Greater Norwich Development Partnership

Topic Paper: Environment

Joint Core Strategy for Broadland, Norwich and South Norfolk

November 2009

Jobs, homes, prosperity for local people

Broadland District Council · NORWICH City Council · South Norfolk Council · Norfolk County Council

Contents

Appendices

1 Summary

This topic paper is part of a series that explains how key aspects of the Joint Core Strategy (JCS) for Broadland, Norwich and South Norfolk have been developed. It draws together issues relating to environment that have influenced the development of the Joint Core Strategy.

2 Purpose of this Topic Paper

This topic paper is part of a series that explain how key aspects of the Joint Core Strategy (JCS) for Broadland, Norwich and South Norfolk have been developed. It explains the considerations that underlie the environmental strategy in the JCS, as defined in policies 1 to 3 of the plan. It shows how national and regional policy, the local evidence base for the JCS, sustainability appraisal (SA) and consultation have shaped the strategy. The main focus of the topic paper is on the three policy areas in which policy in the Pre-Submission version of the JCS requires high standards - for energy and water efficiency and design quality. This is because these are the particular policy areas where evidence has justified a locally distinctive policy approach going beyond government requirements requiring the justification this topic paper provides.

3 Background

3.1 National Planning Policy

National planning policy requires development plans to:

- adapt to and mitigate against climate change;
- protect the countryside;
- promote biodiversity;
- take account of the impact of development on landscapes;
- protect and enhance the built and natural environment in urban and rural areas;
- promote sustainable energy development.

These requirements are set out in a number of Planning Policy Statements and Planning Policy Guidance Notes. Government also provides national environmental and design standards to assess the sustainability of developments. These new standards provide long awaited clear national criteria for defining sustainable, good quality development and are a critical tool to apply locally to raise the environmental quality of development to address climate change

National policy in PPS1 Promoting Sustainable Development requires all development to promote sustainability and its requirements apply locally. The PPS1 Climate Change Supplement (December 2007) enables high sustainability standards to be set locally, particularly for water and energy, provided a local evidence base exists to justify this, requirements are set using nationally recognised standards and viability is addressed.

The broad content of local energy studies to support such a policy approach has been established in national good practice guidance for PPS1 in March 2008. Similar guidance has also been produced for water cycle studies.

PPS12 states that Local Development Documents should not repeat national and regional policy, but should be locally specific. PPS9 covers biodiversity and geodiversity.

3.2 Regional Policy - The East of England Plan

The adopted East of England Plan (EEP) forms part of the Development Plan for Greater Norwich. It contains **strategic policies** which identify the need to:

- Promote the urban and rural renaissance;
- Build upon the distinctive character of city and town centres;
- Develop multi-functional urban fringes to promote the landscape, biodiversity and recreation value of the fringe including open spaces and green links.

Further requirements are established in policies in the environment, energy, water and waste management chapters:

Green Infrastructure: as above for urban fringes - the regional importance of the Broads for green infrastructure is identified.

Landscape Conservation: Strategies and policies should be based on national characterisations and local landscape character assessments to ensure that all development respects and enhances landscape character.

Biodiversity and Earth Heritage;
Protect not only designated sites and species, but also wider biodiversity through retention and enhancement of environmental assets when development takes place. This should include creating biodiversity networks and habitats and protecting important geological sites to reverse previous habitat losses and adapt to climate change.

Agriculture, Land, Soils and Woodland: policies and schemes should promote biodiversity and soil and water resource protection. Woodland, particularly ancient woodland and veteran trees, should be protected and new woodland planted.

The Historic Environment: policies should conserve, protect and enhance the historic environment and archaeological features and their setting, including historic buildings, landscapes, and conservation areas. The EEP policy for the Norwich area recognises the historic value of Norwich and the market towns and villages. Historic environment characterisation should be used to ensure development contributes to local character and diversity.

The Built Environment: promotes high quality, safe, healthy, distinctive and resource efficient development with a mix of uses, density and design appropriate to the specific site.

Carbon Dioxide Emissions, Energy performance and Renewable Energy: Identifies the key role of adaptation to and mitigation of climate change. This is a particularly important issue in this region due to the scale of development proposed and regional vulnerability. It establishes the need for regional carbon trajectories and provides regional renewable energy targets. It promotes suitably sited low carbon development adapted to climate change, and includes a requirement for use of renewable and low carbon energy sources in new development. It also includes an interim minimum requirement that, on developments above a threshold, 10% of energy should be from renewable and low carbon energy sources until Local Development Frameworks set local standards.

