southend onsea BOROUGH COUNCIL

climate change review

climate change review
march 2011

development plan document

southend on sea borough council
local development framework

delivering regeneration and growth

Contents

Section 1: Introduction

1.1 In order to address the challenge posed by climate change and the potential opportunities, there is a need to rapidly reduce carbon emissions, prioritise the transition to a low carbon economy, and adapt to the inevitable consequences of a changing climate. A rapid transformation of the built environment is therefore needed to provide the spatial and environmental conditions necessary for Southend-on-Sea to secure the national objective to create a sustainable low carbon society.

1.2 Strategic Objective 15, Policy KP2 and Policy CP4 in adopted Core Strategy address sustainable design and climate changes issues. These policies reflect the key aims set out in the Southend Climate Change Action Plan (2010 – 2013), which sets out the measures required to mitigate and adapt to climate change. The Development Management DPD will build on the this policy context to develop further policies that ensure that new development contributes to sustainable development

1.3 This report provides a review of the national, sub-regional and local low carbon development policy context and national standards. This report is structured as follows:

- Section 2 sets out the national planning policy context. This section provides a review of relevant planning policy statements and relevant national research documents.
- Section 3 sets out the sub-regional policy context. Specifically it considers the policy set out the East of England Plan, policy with in the emerging LDF documents of the neighbouring councils to Southend-on-Sea and relevant adopted policy in the Greater Essex area.
- Section 4 sets out Southend-on-Sea Borough Council's existing climate change policies and the consultation responses to emerging policy.
- Section 5 considers the Code for Sustainable Homes in detail.
- Section 6 considers retrofitting with specific reference to Southend-on-Sea Borough Council's involvement within the 'Build with CaRe' project.
- Section 7 sets out the conclusions.

Section 2: National Planning Policy

2.1 This section sets out the national planning policy context in respect to climate change and low carbon developments.

(i) Planning Policy Statements

a. PPS1 – Sustainable Development

2.2 **Planning Policy Statement 1 - Delivering Sustainable Development (PPS1)** was published in 2005. This document sets out the Government's overarching planning policies for the delivery of sustainable development through the planning system.

2.3 Paragraph 13 sets out the key principles that should be applied to ensure that development plans and decisions taken on planning applications contribute to the delivery of sustainable development. Criterion (ii) states that local planning authorities should ensure that development plans contribute to global sustainability by addressing the causes and potential impacts of climate change through policies which reduce energy use, reduce emissions, promote the development of renewable energy resources and take climate change impacts into account in the location and design of development.

2.4 Paragraph 20 states that development plan policies should take account of environmental issues such as mitigation of the effects of, and adaptation to, climate change through the reduction of greenhouse gas emissions and the use of renewable energy; air quality and pollution; land contamination; the protection of groundwater from contamination; and noise and light pollution.

2.5 Paragraph 27 refers to the preparation of development plans. This paragraph states that planning authorities should seek to address, on the basis of sound science, the causes and impacts of climate change, the management of pollution and natural hazards, the safeguarding of natural resources, and the minimisation of impacts from the management and use of resources.

b. Planning Policy Statement: Planning and Climate Change - Supplement to Planning Policy Statement 1

2.6 This Planning Policy Statement (PPS) sets out how planning, in providing for the new homes, jobs and infrastructure needed by communities, should help shape places with lower carbon emissions and are resilient to climate change.

2.7 Paragraph 3 states that the Government believes that climate change is the greatest long-term challenge facing the world today. Addressing climate change is therefore the Government's principal concern for sustainable development.

2.8 Paragraph 4 refers to the *Kyoto Protocol* to reduce emissions of greenhouse gases and the Government's commitment to reduce carbon dioxide emissions to 26-32% below 1990 levels by 2020 and to at least 60 per cent by 2050.

2.9 Paragraph 7 states that planning has a key role in helping to tackle climate change and has a significant role in helping to:

- Secure progress against the UK's emissions targets, by direct influence on energy use and emissions;
- Deliver the Government's ambition of zero carbon development; and
- Create an attractive environment for innovation, including bringing forward renewable and low-carbon technologies and supporting infrastructure.

2.10 Paragraph 8 refers to the tightening of Building Regulations to require major reductions in carbon emissions and the aim for all new homes to be zero carbon by 2016.

2.11 Paragraph 11 states that planning authorities should adhere to the following principles in determining planning applications:

- Controls under the planning, building control and other regulatory regimes should complement and not duplicate each other;
- Information sought from applicants should be proportionate to the scale of the proposed development, its likely impact on and vulnerability to climate change, and be consistent with that needed to demonstrate conformity with the development plan and this PPS;
- Specific and standalone assessments of new development should not be required where the requisite information can be made available to the planning authority through the submitted Design and Access Statement, or forms part of any environmental impact assessment or other regulatory requirement.

2.12 Paragraph 19 considers renewable and low-carbon energy generation. Within development plan documents, local authorities are required to set out a framework that promotes and encourages renewable and low-carbon energy generation. Development policies should be designed to promote and not restrict renewable and low-carbon energy and supporting infrastructure. Paragraph 20 states that planning authorities should expect a proportion of the energy supply of new development to be secured from decentralised and renewable or low-carbon energy sources.

2.13 In considering the local requirements for decentralised energy to supply new development, paragraph 26 states that planning authorities should have an evidence-based understanding of the local feasibility and potential for renewable and low-carbon technologies, including micro-generation. This paragraph also states that planning authorities should:

- Set out a target percentage of the energy to be used in new development to come from decentralised and renewable or low-carbon energy sources where it is viable. The target should avoid prescription on technologies and be flexible in how carbon savings from local energy supplies are to be secured;
- Where there are particular and demonstrable opportunities for greater use of decentralised and renewable or low-carbon energy than the target percentage, Council's should bring forward development area or site-specific targets to secure this potential;
- Set out the type and size of development to which the target will be applied; and
- Ensure there is a clear rationale for the target and it is properly tested.

2.14 Paragraph 27 states that where there are existing decentralised energy supply systems, or firm proposals, planning authorities can expect proposed development to connect to an identified system, or be designed to be able to connect in future.

2.15 Paragraphs 30 to 32 set out the local requirements for sustainable buildings. Paragraph 30 states that planning policies should support innovation and investment in sustainable buildings and should not, unless there are exceptional reasons, deter novel or cutting-edge developments. It is also stated that planning authorities should help to achieve the national timetable for reducing carbon emissions from domestic and non-domestic buildings.

2.16 Paragraph 31 states that there will be situations where it could be appropriate for planning authorities to anticipate levels of building sustainability in advance of those set out nationally. When proposing any local requirements for sustainable buildings planning authorities must be able to demonstrate clearly the local circumstances that warrant and allow this. These could include, for example, where there are clear opportunities for significant use of decentralised and renewable or low-carbon energy.

2.17 Paragraph 32 states that when proposing any local requirement for sustainable buildings, planning authorities should:

- Focus on development area or site-specific opportunities;
- Specify the requirement in terms of achievement of nationally described sustainable buildings standards, for example in the case of housing by expecting identified housing proposals to be delivered at a specific level of the Code for Sustainable Homes;
- Ensure the requirement is consistent with their policies on decentralised energy; and
- Not require local approaches for a building's environmental performance on matters relating to construction techniques, building fabrics, products, fittings or finishes, or for measuring a building's performance unless for reasons of landscape or townscape.

2.18 Paragraph 33 states that any policy relating to local requirements for decentralised energy supply to new development or for sustainable buildings should be evidence-based and viable, having regard to the overall costs of bringing sites to the market (including the costs of any necessary supporting infrastructure) and the need to avoid any adverse impact on the development needs of communities. In the case of housing development it must be demonstrated that the proposed approach is consistent with securing the expected supply and pace of housing development shown in the housing trajectory required by PPS3, and does not inhibit the provision of affordable housing. It is also stated that it will be necessary to set out how local authorities intend to advise potential developers on the implementation of the local requirements, and how these will be monitored and enforced.

2.19 Paragraph 41 states that where possible, planning authorities should make use of Design and Access Statements to obtain from applicants the information necessary to show how their proposed development will contribute to the Key Planning Objectives set out in PPS1.

c. Local Energy Supply for New Development and the 'Merton Rule' (21st September 2007)

2.20 In a letter dated 21st September 2007 from Yvette Cooper, the Planning Minster at the time, a number of planning matters relating to the 'Merton Rule' were clarified.

2.21 This letter highlights that it is Government's target for all new homes to be zero carbon by 2016 with a stepped change in carbon emission reductions to reach this target. The letter notes that these targets can only be achieved through both higher levels of energy efficiency and much greater use of local renewable and low carbon energy.

2.22 This letter states that councils will be encouraged to adopt new Merton Rules that are well-founded and flexible to allow for on-site and off-site renewable contributions. The emphasis is on minimising carbon emissions and maximising the scope for innovation. Consequently, councils are required to required to have a strategy for securing decentralised and renewable energy technologies within new developments. The letter states that these policies should not be in SPD documents but in full DPD policy documents. It is stated that it is important that the introduction of these technologies should not prevent housing and especially affordable from being delivered.

d. Chief Planning Officer Letter: Planning and climate change update – 20th January 2009

2.23 In a letter to Chief Planning Officers, dated to 20th January 2009, and titled 'Planning and Climate Change Update', further clarification was provided by the Government in terms of some of the headlines relevant to their work in implementing the Planning Policy Statement (PPS) on climate change.

2.24 The letter highlighted that practice guidance to support planners and others involved in implementing the PPS on climate change is available as a web-based resource. This document was refreshed in the light of stakeholder engagement over the summer 2008, and developed into a web-based resource so that it can be easily updated in the light of emerging practice and examples of good implementation.

2.25 It was noted that the Planning Act 2008 underpins the policies in the climate change PPS by introducing statutory duties on regional and local plans to take action on climate change. The relevant sections are 181 and 182. The Planning and Energy Act effectively gives statutory support for the policies in paragraphs 26 to 33 of the PPS on local requirements for local energy and sustainable buildings.

2.26 It was also further emphasised that planning has a crucial role in ensuring that new development is planned to make good use of local renewable and low-carbon sources of energy.

(ii) Part L Building Regulations (2010)

2.27 The Approved Documents for Part L of the Building Regulations were amended in October 2010. As of 1st October 2010, Part L of the Building Regulations requires a carbon reduction of 25% for all new residential development over the preceding standards set out in the 2006 Building Regulations. This is a 40% improvement over a dwelling built to the 2002 regulations and corresponds roughly with the trigger point for Code for Sustainable Homes Level 3, prior to 2010. Part L of the Building Regulations is scheduled to be amended in 2013.

(iii) Other Relevant Policy Documents

a. The Nottingham Declaration on Climate Change

2.28 It has been recognised that addressing the effects of climate change can bring social, environmental and financial benefits for a local authority. The **'Nottingham Declaration on Climate Change'** is a voluntary pledge to address these climate change issues. It represents a broad statement of commitment that any council can make to its own community.

2.29 The Declaration was originally launched at a conference in Nottingham in October 2000. To mark the fifth anniversary of the Declaration it was re-launched in December 2005. The revised version was developed by several organisations, including the Carbon Trust, Energy Saving Trust, Environment Agency, Local Government Association and the UK Climate Impacts Programme (UKCIP).

2.30 All local authorities are being encouraged to sign the Declaration to publicly show their commitment to addressing climate change. To date, over 300 local authorities in England have signed the pledge.

2.31 Southend-on-Sea Borough Council signed the *Nottingham Declaration* in June 2010, and in so doing committed to producing an action plan on how the Council will meet the declaration.

b. Securing the Future – The UK Government Sustainable Development Strategy

2.32 **The UK Sustainable Development Strategy** was published by the Department for Environment, Food and Rural Affairs in March 2005.

2.33 Chapter 4 of this strategy specifically relates to climate change and energy. This chapter sets out the Government's commitment to reducing the country's greenhouse gas emissions.

2.34 This chapter highlights that the *Energy White Paper 2003* seeks to move to a low carbon economy with the long term goal of reducing carbon dioxide emissions by some 60 per cent by 2050, with significant progress to be shown by 2020. It is also references the Government's commitment to the Kyoto Protocol and the target to reduce greenhouse gas emissions.

2.35 Domestic measures pursued by the Government include policies to reduce emissions. These measures fall under the following six broad sectors:

- The energy supply industry;
- Business;
- Transport;
- Households;
- Agriculture, forestry and land use; and
- The public sector.

2.36 **'Energy Efficiency: The Government's Plan for Action'** was published in April 2004, setting out a clear framework for improving energy efficiency with a particular focus to 2010. Key measures include the intention to double the level of energy efficiency commitment activity from 2005 to 2011 by improving the energy standards of buildings through revisions to the Building Regulations.

2.37 **'The Energy Performance of Buildings Directive'** requires Member States to set minimum requirements on the energy performance of new buildings and of large buildings undergoing major renovation, and the certification of all buildings at the point of sale and rental, within the European Community. The Government implemented the Directive through amendments to Part L of the Building Regulations.

2.38 It is stated that between 2010 and 2020, the Government aims to regularly update the Building Regulations with each stage signalling what the next stage is likely to be. This should lead to incremental increases in the energy standards of new and refurbished buildings

2.39 The **'Sustainable and Secure Buildings Act (2004)'** allowed Building Regulations to address the sustainability of new buildings through conservation of fuel and power and prevention or reduction of greenhouse gas emissions in relation to existing buildings.

c. The UK Renewable Energy Strategy

2.40 The UK has committed to sourcing 15% of its energy from renewable sources by 2020. This document sets the action plan for delivering renewable energy. It explains:

- The path to 2020, and the fuels and technologies that are most likely to achieve the Government's goal;
- The strategic role the Government and the specific actions it will take to lead delivery; and
- The opportunities for individuals, communities and businesses to harness renewable energy and contribute to action against climate change.

2.41 To deliver renewable energy the Government plans to provide:

- Greater financial support, targeting a wider range of technologies and groups in society;
- Swifter delivery, including in the planning system, supply chains, grid connection and sustainable bioenergy; and
- A stronger push on new technologies and resources, to help reduce the cost of meeting our targets for 2020 and beyond.

2.42 The strategy highlighted that to achieve rapid transformation over the next decade, the planning system, supply chains, connection to the grid and bio-energy supply will all have to step up their pace of change dramatically.

2.43 The Office for Renewable Energy Deployment (ORED) will work with all relevant stakeholders to make that change of pace happen. ORED has a remit to address deployment issues including working alongside the Department for Communities and Local Government (CLG) on planning and stimulating greater investment, and supply-chain development. In respect to planning the following measures are cited:

- Better planning for delivery - The planning system must enable renewable deployment in appropriate places, at the right time, and in a way that gives business the confidence to invest. The system must speed up and be made more predictable, while ensuring that the environment and natural heritage is protected.
- Address the impacts of renewables deployment - by doing more to resolve spatial conflicts and develop generic solutions to mitigate the impacts of renewable technologies, notably air quality, environmental, navigational and aviation radar impacts.

