Local Development Framework

ASHFORD BOROUGH COUNCIL

Sustainable Design and Construction SPD

Adopted April 2012

Ashford best placed in Britain

Contents

1 Introduction

1.1 Delivering more sustainable forms of development and effectively tackling the causes and effects of climate change in the way we plan new communities requires new thinking and an innovative approach, especially as Ashford grows. This guide is designed to aid all those involved in the planning, design and construction of new developments within the Ashford Borough. This document will set out the specific detail and information required by the Council to determine the sustainability of a development proposal.

1.2 The Council is committed to ensuring that Ashford grows sustainably and policy CS10 of the adopted Core Strategy will help reduce any negative impacts of new development on the environment and seeks to reduce the carbon footprint of Ashford as a whole.

Purpose

1.3 The main purpose of this document is to provide guidance on the measures and opportunities available to developers and householders to integrate sustainability into their development. Although this document provides guidance for those developments required to comply with policy CS10, the principles contained within this guidance can be applied to all planning applications.

1.4 The Ashford Local Development Framework Core Strategy was adopted in July 2008, and sets the strategic vision for development in the Borough between 2006 and 2021. A central part of this vision is to deliver quality sustainable places and a number of policies have been adopted to help deliver this aim. While sustainability covers an array of aspects such as the environment, economy and social issues this Supplementary Planning Document (SPD) has been drafted to help applicants respond positively to the following Core Strategy policies.

CS1 E	Guiding principle for sustainable design and construction
CS1 M	Guiding principle for developments to be designed to mitigate and adapt to the effects of climate change
CS9 (i)	Efficient use of natural resources
CS10	Sustainable design and construction standards
CS11	Biodiversity

Introduction

Policy CS10: Sustainable Design and Construction

All major developments (as defined in paragraphs 9.57 and 9.58) must incorporate sustainable design features to reduce the consumption of natural resources and to help deliver the aim of zero carbon growth in Ashford.

Unless it can be demonstrated that doing so is not technologically practicable, would make the scheme unviable or impose excessive costs on occupiers, developments are expected to:-

A) Achieve the standard set out below or specified in a later DPD, or an equivalent quality assured scheme, with a strong emphasis on energy, water and materials. These requirements will be met through:

(a) Energy and water efficiency,
(b) Sustainable construction materials, and,
(c) Waste reduction.

B) Reduce carbon dioxide emissions through on-site sustainable energy technologies at the percentage set out below or at such other level as may be specified in a subsequent DPD.

C) Be carbon neutral which can be met through a combination of (A) and (B) above, with any shortfall being met by financial contributions to enable residual carbon emissions to be offset elsewhere in the Borough.

Ashford LDF 2007 - 2014						
			(CS3) Town Centre & (CS4) Brownfield Urban Sites	(CS5) Urban Extensions & (CS4) Greenfield Urban Sites	(CS6) Tenterden and the Villages	Existing and refurbishment
(A)	**Residential**	**Code for Sustainable Homes**	**Code level 3**	**Code level 4**	**Code level 2**	**EcoHomes 'Very Good'**
	Non-residential	BREEAM Overall Level	Very Good	Excellent	Good	Very Good
		Energy Credits	Excellent	Excellent	Excellent	Excellent
		Water Credits	Maximum	Maximum	Excellent	Excellent
		Material Credits	Excellent	Excellent	Very Good	Very Good

(B)	Minimum Carbon Dioxide Reduction					
			20%	30%	10%	10%

Revised standards for 2015 onwards will be set in a review of the Core Strategy or a DPD.

Where any site is brought forward as two or more separate development schemes of which one or more falls below the relevant threshold for this policy, the Council will require the relevant targets in the above table to be met as though the site had come forward as a single scheme.

1.5 Policy CS10 sets out standards for all new major developments, is split into three parts and importantly takes an incremental approach to implementation.

Part A	Sets a quality standard for the environmental performance and the sustainability of buildings using the Code for Sustainable Homes / BREEAM
Part B	Ensures a proportion of energy demand is secured through the installation of low and zero carbon energy sources, primarily to reduce carbon emissions. **(Please note revised implementation strategy for Part B)**
Part C	Ensures that developments become 'carbon neutral' by enabling residual carbon emissions to be offset into a carbon fund which will enable carbon savings elsewhere in the Borough.

1.6 Policy CS10 requires all major developments planned in the Borough to meet the standards set and to refer to the advice within this guidance. The threshold for compliance is set out below:

For the purpose of policy CS10 major development is defined as:

Ashford Growth Area : 10 or more dwelling units or on **residential** sites of 0.5 hectares or more in area, or for **non-residential** developments, any scheme of at least 1,000 sq m gross external floorspace or, any development on a site 1 hectare or more in area.

Tenterden and the Villages: 5 or more **dwelling** units, and 500 sq m for **non-residentia**l units, or sites of 0.5 hectares or more in area.

