: Green Infrastructure Strategy for the Cambridgeshire Sub Region

Question	Summary
Area covered	<ul style="list-style-type: none"> The Cambridgeshire Sub region within the London – Stansted – Cambridge – Peterborough Growth Area. Covers all of Cambridge City and South Cambs, part of East Cambs, Fenland and Hunts (plus small parts of St Edmundsbury, Uttlesford and North Herts).
Who developed the strategy and why	<ul style="list-style-type: none"> Cambridgeshire Horizons, 6 LAs, Govt. env agencies, NT, Woodland trust, Wildlife Trust, Cambs Preservation Soc, RSPB, and Peterborough Env. City Trust. Initiated and chaired by Cambridgeshire Horizons to inform growth location decisions and provide 'bold and

Question	Summary
	imaginative strategy for the provision of large scale GI for the next 20 years to complement and support the significant growth in planned housing provision'. Builds upon Cambridgeshire CC strategic open space study. Funded by several partners
Summary of baseline conditions	<ul style="list-style-type: none"> Cambridgeshire and Peterborough Structure Plan had already identified the locations for growth and the planning process was well underway. Key regional assets within the area: Great Fen, Wicken Fen which are also strategic visitor attractions; varied landscape character; water as a distinctive feature; Cambridgeshire has lowest % of woodland covering UK; + dominance of arable. Strategy includes application of ANGSt standards to assess deficiencies of accessible natural greenspace, showing deficiencies in the south east and area immediately around Cambridge for larger sites and roughly half of the area not meeting the threshold of within 2km of 20ha sites.
Future priorities identified	<ul style="list-style-type: none"> Sub region wide and Cambridge area strategic masterplans identify area initiatives, corridors and key sites. Includes schedule of prioritised initiatives and projects (under 14 themes), with priorities from 1-3, lead delivery orgs, mechanisms/funding, long term responsibility and estimates of capital costs and revenue per annum. Also lists the 23 highest priority projects for years 1-3
Targets and timescale	<ul style="list-style-type: none"> Strategy produced July 2005 – June 2006. 23 highest priority projects identified for years 1-3 Strategy period of 20 years.
Implementation status/process	<ul style="list-style-type: none"> Schedule of higher priority projects is monitored quarterly by GI Forum. £ Z million of projects already delivered, particularly via GAF1 and GAF2
Issues/constraints identified with regard to implementation	<ul style="list-style-type: none"> Able to move quickly into implementation stage as growth was already happening, sites had been identified, GAF funding was available, had a dedicated GI Devt Officer in post from Oct 2006 and a strong partnership and leadership from Cambs Horizons.
Examples of good practice from the strategy that could be relevant elsewhere	<ul style="list-style-type: none"> Analysis using ANGSt standards. Schedule of prioritised, costed projects was within the Strategy. Strong delivery partners and LDV, large scale high profile GI projects

Table A-4: Bedfordshire and Luton Strategic Green Infrastructure Plan

Question	Summary
Area covered	<ul style="list-style-type: none"> Bedfordshire County and Luton BC.
Who developed the strategy and why	<ul style="list-style-type: none"> Beds and Luton GI Consortium steering group (Beds CC, 3 districts, Luton BC, Greensand Trust, Wildlife trust, NE). Milton Keynes and South Midlands Strategy (March 2005) identified need for development to contribute to an improved environment by protecting and enhancing environmental assets and providing related GI to meet the needs of existing and expanding communities. GI Plan provides the strategic framework for GI provision. Funding from a partnership including EEDA and Go-East
Summary of baseline conditions	<ul style="list-style-type: none"> Many of the growth locations were already known. Chilterns AONB as both a constraint on growth and a key asset, Marston Vale as a regeneration focus area, varied landscapes including river valleys. Identified areas for landscape enhancement and linkages. Fewer areas of national importance for biodiversity, but good distribution of county level sites and ancient woodland. Strategy identifies areas of deficiency for access to natural greenspace using TCPA standards (similar to ANGSt) + a strategic access routes assessment
Future priorities identified	<ul style="list-style-type: none"> Plan based around 11 broad corridors across the Plan area forming a strategic GI network, including links to GI in neighbouring counties. Recommends devt of delivery plan
Targets and timescale	<ul style="list-style-type: none"> None in the Plan. – see below
Implementation status/process	<ul style="list-style-type: none"> £8.5M secured to date for projects, particularly in the Forest of Marston Vale area. Work on delivery plan in 2008, plus revised governance. Projects List being developed autumn 2008 with 93 costed projects + delivery plan for GO officer post funding and coordination of Consortium.