2.44 There is no low-cost, high-carbon option for the future. The Stern Review made it clear that the costs of inaction on climate change are far outweighed the costs of action today. This Renewable Energy Strategy is an integral part of the Government's overall UK Low Carbon Transition Plan to deliver clean, secure and affordable energy of the future.

d. Eco Homes Guide 2006

2.45 The **EcoHomes Guide** was published in 2006. EcoHomes is a version of BREEAM for homes, which provides a rating for new, converted or renovated homes, and covers houses, flats and apartments.

2.46 EcoHomes balances environmental performance with the need for a high quality of life and a safe and healthy internal environment. Many of the issues are optional, ensuring EcoHomes is flexible enough to be tailored to a particular development or market.

2.47 In April 2007 the Code for Sustainable Homes replaced EcoHomes for the assessment of new housing in England. However EcoHomes 2006 will continue to be used for refurbished housing in England.

Section 3: Regional and Sub-Regional Planning Context

3.1 This section sets out the regional and sub-regional low carbon policy context.

(i) East of England Plan

3.2 The *East of England Plan* (Regional Spatial Strategy) was adopted in 2008. This document remains part of the development plan under the provisions of the Planning and Compulsory Purchase Act 2004, however the Localism Bill 2010 will abolish regional spatial strategies when enacted.

3.3 Policy ENG1 sets out the regional policy in relation to carbon dioxide emissions and energy performance. This policy states that new development should be located and designed to optimise its carbon performance. Local authorities are required to encourage the supply of energy from decentralised, renewable and low carbon energy sources and through Development Plan Documents set ambitious but viable proportions of the energy supply of new development to be secured from such sources. As a minimum new development of more than 10 dwellings or 1,000m^2 of non-residential floorspace should secure at least 10% of their energy from decentralised and renewable or low-carbon sources, unless this is not feasible or viable.

(ii) Neighbouring Local Authorities

3.4 It is important to consider Southend-on-Sea's neighbouring local authorities as both Rochford and Castle Point contribute to the wider Southend urban area therefore is intrinsically linked economically, socially and physically with the Borough.

a. Castle Point Borough Council

Core Strategy Proposed Amendments October 2010

3.5 The Examination-in-Public of the **Castle Point Core Strategy** commenced on 22nd June 2010. Due to changes in national policy emerging from PPS3: Housing, the revocation of the Regional Spatial Strategy and in order to deal with matters emerging from the earlier hearing sessions, the Inspector suspended the examination. The hearing sessions are planned to recommence on Monday the 7th March 2011.

3.6 Policy DC5 of the **Core Strategy Submission** document considers energy and water efficiency in new buildings. This policy requires all new residential developments to have emission and water consumption rates that are consistent with Level 3 of the Code for Sustainable Homes. By 2016, dwelling emission rates and water consumption rates will be required to be consistent with Code Level 6. Non-residential developments will be expected to reduce their building emission

rate and improve their water efficiency consistent with the BREEAM Good Rating for that type of development. By 2016, building emission rates and water efficiency will be expected to meet the BREEAM Excellent Rating for new non-residential developments.

3.7 Policy DC6 sets out the requirements in respect to achieving the Code for Sustainable Homes standards. This policy states that development proposals on greenfield land beyond the existing urban area, or on greenfield sites of 0.1ha or more within the urban area, will be expected to achieve at least Level 3 against the Code for Sustainable Homes. By 2016, it is expected that new developments will achieve at least Code Level 5. It is stated that the Council will encourage all other residential developments to achieve Code Level 3 standard or above, and will celebrate those development schemes that exemplar sustainable design.

3.8 Policy DC7 considers on-site renewable energy generation. It is stated that the following types of development will be required to improve their dwelling (building) emission rate by at least 10% through the use of decentralised, renewable or low carbon energy sources including on-site renewable energy generation technologies and off-site local sources such as Combined Heat and Power Plants:

- All new residential developments, including replacement homes; and
- New non-residential developments of 1,000m^2 in floorspace or more.

3.9 Policy DC8 considers energy and water efficiency improvements to existing buildings. This policy states that all alterations to existing buildings that increase its volume (excluding garages, shed and other outbuildings) will be expected to make simple cost effective energy and water efficiency improvements to the existing building if possible and practical.

b. Rochford District Council

3.10 The **Rochford Core Strategy** was submitted to the Secretary of State in 2010 and an Examination in Public was held in May 2010. A subsequent 'proposed amendment' consultation was held in October / November 2010.

3.11 Policy ENV7 considers small-scale renewable energy projects. This policy states that small-scale renewable energy development will generally be considered favourably.

3.12 Policy ENV8 considers on-site renewable and low carbon energy generation. This policy states that developments of five or more dwellings or non-residential developments of 1,000 square metres or more should secure at least 10% of their energy from decentralised and renewable or low-carbon sources, unless this is not feasible or viable.

3.13 Policy ENV9 requires as a minimum, Level 3 of the Code for Sustainable Homes. It is also stated that the Council will ensure that there are real improvements in key areas such as carbon dioxide emissions and water efficiency. The policy states that

the Council will expect developers to go beyond Code Level 3 for developments between 2010 and 2013, particularly in terms of water conservation measures, unless such requirements would render a particular development economically unviable.

3.14 Policy ENV10 requires new non-residential buildings, as a minimum, to meet the BREEAM rating of 'Very Good', unless such requirements would render a particular development economically unviable. This policy states that where it is considered appropriate to relax the requirement to meet the BREEAM rating of 'Very Good' due to viability issues, the Council will still expect development to meet as high a BREEAM rating as is economically viable.

c. Colchester Borough Council

3.15 Whilst Colchester Borough Council is not a neighbouring local authority, it is an important local authority in which to draw reference from in that it is also located within the Greater Essex area, contains a large urban area and has recently adopted its Core Strategy DPD in December 2008 and its Development Policies DPD in October 2010.

3.16 Policy ER1 of the adopted **Core Strategy DPD** addresses energy, resources, waste, water and recycling. This policy highlights that it is the Council's commitment to promote carbon reduction including the promotion of efficient use of energy and resources, alongside waste minimisation and recycling. This policy requires new developments to provide over 15% of energy demand through local renewable and low carbon technology sources. This policy also states "*Residential dwellings will be encouraged to achieve a minimum 3 star rating in accordance with the Code for Sustainable Homes. Non-residential developments will be encouraged to achieve a minimum BREEAM rating of 'Very Good*". This policy also states "*The Council will support housing developments that reduce carbon emissions by 25% from 2010, 44% from 2013 and zero carbon homes from 2016 in accordance with national building regulations*".

3.17 Within the explanation to this policy it is stated that sustainable development is at the heart of the Local Development Framework and the Council is seeking to create communities that use natural resources sustainably, and minimise waste. It is stated that the initial targets of a 3 star Code rating and a 'Very Good' BREEAM rating are cost effective and achievable.

3.18 Paragraph 7.83 of the Inspectors Report states "*Policy ER1 encourages the provision of over 15% of energy demand of new developments through local renewables and low carbon energy sources. This is in line with EEP policy ENG2 which has the aim of providing 10% by 2010 and 17% by 2020. I consider the wording of this policy is flexible and does not place an undue burden on developers. While the Code for Sustainable Homes and BREEAM ratings are covered by other legislation, mention of these does not make the CS unsound*".

(iii) Summary

3.19 Both the neighbouring districts and Colchester Borough Council have sought, subject to viability, to encourage Level 3 of the Code for Sustainable Homes and 'Very Good' BREEAM rating for non-residential development. In the case of Colchester, this approach was found sound by a Planning Inspector as it was considered sufficiently flexible as to not place an undue burden on developers.

Section 4: Southend-on-Sea Policy

4.1 This section sets out relevant Southend-on-Sea Borough Council policy in respect to low carbon development. This section considers the adopted and emerging local development framework policies and other relevant Council documents.

(i) Southend-on-Sea Core Strategy

4.2 The Core Strategy was adopted in December 2007. The Core Strategy provides the vision, objectives and broad strategy for the spatial development of Southend.

4.3 The principle of sustainable development is embedded into the Core Strategy through its Strategic Objectives. The Core Strategy's Strategic Objectives emphasise the challenges facing Southend-on-Sea and the need for a balanced spatial approach. Strategic Objective 4 states that sustainable regeneration and growth will be focused on the urban area. Strategic Objective 5 highlights that not less than 13,000 net additional jobs will be delivered in the period 2001 to 2021, whilst Strategic Objective 6 states that 6,500 net additional dwellings will delivered during this time.

4.4 Strategic Objective 15 places a commitment upon the Council in respect to sustainability measures. This objective states "*Secure effective and efficient sustainable development which prevents or minimises local contributions to, and the impact of, climate change, flood risk and the depletion of non-renewable resources, including the application of sustainable construction and operation in all development through the prudent use of natural resources, energy efficiency and low carbon emissions, and the maximum use of renewable and recycled resources*".

4.5 Policy KP2 sets out the development principles by which all development schemes must adhere to. Critically Part 1 states that development must contribute to the achievement of the borough's Strategic Objectives.

4.6 Part 11 requires appropriate measures in design, layout, operation and materials within development schemes. In this respect 11(a) provides a sustainable design dimension and states "*A reduction in the use of resources, including the use of renewable and recycled resources. All development proposals should demonstrate how they will maximise the use of renewable and recycled energy, water and other resources. This applies during both construction and the subsequent operation of the development. At least 10% of the energy needs of new development should come from on-site renewable options (and/or decentralised renewable or low carbon energy sources), such as those set out in SPD 1 Design and Townscape Guide, wherever feasible. How the development will provide for the collection of re-usable and recyclable waste will also be a consideration*".

4.7 Policy CP4 considers the environment and urban renaissance. This policy states that development proposals will be expected to contribute to the creation of a high quality, sustainable urban environment which enhances and complements the natural and built assets of Southend. Part 1 of this policy states that sustainable development will be promoted where it is of the highest quality and encourages innovation and excellence in design to create places of distinction and a sense of place. Part 3 seeks to ensure that design solutions maximise the use of sustainable and renewable resources in the construction of development and resource and energy conservation (including water) in developments.

(ii) Design and Townscape Guide SPD 2009

4.8 The **Design and Townscape Guide SPD** was adopted by the Council in 2009. This document seeks to positively encourage high quality design for development proposals, to provide a practical basis for achieving this and to assist in resisting poor quality design.

4.9 The Design and Townscape Guide SPD provides further detail on the interpretation and intent of policies in the adopted Core Strategy. This document does carry weight in determining planning applications but not to the same degree as statutory development plans.

4.10 However, the level of weight that can be afforded to the Design and Townscape Guide SPD has been established at a recent appeal in Thurrock (Appeal Ref: APP/M9565/A/09/2116409). The appellant sought to vary a condition on a planning application that required a minimum three star rating within the Government's Code for Sustainable Homes (2006) on all new homes. In considering the Appeal, the Planning Inspector recognised in paragraph 10 of his report that neither the Master Plan nor the Committee's resolution, the documents to which the Development Corporation used to justify the Code for Sustainable Homes requirement, were statutory documents or part of the development plan. The Planning Inspector also acknowledged that the requirement did not accord with the supplement to Planning Policy Statement 1 Planning and Climate Change, which says that local requirements for sustainable buildings should be set out in a Development Plan Document, not a supplementary planning document, so as to ensure examination by an independent Inspector. However, the Planning Inspector stated that "*the Master Plan appears to have been approved by the Corporation's Board following public consultation and the resolution is consistent with it in relation to development in Purfleet. Both predate approval of the scheme and imposition of Condition 10. They are material considerations to which I attach significant weight, having regard also to the Corporation's published objectives for sustainable development and the early stage of preparation of the local development framework for the ared*". On this basis, significant weight can be afforded to the sustainability requirements of the *Design and Townscape Guide SPD* as an interim measure until a development plan document specifically considers these matters.

4.11 Section 8.9 considers the Code for Sustainable Homes. This section highlights that the Council is committed to tackling climate change and significantly reducing carbon emissions across the Borough. In seeking to achieve this aim, it is stated that the Council will require all new homes be built to a minimum of Code for Sustainable Homes Level 3 with a view to moving towards Code Level 4.

4.12 Section 8.10 considers BREEAM assessments for non-Residential Buildings. This section states that all new commercial development will be expected to contribute to the sustainability of the Borough and we will therefore be requiring that all new commercial buildings to achieve a BREEAM 'very good' rating (or equivalent) with a view to moving towards an 'excellent' rating (or equivalent).

(iii) Development Management Issues and Options Consultation

4.13 The **Development Management 'Issues and Options'** consultation on possible development policies took place between June 21st June 2010 and 9th August 2010. The purpose of the Issues and Options consultation stage was to explore how detailed development management policies could guide development in a sustainable manner. The Council wanted to gather the public and stakeholder's views about the general direction of proposed policy to meet Southend-on-Sea specific issues. The Borough Council put forward suggested options as part of the consultation alongside alternative options with the reasons why they had not been included. The process provided local people, businesses and stakeholders the opportunity to consider the options and suggest alternative options.

4.14 With regard to low carbon developments the following comments were received:

- The suggested option is comprehensive in its coverage taking the energy hierarchy as its basis whereby efficiency is promoted as the starting point. However it has a bias towards the reduction of energy rather than carbon reduction methods.
- It is felt that a greater importance and weight should be given to energy reduction.
- Exceptions to achieving the suggested Code for Sustainable Homes and BREEAM Excellent should be incorporated into policy. These could include viability and cost.
- Suggestion that national policy is sufficient and further policy is not required.
- Insist on carbon reduction for all new buildings and help support renewable energy in existing homes.
- Support the water efficiency requirements however reference to the Water Cycle Study should be made and might allow more detailed requirements to be set.
- Background text to this policy deals exclusively with new developments. This policy should also recognise the embodied energy within existing buildings, and should not be used to justify demolition of buildings that make a positive contribution to their surroundings.

- Greater emphasis should be placed on passive design to reduce energy consumption during construction and in use. The energy reduction attributable to these should be taken into account in determining the level of renewable energy production on site and/or off site contributions to say CHP facilities.
- Need to place greater emphasis on reduction in energy use and consumption through good design and construction. There is a requirement for 10% renewable energy generation on-site.
- The Council needs to take care with regard to local or on-site energy generation in terms of its visual impact on the local environment. The placing of photovoltaic cells/solar panels on roofs and the growth of small wind turbines threatens the street scene. Moreover there is growing resistance to noise, vibration and flicker effect of wind turbines
- Leaving the policy to rely on national policy and building regulations alone will mean that development is open to challenge.
- With the abolition of the regional spatial strategy, it is essential that the Council has a clear and detailed policy that allows development to continue at a healthy pace.
- The most suitable site in Southend for renewable technologies is between the Pier & Shoebury Boom along the low water mark. This is between 1 mile at the pier & two & a half miles at the boom.
- The Thames Gateway is an Eco Region and should lead the way in resource efficiency and climate change mitigation.
- The Council's approach needs to be flexible enough to respond to changes in emerging / adopted Government policy.
- The governmental policy objective for all developments after 2016 to be 'Zero Carbon' is particularly onerous and is likely to have a significant effect on development delivery. Introducing this into Southend before required and during a market recession, may have a severe negative effect on developments coming forward.
- In order to have a valuable effect on sustainable energy policies, a multifaceted approach should be promoted. This is best achieved through a requirement to illustrate that a 25% reduction in carbon emissions has been incorporated into development proposals.
- Need to incorporate on-site renewables should incorporate an element of flexibility to allow for circumstances where it will not be viable, feasible or suitable.
- All developments should aspire to incorporate community water harvesting and reuse systems, which are needed to achieve water use of less than 95l/head/day.
- A retrofitting strategy is required.
- The policy may need to consider carbon use in the construction supply chain, including reuse of construction materials on- and off-site.