Water: the policy approach seeks a decrease in per capita use of water, with a target that new development should be 25% more water efficient than Building Regulation requirements and the water efficiency of existing development should be improved by 8%. It also requires Water Cycle Studies to be undertaken to identify water infrastructure needed to support development and management of water assets to improve water quality. Flood policy requires Strategic Flood Risk Assessment to guide development away from areas at greatest risk of flood, and mitigation measures such as Sustainable Drainage Systems (SuDS).

Waste: The EEP promotes increased rates of waste recycling, composting and recovery to decouple growth in waste from growth in the economy. Whilst Norfolk County Council is the waste planning authority, the Core Strategy can require new development to enable this.

4 Development of the Strategy

The environmental strategy in the JCS is intended to implement national regional policy locally, with a particular focus on local needs, opportunities and priorities. The strategy has developed iteratively over nearly three years against a background of changing national and regional policy as the importance of mitigating and adapting to climate change has increased. SA, ongoing evidence studies and consultation have also played key roles. This

section sets out the process which has formed the strategy in the Pre Submission version of the JCS.

4.1 Issues and Options consultation (November 2007)

Following a series of stakeholder workshops centred on a topic papers in summer 2007, the first full-scale consultation on the JCS was the Issues and Options. The document was informed by the SA Scoping Report which identified the following key environmental sustainability issues locally:

- The character/quality of natural and built environments must be preserved and enhanced whilst being faced by widespread development pressure;
- The Greater Norwich area is the principle access to the Broads national park, and has a critical role in promoting tourism, preserving character and protecting the environment through its spatial policies.
- Reducing contributions to and mitigating against the impacts of, climate change will be crucial to the long-term viability of Greater Norwich as a place to live and work, to visit and to invest in.
- Creating balanced and integrated communities will be an essential aspect of providing new development, through design benefits, for example.

The Issues and Options document is available at www.gndp.org.uk. The environmental section (section 8) covered:

- Sustainable Building Methods
- Promotion of Renewable Energy
- Flood Risk
- Water efficiency
- Landscapes and Biodiversity

Since government policy provides clear protection for environmental assets in many cases, the consultation firstly sought public views on criteria for choosing growth areas, including environmental considerations. Secondly, it presented options for the environmental strategy where local evidence based choices could be made. Questions therefore focussed on options for sustainable building design, including energy efficiency.

Responses showed:

- nationally and locally protected sites and landscapes, including historic landscapes and the setting of the city, should be identified and protected;
- development should be avoided in areas with any significant risk of flooding;
- impact on the environment is the most important criterion for choosing locations for growth;

- development should protect the historic character of the city and be adapted to changed environmental change;
- the strategy should preserve the character of the towns and villages;
- the need to maintain and improve woodlands and green corridors;
- general support for high sustainability standards.

4.2 Technical Consultation (August 2008) and Public Consultation (March 2009) – the Regulation 25 consultations

4.2.1 Policies

The Issues and Options consultation findings, along with emerging evidence and national and regional policies, informed the policies in the Regulation 25 consultations. Environmental issues were covered in two area-wide policies, Policy 13 (Reducing Environmental Impact) and policy 17 (Environmental Assets). The policies are in appendix 2 and the full text can be downloaded at www.gndp.org.uk.

Policy 13 promoted development which reduces emissions and is energy efficient. This would be done by requiring all housing development to meet Code for Sustainable Homes Standards matching those set by the Housing Corporation and by non housing development meeting high BREEAM standards. BREEAM and Code for Sustainable Homes standards were used as the approach of using nationally recognised standards was promoted by the newly published PPS1 Climate Change Supplement. In matching the high standards set by the Housing Corporation for housing development, the standards required would increase over time. Housing Corporation requirements are above those required of private housing development nationally, but must be met by affordable housing if it is to receive government grant. Such standards are therefore clearly achievable. This approach would enable developers to gain experience of sustainable design and construction over time and reflected the views expressed in the Issues and Options consultation.

To ensure compliance with the new PPS1 Climate Change Supplement, the supporting text stated that the above approach would require a local energy study to set local standards to refine the above approach. The broad content of a local energy study had been established by the publication of national good practice guidance to support PPS1 in March 2008.

The policy also covered other environmental issues such as flood risk and efficient use of land covered by PPS1. It referred to the importance of good design and local distinctiveness, such as the need for new development to protect the townscape of Norwich city centre. However, no specific policy on design was included in the consultations. The policy also referred to the need for development to manage water efficiently without establishing specific standards.