Question	Summary
Issues/constraints identified with regard to implementation	<ul style="list-style-type: none"> Little identified in the Plan. Large size of the Consortium has had advantages (brought together many delivery partners) and disadvantages (has sometimes been competitive and hard to id priorities). Well established delivery mechanism through FoMV and Greensand trust and Beds RCC has helped delivery
Examples of good practice from the strategy that could be relevant elsewhere	<ul style="list-style-type: none"> Plan has led on to area based focus in the Chalk Arc area north of Luton, Bedford River Park and Bedford Milton Keynes waterway. Cross regional links

Table A-5: Natural Networks - Peterborough's Green Grid Strategy

Question	Summary
Area covered	<ul style="list-style-type: none"> Peterborough City Council unitary area, with links to adjoining areas. Within London – Stansted – Cambridge – Peterborough Growth Area
Who developed the strategy and why	<ul style="list-style-type: none"> Green Grid Partnership was established in summer 2004. Initial scoping study produced in June 2005 and agreement to produce Strategy. Strategy commissioned in May 2006 and launched May 2007. Funded by Peterborough CC as match to GAF2 money. Partnership of LA, govt env agencies, Peterborough City Env trust and Wildlife Trust.
Summary of baseline conditions	<ul style="list-style-type: none"> City in need of regeneration and with substantial growth planned incl. major devt. to the South of 8k homes. Number of national and international biodiversity sites. Well established and newer large assets nearby. Considerable areas of the city are highest areas of multiple and health deprivation. ANGSt analysis shows the north and east of the city have poor provision in terms of access to large and medium sites and substantial parts of the city fail the standard of being within 300m of small 2hs sites
Future priorities identified	<ul style="list-style-type: none"> Schedule of 22 highest priority initiatives and projects plus schedule of prioritised initiatives and projects (under 23 themes), with priorities from 1-3, lead delivery orgs, mechanisms/funding, long term responsibility and estimates of capital costs and revenue per annum.
Targets and timescale	<ul style="list-style-type: none"> 20 year vision. 22 Highest priority projects identified for years 1-3 (2008-10)
Implementation status/process	<ul style="list-style-type: none"> Steering group reviewed membership and remit in 2007 to form a new Natural Networks Steering Group with delivery partners and BAP steering group. Links into Greater Peterborough Partnership via Environmental Capital Steering Group + a formal link to the County Biodiversity P'ship. 2 dedicated Green Grid officers 2006-8 (funded by GAF2) to coordinate partnership working and project delivery. Co-ord role ceased with new HGF funding. £1M under GAF2 for access and habitat improvements and community env. projects. Focus on S. Peterborough Green Parks with a detailed delivery plan with stakeholders. Delivery progress monitoring system agreed (autumn 2008)
Examples of good practice from the strategy that could be relevant elsewhere	<ul style="list-style-type: none"> Strong evidence base and analysis of areas of deficiencies for accessible natural greenspace, access and cycle routes etc. Also linked to social and health deprivation. Easier to manage and map evidence base as only one LA and smaller area. Used lessons learnt from earlier regional strategies. New funding process under HGF has limited role of GI officers to capital project delivery only, due to LA interpretation of accounting rules.

Key messages

A.3 Looking across the summaries provided above, it is clear that although seriously good progress has been made – and a large number of different partners have been engaged – all of the GI strategies are at the very earliest stages of serious implementation. In this context, a number of key messages can be drawn out. These are important in relation to a region-wide Implementation Plan through to 2021/31:

- it is vital that planners are engaged from the earliest stages in the development of strategic approaches to GI: these need to be enshrined in LDF thinking and contribute to decisions on the location of growth, and not treated as an “add-on”
- in many cases, the number of priority GI projects identified within local partnerships is sizeable – generally over 20. With funding in short supply, it may be that more attempt should be made to prioritise, based on some assessment of value for money and strategic impact, etc.
- in some cases, the number of partners involved in the development of GI strategies is causing some challenges with regard to prioritisation. Looking ahead, there may be a need for firmer governance arrangements and clearer decision-making in order to accelerate delivery. This appears to be a particular issue where regional boundaries are involved
- in a number of areas, GI officer posts are being funded (through time-limited GAF/PoD resources) as part of the delivery and coordination process and this has shown to be a critical factor for success. There may be a need to consider the sustainability of these arrangements and to consider longer term mechanisms and “mainstreaming” the delivery of GI. Shortage of revenue funding has affected these posts
- some strategies are stronger than others in making the links between investment in GI and wider outcomes/impacts which are highlighted in RES/RSS
- all of the strategies appear to rely heavily on GAF/PoD monies for their implementation to date, although other sources – notably from local authorities – have also been levered in. The availability and sustainability of funding must be a concern, as is funding for the long term maintenance of GI.

A.4 In designing for the purposes of the East of England Implementation Plan a region-wide programme for Green Infrastructure (see Chapter 3), full account has been taken of this assessment of the progress made to date.