(iv) Southend Climate Change Action Plan 2010 - 2013

4.15 The **'Southend-on-Sea Climate Action Plan'** has five key aims:

- To promote behavioural change around our approach to the environment and how we use natural resources and can live more sustainable lives.
- To reduce greenhouse gas emissions as a result of the Council's actions, specifically reducing energy use, waste, and the use of unsustainable forms of transport.
- To enable Southend to adapt to the changes that will happen as the result of the changing climate and to make the most of any positive opportunities.
- To encourage other sectors of the community to reduce greenhouse gas emissions and to take meaningful actions to prepare for the potential impacts of climate change.
- To identify the clear economic, social and environmental benefits of taking action on climate change.

4.16 The action plan identifies the areas where the Council is planning to take meaningful measures to mitigate and adapt to climate change over the next three years. These measures will be incorporated into the Local Strategic Partnership 'Southend Together'. The various measures are classified under the following headings:

- Planning & Regulation;
- Energy Use & Reduction / Resource Efficiency;
- Waste & Recycling;
- Sustainable Transport;
- Sustainable Procurement;
- Raising Awareness – education and promotion;
- Management of the Natural Environment; and
- Adapting to a Changing Climate.

4.17 The following actions have been assigned to the Strategic Planning & Transport Group:

Expected Outcome - Carbon Reduction through the Planning System

To use the planning system to reduce the volume of greenhouse gas emissions throughout the Borough and to ensure that Southend Borough Council meets (and where possible exceeds) national carbon emission reduction targets. The key actions to achieve this are:

- Consult on revised planning policies in the Local Development Framework to move towards carbon neutral developments – initially through amendments to the Design & Townscape Guide Supplementary Planning Document (SPD1).
- Research the best means to ensure that all new developments in the Borough are carbon neutral by 2016.

- To ensure that if SBC property or land is released for development then there will be a high energy saving standards / carbon neutral requirement.
- Continue to play an active role in the European Group – Build with Care, which encourages planning to facilitate the mainstreaming of energy efficient buildings.
- Organise further CPD's on energy related topics (e.g. Cfsh, BREEAM, renewables) for local business.
- Work closely with the Energy Saving Trust and actively promote 'Practical Help' for any sustainable energy or energy efficiency queries.
- Use the planning system to reduce car dependency throughout the Borough.
- To investigate the opportunities available to reduce the carbon emissions in existing buildings e.g. to require cost effective energy efficiency improvements to existing buildings when extensions are built.

Expected Outcome - Renewable Energy

To use the planning system to encourage renewable energy technology in new builds and promote renewable energy throughout the Borough. The key actions to achieve this are:

- Help local residents and businesses make use of small scale solar, wind and other on-site renewable technology by developing a series of information booklets.
- Ensure that information / guidance on renewable technology is readily available on the SBC website.
- Look to establish a database of resources on renewable energy in the region e.g. throughout the Essex County and local renewable companies.
- Ensure that planning and building control officers are signposting information on energy efficiency and renewable energy to people making enquiries or full planning applications.
- Develop a process for pre-planning on renewables so that air quality, noise, carbon saving issues etc are dealt with as one single process.

Section 5: Sustainable Code for Homes: Review

5.1 This section provides further information on the Sustainable Code for Homes and considers each component part within a Southend-on-Sea policy and characteristic context.

5.2 The Code for Sustainable Homes, which was launched by the Government in December 2006, seeks a step change in the way new homes are designed and constructed. This Code introduced a 1 to 6 star rating system to communicate overall sustainability performance. Points are awarded under nine categories of sustainability on the basis of certain targets being met, e.g. reduced CO_2 emissions or water consumption, or incorporation of certain elements of sustainable design.

5.3 The Code for Sustainable Homes is essentially an environmental assessment method for rating and certifying the performance of new build homes. It was designed to replace the Eco-Homes standard in April 2007 to drive continuous improvement in the housebuilding industry. The Code is intended to provide a route map, signalling the direction of change toward low carbon, sustainable homes that will be mandated through the Building Regulations.

5.4 Since 2007, the Code has been adopted as a minimum standard by the Homes and Communities Agency's predecessor bodies, English Partnerships (EP) and the Housing Corporation (HC), and the NAHP and Property & Regeneration programmes. The minimum standard set was Code Level 3.

(i) Literature Review

a. The Code for Sustainable Homes: Setting the Standard in Sustainability for New Homes (2008)

5.5 **'The Code for Sustainable Homes: Setting the Standard in Sustainability for New Homes'** was published in February 2008 by the Office for Communities and Local Government (CLG). This document sets out the assessment process and the performance standards required for the Code for Sustainable Homes (the Code).

5.6 The Code measures the sustainability of a home against nine design categories, rating the 'whole home' as a complete package. The design categories are:

- Energy and CO_2 Emissions;
- Pollution;
- Water;
- Heath and Wellbeing;
- Materials;
- Management;
- Surface Water Run-off;

- Ecology; and
- Waste.

5.7 Each category includes a number of environmental issues which have a potential impact on the environment. The issues can be assessed against a performance target and awarded one or more credits.

5.8 The Code uses a sustainability rating system – indicated by 'stars', to communicate the overall sustainability performance of a home. A home can achieve a sustainability rating from 1* to 6* depending on the extent to which it has achieved the Code standards. 1* is the entry level above the level of the Building Regulations, whilst 6* is the highest level reflecting exemplar development in sustainability terms.

b. Cost Analysis of the Code for Sustainable Homes Final Report (2008)

5.9 The '*Cost Analysis of the Code for Sustainable Homes Final Report*' was published in 2008 by the CLG. This report presents the findings of research into the cost of building to the Code for Sustainable Homes.

5.10 This document follows the Impact Assessment as part of the *Housing and Regeneration Bill (2007)* that analysed the costs and benefits of introducing mandatory ratings against the Code, which included updated research and modelling data on the costs of building homes to the Code standards.

5.11 Tables 4.1 to 4.3 of the Cost Analysis show the estimated 2008 costs of compliance for each level of the Code for the detached house, end terraced house and flat under the best, medium and worst case scenarios. These tables are set out in the Appendix 1.

5.12 As well as presenting the overall costs of compliance, the costs are broken down into the mandatory entry-level code requirements, the minimum standards for energy and for water and the remaining flexible credits required to achieve the credits threshold at each Code level.

c. Code for Sustainable Homes: Technical Guide - Version 2

5.13 **'The Code for Sustainable Homes: Technical Guide - Version 2'** was published in November 2010 by Office for Communities and Local Government. The purpose of this technical guide is to enable Code service providers and licensed assessors to deliver environmental assessments of new dwellings on the basis of the Code scheme requirements. The guide includes a list of issues associated with the building process which are known to impact on the environment, and for which performance measures to reduce their impacts can be objectively assessed, evaluated and delivered in a practical and cost-effective way by the construction industry.

5.14 Results of the Code assessment are recorded on a certificate assigned to the dwelling. The guide includes a comprehensive list of definitions and reference material for everyone involved in the process. The system of evaluating environmental performance in the Code is both transparent and open to scrutiny. A Technical Group consisting of industry representatives, sustainability specialists and Government representatives advised on the content of the guidance.

d. Summary of changes to the Code for Sustainable Homes Technical Guidance (2010)

5.15 The purpose of this document is to record the changes between the May 2009 version of the *Code for Sustainable Homes Technical Guidance* and the new 2010 version, both in summary and in detail. Changes that have been incorporated into the 2010 update include:

Aligning the Code with zero carbon policy

- Aligning the Code with Part L 2010. Code Level 4 continues to be a 44 per cent improvement above Part L 2006 (25 per cent above Part L 2010).
- Adopting the Fabric Energy Efficiency Standard which replaces Heat Loss Parameter in ENE2.
- Moving credits from ENE1 to ENE2 to incentivise a 'fabric first approach'.
- Allowing fractions of credits in ENE1 and 2 (If this proves successful the Government may consider rolling it out to other areas as appropriate).
- Removing credits for internal lighting and replacing it with a new Energy Display category.
- Requiring evidence to be provided by house builders on the energy efficiency of appliances provided as optional extras if they choose to gain the 1 credit for leaflet provision.
- Introducing a requirement for certification under the Microgeneration Certification Scheme or assurance under the CHPQA, in Ene7.

Streamlining the Code

- Postponing the introduction of Lifetime Homes as a mandatory requirement at Code level 4 and 5.
- Introducing an exemption on steeply sloping sites for the external Lifetime Homes requirements, and award three out of the four available points.
- Changing the technical guide criteria in order to better reflect current thinking and standards on accessibility.
- Removing the mandatory requirement for Site Waste Management Plans, and replacing this with voluntary credits for minimising or diverting waste to landfill.

Resolving problems that have arisen in use

- Adopting the revised standards for Surface Water Management in SUR1, subject to amendments by the Environment Agency and other experts. However, this will be removed once the National Standards for SUDS are introduced.

d. Code for Sustainable Homes: A Cost Review (2010)

5.16 **'The Code for Sustainable Homes: A Cost Review'** was published in 2010 by the CLG. This report presents the findings of research into the cost of building to the Code for Sustainable Homes standards based on recent real cost experience.

5.17 This document was produced in advance of the changes to building regulations in Part L (Conservation of Fuel and Power) in 2010. It was produced to assess the costs and benefits of the proposed amendments. The objectives of this study were to:

- Consult with the construction industry to build a comprehensive dataset of market-tested costs for complying with each level of the Code for Sustainable Homes.
- Assess the cost implications of building to the Code, including an analysis of the sensitivity of overall cost to the approach taken to Code compliance.
- Conduct an Impact Assessment in relation to the proposed changes to Code assessment criteria.

5.18 Element Energy and Davis Langdon were commissioned to undertake research into the costs of building to the Code, based on the practical experience of developers building Code homes.

5.19 The modelling methodology had been designed to identify the lowest cost means of achieving each Code Level in each scenario i.e. each combination of dwelling type and development scenario. The costs are reported as the extra-over cost from a baseline of building a 2006 Building Regulation compliant dwelling.

5.20 There is significant variation in the extra-over costs at each Code Level between the dwelling types and across the development scenarios. Typically, however, the extra-over costs expressed as a percentage of base build cost are < 1% for Code level 1, 1–2% at Level 2, 3–4% at level 3, 6–8% at Level 4, 25–30% at Level 5 and anything from 30 to 40 % at Level 6.

(ii) Code for Sustainable Homes: Detailed Policy Review

5.21 The Code for Sustainable Homes has been developed to enable a step change in sustainable building practice for new homes. It has been prepared by the Government in close working consultation with the Building Research Establishment (BRE) and Construction Industry Research and Information Association (CIRIA), and through consultation with a Senior Steering Group consisting of Government, industry and NGO representatives. The Code is intended as a single national standard to guide industry in the design and construction of sustainable homes and in particular with a view to national targets for reducing carbon dioxide emissions, but taking a more holistic approach by considering a wide range of environmental and social impacts of new homes.

5.22 The Code measures the sustainability of a home against design. The design categories included within the Code are:

- Energy/CO_2;
- Water;
- Materials;
- Surface water run-off;
- Waste;
- Pollution;
- Health and well-being;
- Management; and
- Ecology.

5.23 The total number of credits available and the weighting criteria for each category is set out below:

	Total Credits Available	Weighting Factor (percentage contribution)
Energy and CO2 emissions	31	36.4%
Water	6	9.0%
Materials	24	7.2%
Surface water run-off	4	2.2%
Waste	8	6.4%
Pollution	4	2.8%
Health and Well-Being	12	14.0%
Management	9	10.0%
Ecology	9	12.0%
Total		100%

5.24 The Code is then derived from the total percentage points as set out in table below.

Total Percentage Points Score	Code Levels
36 points	Level 1 (*)
48 points	Level 2 (**)
57 points	Level 3 (***)
68 points	Level 4 (****)
84 points	Level 5 (*****)
90 points	Level 6 (******)

5.25 The following paragraphs provide a review of each of the Code for Sustainable Homes categories with a specific focus on the requirements within these categories that are considered 'easy-wins' and the elements that are already embedded into adopted planning policy.

Category 1: Energy and Carbon Dioxide Emissions

5.26 Category 1 sets out the available credits in respect to energy and carbon dioxide emissions. In total, there are 31 credits with a weighting of 36.4% when assessing the rating of the whole new home.

5.27 There are nine sub-categories under energy and carbon dioxide. Of these sub-categories the dwelling emission rate has ten available credits and fabric energy efficiency has nine available credits. The remaining categories are: energy display devices; drying space; energy labelled white goods; external lighting; low and zero carbon technologies; cycle storage; and home office.

5.28 The dwelling emission rate sub-category seeks to limit CO_2 emissions arising from the operation of a dwelling and its services. Amendments to Part L of the Building Regulations that came into force in October 2010 has resulted 25% less CO_2 emissions than that in 2006 and corresponds roughly with the trigger point for Code for Sustainable Homes Level 3 prior to the Building Regulation amendments in 2010. Under the amended Sustainable Code for Homes the baseline is the 2010 Part L Building Regulations and credits are only awarded where the reduction of CO_2 emissions exceeds the regulations. A 25% reduction is the equivalent of Sustainable Code Level 4 whilst a 100% reduction is needed to achieve Sustainable Code Level 5.

5.29 The Fabric Energy Efficiency sub-category seeks to improve fabric energy efficiency performance and thus future-proofing reductions in CO_2 for the life of the dwelling.

5.30 The remaining categories are:

- Energy display devices – this sub-category aims to promote the specification of equipment to display energy consumption data, thus empowering dwelling occupants to reduce energy use.
- Drying space - this sub-category aims to reduce energy means of drying clothes.
- Energy labelled white goods - this sub-category aims to promote the provision or purchase of energy efficient white goods and this reduce the CO_2 emissions from appliance use in the dwelling.
- External lighting - this sub-category aims to promote the provision of energy efficient external lighting.
- Low and zero carbon technologies - this sub-category seeks to limit the CO_2 emissions and running costs from the operation of a dwelling and its services by encouraging the specification of low and zero carbon energy sources to supply a significant proportion of energy demand. Credits are awarded where there is a 10% and 15% reduction in CO_2 emissions.
- Cycle storage - this sub-category seeks to promote the wider use of bicycles as transport by providing adequate and secure cycle storage facilities.

- Home office - this sub-category seeks to promote working from home by providing occupants the necessary space and services to reduce the need to commute.