Mixed Use development

Within the Ashford Growth Area mixed use developments will need to comply with policy CS10 if there are 10 or more dwellings, or a scheme of at least 1,000 sq m gross external floorspace, or any development on a site of 0.5 hectares or more in area.

Within Tenterden and the Villages mixed use developments will need to comply with policy CS10 if there are 5 or more dwellings, or a scheme of 500 sq m, or any development on a site of 0.5 hectares or more in area.

Introduction

1.7 This SPD forms part of the Ashford Local Development Framework (LDF). The key objectives for this SPD have been thoroughly tested through the Sustainability Appraisal (SA) process. The purpose of the SA is to promote sustainable development through the integration of social, environmental and economic considerations.

1.8 The key objectives for this SPD are set out in the box below.

Sustainable Design and Construction SPD Objectives:

- To ensure all new developments are designed to the highest achievable sustainability standards and maximise environmental gain through environmental enhancements.
- To ensure that all new developments are designed to make efficient use of natural resources, particularly water and energy.
- To ensure that all new developments are designed to mitigate and adapt to the effects of climate change.
- To ensure that new developments consider the environmental impact of materials used.
- To ensure that new developments reduce their carbon emissions, incorporate sustainable energy, and are carbon neutral, where appropriate.
- To provide guidance to developers on what will be expected to deliver the Core Strategy CS10 standards, and the information that is required to be submitted with applications.

Our Commitment

1.9 Ashford Borough Council has signed the Nottingham Declaration on Climate Change which is a public commitment to develop plans to progressively address the causes and impacts of climate change. Building more sustainable homes is also a key objective of the Ashford Sustainable Community Strategy, which sets out a shared long-term vision for the Ashford Borough that reflects local aspirations.

Need for an interim review

1.10 The implementation of policy CS10 is successfully driving down carbon emissions from new developments within the Borough. There is a continuing need to put pressure on developers to build carbon neutral developments until the gap is closed between national policy and legislation and the zero carbon homes target set for 2016. Policy CS10 will be reviewed as part of the forthcoming Core Strategy review; however there have been some key changes to the Building Regulations and government guidance that have prompted this interim review so as not to place an undue burden on developers and to provide a consistent approach to policy implementation.

2 Policy Context

2.1 The coalition Government plans through the Localism Bill and National Planning Policy Framework (NPPF) to radically change the current planning system to introduce a new presumption in favour of sustainable development. The Government views the planning system as an effective means of delivering more sustainable buildings and places through effective sustainable design and construction policies.

2.2 Until such time as the Localism Bill and the NPPF are adopted by Parliament the current planning system based on the Local Development Framework is in place.

National Policy Guidance

2.3 Planning Policy Statement 1 (PPS1) sets out the former Government's overarching planning policies on the delivery of sustainable development through the planning system and instructs planning authorities to prepare robust policies on design and access. Key objectives include ensuring that developments are sustainable, durable and adaptable and make efficient use of resources. Tackling the causes and predicted effects of climate change within the planning system has received significant attention by the Government which has published a supplement to PPS1 on 'Planning and Climate Change' (2007). This PPS sets out a number of key objectives for the planning system in respect of climate change, expecting large developments to gain a significant proportion of energy supply through on-site low carbon and/or renewable energy sources.

2.4 Planning Policy Statement 9 (PPS9) sets out the former Government's planning policies on protection of biodiversity and geological conservation through the planning system. PPS9 states that local planning authorities should ensure that appropriate weight is attached to designated sites of international, national and local importance; protected species; and to biodiversity and geological interests within the wider environment.

2.5 Planning Policy Statement 22 (PPS22) sets out the former Government's planning policies on land use and renewable energy. PPS22 states that local development documents should contain policies to promote and encourage the development of renewable energy sources, the wider benefit of such and the design and planning implications of incorporating renewable energy onto new development schemes.

Policy Context

Regional Planning Policy (South East Plan)

2.6 The coalition Government have announced that they intend to revoke all Regional Spatial Strategies (RSS) as part of their decentralisation policies. Until such time, the South East Plan is the RSS for the South East and covers the period to 2026. The Adopted South East Plan (May 2009) sets out a number of policies that cover a wide spectrum of sustainability issues, these include CC1, CC2, CC3, CC4, NRM1, NRM5, NRM11, NRM12, NRM13, NRM15, W1, W2, W11, M1, EKA2.

Climate Change and a Sustainable Environment – Position Statement

2.7 Ashford Borough Council has prepared a Position Statement which aims to draw together all the work commitments being undertaken by the Council in tackling climate change and managing energy resources and sustainable environments. The statement includes an action plan prepared in conjunction with the Carbon Trust's Carbon Management Programme which will consider how the Council can deliver its commitments to the Nottingham Declaration on Climate Change.