Policy 17 aimed to protect and enhance locally important environmental assets, landscapes and townscapes and to require new development to provide green infrastructure to, in the longer term, form a comprehensive linked ecological and walking/cycling network.

4.2.2 Consultation responses

Consultation responses were generally supportive of the policy approaches. Specific issues highlighted included the need to:

- Consider placing environmental policies as the first policies in the strategy;
- Avoid repetition of national policy;
- Recast energy efficiency and local energy generation policy in the light of findings of an energy study – some consultees felt it was unreasonable to align with Housing Corporation requirements and the publication of the PPS1 Good Practice Guidance had enabled such a study to be commissioned;
- Consider potential to improve the energy efficiency of existing social housing stock;
- Place a greater focus on water efficiency;
- Include a requirement to enhance biodiversity and landscape character as well as protect them, particularly water bodies under the Water Framework Directive;
- Cover geodiversity in policy;
- Include a detailed design policy.

4.3 The Evidence Studies

The evidence base was developed throughout the plan making process, often in response to new requirements in national and regional policy, as and when resources allowed. The relevant evidence studies (all available at www.gndp.org.uk) are:

- The Sustainable Energy Study (May 2009)
- The Water Cycle Study (Stage 2b draft September 2009)
- The Strategic Flood Risk Assessment (November 2007)
- Ideopolis Knowledge City Regions (September 2006)

The main findings of the studies of relevance to policy are:

4.3.1 The Sustainable Energy Study

The Energy study was commissioned, in compliance with PPS1 and following the methodology set out in the good practice guidance, to examine the feasibility of zero carbon development locally and to inform JCS policy.

It found that:

- The renewable energy resource locally is ample for the planned new development;
- Zero carbon standards are achievable locally ahead of national requirements;
- Dedicated renewables are possible for all development.

It stated that "A mixture of energy efficiency measures and renewable energy technologies are used to deliver carbon reductions in new housing. The optimum balance between energy efficiency and renewable energy is specific to a particular development – there is no one-size-fits-all solution – but typically the energy efficiency measures will contribute 10% to 20% carbon reductions with renewables providing the remaining reductions. The 44% CO_2 reduction target may be difficult to achieve for constrained urban infill sites where CHP, biomass and ground source heat pumps are not possible, and at these locations the 25% target under Code for Sustainable Homes Level 3 may be more appropriate. Therefore both policy and masterplanning must be used to require appropriate energy provision depending on the scale and character of developments."

Accordingly, the policy in the JCS should both require high standards of energy efficiency using national standards and maximise the use of renewable energy given the proven local resource. Appendix 1, the non technical summary, gives more detail on the study and further justifies the chosen policy approach.

4.3.2 The Water Cycle Study (WCS)

In relation to promotion of water efficiency in the JCS, the Water Cycle Study concluded:

"All new houses within developments of less than 500 homes should be designed to have a water demand in keeping with levels 3 & 4 in the Code for Sustainable Homes. For developments of greater than 500 homes, houses will be expected to have a water demand in keeping with levels 5 & 6 of the Code for Sustainable Homes."

The reason for this is:

"The WCS has highlighted that water resources are 'seriously stressed' in the study area and that, although new resources have been planned by Anglian Water, potential sustainability reductions in existing abstraction licences will further exacerbate the lack of available water for supply. New houses and non residential units must minimise water use to ensure that water demand by the end of plan period is as low as possible. The study has also shown that combining investment in measures to reduce water use in existing homes with new homes built to high levels of water efficiency targets under the code for sustainable homes, it is theoretically possible to attain close to water neutrality at the end of the plan period."

In relation to viability, the East of England Plan concludes that levels 3 and 4 of the Code for Sustainable Homes are “Achievable assuming the deployment of water efficient fittings and the wise use of appliances.” Waterwise East guidance on planning policies for water efficiency at www.waterwise.org.uk, backed by GO East, supports the policy approach promoted by the water cycle study of requiring higher standards in larger developments as large scale solutions are possible on such developments such as rainwater harvesting and greywater recycling. The guidance shows developers how water efficiency can be relatively easily and cheaply implemented.

The JCS policy provides a “hook” for more detailed water efficiency policies to be set out in Development Management Policies and Supplementary Planning Documents.

4.3.3 The Strategic Flood Risk Assessment

The assessment identified potential flood zones, taking account of climate change. This enabled informed choices to be made through the JCS process, avoiding the promotion of development in areas of flood risk. Some parts of Norwich city centre were identified as being at risk of flood and a more detailed assessment of this area has been undertaken. It concluded that development in the city centre would be necessary to meet regional plan housing targets and that development in flood risk areas in the city centre should be designed to withstand flood without adding to flood risk elsewhere.