5.31 In the '*NHBC Foundation - The Code for Sustainable Homes Simply Explained*', a number of easy-win credits are set out that have little or no effect on any of the others and can give 8% of the total points available. These east credits include:

- **Drying space -** Drying space requires an internal drying line (e.g. a drying line over a bath, with suitable ventilation) or external equivalent (e.g. a rotary dryer).
- **Energy-efficient white goods -** If developers are supplying white goods with their dwellings anyway, then energy-efficient white goods are generally easy to source with only a small price premium. Alternatively, one credit can be achieved simply by supplying information on the EU Energy-Efficiency Labelling Scheme.
- **Cycle Storage -** Cycle storage can normally be accommodated in the back gardens of houses if there is direct access to the road.
- **Home office -** Requirements for a home office are usually easy to satisfy. For larger dwellings it is relatively easy to accommodate a home office in a secondary bedroom, but it does require power and telephone points (one telephone point with confirmation of connection to broadband, or otherwise two telephone points). In small dwellings (two or fewer bedrooms), there is a lot of flexibility with regard to the suitability of rooms.

5.32 The following text boxes provide extracts of adopted Southend-on-Sea LDF policy. This policy contributes to meeting the requirements of Category 1: Energy and Carbon Emissions.

Extract from the Southend-on-Sea Core Strategy DPD, adopted 2007

Core Strategy Policy KP2; Development Principles

All new development, including transport infrastructure, should contribute to economic, social, physical and environmental regeneration in a sustainable way throughout the Thames Gateway Area, and to the regeneration of Southend's primary role within the Thames Gateway as a cultural and intellectual hub and a higher education centre of excellence. This must be achieved in ways which (inter alia);…

11. include appropriate measures in design, layout, operation and materials to achieve:

a. a reduction in the use of resources, including the use of renewable and recycled resources. All development proposals should demonstrate how they will maximise the use of renewable and recycled energy, water and other resources. This applies during both construction and the subsequent operation of the development. At least 10% of the energy needs of new development should come from on-site renewable options (and/or decentralised renewable or low carbon energy sources), such as those set out in SPD 1 Design and Townscape Guide, wherever feasible. How the development will provide for the collection of re-usable and recyclable waste will also be a consideration. appropriate:

Extract from the Southend-on-Sea Design and Townscape Guide SPD

1.1.4 Commitment to the Environment

6. The Borough Council is committed to improving the quality and sustainability of all development throughout the Borough whilst protecting the town's natural and built resources including …. Honour commitment to the Nottingham Declaration which requires the Council to tackle climate change and reduce carbon emissions across the Borough, including making all new homes zero carbon by 2016.

8.8 Renewable Power Generation

Core Strategy Policy KP2 requires that 10% of the total energy needs of all new development must be provided from renewable sources on site (and /or decentralised renewable and recycled energy sources). This will help to achieve a Code for Sustainable Homes Level 4 or an 'excellent' BREEAM rating which the Council aspires to for all new development. There are many options available for renewable power generation, however, the right combination will depend on what is most appropriate for the site, size and type of unit. Options for renewable power must be considered at the beginning of the design process to enable them to become an integral part of the design of the scheme. The applicant will be required to demonstrate how this requirement will be met as part of the planning application supporting documentation. . For larger schemes this information will be required as part of the planning application otherwise the application will be considered invalid. A specialist consultant may be required.

8.9 Code for Sustainable Homes

Requirement

264. The Council has now signed up to the Nottingham Declaration and is therefore committed to tackling climate change and significantly reducing carbon emissions across the Borough. The aim being to achieve the Government's plan to make all new homes zero carbon by 2016. The building sector is a major contributor to carbon production and by ensuring that we build better insulated and more efficient homes, and by promoting renewable energy sources the Council can honour this commitment. We will therefore be requiring that all new homes be built to a minimum of Code for Sustainable Homes Level 3 with a view to moving towards Code Level 4 over the next few years. This supports the Governments aspiration for the Thames Gateway to lead the way as an Eco-Region (as set out in the Eco-Region Prospectus) and is in line with Core Strategy Policies KP2 and CP4. The Code Level achieved is a material consideration in any planning application. An explanation of how the Code Level will be reached should be included within the planning application supporting documentation.

8.10 Non-Residential Buildings - BREEAM Assessment

Requirement

267. As with residential development all new commercial development will be expected to contribute to the sustainability of the Borough and we will therefore be requiring that all new commercial buildings to achieve a BREEAM 'very good' rating (or equivalent) with a view to moving towards an 'excellent' rating (or equivalent) over the next few years. This requirement is in line with Core Strategy Policies KP2 and CP4. The Code Level achieved is a material consideration in any planning application. An explanation of how the Code Level will be reached should be included within the planning application supporting documentation.

5.33 Part of the Code for Sustainable Homes are already embedded into adopted planning policy, whilst there are a number of 'easy-win' credits to be gained. Through subtle planning policy design intervention i.e. requiring the provision of cycle storage, a home office, and drying space, there is potential to achieve the easy-win credits. In addition, the Southend-on-Sea Core Strategy requires a minimum of 10% of energy to be supplied by on-site renewables. This will gain a further two credits. The remaining credits should considered be within the design stage as part of any planning application proposal.

Category 2: Water

5.34 Category 2 sets out the available credits in respect to water efficiency. There are two sub-categories, which relate to indoor water use and external water use. There are five available credits in respect to indoor water efficiencies and one credit for external water use. Collectively these credits have a 9% weighting.

5.35 There are five available credits in respect to indoor water use. This category seeks to reduce the consumption of portable water in the home from all sources through the use of efficient fittings and appliances and water recycling systems. To achieve Sustainable Code Level 3 or 4, water consumption must be less than 105 litres/person/day. To achieve Sustainable Code Level 5 or 6, water consumption must be less than 80 litres/person/day.

5.36 The two following extracts from the Essex Thames Gateway Water Cycle Study Scoping Study Final Report March 2009 and the East of England Plan 2008 highlight the water shortage issues facing Southend-on-Sea and the need top incorporate water efficiency measures into planning policy.

Extract from Essex Thames Gateway Water Cycle Study Scoping Study Final Report March 2009 prepared by Scott Wilson

5.2.6 Water Supply

In South Essex evaporation exceeds rainfall during the summer months and a recent series of dry winters continues to strain the water supply network further. The low rainfall levels affect the amount of water which can be sustainably extracted from rivers, reservoirs and aquifers.

As a result of this Essex suffers a water deficit in relation to the demand. Therefore, the Essex and Suffolk areas are not self sufficient in relation to water resources and over the last 25 years, Essex has been dependent on the transfer of water from other areas. There are three principle water treatment works, operated by Essex and Suffolk Water that supply potable water to the Essex Thames Gateway area; Langham; Layer; and Hanningfield. Langham and Layer are situated in Colchester, while Hanningfield is located near Chelmsford. The water in Langham and Layer Water Treatment Works comes from the River Stour. When the water in these works is running low the River Stour is used to transport water from the River Ouse in Cambridge to top up the supply. This is the Ely - Ouse to Essex Transfer Scheme which is licensed and operated by the Environment Agency.

Hanningfield Reservoir is fed from the Rivers Backwater and Chelmer. The Environment Agency can also transfer water from the River Stour into the River Pant which then joins with the River Backwater. Water is taken from the Rivers Backwater and Chelmer at Maldon and it is pumped to Hanningfield where it is treated. Water is also supplied from Abberton reservoir, from which water is subsequently supplied to the Herongate and Heaton Grange service Reservoirs. The Abberton reservoir is filled via abstractions from local watercourses including Layer Brook, Roman River and the River Stour, and these abstractions are supplemented from flow augmentation in the River Ely Ouse via a transfer of raw water from the Ely-Ouse catchment at Denver in Norfolk.

The water from the three works is mixed together at the service reservoir on the outside of Brentwood (Herongate). This mixed water is then pumped to The Essex Thames Gateway area (Figure 5.5).

The Essex Thames Gateway area is part of the fully integrated Essex water resource zone (WRZ), which is controlled by Essex and Suffolk Water (ESW). This WRZ boundary is shown in Figure 4.5. Water can be moved around the zone as required. ESW have developed 8 water supply network (pipeline) models in the Essex WRZ which includes the Essex Thames Gateway area and have undertaken modelling for all proposed future development scenarios to aid in their planning process and ensure that water will be available over future years in line with growth in the area. There are no identified pressure or capacity issues in the water supply infrastructure, with local reinforcements provided within the Essex Thames Gateway area based on minimum growth targets. Further stages of the WCS will need to confirm this is the case based on additional growth targets up to beyond 2021.

Figure 5-5: Essex Resource Zone and Associated Infrastructure[13]

Extract from the East of England Plan – supporting text to Policy WAT1 – Water Efficiency

10.3 The Environment Agency's Water Resources Strategy for the East of England seeks a 'twin track' approach to meet the increasing demand for water in the region, whereby demand management (water efficiency) and resource development (increased supply) must go hand in hand. Government expects this approach to be reflected in the water resource plans.

10.4 Policy WAT 1 recognises the regional requirement to use less water which will be pursued through a co-ordinated programme including changes to Building Regulations, the Code for Sustainable Homes, fiscal measures, incentive schemes and other measures to reduce water consumption and wastage. Water efficient fittings and appliances should help achieve efficiencies in both new and existing development.

10.5 The Code for Sustainable Homes promotes a range of water efficiency levels in new dwellings, rising to a target consumption not exceeding 80 litres/ head/ day at level 5. The Government is to bring forward an amendment to Building Regulations in 2008 including a requirement for a minimum standard of water efficiency in new homes. It has also committed to review the Water Supply (Water Fittings) Regulations 1999.

10.6 Current average domestic consumption is about 150 litres per person per day, whereas the Environment Agency has advised that 110 litres represents a sustainable level of consumption, which is achievable assuming the deployment of water efficient fittings and the wise use of appliances. Through EERA's monitoring framework consumption will be monitored against a target for domestic consumption of 105 litres/ head/ day (Level 3 of the Government's Code for Sustainable Homes). This would equate to savings in water use of at least 25% in new development and 8% in existing development, compared with 2006 levels. Progress towards this target will inform the next review of RSS.

5.37 The Building Regulations have yet to introduce Water Efficiency targets, however at a regional level an assessment has been undertaken with regard to maintaining a sustainable water supply. The assessment found that water consumption rates needed to be reduced from 150 lpppd to 110 lpppd. The Supplement to PPS1 states that sustainability targets should align with the Code for Sustainable Homes, or BREEAM standards. Code Level 3 requires water consumption rates of 105 lpppd, and is considered appropriate in achieving a sustainable supply of water in Southend-on-Sea. For all other types of development, water efficiency improvements should meet the requirements of the BREEAM Good rating for that type of building. This approach would be consistent with the approach taken by the neighbouring authorities of Castle Point and Rochford.

5.38 In the '*NHBC Foundation - The Code for Sustainable Homes Simply Explained*', it is stated that less than 105 litres/person/day can be achieved by specifying lower water usage fittings without the need to specify greywater or rainwater recycling systems. Showerheads designed to deliver, what many would regard as adequate performance can now do so, with a flow-rate below 8 litres per minute. These usually modify the water flow using aeration or modulation to enhance its 'feel'. The flow of water from taps can also be aerated.

5.39 The following text boxes provide extracts of adopted Southend-on-Sea LDF policy. The policies cited contribute to meeting the requirements of Category 2: Water.

Extract from the Southend-on-Sea Core Strategy DPD, adopted 2007

Core Strategy Policy KP2; Development Principles

All new development, including transport infrastructure, should contribute to economic, social, physical and environmental regeneration in a sustainable way throughout the Thames Gateway Area, and to the regeneration of Southend's primary role within the Thames Gateway as a cultural and intellectual hub and a higher education centre of excellence. This must be achieved in ways which (inter alia);…

11. include appropriate measures in design, layout, operation and materials to achieve:

a. a reduction in the use of resources, including the use of renewable and recycled resources. All development proposals should demonstrate how they will maximise the use of renewable and recycled energy, water and other resources.

Extract from the Southend-on-Sea Design and Townscape Guide SPD, adopted 2009

8.2 Resource Minimisation

Resource (and waste) minimisation is a key part of sustainable development and new developments can make a significant contribution in this area both during construction and in their operation. Resource minimisation involves reducing the amount of energy used (and waste generated) and the efficient use of natural resources such as water and energy. Water in particular is scarce in the Eastern Region and new development in the Borough must have particular regard to this and be designed to make efficient use of water wherever possible.

8.7 Water Recycling and Sustainable Urban Drainage Systems

247. The Thames Gateway is a water stressed area where water is a scarce resource. There is greater pressure placed on the water available for people and the environment than in other areas of the country. New development places extra demand on existing water resources. In order to minimise this demand all new developments should be designed to be water efficient and minimise water consumption and conversions and renovations should retrofit water efficiency measures where possible. These measures will help reduce the water use of the Thames Gateway and contribute towards the goal of water neutrality. Water efficiency measures include spray taps, water efficient showers and appliances, low flush toilets and water butts. Residential development should use less than 95 litres/head/day of water which is in line with Code for Sustainable Homes Level 4.

248. Larger developments sites in particular, should also aim to include rainwater harvesting, water recycling technologies and Sustainable Urban Drainage Systems (SUDS).

8.7.1 Water Recycling

249. Water recycling of some form has the potential to be incorporated into all new development in some way. There are three options:

- Rainwater harvesting - water collected from roofs via traditional guttering, through down pipes to an underground tank(s). It is then delivered on demand direct to toilets, washing machine and outside tap use. More than 50% of mains water can

be substituted by rainwater. Rainwater can also be harvested by installing a water butt.

- Grey water recycling - involves the reuse of wash water (from washing machines, dishwashers, baths and showers). It involves diverting waste water into tanks where it is passed through a filtering system and then redirected to an outside tap or used to flush toilets or for washing machines.

Category 3: Materials

5.40 Category 3 sets out the available credits in respect to the impact of materials. There are three sub-categories, which relate to the environmental impact of materials and the sourcing of the materials. This category has a 7.2% weighting.

5.41 The first sub-category relates to the environmental impact of materials and has fifteen available credits. The aim of this category is to ensure that the materials have a lower impact over the lifecycle of the dwelling. The credits are awarded using a material lifecycle calculator and relate specifically to: the roof; external walls; internal walls; upper and ground floors; and windows.

5.42 The second sub-category seeks to promote the specification of responsibly sourced materials for the basic building elements. A total of six credits are available. At least 80% of the assessed materials must be responsibly sourced.

5.43 The third sub-category seeks to promote the specification of responsibly sourced materials for the finishing building elements. A total of three credits are available. At least 80% of the assessed materials must be responsibly sourced.

5.45 The following text boxes provide extracts of adopted Southend-on-Sea LDF policy. These policies contribute to meeting the requirements of Category 3: Materials.

Extract from the Southend-on-Sea Core Strategy DPD, adopted 2007

Policy CP4: The Environment and Urban Renaissance

Development proposals will be expected to contribute to the creation of a high quality, sustainable urban environment which enhances and complements the natural and built assets of Southend. This will be achieved by:

4. providing for quality in the public realm through the use of imaginative and innovative design, sustainable and quality materials and landscaping and imaginative use of public art.