Annex B: Analysis of wider trends and drivers of relevant to the definition of future Programmes

B.1 There are a range of wider trends and drivers which influence policy development and ensuing action in relation to this Theme. These have been taken into account in defining Programmes of intervention that are adequately “future proofed”. They include:

- the improved legislative and policy environment over the past 10-15 years, including Habitats Regulations 1994, Countryside and Rights of Way Act 2000, various planning policy statements, Water Framework Regulations 2006, European Landscape Convention.
- the reform of the Common Agricultural Policy (CAP) removing production-related incentives and providing more resources for environmentally-friendly farming. This needs to be considered within the wider context of: food security and rising world demand; and the declining natural resource base for farming, including land, water, peat, pollution sinks.
- housing demand and policy for meeting housing demand including policies for sustainable communities. This is – in many respects – the critical element of regional context in relation to this Theme; it is reflected in the design of a number of Programmes and it also features across the East of England Implementation Plan more generally
- economic growth affecting housing demand and development, demand for travel, and recreational trends and impacts which are beginning to cause concerns in terms of impacts on European protected sites.
- wider public recognition of the importance of the natural and cultural environment (e.g. Defra surveys)
- growing awareness of environmental limits including water resources and carbon in the climate change context.

Annex C: Data and analysis relating to the wider regional context

Baseline information about Green Infrastructure and Landscape

...in and around the growth areas/growth points

Regional access network maps are being prepared by Natural England to help identify priority areas for delivering new or improved public access and recreation provision. Final maps are due in spring 2009. The maps show the current density of access provision against population, by mapping linear routes and accessible sites for each 2001 census [lower super output] area of 1,500-1,600 people.

...outside the key growth centres (i.e. wider landscape and nature)

- C.1 Protected landscapes include iconic areas for the region –particularly along the coast but also in the Broads, Dedham Vale and Chilterns. The majority of the region’s AONBs are also defined as Heritage Coasts.
- C.2 A full consideration of landscape however must be based upon an understanding of the diversity of all the region’s landscapes. A total of 22 Character Areas have been identified and mapped by Natural England in the region and these have been further defined at a regional scale into their constituent landscape types. Natural England is working with other partners in the Regional Landscape Forum to produce a consistent and comprehensive Regional Landscape Character Framework nested within character areas. This typology and written descriptions will be available early in 2009 and will be used as an evidence base in the Review of the RSS. Historic landscape character will also be incorporated in the Framework
- C.3 Robust evidence on changes in landscape character is only just beginning to be developed but there is some evidence that new housing developments are changing the character of the countryside, townscapes and villages. The Countryside Quality Counts results for the “Settlement and Development theme” show that development patterns are significantly transforming landscape character for the whole of the Eastern Region apart from the Broads.
- C.4 The special wildlife of the region can be highlighted by the following examples:
- highly important populations of waders and other migratory coastal birds e.g. a significant proportion of the world population of pink footed geese can be seen in the region at certain times of the year
 - rare arable flowers
 - rare freshwater wetland habitats and species
 - important soft cliff and inter-tidal habitats
 - valuable marine nature which we are gradually becoming more aware of

- important habitats which provide a link with the past e.g. heathlands, woodland

C.5 Our most important wildlife sites (SSSIs) about average in terms of extent (7% of land surface) and condition (79% by area in favourable or recovering condition). Significant amounts of the coast, and major inland resources such as Broads and Brecks, are protected by EU legislation. The remaining causes of poor condition relate especially to water and coastal pressures. For example:

- coastal squeeze from sea-level rise and erosion reducing the extent of saltmarsh and mudflat habitats seaward of the fixed line of coastal defence
- ‘point source’ river pollution from sewage treatment works
- diffuse source river pollution from agricultural nutrient run-off
- water abstraction pressures affecting the water table and consequently the hydrology of water dependent wetland habitats
- more generally, all habitat types are affected by general pressures resulting from intensive food production and development.

C.6 Outside our nationally designated nature reserves there are also important examples of wildlife, but our wider environment is now quite fragmented as a result of agricultural intensification over many decades, and other impacts such as development. Evidence about the state of wider biodiversity in the region is less comprehensive but we can, for example, make the following points:

- farmland birds continued to decline in this region in the decade to 2005
- some evidence of biodiversity loss in wider countryside e.g. Norfolk wetland evidence

C.7 In 2002 a biodiversity audit for the region was undertaken. This reported that the resource of 12 habitat types in the region were nationally important:

BAP Name	Overall assessment
Ancient and/or species-rich hedgerows	Major
Coastal and floodplain grazing marsh	Major
Coastal saltmarsh	Major
Reedbeds	Major
Saline lagoons	Major
Cereal field margins	Major
Aquifer fed naturally fluctuating water bodies	High
Coastal vegetated shingle	High
Lowland dry acid grassland	High
Lowland heathland	High

BAP Name	Overall assessment
Lowland Mixed Deciduous Woodland	High
Wet woodland	High

- C.8 In addition, a number were not fully assessed but likely to be nationally significant e.g. fens and chalk rivers.
- C.9 This audit also assessed the populations of 8 species to be of critically important in terms of our national biodiversity, 15 to be of major importance, and 20 to be highly important. This categorisation is based on a combination of 2 factors: the region's population as a proportion of the national resource, and the level of decline over the past 25 years.