4.3.4 Ideopolis

Ideopolis research gives cities a framework for developing knowledge-intensive industries that will be economically successful and improve quality of life.
The Norwich report assesses the strengths and weaknesses of Norwich in the changing economy and sets out a potential vision for the city's future as well as recommendations for how to get there.

The research shows how the quality of the local environment will play a crucial role in the economic success of the area. The growth in knowledge based industries in city regions like Norwich, promoted by the East of England Plan, is reliant on a good quality environment as well as other factors such as good links with universities. The research concludes that high quality design is essential to promote both the physical and reputational improvements required to encourage the growth of the knowledge economy.

4.4 The Pre Submission JCS version

As a result of consultation and ongoing work on the evidence base outlined, the pre – submission version was therefore amended to:

- Place environmental policies at the start of the document
- Ensure that policies are locally distinctive as far as possible

- Reflect the findings of the evidence base, particularly in relation water and energy (see above), requiring all development to meet a nationally recognised standard, comply with the Water Framework Directive and enable offset payments to improve the energy efficiency of existing housing stock where relevant
- Cover geodiversity
- Include a detailed design policy, requiring all development to meet a nationally recognised standard

4.4.1 The Spatial Portrait, Vision and Objectives

The JCS identifies “enhancing our special environment and mitigating against any adverse aspects of growth” as a “grand challenge” for the strategy (page 4). Policies are aimed to ensure the GNDP will:

- Locate development in places that will minimise adverse impact on the environment and ensure it is designed to be energy efficient and capable of being adapted as circumstances change;

- Look after and improve the natural qualities of our area and take the opportunities development brings to expand and create even more;

- Use energy and water wisely and secure more energy from renewable sources

Developing these themes, the Spatial Portrait recognises the international importance of the area’s heritage and retention of its environmental qualities as being key elements of future knowledge industry based economic development. The Spatial Vision promotes development in sustainable locations, re-use of brownfield land, the creation of green links and resource efficiency with development to high national standards, including an eco-community at Rackheath. The Objectives, the basis for monitoring progress of the plan (see appendix 8 of the JCS), include:

- Objective 1 To minimise the contributors to climate change and address its impact;

- Objective 2 To allocate enough land for housing ……. in the most sustainable settlements;

- Objective 8 To positively protect and enhance the individual character and culture of the area;

- Objective 9 To protect, manage and enhance the natural, built and historic environment, including key landscapes, natural resources, areas of natural habitat or nature conservation value.

4.4.2 The Policies

The Area wide policies in section 5 provide the overarching local policies relevant to all development. Policies 1 (Addressing climate change and protecting environmental assets) and 3 (Energy and Water) cover natural and built environment and resource efficiency issues, whilst policy 2 (Promoting Good Design) ensures design of new development will be locally distinctive, taking account of landscape and townscape. The full text of these policies is in pages 29 to 38 of the JCS.

The policies reflect national and regional policy, local evidence, SA and consultation:

Policy 1: Addressing climate change and protecting environmental assets

This policy covers key requirements the policy areas set out in PPS1 and PPS9 with locally distinctive elements where appropriate, such as covering the heat island effect in the urban area of Norwich and promoting green infrastructure to link locally important environmental assets.

Policy 2 Promoting Good Design

The policy promotes good design with clear requirements related to local issues, such as strategic gaps, protection of the Broads and promotion of the "Contemporary medieval" city centre of Norwich. It also requires high monitorable standards of design using the a nationally recognised Building for Life standards (minimum silver required for housing) in response to local consultation and as a means of promoting the knowledge economy locally by protecting the high quality built environment and local distinctiveness.

Policy 3 Energy and Water

Policy 3 is relatively progressive. It uses local evidence from energy and water studies to require high standards of water and energy efficiency in new development. It is one of the first policies nationally to implement recent national policy changes in the PPS1 Climate Change Supplement.

The policy will promote zero carbon development in advance national requirements. Standards are both stepped to increase over time and apply differently to different scales of development to reflect viability issues identified in the studies.

The Energy policy enables offset payments from small developments where achieving zero carbon standards on site would be expensive. Energy statements are required to identify appropriate energy provision on larger developments and earlier phases of development will be required to pay into a fund to ensure that a dedicated sustainable energy supply is provided on or off site. The use of Energy Service Companies (ESCOs) is promoted.