Extract from the Southend-on-Sea Design and Townscape Guide SPD, adopted 2009

4.4.1 Materials and Detailing

121. In all circumstances high quality, durable materials will make a significant difference to the long-term success of the scheme. Poor quality materials may appear satisfactory when new, but soon wear and deteriorate. Good quality materials are usually longer lasting and easier to maintain. Where appropriate, the use of sustainable materials (including recycled aggregate) and practices are encouraged, particularly in new development.

5.46 An appropriately worded development management policy could ensure that new dwellings contribute to achieving the credits within this materials category.

Category 4: Surface Water Run-Off

5.47 Category 4 sets out the available credits in respect to the impact of surface water run-off. There are two sub-categories, which relate to the management of surface water run-off and flood risk. This category has a 2.2% weighting.

5.48 The first sub-category which relates to the management of surface water run-off has two available credits. This sub-category aims to design water drainage for housing developments which avoid, reduce and delay the discharge of rainfall run-off to watercourses and public sewers using SuDs techniques. This will protect receiving waters from pollution and minimise the risk of flooding and other environmental damage in watercourses.

5.49 The second sub-category which relates to the flood risk also has two available credits. This sub-category aims to promote developments in low flood risk areas or to take measures to reduce the impact of flooding on houses built in areas with a medium or high risk of flooding.

5.50 The following text boxes demonstrate that existing adopted Core strategy Policy contributes to meeting the requirements of Category 4: Surface Water Run-off.

Extract from the Southend-on-Sea Core Strategy DPD, adopted 2007

Core Strategy Policy KP2; Development Principles

All new development, including transport infrastructure, should contribute to economic, social, physical and environmental regeneration in a sustainable way throughout the Thames Gateway Area, and to the regeneration of Southend's primary role within the Thames Gateway as a cultural and intellectual hub and a higher education centre of excellence. This must be achieved in ways which (inter alia);…

11. include appropriate measures in design, layout, operation and materials to achieve:

b. avoidance of flood risk, or where, having regard to other sustainability considerations (see Section 2(i) and Policy KP1 above) a residual risk remains, the provision of measures to appropriately and adequately mitigate that risk. All development proposals should

demonstrate how they incorporate 'sustainable urban drainage systems' (SUDS) to mitigate the increase in surface water run-off, and, where relevant, how they will avoid or mitigate tidal or fluvial flood risk.

5.51 `By meeting this adopted policy, the credits should be easily attainable.

Category 5: Waste

5.52 Category 5 sets out the available credits in respect to waste. There are three sub-categories, which relate to the storage of non-recyclable waste and recyclable household waste, construction site waste management and composting. This category has a 6.4% weighting.

5.53 The first sub-category which relates to the storage of non-recyclable waste and recyclable household waste aims to provide adequate storage for non-recyclable and recyclable household waste and has four available credits. It is reasonable to add this category within a design policy.

5.54 In the '**NHBC Foundation - The Code for Sustainable Homes Simply Explained',** it is stated there are a number of options allowed for the internal storage of household waste with the most likely solutions for the maximum 4 credits being where there is a suitable local authority collection scheme (minimum fortnightly collection) where recyclable household waste is either sorted:

- After collection – in which case there is space for at least one 30-litre internal bin; or
- Before collection – in which case there is space for three internal bins (none smaller than 7 litres) with a total capacity of at least 30 litres.

5.55 The second sub-category which relates to the construction site waste management aims to provide resource efficiency via effective and appropriate management of construction site waste and has three available credits. It is reasonable to add this category within a design policy.

5.56 The third sub-category which relates to the composting aims to promote the provision of compost facilities to reduce the amount of household waste send to landfill.

5.57 In the 'NHBC Foundation - The Code for Sustainable Homes Simply Explained', it is stated that composting represents an easy to obtain stand alone credit. This is particularly easy to obtain if the dwelling has its own garden where a composting bin can be installed. In flats, the credit can be achieved if the local authority (or other management agency) runs a composting service or kitchen waste collection service.

5.58 The following text boxes provide extracts of Southend-on-Sea Municipal Waste Strategy and adopted Southend-on-Sea LDF policy that contributes to meeting the requirements of Category 5: Waste.

Extract from the Southend-on-Sea Core Municipal Waste Strategy 2004 – 2020

B. The Way Forward –
(iv) Collection from Households –
[a] In order to assist householders to prevent litter and refuse escaping into streets encourages householders to use plastic dustbins to contain their waste.
[b] Continue to provide a weekly edge of premises collection for dry recyclables and green garden waste contained in sacks and a weekly seasonal collection of green waste in wheeled bins. Extend the range of materials collected in the dry recyclable sack to include junk mail, paper/brown card when possible. Encourage greater householder participation to separate waste materials at home.
[c] Deal with the increasing reduction in waste being taken to landfill by establishing a Treatment Factory for mixed waste material and separately collected waste materials for sorting.
(v) Waste Minimisation –
[a] Develop initiatives to re-use or recycle bulky household items
[b] Continue to encourage home composting by the sale of subsidised compost bins
[c] Continue to encourage the use of Real Nappies by a subsidised scheme.
(vi) Communication with the Community –
[a] A publicity plan to be developed to inform the community of the changes needed in order to manage their waste.

Kerbside Recycling & Waste Collections - Overview

We offer a weekly kerbside collection scheme of the following:

- Recycling using pink recycling sacks
- Textiles and clothing using clear textile recycling sacks
- Unavoidable cooked and uncooked food waste using the blue food waste collection bin
- Refuse (landfill waste) using black refuse sacks
- Garden waste using the green bin (opt into scheme)
- Garden waste using pre-paid compostable sacks (opt into scheme)

In order to benefit from the collection services, we ask you to:

- Present your pink recycling and clear textile recycling sacks, blue food waste bins, garden waste (if applicable) and black refuse sacks by 7am on your scheduled collection day.
- Present items in a visible and accessible location at the kerbside (boundary) of the property and not obstructing the public highway (this includes the footpath or verge).
- Ensure that the correct items are placed in the correct sack/bin.

Extract from the Southend-on-Sea Core Strategy DPD, adopted 2007

Core Strategy Policy KP2; Development Principles

All new development, including transport infrastructure, should contribute to economic, social, physical and environmental regeneration in a sustainable way throughout the Thames Gateway Area, and to the regeneration of Southend's primary role within the Thames Gateway as a cultural and intellectual hub and a higher education centre of excellence. This must be achieved in ways which (inter alia);…

11. include appropriate measures in design, layout, operation and materials to achieve:

a. a reduction in the use of resources, including the use of renewable and recycled resources … How the development will provide for the collection of re-usable and recyclable waste will also be a consideration

Extract from the Southend-on-Sea Design and Townscape Guide SPD, adopted 2009

4.8 Services and Utilities

4.8.1 Waste Storage and Recycling

Residential

181. Refuse storage and recycling should be integral to the development, not an after thought. Designers must consider and demonstrate the type and quantity of waste and recycling which is likely to be produced by the building and how it will be stored and collected. Storage should be accessible within reasonable carrying distance from the highway but should not appear to dominate the frontage. Where possible arrangements for refuse and recycling facilities storage should be made within the building where they can be integral to the design and hidden from public view. Where this is not achievable external storage facilities must be well designed, conveniently located, screened and ventilated. If new streets are formed there must be adequate access for waste collection vehicles.

182. Recycling requirements are constantly evolving. Developers will need to demonstrate that their development will meet the current requirements and be flexible so that they can be adapted for the future. A recycling / waste management strategy will be required for large developments.

Non-Residential

183. Adequate storage should be provided for waste and recyclables, where possible, within the envelope of the building. Where not possible commercial waste should be screened from public view in specifically designed housing within the site perimeter.

5.59 Provided that these adopted policies are met, then available credits should be easily achievable. An additional development management policy could align with the code requirements to strengthen the adopted policy requirements.

Category 6: Pollution

5.60 Category 6 sets out the available credits in respect to pollution. There are two sub-categories, which relate to the global warming potential of insulants and NO_x emissions. This category has a 2.8% wighting.

5.61 The first sub-category which relates to the global warming potential of insulants has one available credit. This sub-category aims to promote the reduction of emissions of gases with high *GWP* associated with the manufacture, installation, use and disposal of foamed thermal and acoustic insulating materials.

5.62 In the '*NHBC Foundation - The Code for Sustainable Homes Simply Explained*', it is stated that the credit aimed at reducing global warming potential of the blowing agents used in the manufacture of foamed insulants can be an inexpensive and relatively easy credit to obtain. It can be achieved by simply through the specification of either non-foam insulants (eg mineral wool) or foamed insulants that use appropriate blowing agents.

5.63 The second sub-category which relates to NO_x emissions has three available credits. This sub-category aims to promote to promote the reduction of nitrogen oxide (NOX) emissions into the atmosphere.

5.64 The following text box provides an extract of the adopted Southend-on-Sea LDF policy that contributes to meeting the requirements of Category 6: Pollution.

Extract from the Southend-on-Sea Core Strategy DPD, adopted 2007

Core Strategy Policy KP2; Development Principles

All new development, including transport infrastructure, should contribute to economic, social, physical and environmental regeneration in a sustainable way throughout the Thames Gateway Area, and to the regeneration of Southend's primary role within the Thames Gateway as a cultural and intellectual hub and a higher education centre of excellence. This must be achieved in ways which (inter alia);…

11. include appropriate measures in design, layout, operation and materials to achieve:

c. avoidance or appropriate mitigation of actual and potential pollution impacts of development;

Category 7: Health and Well-Being

5.65 Category 7 sets out the available credits in respect to health and well being. There are four sub-categories, which relate to daylight, sound insulation, private space and lifetime homes. This category has a 14% weighting.

5.66 The first sub-category which relates to daylight has three available credits. This sub-category aims to promote good daylighting and thereby improve quality of life. This represents an important design consideration and should be built into a development management policy.

5.67 In the '*NHBC Foundation - The Code for Sustainable Homes Simply Explained*', it is stated that imaginative design can make a significant difference to achieving the maximum 3 credits available. It also stated that most house designs can probably achieve 1 credit quite easily with minimum or no modification through achieving a 1.5% daylight factor in living rooms, dining rooms, studies and any designated

home office space. The primary means of achieving 3 Credits is through the placing and orientation of dwellings and optimising the internal layout, but the sky view can also be improved by raising the head of windows, increasing the glazed area and the use of rooflights.

5.68 The following text box provides an extract of the adopted Southend-on-Sea SPD policy that contributes to meeting the requirements of Category 6: Health and Well-Being.

Extract from the Southend-on-Sea Design and Townscape Guide SPD, adopted 2009

4.8 Services and Utilities

6.1 Overshadowing

212. New development must be designed so as not to unreasonably overshadow, block daylight or be unduly obtrusive to adjacent buildings and public spaces. Proposals that cause a significant loss of light to their neighbours will be considered unacceptable. Generally new buildings should respect the established building frontage lines, however, where the existing development is mixed (i.e. there is no clear building line), or to the rear, a more flexible approach to the position of the footprint may be acceptable, subject to it not unduly impacting on the amenity and enjoyment of neighbouring properties.

6.2 Overlooking and Privacy

213. Everybody wants privacy. All developments and extensions must be designed so as not to give rise to unreasonable or perceived overlooking or compromise the privacy of an existing building or private garden. This is particularly important in residential areas and proposals for new development will be expected to maintain an acceptable distance between boundaries and habitable rooms in surrounding properties. Cross Section Diagrams can be an effective tool to demonstrate that overlooking is not possible. (It should be noted that 1.7m is used by the Council as the eye line height in these instances.)

214. Given the tight urban grain of most of the Borough, more inventive window designs, for example angled bays and north lights (large areas of roof lights), may offer alternative options for daylighting that do not compromise the privacy of neighbours. However, measures employed to prevent overlooking should not result in an unacceptable outlook for the new development (for example, habitable rooms served only by obscured glazed windows will not be considered acceptable). In some cases it may be necessary to look at alternative uses for a site.

8.5 Site Layout and Orientation

244. The site layout and orientation of buildings can play an important role in creating a more sustainable building. For example buildings orientated within 30 degrees of south and well spaced benefit most from passive solar gain and have maximum daylight. This reduces the need for artificial heating and lighting however the benefits of solar gain need to be weighed against the disbenefits of too much solar gain so that the need for artificial cooling is minimised. Natural ventilation and solar shading should be integral to the design where required.

5.69 The second sub-category which relates to sound insulation has four available credits. This sub-category aims to promote the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours. This

represents an important design consideration and should be built into a development management policy. The following text box provides an extract of adopted Southend-on-Sea SPD policy that specifically considers noise.

Extract from the Southend-on-Sea Design and Townscape Guide SPD, adopted 2009

6.3 Noise

215. Noise can be a significant nuisance and its impact should be taken into account at the design stage. Where a mix of uses is proposed within a building, the internal layout should be carefully considered so that noise conflicts between the different occupiers do not cause a disturbance. .

216. Development sites close to high noise generators (e.g. MOD testing areas, railways or main roads) must include extra mitigation measures to minimise the impact for the occupiers.

5.70 The third sub-category which relates to private space has four available credits. This sub-category aims to improve quality of life by promoting the provision of an inclusive outdoor space which is at least partially private. This represents an important design consideration and should be built into a development management policy. The following text box provides an extract of adopted Southend-on-Sea SPD policy that specifically relates to private amenity space.

Extract from the Southend-on-Sea Design and Townscape Guide SPD, adopted 2009

4.5.2 Amenity Space

138. Outdoor space significantly enhances the quality of life for residents and an attractive and useable garden area is an essential element of any new residential development. The required amount of amenity space will be determined on a site by site basis taking into account local parks and the constraints of the site. Developments that provide little or no private amenity space will only be acceptable in exceptional circumstances and will be required to justify their reasons. Usable balconies and terraces can provide valuable additional private amenity areas particularly on flatted schemes but should normally be provided in addition to a larger area of amenity space usually provided at ground level. These principles apply equally to any proposals for subdivision.

139. Private amenity space should be seen as an extension to the living space and be practical in shape and accessible in location. Positioning should be optimised to allow for maximum use whilst also having the ability to be policed from within the development. Shared amenity space should be well managed to ensure that the quality and usability does not deteriorate.

140. Where flatted proposals include units of two or more bedrooms some form of provision should be made for children's play areas within the design of amenity space. This could include an item of play equipment or landscaping or sculpture that has specifically been designed to promote play. Children of all ages should be catered for.

Criteria for Amenity Space

143. There is no fixed quantitative requirement for the amount of amenity space as each site is assessed on a site by site basis according to local character and constraints.

However, all residential schemes will normally be required to provide usable amenity space for the enjoyment of occupiers in some form. Residential schemes with no amenity space will only be considered acceptable in exceptional circumstances which will need to be fully justified.
144. The amount, quality and usability of the amenity provision will be assessed against the
following criteria: (P41)

5.71 The fourth sub-category which relates to lifetime homes has four available credits. This sub-category aims to promote the construction of homes that are accessible and easily adaptable to meet the changing needs of current and future occupants. This represents an important design consideration and should be built into a development management policy. The following text box provides an extract of adopted Southend-on-Sea SPD policy that specifically considers internal space arrangements.