The water efficiency element of the policy is one of the first to implement the East of England Plan aims to reduce water use. Like the energy policy, it sets higher standards for larger developments due to their greater potential. Without the requirement that development should all comply to national standards, the aims of the regional policy will be unlikely to be achieved, as the water efficiency element of the Code for Sustainable Homes is not presently planned to be mandatory.

The policies thus make use of new national standards to require high quality development locally. The approach is largely endorsed by the SA which concluded that “Area wide policies have been developed taking account of a range of evidence base studies. There is a considerable emphasis on implementing the Green Infrastructure Strategy, and the findings of the Energy Study have largely fed through into Policy.” However, the SA was surprisingly silent on the water efficiency policy. The full comments of the SA on the 3 policies were based on an earlier draft of the plan and are in appendix 3. The majority of the comments were incorporated in redrafting of the policies for this version of the plan.

Appendix 1 Greater Norwich Energy Study - Non Technical Summary

Zero Carbon development

For planning authorities to require zero carbon standards for new development in advance of national requirements in 2016, this must be based on evidence to show this is possible locally. The report examines the feasibility of zero carbon development and how it could be achieved locally to inform local policy making.

The study has undertaken a technical assessment of the renewable energy potential and has not considered the wider planning issues such as: cumulative landscape and nature conservation impacts; grid connection and shadow flicker. These issues would need to be addressed at the application stage and/or through a specific policy in Local Development Frameworks (LDFs).

The study states “Renewable energy resource within the GNDP area can amply meet the energy demands of the planned new development” and zero carbon requirement can be applied now for larger scale development. The technical potential was found to be 129% of the area’s current energy consumption and 177% of the GNDP area’s 2006 emissions could theoretically be abated through local renewable energy.

All housing development nationally will be required to be zero carbon by 2016 and all commercial development by 2019. It is essential the first phases of any development, before these dates, contribute to planned overall solutions in order to enable the later phases of the larger scale developments to be zero carbon.

The final national definition of what exactly constitutes a zero carbon home will be crucial to carbon standards required by LDFs. Off-site payments to improve energy efficiency in existing development may be used in areas such as infill development where zero carbon is extremely expensive to achieve. This would lead to a lower cost approach to delivering carbon reductions overall and would therefore enable greater carbon savings.

What type of renewable energy is suitable?

A balance of biomass Combined Heat and Power (CHP) and wind turbines are likely to be necessary to meet government requirements that a proportion of energy should be generated onsite. A scenario for such an combined approach to meet the area’s needs would require 7 large wind turbines and biomass from managed forestry or 2,300 hectares of farm land managed for energy crops (3% of total land available in the three districts). Microgeneration technologies (such as solar hot panels, solar electric cells and ground source heat pumps) are most suitable to serve smaller scale infill development (see below).

Costs and locations

Making a development more energy efficient should always be the first consideration before identifying appropriate renewable sources of energy. Long term planning from the earliest stage of new development is also key to ensure the most cost effective technologies are used to achieve zero carbon. All development above a threshold should therefore provide a detailed zero carbon energy strategy.

Larger developments (500 plus dwellings) are able to achieve significant carbon reductions more cost effectively than small developments. 70% of the new development will be large scale. The cheapest way of delivering a zero carbon development is to contractually link it with a large scale wind turbine in the local area. However, wider planning considerations will be critical in determining the actual number and location of any turbines. Any off-site generation must be additional capacity not already planned.

Biomass fuelled CHP is suitable for larger developments with higher density and scale, and a greater mix of building types. Development below 50 dwellings per hectare increases the cost of CHP per dwelling.

Smaller scale development will generally require microgeneration sources, which are expensive and make it very difficult to achieve zero carbon development onsite. Incorporating carbon offsetting measures, making payments to improve energy efficiency of existing buildings, as well as microgeneration is therefore the most cost effective approach for achieving very low or zero carbon emissions.

Table 1: General costs of achieving zero carbon development through different renewable energy technologies.

Technology	**Cost per dwelling (£1000)**	**Type of Location**	**Notes**
Wind turbines	5	On site or off site for large developments (1000 dwellings +) **New communities in Broadland and South Norfolk**	Dedicated supply, contractual link required
Biomass CHP	13.5	On site – high density areas (50 dph) of medium and large developments (500 dwellings +) **New communities in Broadland and South Norfolk**	Large buildings with a constant heat demand e.g. leisure centres, hospitals, provide effective anchors loads for CHP.
Microgeneration	30 to 40	On site on smaller urban or rural infill	Photovoltaics (PV), Ground Source Heat

		sites, possibly include offsetting **Norwich, smaller developments in Broadland and South Norfolk**	Pumps, Micro wind turbines; Solar panels (domestic hot water DHW)

Policies and local leadership

The report recommends that on adoption, the Joint Core Strategy (JCS) should require a minimum on-site carbon standard of 44% reduction in CO2 emissions (Code for Sustainable Homes Level 4) across all developments compared to 2006 Building Regulations standards. This approach is better than requiring a percentage of energy from renewables as it encourages developers to consider energy efficiency of new development first.

The report states that if a zero carbon requirement is set through the JCS ahead of the government's 2016 timetable, developers should be encouraged to adopt the lowest cost solution, wind turbines.

The 44% carbon dioxide reduction target may be difficult to achieve for constrained urban and rural infill sites where CHP, biomass and ground source heat pumps may not be suitable. At these locations, a target of level 3 may be more appropriate. Higher on site standards can be set for those areas of a development with higher density and scale, and a greater mix of building types, enabling the use of CHP. Policies should therefore identify the low carbon energy systems that developments of particular scales, density and mix should use and encourage communal systems. Such density considerations do not apply to developments using wind power.

Local Authorities can oversee funds for off-setting measures where it is not possible to achieve the highest standards onsite and establish Energy Service Companies to finance and run large scale low carbon infrastructure to supply phased developments.

Appendix 2 Regulation 25 consultation policies

Policy 13 Reducing environmental impact

To address climate change and promote sustainability, all development will be energy efficient and minimise carbon dioxide emissions, therefore:

- all new housing should match the current Housing Corporation requirements under the Code for Sustainable Homes (to be upgraded over time).
- non-housing development will also be subject to energy efficiency and sustainability standards to be upgraded over time, and a proportion of the predicted energy use from each development will incorporate on-site renewable energy generation.

All development will

- Make efficient use of land, with the density of development varying according to the type of area and following the preferred sequence of development locations for major growth and assessing development against all of the community's needs in an appropriate phased manner.
- Contribute to conserving scarce resources, protecting sites that are important for biodiversity, landscape character and protecting mineral and other natural resources, which have been identified through the Norfolk Minerals and Waste Development Framework.
- Make sustainable use of resources, energy efficiency, providing for recycling of materials (including rainwater), water management, sustainable drainage, and use of locally sourced materials wherever possible and ensuring the quality of natural resources is retained.
- Be designed to a high standard to respect and enhance the distinctiveness and character of townscape, including the distinctive 'contemporary mediaeval city' character of central Norwich and the particular character of each of the market towns, key service centres, villages and the distinctive character of historic and cultural features and of natural landscapes (including the areas adjoining the Broads and other river valleys).
- Minimise the need to travel and give priority to modes of travel in accordance with the Norwich Area Transportation Strategy hierarchy of different types of transport.
- Be adapted to a changed climate and located to minimise flood risk, mitigating any flood risk through design.

Policy 17 Environmental assets

The environmental assets of the area will be protected, maintained and enhanced and the benefits for residents and visitors improved. Development proposals should avoid harming areas of environmental importance. Outside areas protected through international or national designations, the strategy will seek to direct development to areas where:

- It does not harm existing environmental assets of acknowledged regional or local importance, or where harm is unavoidable, it would provide for appropriate mitigation or replacement with the objective of achieving a long-term maintenance or enhancement of the status quo.

- It would provide opportunities to enhance the area's existing landscape, townscape, ecological, and historic character, including securing their long term future.

- It would contribute to providing green infrastructure compatible with the green infrastructure strategy. This will include areas of open space, wildlife resources and links between them as an integral part of the development, and connecting to the wider green infrastructure network

- It would help to make provision for the long-term maintenance of the green infrastructure network

Appendix 3 Sustainability Appraisal findings

5.2 Appraisal findings

Table 5.1: Policy 1 - Promoting sustainability and addressing climate change

Overall environmental effects
This Policy performs well in terms of all environmental objectives, with the exception of ENV5 (landscapes, townscapes and the historic environment) where it is questioned whether a stronger statement should be made.

Overall social effects
This Policy performs well in terms of most social objectives. In particular, this Policy performs well in terms of promoting good health and community cohesion. In terms of a number of social objectives this Policy will have no significant effects.

Overall economic effects
It is thought that promoting sustainability and a robust and accessible green infrastructure is an important aspect of promoting Norwich as an attractive location to live, invest and 'do business'. Thus, positive effects have been identified in terms of objective EC1, whilst it is not thought that there will be significant effects in terms of other objectives.