Extract from the Southend-on-Sea Design and Townscape Guide SPD, adopted 2009

4.5.1 Internal Arrangements and Space Standards

136. All new residential developments therefore, including affordable housing, will be expected to meet Lifetime Homes Standards. These are a set of distance, height and space standards that enable homes to be easily adapted accommodate life events quickly, cost effectively and without upheaval. This means that occupiers can, if they choose, stay in the same home longer and adapt it for their changing circumstances. For example a wheelchair turning circle is used as the benchmark for a good space requirement. This increased room space also helps parents with small children, people with bikes or bags of shopping. Accessibility is for everyone, not just people who use wheelchairs. Conversions of existing houses or other buildings will also normally be expected to meet Lifetime Homes Standards.

5.4.2 Conversions of Houses into Flats

208. The conversion of single dwellings into two or more flats will only be acceptable where it does not place additional strain on the local amenity or harm the character of the existing building or the wider area and provides reasonable accommodation. All conversions will be expected to meet the Lifetime Homes Standards Where this cannot be achieved because the property is too small the principle of conversion is unlikely to be acceptable. This is in line with the Council's policy to protect the stock of existing small single family dwelling houses.

Category 8: Management

5.72 Category 8 sets out the available credits in respect to management. There are four sub-categories, which relate to home user guide, considerate contractors scheme, construction site impact, and security. This category has a 10% weighting.

5.73 The first sub-category which relates to home user guide has three available credits. This sub-category aims to promote the provision of guidance enabling occupants to

understand and operate their home efficiently and make the best use of local facilities.

5.74 The **'NHBC Foundation - The Code for Sustainable Homes Simply Explained',** states that there are easy-win stand alone credits in respect to management. A lot of the information needed for a home user guide will be provided for the Code assessor anyway so it just needs to be collated into a single document. The additional information needed about the local area can easily be found on the web, in local newspapers and/or in parish magazines.

5.75 The second sub-category which relates to considerate contractors scheme has two available credits. This sub-category aims to promote the environmentally and socially considerate and accountable management of construction sites.

5.76 The third sub-category which relates to construction site impact has two available credits. This sub-category aims to promote construction sites managed in a manner that mitigates environmental impacts.

5.77 The fourth sub-category which relates to security has two available credits. This sub-category aims to promote the design of developments where people feel safe and secure- where crime and disorder, or the fear of crime, does not undermine quality of life or community cohesion. This represents an important design consideration and should be built into a development management policy.

5.78 The 'NHBC Foundation - The Code for Sustainable Homes Simply Explained', states that the credits in relation to Secured by Design should be relatively easy to obtain if a police representative is consulted with regard to conforming to section 2 of Secured by Design. This needs to be done sufficiently early in the design process and incorporate their recommendations.

5.79 To achieve 1 out of the 2 credits for external lighting (Ene 6), the space lighting fittings (as opposed to security lighting fittings) must be dedicated energy-efficient fittings. For the second credit, in addition to the energy-saving elements outlined in Secured by Design, all burglar security lights must have a maximum wattage of 150 W and be fitted with movement-detecting control (PIR).

5.80 The following text box provides an extract of adopted Southend-on-Sea SPD policy that specifically considers Secured by Design.

Extract from the Southend-on-Sea Design and Townscape Guide SPD, adopted 2009
7.2 Secured by Design 221. All new development should be designed to reduce the opportunity for crime. The Council has a duty to do all that it reasonably can to prevent crime and disorder in its area.

Category 9: Ecology

5.81 Category 9 sets out the available credits in respect to ecology. There are five sub-categories, which relate to the ecological value of a site, ecological enhancement, protection of ecological features, change in ecological value of site, building footprint. This category has a 12% weighting.

5.82 The first sub-category which relates to the ecological value of a site home user guide has one credit. This sub-category aims to promote development on land that already has a limited value to wildlife, and discourage the development of ecologically valuable sites.

5.83 The second sub-category which relates to ecological enhancement has one available credit. This sub-category aims to promote ecological enhancement.

5.84 The third sub-category which relates to the protection of ecological features has one available credit. This sub-category aims to promote the protection of existing ecological features from substantial damage during the clearing of the site and the completion of construction works.

5.85 The fourth sub-category which relates to change in ecological value of site has four available credits. This sub-category aims to minimise reductions and promote an improvement in ecological value.

5.86 The fifth sub-category which relates to building footprint has two available credits. This sub-category aims to promote the most efficient use of a building's footprint by ensuring that land and material use is optimised across the development.

5.87 The following text box provides an extract of adopted Southend-on-Sea LDF policy that specifically considers ecology.

Extract from the Southend-on-Sea Core Strategy DPD, adopted 2007

Policy CP4: The Environment and Urban Renaissance

Development proposals will be expected to contribute to the creation of a high quality, sustainable urban environment which enhances and complements the natural and built assets of Southend. This will be achieved by:

2. maximising the use of previously developed land, whilst recognising potential biodiversity value and promoting good, well-designed, quality mixed use developments.

Policy CP7 - Sport, Recreation and Green Space

The Borough Council will bring forward proposals that contribute to sports, recreation and green space facilities within the Borough for the benefit of local residents and visitors ...

All existing and proposed sport, recreation and green space facilities (including the Southend foreshore and small areas of important local amenity, community resource or biodiversity value) will be safeguarded from loss or displacement to other uses, except where it can clearly be demonstrated that alternative facilities of a higher standard are

being provided in at least an equally convenient and accessible location to serve the same local community, and there would be no loss of amenity or environmental quality to that community.

Summary

5.88 A total of 57 percentage points are required to achieve Sustainable Code Level 3. The information from the '*NHBC Foundation - The Code for Sustainable Homes Simply Explained*' indicates that 30 percentage points can be achieved easily through design related planning policies and at limited cost so should not viability. Furthermore, a number of these credits are already embedded into adopted Southend-on-Sea LDF policy.

Section 6: Retrofitting

6.1 This section sets out Southend-on-Sea Borough Council's involvement with the transnational 'Build with CaRe' project, which has informed planning policy within the borough.

(i) Build with CaRe Background

6.2 The overarching objective of the Build with CaRe (Carbon Reduction) partnership is to make energy-efficient building design mainstream. Local and regional authorities, universities and institutes from 10 regions in 5 countries in the North Sea Region are active in the Build with CaRe partnership. Other partners in the UK include Aberdeen City Council and Dundee College in Scotland, and the University of East Anglia, West Suffolk College who together with Southend-on-Sea Borough Council form the East of England cluster. The project is partially financed by the Interreg IV B North Sea Programme.

6.3 Build with CaRe seeks to improve the competitiveness of the North Sea Region of the European Union (EU) by stimulating different 'clusters' in order to maintain a leading position for the Region in terms of sustainable building techniques and technologies. Activities within Build with CaRe are therefore focused around four work package clusters: marketing and publicity; education and training; planning and policy; and, evidence base (including Life Cycle Analysis). The project will continue until 2012.

(ii) Southend-on-Sea Borough Council's Involvement

6.4 Southend on Sea Borough Council is involved in two of the four Build with CaRe work packages (WP), primarily: WP1 Marketing and Publicity; and WP3 Planning and Policy.

WP1: Marketing and Publicity

6.5 The Council's involvement with the partnership has provided the opportunity to learn from and promote exemplar energy efficient buildings in the Borough, highlighting the local commitment to carbon reduction. The works undertaken in 2010/2011 to sustainably renovate Prittlewell Chapel on North Road in the Borough have been documented by the Council as a means of influencing and promoting the benefits of retrofit for all property types.

6.6 This refurbishment of Prittlewell Chapel, which is funded by the Government Office of the Third Sector, has given a once dilapidated chapel building a new lease of life. The renovation has focused on environmentally friendly measures, such as using sustainable materials where possible, exploiting technology to deliver low energy solutions, and rainwater harvesting for toilet flushing.

WP3: Planning and Policy

6.7 A major objective for Build with CaRe is to ensure planners and policy makers successfully facilitate the mainstreaming of energy efficient buildings by providing appropriate policy, planning and regulatory frameworks. The partnership has therefore sought to influence policy not only at the transnational level in terms of inputting into discussions surrounding the EU directive on buildings, or the regional level, but crucially at the local level to ensure local planning policies encourage low energy building design.

6.8 Southend-on-Sea Borough Council has progressed this aim and has used its partnership in Build with CaRe to take forward these objectives and inform its own local planning policy.

(iii) Technical Review of 'Build with CaRe' Research

6.9 While there are numerous environmental benefits of low energy buildings, there are also significant non-environmental benefits, including the financial savings associated with reduced energy use. The benefits of low energy buildings encompass the three pillars of Sustainable Development (environmental, financial and social aspects) which is at the heart of European, National and Local policy.

6.10 The Build with CaRe partnership has identified many barriers to improving the energy efficiency of both new buildings and, in particular, the existing building stock. In a policy statement adopted by the North Sea Commission's Annual Business Meeting on 18.06.2010, the Build with CaRe partnership (of which Southend-on-Sea Borough Council is a member) highlighted the challenges facing the sector, commenting that the lack of ambition in the recast Energy Performance of Buildings Directive (EPBD) in refurbishment, where responsibility for refurbishment targets is given to Member States is a reflection of these barriers in terms of awareness, financial incentives, planning and in skills development.

6.11 Yet initiatives in Member States and regions have shown that these barriers can be addressed both for new build and for refurbishment. The Build with CaRe partnership has a number of exemplar projects which demonstrate that it isn't just new builds that can be energy efficient, retrofitting is also critical to reducing carbon emissions from the building sector.

6.12 The existing building stock in 2010, for example, will continue to dominate total emissions from the building sector in 2020 and are likely to represent nearly 80% of the EU's building stock even by 2050. Hence tackling emissions from existing buildings is key to if overall emissions from the building sector are to be successfully reduced.

Section 7: Conclusions

7.1 From this review of low carbon standards, it can be concluded that:

- Climate change is the greatest long-term challenge facing the world today;
- The costs of inaction on climate change are far outweighed by the costs of action today;
- Development plan policies should take account of environmental issues such as mitigation of the effects of, and adaptation to, climate change;
- The Government will be tightening the Building Regulations to require major reductions in carbon emissions and the aim for all new homes to be zero carbon by 2016;
- Both the neighbouring districts of Rochford and Castle Point have sought, subject to viability, to encourage Level 3 of the Code for Sustainable Homes and 'Very Good' BREEAM rating for non-residential development;
- Colchester adopted a similar approach, which was found sound by a Planning Inspector as it was considered sufficiently flexible as to not place an undue burden on developers.
- A recent appeal decision in Thurrock affords significant weight to non-statutory documents that require a Level 3 of the Code for Sustainable Homes. On this basis, the Code for Sustainable Homes and BREEAM requirements of the Design and Townscape Guide SPD can be afforded significant weight as an interim measure in applying these standards.
- General support for the introduction of Code for Sustainable Homes and BREEAM requirements was given at the Development Management Issues and Options consultation provided that exceptions are included such as viability and cost.
- Since 2007, the Code for Sustainable Homes Level 3 has been applied to new affordable housing.
- Typically the extra-over costs for achieving the Code for Sustainable Homes expressed as a percentage of base build cost are 3–4% at level 3, 6–8% at Level 4, 25–30% at Level 5 and anything from 30 to 40 % at Level 6.
- A total of 57 percentage points are required to achieve Sustainable Code Level 3. 30 percentage points can be achieved easily through standard design related planning policies at limited cost; and
- A number of percentage points required to achieve Sustainable Code Level 3 are already embedded into adopted Southend-on-Sea LDF policy.

7.2 The overall conclusion is that Sustainable Code Level 3 and BREEAM rating 'very good' can easily be achieved within Southend-on-Sea. To ensure that no undue burden is placed on the development industry, flexibility will need to be built into a development management policy that takes account of viability and feasibility.

Appendix 1: Cost Analysis of the Code for Sustainable Homes Final Report (2008) – Tables

Table 4.1: Detached house							
CSH Level	Mandatory (£)	Energy (£)	Water (£)	Flexible (£)	Total cost (£)	Cost £ per m^2	Percentage increase on 2006 Building Regs
Best Case (Market town scenario with low ecological value and low flood risk)							
1	£490	£275	£0	£0	**£765**	£7	1%
2	£490	£1,648	£0	£50	**£2,188**	£19	2%
3	£490	£3,916	£125	£220	**£4,751**	£41	5%
4	£490	£9,868	£125	£1,110	**£11,593**	£100	13%
5	£490	£17,132	£2,625	£1,600	**£21,847**	£188	24%
6	£490	£32,752	£2,625	£1,950	**£37,817**	£326	41%
Medium Case (Market town scenario with medium ecological value and low flood risk)							
1	£490	£275	£0	£0	**£765**	£7	1%
2	£490	£1,648	£0	£120	**£2,258**	£19	2%
3	£490	£3,916	£125	£460	**£4,991**	£43	5%
4	£490	£9,868	£125	£1,250	**£11,733**	£101	13%
5	£490	£17,132	£2,625	£1,950	**£22,197**	£191	24%
6	£490	£32,752	£2,625	£2,950	**£38,817**	£335	43%
Worst Case (Small scale scenario with high ecological value and medium/high flood risk)							
1	£490	£275	£0	£30	**£795**	£7	1%
2	£490	£1,648	£0	£585	**£2,723**	£23	3%
3	£490	£3,916	£125	£1,110	**£5,641**	£49	6%
4	£490	£10,914	£125	£2,000	**£13,529**	£117	15%
5	£490	£22,367	£2,625	£3,350	**£28,832**	£249	32%
6	£490	£40,228	£2,625	£4,190	**£47,533**	£410	52%

Table 4.2: End terraced house							
CSH Level	Mandatory (£)	Energy (£)	Water (£)	Flexible (£)	Total cost (£)	Cost £ per m^2	Percentage increase on 2006 Building Regs
Best Case (Market Town scenario with low ecological value and low flood risk)							
1	£490	£275	£0	£10	**£775**	£8	1%
2	£490	£1,648	£0	£220	**£2,358**	£23	3%
3	£490	£3,692	£125	£620	**£4,927**	£49	7%
4	£490	£7,115	£125	£1,270	**£9,000**	£89	12%

5	£490	£12,353	£2,625	£2,060	**£17,528**	£174	23%
6	£490	£24,822	£2,625	£3,270	**£31,207**	£309	41%
Medium Case (Market town scenario with medium ecological value and low flood risk)							
1	£490	£275	£0	£30	**£795**	£8	1%
2	£490	£1,648	£0	£460	**£2,598**	£26	3%
3	£490	£3,692	£125	£720	**£5,027**	£50	7%
4	£490	£7,115	£125	£1,760	**£9,490**	£94	13%
5	£490	£12,353	£2,625	£3,270	**£18,738**	£186	25%
6	£490	£24,822	£2,625	£3,810	**£31,747**	£314	42%
Worst Case (Small scale scenario with high ecological value and medium/high flood risk)							
1	£490	£275	£0	£120	**£885**	£9	1%
2	£490	£1,648	£0	£745	**£2,883**	£29	4%
3	£490	£3,916	£125	£1,270	**£5,801**	£57	8%
4	£490	£5,880	£125	£1,920	**£8,415**	£83	11%
5	£490	£13,292	£2,625	£3,810	**£20,217**	£200	27%
6	£490	£29,393	£2,625	£5,160	**£37,668**	£373.0	50.07%

Table 4.3: Flat							
CSH Level	Mandatory (£)	Energy (£)	Water (£)	Flexible (£)	Total cost (£)	Cost £ per m2	Percentage increase on 2006 Building Regs
Best Case (Urban regeneration scenario with low ecological value and low flood risk)							
1	£0	£460	£0	£0	**£460**	£8	1%
2	£0	£1,648	£0	£115	**£1,763**	£30	2%
3	£0	£2,622	£125	£145	**£2,892**	£49	4%
4	£0	£4,782	£125	£580	**£5,487**	£93	7%
5	£0	£8,289	£805	£1,170	**£10,264**	£174	13%
6	£0	£16,775	£805	£1,500	**£19,080**	£323	24%
Medium Case (Market town scenario with medium ecological value and low flood risk)							
1	£0	£275	£0	£10	**£285**	£5	0%
2	£0	£1,648	£0	£115	**£1,763**	£30	2%
3	£0	£2,622	£125	£175	**£2,922**	£50	4%
4	£0	£5,054	£125	£880	**£6,059**	£103	8%
5	£0	£9,962	£805	£1,500	**£12,267**	£208	15%
6	£0	£18,596	£805	£1,850	**£21,251**	£360	27%
Worst Case (City infill scenario with high ecological value and medium/high flood risk)							
1	£0	£460	£0	£40	**£500**	**£8**	1%

2	£0	£1,648	£0	£205	**£1,853**	£31	2%
3	£0	£2,622	£125	£420	**£3,167**	£54	4%
4	£0	£5,054	£125	£1,020	**£6,199**	£105	8%
5	£0	£12,055	£805	£1,850	**£14,710**	£249	19%
6	£0	£18,430	£805	£3,320	**£22,555**	£382	28%

Appendix 2: Code for Sustainable Homes: A Cost Review (CLG 2010) - Tables

.