Overall summary of effects
This Policy performs strongly in terms of a number of environmental objectives.

This Policy plays a key role in terms of setting a clear message regarding the importance of promoting and enabling sustainable patterns of transport and travel within new developments and the Greater Norwich Area more generally. However, because this is a cross-cutting objective, it is also addressed through a number of other Policies.

This Policy will also play a key role in terms of ensuring the built development supports efforts to mitigate climate change, and does not impact upon environmental assets.

'Environmental assets' are helpfully defined in the supporting text as comprising biodiversity, built heritage, ancient monuments and archaeology, geodiversity, and landscape character; as well as more general aspects such as the countryside and rural character, and the setting of Norwich, towns and villages, and the Broads. It is felt that this Policy should go some way towards ensuring protection of biodiversity assets, as well as promoting the aims of the Green Infrastructure Strategy. However, in terms of protecting 'landscape character' and heritage assets it is felt that this Policy could go further.
In terms of climate change mitigation, this Policy has been developed taking account of a recent Energy Study that looked at opportunities in the Sub-

Region. These requirements are not overly ambitious, but are stricter than the requirements set by Central Government.

This Policy sets out requirements relating to water quality, flood risk and recycling that will all lead to positive effects, but suggestions are made regarding how the Policy wording might be strengthened. It is thought that implementation of this Policy will have a range of beneficial secondary socio-economic effects.

Recommendations:

- 'Low impact' modes of travel might be considered to be slightly ambiguous. For example, a train line, guided bus route or even a bus route can have 'impacts' in some respects.
- The statement in the supporting text that: "*In appropriate urban locations car-free development will be promoted*" should be included in the main policy wording.
- Broaden the Policy to include a commitment to protecting the water environment more generally (perhaps also stating the particular importance of avoiding water quality impacts to the Natura 2000 network in order to avoid breaches to EU Law).
- Reword to 'seek to ensure ecosystem function and resilience to environmental change'. Alternatively, this statement could be removed from its current position and placed later in the Policy under the banner of 'protecting environmental assets'.
- It is thought that this Policy might be more appropriately titled "Addressing climate change and protecting environmental assets". The only topic that is addressed by this Policy that does not entirely fit well with this title is the issue of recycling and the use of 'sustainable' building materials. It is thought that these issues are of less significance at this strategic level of planning, but could still be 'tagged-on' to this Policy. Alternatively, these issues could be addressed through the 'Promoting good design' Policy.
- Refer to 'conflicts with biodiversity objectives', rather that 'conflicts with biodiversity'
- Rather than focusing solely on protecting internationally important biodiversity, there could be some benefit to promoting a more balanced approach to protecting biodiversity in-line with the principles set out in the GI Strategy, but perhaps also stating that certain actions will be particularly important where HRA has identified that they are necessary to protect internationally important biodiversity.
- Refer to maintenance or enhancement of the 'local biodiversity baseline', rather than the 'status quo'.
- Consider making a stronger and more proactive statement regarding the maintenance and enhancement of heritage features and wider historic character. This Policy, with its emphasis on environmental assets, should perhaps set the high level principles that are implemented through other Area Wide Policies as well as Policies for Places.

- Rather than ‘adapted to weather extremes’, it may be more appropriate to refer to ‘adapted to a changing climate and more extreme weather’
- There may be some benefit to expanding on this statement regarding flood-risk, including through relating flood-risk to the implementation of SuDS.
- There could be some benefit to adding further detail regarding the approach that is expected in terms of recycling. For example, it might be stated that: ‘all developments must design-in facilities for the segregation and storage of waste both for private use within dwellings and for communal use, with the aim of maximising the efficiency and effectiveness of recycling’.

Table 5.2: Policy 2 - Promoting good design

Overall environmental effects
This Policy performs well in terms of the majority of environmental objectives. Effects are highlighted as questionable for two objectives as a result of the Policy being silent on two specific issues, namely the need to design in Sustainable Drainage Systems and the need to design in recycling facilities. This Policy performs particularly well in terms of ENV5 (landscapes, townscapes and the historic environment).

Overall social effects
This Policy performs well in terms of a number of social objectives. Although not addressed explicitly by the Policy, it is thought that there will be a range of social benefits as a result of creating an attractive urban realm and deigning new developments to have a strong ‘sense of place’. In terms of other social objectives it is less likely that this Policy will result in direct significant effects.