Materials Totals			**17**	**£0**	**17**	**£0**	**17**	**£0**	**17**	**£0**
Surface Water	Sur 1	No SUDS systems specified	0	£0.0	0	£0.0	0	£0.0	0	£0.0
	Sur 2	Assumed development is in an area of low flood risk	2	£0	2	£0	2	£0	2	£0
Surface Water Totals			**2**	**£0**	**2**	**£0**	**2**	**£0**	**2**	**£0**
Waste	Was 1	Internal storage for recyclable waste provided, assumed collection scheme exists	4	£25	4	£25	4	£25	4	£25
	Was 2	Assumed maximum credits could be achieved for no extra cost	2	£0	2	£0	2	£0	2	£0
	Was 3	Composting facilities provided (flats)	1	£30	0	£0	0	£0	0	£0
Waste Totals			**7**	**£55**	**6**	**£25**	**6**	**£25**	**6**	**£25**
Pollution	Pol 1	Zero cost credit	1	£0	1	£0	1	£0	1	£0
	Pol 2	ASHP is electrically powered, credits not achieved	0	£0	0	£0	0	£0	0	£0
Pollution Totals			**1**	**£0**	**1**	**£0**	**1**	**£0**	**1**	**£0**
Health & Well-Being	Hea 1	Assumed view of sky can be achieved at no E/O cost in all dwellings and that ADF of >1.5% in living rooms is met by default in detached house, extra glazing included in flat, terraced and semi-detached	3	£300	3	£300	3	£300	2	£0
	Hea 2	Detached house scores maximum credits by default, cost of sound testing in terraced and semi-detached houses	0	£0	3	£100	3	£100	4	£0
	Hea 3	Assumed zero cost credit	1	£0	1	£0	1	£0	1	£0
	Hea 4	Lifetime Homes standards not met	0	£0	0	£0	0	£0	0	£0
Health & Well-Being Totals			**4**	**£300**	**7**	**£400**	**7**	**£400**	**7**	**£0**
Manage-	Man 1	Home user guide provided,	3	£25	£3	£25	£3	£25	£3	£25
ment		including information on site and surroundings								
	Man 2	Assumed zero cost credits	2	£0	2	£0	2	£0	2	£0
	Man 3	Procedures to cover four items in site management procedures	2	£50	£2	£50	£2	£50	£2	£50
	Man 4	Credits not sought	0	£0	0	£0	0	£0	0	£0
Management Totals			**7**	**£75**	**7**	**£75**	**7**	**£75**	**7**	**£75**
Ecology	Eco 1	Brownfield site, 1 credit by default	1	£0	1	£0	1	£0	1	£0
	Eco 2	Ecologist employed	1	£150	1	£150	1	£150	1	£150
	Eco 3	Credit only achieved if ecologist is employed	1	£0	1	£0	1	£0	1	£0
	Eco 4	Cost of increasing number of plant species	4	£15	4	£15	4	£15	4	£15
	Eco 5	No credits achieved	0	£0	0	£0	0	£0	0	£0
Ecology Totals			**7**	**£165**	**7**	**£165**	**7**	**£165**	**7**	**£165**
Total Code Credits			**62**		**63**		**62**		**62**	
Total Percentage Points Score			**57**		**58**		**57**		**57**	
Total Extra Over Cost			**£2,463**		**£2,420**		**£3,019**		**£2,681**	

Strategic Development: Code Level 3										
Category	Issue	Details of measures	Flat		Terraced house		Semi-detached		Detached	
			Credits	E/O Cost	Credits	E/O Cost	Credits	E/O Cost	Credits	E/O Cost
Energy / CO_2	Ene 1	Good fabric, ASHP[21]	5	£1,323	5	£1,150	5	£1,739	6	£1,796
	Ene 2	Credits awarded based on HLP achieved with given fabric package	2	£0	1	£0	0	£0	0	£0
	Ene 3	>75% of internal light fittings dedicated energy efficient	2	£30	2	£40	2	£50	2	£60
	Ene 4	Internal tidy-dry	1	£15	1	£15	1	£15	1	£15
	Ene 5	Information on benefits of purchasing energy efficient white goods provided	1	£5	1	£5	1	£5	1	£5
	Ene 6	One zero cost credit assumed for ensuring all external light fittings are energy efficient, E/O cost for sensors, timers etc	2	£45	2	£45	2	£45	1	£0
	Ene 7	No credits achieved	0	£0	0	£0	0	£0	0	£0
	Ene 8	Cycle storage not provided	0	£0	0	£0	0	£0	0	£0
	Ene 9	Home office fixtures not provided	0	£0	0	£0	0	£0	0	£0
Energy / CO_2 Totals			**13**	**£1,418**	**12**	**£1,255**	**11**	**£1,854**	**11**	**£1,876**
Water	Wat 1	Cost of low flow fittings etc to achieve 105 litres/person/day	3	£200	3	£200	3	£200	3	£240
	Wat 2	Water butts included for blocks of flats and for houses	1	£0	1	£50	1	£50	1	£50
Water Totals			**4**	**£200**	**4**	**£250**	**4**	**£250**	**4**	**£290**
Materials	Mat 1	Assumed 12 zero cost credits (out of 15)	12	£0	12	£0	12	£0	12	£0
	Mat 2	Assumed 4 zero cost credits (out of 6)	4	£0	4	£0	4	£0	4	£0
	Mat 3	Assumed 1 zero cost credit (out of 3)	1	£0	1	£0	1	£0	1	£0
Materials Totals			**17**	**£0**	**17**	**£0**	**17**	**£0**	**17**	**£0**
Surface Water	Sur 1	Site-wide SUDS system cost of £1,100 split between all dwellings	2	£0.2	2	£0.2	2	£0.2	2	£0.2
	Sur 2	Assumed development is in an area of low flood risk	2	£0	2	£0	2	£0	2	£0
Surface Water Totals			**4**	**£0**	**4**	**£0**	**4**	**£0**	**4**	**£0**
Waste	Was 1	Internal storage for recyclable waste provided, assumed collection scheme exists	4	£25	4	£25	4	£25	4	£25
	Was 2	Assumed maximum credits could be achieved for no extra cost	2	£0	2	£0	2	£0	2	£0
	Was 3	Composting facilities not provided	1	£30	0	£0	0	£0	0	£0
Waste Totals			**7**	**£55**	**6**	**£25**	**6**	**£25**	**6**	**£25**
Pollution	Pol 1	Zero cost credit	1	£0	1	£0	1	£0	1	£0
	Pol 2	ASHP is electrically powered, credits not achieved	0	£0	0	£0	0	£0	0	£0
Pollution Totals			**1**	**£0**	**1**	**£0**	**1**	**£0**	**1**	**£0**
Health & Well-Being	Hea 1	Assumed view of sky can be achieved at no E/O cost in all dwellings and that ADF of >1.5% in living rooms is met by default in detached house extra glazing included in terraced and semi	3	£300	3	£300	3	£300	2	£0
	Hea 2	Detached house scores maximum credits by default, cost of sound testing in terraced and semi	0	£0	3	£100	3	£100	4	£0
	Hea 3	Assumed zero cost credit	1	£0	1	£0	1	£0	1	£0
	Hea 4	Lifetime Homes standards met in flats	0	£0	0	£0	0	£0	0	£0

Health & Well-Being Totals			4	£300	7	£400	7	£400	7	£0
Manage-ment	Man 1	Home user guide provided, including information on site and surroundings	3	£0	£3	£0	£3	£0	£3	£0
	Man 2	Assumed zero cost credits	2	£0	2	£0	2	£0	2	£0
	Man 3	Procedures to cover four items in site management procedures	2	£0	£2	£0	£2	£0	£2	£0
	Man 4	Credits not sought	0	£0	0	£0	0	£0	0	£0
Management Totals			7	£0	7	£0	7	£0	7	£0
Ecology	Eco 1	Greenfield site, no credits gained	0	£0	0	£0	0	£0	0	£0
	Eco 2	Ecologist employed	1	£100	1	£100	1	£100	1	£100
	Eco 3	Credit only achieved if ecologist is employed	1	£0	1	£0	1	£0	1	£0
	Eco 4	Cost of increasing number of plant species	4	£15	4	£15	4	£15	4	£15
	Eco 5	No credits achieved	0	£0	0	£0	0	£0	0	£0
Ecology Totals			6	£115	6	£115	6	£115	6	£115
Total Code Credits			63		64		63		63	
Total Percentage Points Score			57		58		57		57	
Total Extra Over Cost			£2,088		£2,046		£2,645		£2,307	

Table 59: E/O cost (in 2009) as £/m² of floor area and as a percentage of baseline build costs (cost of building dwelling to Part L 2006): Small Brownfield

Code Level	*Flat*			*Terraced house*			*Semi-detached house*			*Detached house*		
	E/O cost		%	*E/O cost*		%	*E/O cost*		%	*E/O cost*		%
	(£)	*(£/m²)*		*(£)*	*(£/m²)*		*(£)*	*(£/m²)*		*(£)*	*(£/m²)*	
Minimum cost options (based on E/O cost for whole development)												
1	£315	£5	0.5%	£228	£3	0%	£356	£4	0%	£313	£3	0.3%
2	£1,673	£27	3%	£1,617	£22	2%	£1,040	£12	1%	£971	£8	1%
3	£2,463	£40	4%	£2,420	£33	3%	£3,019	£34	3%	£2,681	£23	3%
4	£5,611	£92	9%	£7,363	£101	9%	£8,142	£93	9%	£6,029	£51	6%
5	£17,739	£291	30%	£24,372	£334	28%	£26,825	£305	29%	£30,128	£255	30%
6	£28,514	£467	48%	£34,807	£477	40%	£38,732	£440	41%	£42,771	£362	43%
Maximum cost (based on E/O cost for whole development)												
1	£315	£5	0.5%	£228	£3	0%	£356	£4	0%	£313	£3	0.3%
2	£1,673	£27	3%	£1,617	£22	2%	£1,040	£12	1%	£971	£8	1%
3	£6,737	£110	11%	£7,520	£103	9%	£9,277	£105	10%	£3,651	£31	4%
4	£11,508	£189	19%	£16,365	£224	19%	£17,922	£204	19%	£19,219	£163	19%
5	£17,013	£279	28%	£26,674	£365	31%	£28,967	£329	31%	£32,627	£276	33%
6	£27,562	£452	46%	£37,109	£508	43%	£40,506	£460	43%	£44,685	£379	45%

Table 60: E/O cost (in 2009) as £/m² of floor area and as a percentage of baseline build costs (cost of building dwelling to Part L 2006): City Infill

Code Level	*Flat*			*Terraced house*			*Semi-detached house*			*Detached house*		
	E/O cost		%	*E/O cost*		%	*E/O cost*		%	*E/O cost*		%
	(£)	*(£/m²)*		*(£)*	*(£/m²)*		*(£)*	*(£/m²)*		*(£)*	*(£/m²)*	
Minimum cost options (based on E/O cost for whole development)												
1	£290	£5	0.5%	-	-	-	-	-	-	-	-	-
2	£1,773	£29	3%	-	-	-	-	-	-	-	-	-
3	£2,763	£45	5%	-	-	-	-	-	-	-	-	-
4	£5,888	£97	10%	-	-	-	-	-	-	-	-	-
5	£16,134	£264	27%	-	-	-	-	-	-	-	-	-
6	£26,909	£441	45%	-	-	-	-	-	-	-	-	-
Maximum cost (based on E/O cost for whole development)												
1	£290	£5	0.5%	-	-	-	-	-	-	-	-	-
2	£1,773	£29	3%	-	-	-	-	-	-	-	-	-
3	£7,062	£116	12%	-	-	-	-	-	-	-	-	-
4	£11,658	£191	20%	-	-	-	-	-	-	-	-	-
5	£17,308	£284	29%	-	-	-	-	-	-	-	-	-
6	£27,857	£457	47%	-	-	-	-	-	-	-	-	-

Table 61: E/O cost (in 2009) as £/m² of floor area and as a percentage of baseline build costs (cost of building dwelling to Part L 2006): Medium Urban (mixed)

Code Level	Flat			Terraced house			Semi-detached house			Detached house		
	E/O cost		%	E/O cost		%	E/O cost		%	E/O cost		%
	(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)	
Minimum cost options (based on E/O cost for whole development)												
1	£257	£4	0.4%	£170	£2	0%	£258	£3	0%	£270	£2	0.3%
2	£1,555	£25	3%	£1,499	£21	2%	£892	£10	1%	£813	£7	1%
3	£2,345	£38	4%	£2,002	£27	2%	£2,901	£33	3%	£2,513	£21	3%
4	£5,438	£89	9%	£7,190	£98	8%	£7,969	£91	9%	£5,856	£50	6%
5	£17,567	£288	29%	£24,200	£332	28%	£26,653	£303	29%	£29,955	£254	30%
6	£19,580	£321	33%	£26,550	£364	31%	£28,392	£323	30%	£31,232	£265	31%
Maximum cost (based on E/O cost for whole development)												
1	£257	£4	0.4%	£170	£2	0%	£258	£3	0%	£270	£2	0.3%
2	£1,555	£25	3%	£1,499	£21	2%	£892	£10	1%	£813	£7	1%
3	£6,574	£108	11%	£7,352	£101	9%	£9,059	£103	10%	£3,493	£30	3%
4	£11,241	£184	19%	£15,947	£218	18%	£17,504	£199	19%	£19,051	£161	19%
5	£16,840	£276	28%	£26,501	£363	31%	£28,794	£327	31%	£32,454	£275	32%
6	£27,390	£449	46%	£36,936	£506	43%	£40,333	£458	43%	£44,512	£377	45%