Overall economic effects
It is thought that promotion of good design can play a role in supporting the economic objectives that have
been identified for Greater Norwich. As highlighted through the supporting text of the Policy: “*The quality of the local environment plays a crucial role in the economic success of the area.*”

Overall summary of effects
This Policy supports the aims of Policy 1 regarding promoting sustainable transport, by requiring the design of development to take account of established principles, i.e. ‘highway design principles that do not prioritise the movement function of streets at the expense of quality of place’ and principles of ‘public transport oriented design’.

Perhaps the strongest benefits of this Policy relate to objective ENV5 (landscapes, townscapes and the historic environment) as this Policy sets out clearly that development must take account of existing landscape and historic character and townscape. It is thought that this Policy should go some way towards ensuring that new developments are ‘distinctive’, with a strong ‘sense of place’. This can lead to benefits in terms of social cohesion and community inclusiveness. The background text identifies the importance of

'making places better for people' and also highlights that "*The quality of the local environment plays a crucial role in the economic success of the area.*" It is thought particularly beneficial that the Policy makes a number of specific requirements of developers in terms of certain standards and principles that must be adhered to (including CABE's 'Building for Life' standard).

Recommendations

- There could be some benefit to highlighting the importance of good design seeking to ensure environmental quality in terms of air pollution and noise / soundscapes in particular (these two elements of environmental quality can be brought into particular focus where development seeks to incorporate on-site low/zero carbon energy generation).
- Consider removing the emphasis on protecting international important biodiversity through good design, or highlighting that this will only need to be a priority in some respects (i.e. water quality) or in some instances (i.e. where there a development is in close proximity to an internationally designated site).
- A number of principles are mentioned. It is thought that each is likely to be suitably proactive, but that clarity could be increased by further discussion in the background text (e.g. 'the rural/urban transition' and 'gateways'). In the background text there is a need to define what is meant by 'the principles of urban design'.
- It may be helpful for the Policy to be structured differently, so that design principles for new development (e.g. sustainable transport, designing out crime, designing a public realm and open space that supports community cohesion and inclusion) are promoted before then stating the importance of protecting and integrating existing environmental assets.
- There could be some benefit to highlighting the relationship between good location, good masterplanning and good design in terms of achieving the objectives and principles set out in the Policy.
- Consider removing the point regarding landscaping, so that this does not detract from issues of greater strategic importance.
- Consider giving further guidance regarding public art (so that, for example, there is a consistent approach / theme where this might be beneficial) or committing to examining this further through the LDF.
- It may be more appropriate to refer to 'traditional and locally sourced materials', rather than 'sustainable and traditional materials'.
- Consider requiring good design to *demonstrate how that have taken account of principles* of designing out crime.
- Consider promoting innovative approaches to waste storage and segregation as an integral part of the urban realm.

Table 5.3: Policy 3 – Energy, water and ICT

Overall environmental effects

This Policy will result in significant benefits in terms of ENV3 (quality of the water environment) and ENV6 (climate change mitigation). It is also

highlighted that promoting access to high speed broadband will have benefits in terms of reducing the need to travel.

Overall social effects
This Policy can be seen to have indirect social benefits as access to broadband can help to alleviate issues of social exclusion.

Overall economic effects
This Policy can be seen to have indirect economic benefits as access to high-speed broadband will be an important factor in terms of attracting investment.

Overall summary of effects
This Policy addresses three specific issues that are seen as particular priorities, namely the need to ensure that new developments draw their energy from renewable and low carbon sources; the need to ensure that development is supported by sufficient waste water treatment capacity (and thus avoids water pollution); and a requirement to ensure access to 'fast broadband' within new developments.

In terms of energy requirements, the Policy wording and the background text go into considerable detail regarding the most appropriate way to achieve low and zero carbon development, taking account of the findings of the Energy Study. There is a major emphasis on ensuring that measures are in place that will allow successful implementation, including establishment of a Carbon Infrastructure Fund and the establishment of Energy Service Companies(preferably with community ownership). This is considered to be important and appropriate strategic guidance.

In terms of water quality, this Policy recognises that there are particular ways in which development (and development in certain locations) can impact upon, and be constrained by, the water environment. It sets stringent requirements which (in conjunction with Policy 1) should protect the water environment. The Policy takes account of the findings of the Water Cycle Study.

Recommendations
Provide some further justification as to why there is not a preference for on-site renewable / low carbon energy generation (including CHP and district heating networks).

For more information or if you require this document in another format or language, please phone:

01603 431133
for Broadland District Council

0344 980 3333
for Norwich City Council

01508 533805
for South Norfolk Council

Topic Paper: Environment

Joint Core Strategy for Broadland, Norwich and South Norfolk
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