Table 62: E/O cost (in 2009) as £/m² of floor area and as a percentage of baseline build costs (cost of building dwelling to Part L 2006): Medium Urban (flats)

Code Level	Flat			Terraced house			Semi-detached house			Detached house		
	E/O cost		%	E/O cost		%	E/O cost		%	E/O cost		%
	(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)	
Minimum cost options (based on E/O cost for whole development)												
1	£236	£4	0.4%	-	-	-	-	-	-	-	-	-
2	£1,555	£25	3%	-	-	-	-	-	-	-	-	-
3	£2,174	£36	4%	-	-	-	-	-	-	-	-	-
4	£5,299	£87	9%	-	-	-	-	-	-	-	-	-
5	£15,616	£256	26%	-	-	-	-	-	-	-	-	-
6	£17,654	£289	30%	-	-	-	-	-	-	-	-	-
Maximum cost (based on E/O cost for whole development)												
1	£236	£4	0.4%	-	-	-	-	-	-	-	-	-
2	£1,555	£25	3%	-	-	-	-	-	-	-	-	-
3	£6,544	£107	11%	-	-	-	-	-	-	-	-	-
4	£11,115	£182	19%	-	-	-	-	-	-	-	-	-
5	£16,815	£276	28%	-	-	-	-	-	-	-	-	-
6	£27,364	£449	46%	-	-	-	-	-	-	-	-	-

Table 63: E/O cost (in 2009) as £/m² of floor area and as a percentage of baseline build costs (cost of building dwelling to Part L 2006): Large Urban (mixed)

Code Level	Flat			Terraced house			Semi-detached house			Detached house		
	E/O cost		%	E/O cost		%	E/O cost		%	E/O cost		%
	(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)	
Minimum cost (based on E/O cost for whole development)												
1	£250	£4	0.4%	£164	£2	0%	£252	£3	0%	£264	£2	0.3%
2	£1,549	£25	3%	£1,493	£20	2%	£886	£10	1%	£807	£7	1%
3	£2,338	£38	4%	£1,996	£27	2%	£2,895	£33	3%	£2,507	£21	3%
4	£6,363	£104	11%	£6,205	£85	7%	£6,581	£75	7%	£6,467	£55	6%
5	£16,640	£273	28%	£23,212	£318	27%	£25,583	£291	27%	£28,794	£244	29%
6	£23,212	£381	39%	£29,919	£410	35%	£32,392	£368	35%	£36,035	£305	36%
Maximum cost (based on E/O cost for whole development)												
1	£250	£4	0.4%	£164	£2	0%	£252	£3	0%	£264	£2	0.3%
2	£1,549	£25	3%	£1,493	£20	2%	£886	£10	1%	£807	£7	1%
3	£6,568	£108	11%	£7,346	£101	8%	£9,052	£103	10%	£3,487	£30	3%
4	£11,234	£184	19%	£15,941	£218	18%	£17,497	£199	19%	£19,044	£161	19%
5	£16,834	£276	28%	£26,495	£363	31%	£28,787	£327	31%	£32,447	£275	32%
6	£27,383	£449	46%	£36,930	£506	43%	£40,326	£458	43%	£44,505	£377	45%

Table 64: E/O cost (in 2009) as £/m² of floor area and as a percentage of baseline build costs (cost of building dwelling to Part L 2006): Large Urban (flats)

Code Level	Flat			Terraced house			Semi-detached house			Detached house		
	E/O cost		%	E/O cost		%	E/O cost		%	E/O cost		%
	(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)	
Minimum cost (based on E/O cost for whole development)												
1	£230	£4	0.4%	-	-	-	-	-	-	-	-	-
2	£1,549	£25	3%	-	-	-	-	-	-	-	-	-
3	£2,168	£36	4%	-	-	-	-	-	-	-	-	-
4	£4,293	£70	7%	-	-	-	-	-	-	-	-	-
5	£14,690	£241	25%	-	-	-	-	-	-	-	-	-
6	£21,287	£349	36%	-	-	-	-	-	-	-	-	-
Maximum cost (based on E/O cost for whole development)												
1	£230	£4	0.4%	-	-	-	-	-	-	-	-	-
2	£1,549	£25	3%	-	-	-	-	-	-	-	-	-
3	£6,538	£107	11%	-	-	-	-	-	-	-	-	-
4	£11,109	£182	19%	-	-	-	-	-	-	-	-	-
5	£16,809	£276	28%	-	-	-	-	-	-	-	-	-
6	£27,358	£448	46%	-	-	-	-	-	-	-	-	-

Table 65: E/O cost (in 2009) as £/m² of floor area and as a percentage of baseline build costs (cost of building dwelling to Part L 2006): Small Infill

Code Level	Flat			Terraced house			Semi-detached house			Detached house		
	E/O cost		%	E/O cost		%	E/O cost		%	E/O cost		%
	(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)	
Minimum cost (based on E/O cost for whole development)												
1	-	-	-	£353	£5	0%	£431	£5	0%	£288	£2	0.3%
2	-	-	-	£1,837	£25	2%	£1,260	£14	1%	£1,091	£9	1%
3	-	-	-	£2,295	£31	3%	£2,994	£34	3%	£2,651	£22	3%
4	-	-	-	£7,408	£101	9%	£8,152	£93	9%	£7,194	£61	7%
5	-	-	-	£27,254	£373	32%	£29,547	£336	32%	£32,557	£276	33%
6	-	-	-	£37,689	£516	44%	£41,086	£467	44%	£45,515	£386	46%
Maximum cost (based on E/O cost for whole development)												
1	-	-	-	£353	£5	0%	£431	£5	0%	£288	£2	0.3%
2	-	-	-	£1,837	£25	2%	£1,260	£14	1%	£1,091	£9	1%
3	-	-	-	£7,590	£104	9%	£9,397	£107	10%	£3,771	£32	4%
4	-	-	-	£16,240	£222	19%	£17,797	£202	19%	£19,189	£163	19%
5	-	-	-	£29,117	£399	34%	£31,570	£359	34%	£35,593	£302	36%
6	-	-	-	£39,552	£542	46%	£43,477	£494	47%	£47,651	£404	48%

Table 66: E/O cost (in 2009) as £/m² of floor area and as a percentage of baseline build costs (cost of building dwelling to Part L 2006): Small Greenfield

Code Level	Flat			Terraced house			Semi-detached house			Detached house		
	E/O cost		%	E/O cost		%	E/O cost		%	E/O cost		%
	(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)	
Minimum cost (based on E/O cost for whole development)												
1	£320	£5	0.5%	£233	£3	0%	£333	£4	0%	£318	£3	0.3%
2	£1,620	£27	3%	£1,564	£21	2%	£987	£11	1%	£878	£7	1%
3	£2,160	£35	4%	£2,117	£29	2%	£2,716	£31	3%	£2,378	£20	2%
4	£5,353	£88	9%	£7,150	£98	8%	£7,864	£89	8%	£6,906	£59	7%
5	£17,305	£284	29%	£26,966	£369	31%	£29,259	£332	31%	£32,269	£273	32%
6	£27,654	£453	46%	£37,401	£512	43%	£40,798	£464	44%	£45,227	£383	45%
Maximum cost (based on E/O cost for whole development)												
1	£320	£5	0.5%	£233	£3	0%	£333	£4	0%	£318	£3	0.3%
2	£1,620	£27	3%	£1,564	£21	2%	£987	£11	1%	£878	£7	1%
3	£6,984	£114	12%	£7,467	£102	9%	£9,224	£105	10%	£3,598	£30	4%
4	£11,205	£184	19%	£16,062	£220	19%	£17,619	£200	19%	£18,916	£160	19%
5	£21,781	£357	36%	£28,829	£395	33%	£31,282	£355	34%	£35,305	£299	35%
6	£32,556	£534	55%	£39,264	£538	45%	£43,189	£491	46%	£47,363	£401	47%

Table 67: E/O cost (in 2009) as £/m² of floor area and as a percentage of baseline build costs (cost of building dwelling to Part L 2006): Small Edge of Town

Code Level	Flat			Terraced house			Semi-detached house			Detached house		
	E/O cost		%	E/O cost		%	E/O cost		%	E/O cost		%
	(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)	
Minimum cost (based on E/O cost for whole development)												
1	-	-	-	£353	£5	0%	£431	£5	0%	£288	£2	0.3%
2	-	-	-	£1,837	£25	2%	£1,260	£14	1%	£1,091	£9	1%
3	-	-	-	£2,295	£31	3%	£2,994	£34	3%	£2,651	£22	3%
4	-	-	-	£7,408	£101	9%	£8,152	£93	9%	£7,194	£61	7%
5	-	-	-	£27,254	£373	32%	£29,547	£336	32%	£32,557	£276	33%
6	-	-	-	£37,689	£516	44%	£41,086	£467	44%	£45,515	£386	46%
Maximum cost (based on E/O cost for whole development)												
1	-	-	-	£353	£5	0%	£431	£5	0%	£288	£2	0.3%
2	-	-	-	£1,837	£25	2%	£1,260	£14	1%	£1,091	£9	1%
3	-	-	-	£7,590	£104	9%	£9,397	£107	10%	£3,771	£32	4%
4	-	-	-	£16,240	£222	19%	£17,797	£202	19%	£19,189	£163	19%
5	-	-	-	£29,117	£399	34%	£31,570	£359	34%	£35,593	£302	36%
6	-	-	-	£39,552	£542	46%	£43,477	£494	47%	£47,651	£404	48%

Table 68: E/O cost (in 2009) as £/m² of floor area and as a percentage of baseline build costs (cost of building dwelling to Part L 2006): Medium Edge of Town

Code Level	Flat			Terraced house			Semi-detached house			Detached house		
	E/O cost		%	E/O cost		%	E/O cost		%	E/O cost		%
	(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)	
Minimum cost (based on E/O cost for whole development)												
1	£269	£4	0.4%	£187	£3	0%	£370	£4	0%	£292	£2	0.3%
2	£1,552	£25	3%	£1,496	£20	2%	£919	£10	1%	£810	£7	1%
3	£2,092	£34	4%	£2,049	£28	2%	£2,648	£30	3%	£2,310	£20	2%
4	£5,285	£87	9%	£7,082	£97	8%	£7,796	£89	8%	£6,838	£58	7%
5	£17,237	£283	29%	£26,898	£368	31%	£29,191	£332	31%	£32,201	£273	32%
6	£24,076	£395	40%	£31,247	£428	36%	£33,089	£376	35%	£36,179	£307	36%
Maximum cost (based on E/O cost for whole development)												
1	£269	£4	0.4%	£187	£3	0%	£370	£4	0%	£292	£2	0.3%
2	£1,552	£25	3%	£1,496	£20	2%	£919	£10	1%	£810	£7	1%
3	£6,916	£113	12%	£7,399	£101	9%	£9,156	£104	10%	£3,530	£30	4%
4	£11,137	£183	19%	£15,994	£219	18%	£17,551	£199	19%	£18,848	£160	19%
5	£20,793	£341	35%	£27,780	£381	32%	£30,151	£343	32%	£34,083	£289	34%
6	£31,568	£518	53%	£38,215	£523	44%	£42,058	£478	45%	£46,141	£391	46%

Table 69: E/O cost (in 2009) as £/m² of floor area and as a percentage of baseline build costs (cost of building dwelling to Part L 2006): Large Edge of Town

Code Level	Flat			Terraced house			Semi-detached house			Detached house		
	E/O cost		%	E/O cost		%	E/O cost		%	E/O cost		%
	(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)	
Minimum cost (based on E/O cost for whole development)												
1	£265	£4	0.4%	£184	£3	0%	£367	£4	0%	£289	£2	0.3%
2	£1,549	£25	3%	£1,493	£20	2%	£916	£10	1%	£807	£7	1%
3	£2,088	£34	3%	£2,046	£28	2%	£2,645	£30	3%	£2,307	£20	2%
4	£5,282	£87	9%	£7,079	£97	8%	£7,793	£89	8%	£6,835	£58	7%
5	£17,234	£283	29%	£26,895	£368	31%	£29,187	£332	31%	£32,197	£273	32%
6	£27,712	£454	46%	£34,619	£474	40%	£37,092	£421	40%	£40,985	£347	41%
Maximum cost (based on E/O cost for whole development)												
1	£265	£4	0.4%	£184	£3	0%	£367	£4	0%	£289	£2	0.3%
2	£1,549	£25	3%	£1,493	£20	2%	£916	£10	1%	£807	£7	1%
3	£6,913	£113	12%	£7,396	£101	9%	£9,152	£104	10%	£3,527	£30	4%
4	£11,134	£183	19%	£15,991	£219	18%	£17,547	£199	19%	£18,844	£160	19%
5	£20,790	£341	35%	£27,777	£381	32%	£30,148	£343	32%	£34,079	£289	34%
6	£31,564	£517	53%	£38,212	£523	44%	£42,055	£478	45%	£46,137	£391	46%

Table 70: E/O cost (in 2009) as £/m² of floor area and as a percentage of baseline build costs (cost of building dwelling to Part L 2006): Strategic

Code Level	Flat			Terraced house			Semi-detached house			Detached house		
	E/O cost		%	E/O cost		%	E/O cost		%	E/O cost		%
	(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)		(£)	(£/m²)	
Minimum cost (based on E/O cost for whole development)												
1	£265	£4	0.4%	£184	£3	0%	£367	£4	0%	£289	£2	0.3%
2	£1,549	£25	3%	£1,493	£20	2%	£916	£10	1%	£807	£7	1%
3	£2,088	£34	3%	£2,046	£28	2%	£2,645	£30	3%	£2,307	£20	2%
4	£5,281	£87	9%	£7,079	£97	8%	£7,793	£89	8%	£6,835	£58	7%
5	£17,234	£283	29%	£26,895	£368	31%	£29,187	£332	31%	£32,197	£273	32%
6	£27,465	£450	46%	£34,325	£470	40%	£36,735	£417	39%	£40,558	£344	41%
Maximum cost (based on E/O cost for whole development)												
1	£265	£4	0.4%	£184	£3	0%	£367	£4	0%	£289	£2	0.3%
2	£1,549	£25	3%	£1,493	£20	2%	£916	£10	1%	£807	£7	1%
3	£6,913	£113	12%	£7,396	£101	9%	£9,152	£104	10%	£3,527	£30	4%
4	£11,134	£183	19%	£15,991	£219	18%	£17,547	£199	19%	£18,844	£160	19%
5	£20,790	£341	35%	£27,777	£381	32%	£30,148	£343	32%	£34,079	£289	34%
6	£31,564	£517	53%	£38,212	£523	44%	£42,055	£478	45%	£46,137	£391	46%