Ashford Sustainable Energy Feasibility Study

2.8 This study was undertaken by Ove Arup and Partners Ltd in 2008 on behalf of Ashford's Future. The study was commissioned to provide guidance and support for this SPD and can be used to inform the implementation of on-site sustainable energy technology in the Ashford Growth Area to meet Part B of policy CS10. The study provides an analysis of the potential carbon dioxide savings and costs for different sizes of development. Installation costs and phasing are also explored using five pilot sites, characteristic of developments coming forward in the Ashford Growth Area.

3 Incorporating Sustainability into Your Development

3.1 Sustainable Design and Construction is made up of a number of approaches to ensure that new buildings and places are designed to reduce their environmental impact and effectively mitigate and adapt to climate change. Consideration of sustainability and climate change should be considered in all developments, not just those which have to meet the standards set out in policy CS10. Four key issues should be considered:-

- **Environmental Impacts**: Impacts may include unnecessary carbon emissions from a development, or impacts on health as a result of the development.
- **Resource Efficiency**: Making the best use of natural resources such as energy, water and waste.
- **Mitigation**: To mitigate the effects of climate change, buildings should aim to reduce their greenhouse gas emissions that contribute to the effects of climate change. Carbon dioxide is one of the key greenhouse gas emissions.
- **Adaptation**: Buildings and places should be designed following climate adaptation principles reflecting the predicted effects of climate change such as high temperature, flood risks and ground conditions.

3.2 Measuring sustainability and the impact of developments is complex. The Core Strategy has sought to utilise well-used and innovative measurements of sustainability and environmental performance to ensure that standards are consistent across the Borough and can be easily assessed in the planning process. These tools help to capture, record and evaluate a wide range of sustainability issues. There is a considerable amount of guidance available on considering sustainability issues in new developments and these are listed in the further guidance boxes at the end of each section.

Code for Sustainable Homes / BREEAM

3.3 The Code for Sustainable Homes is a national standard for key elements of design and construction which affect the sustainability of a new residential building, based on nine sustainable design principles. It rates new homes using a star rating, one star being the entry level and six stars reflects exemplar development. The BREEAM standard is a method used to assess the environmental performance of non-residential buildings. More detail on the use of these standards in policy CS10 can be found in Chapter 11.

South East England Development Agency (SEEDA) Sustainability Checklist

3.4 The adopted Sustainable Design and Construction SPD (July 2009) encouraged schemes of more than 100 dwellings to use the SEEDA Sustainability Checklist. SEEDA has been closed as part of the coalition Governments policy to abolish all Regional Development Agencies. Existing users of the checklist will still be able to access their accounts but no new projects will be created and so utilising the SEEDA sustainability checklist is no longer a requirement of this SPD.

Ecological Footprint

3.5 An Ecological Footprint is a quantitative calculation of resource consumption and production. The methodological output gives a reflection of the area of land that would be required to support the current resource flows, which can then be compared to a theoretical benchmark land area that reflects a sustainable level of raw material use. This is generally a useful tool for policy-makers to assess the impact of large-scale development proposals. Ashford has completed an ecological footprint report which sets out the environmental impact of Ashford's growth and assesses the effect of existing and planned policies.

Whole-Life Costing

3.6 The whole-life costs of a facility are the costs of acquiring it (including consultancy, design and construction costs, and equipment), the costs of operating it, and the costs of maintaining it over its whole life through to its disposal – that is, the total ownership costs.

The Council encourages developments which fully consider the whole-life costs of development schemes.

Design Implications of Incorporating Sustainability into New Developments

3.7 Sustainable Design and Construction is central to delivering quality places in Ashford. Policy CS9 of the Core Strategy sets out nine key design quality principles guiding development in the Borough. Many of the sustainable design and construction measures promoted in this SPD will have an implication on the design of new places, and the Council requires that a high standard of design is delivered. In particular, special consideration will need to be given to the visual impact of

sustainable installations including low carbon and renewable technologies. Further guidance on the impacts of installing renewable energy can be found in Planning Policy Statement 22: Renewable Energy - A Companion Guide.

Consultation on development

3.8 It is extremely important to ensure effective consultation with the community where sustainability measures may have an impact on neighbouring residents. The design process should introduce and involve local residents and key stakeholders to key sustainability impacts and explore technologies and measures that may mitigate these effects on site.

How to use this guide

3.9 This guide addresses the key design and construction issues that need to be considered holistically when looking to comply with Core Strategy policies CS1 E, CS1 M, CS9 (i), CS10 and CS11. It provides guidance on each key resource or design issue to facilitate more sustainable buildings and places, and details what Ashford Borough Council expects from applicants to comply with policies set out in the Core Strategy. Other Supplementary Planning Documents, such as the adopted Sustainable Drainage SPD and forthcoming Green Spaces and Water Environment SPD will also provide relevant guidance on sustainability issues for new developments.

3.10 Each section in this SPD is structured consistently to ensure that the right approach is taken. This guidance relies heavily on other sources of information (of which references are provided at the end of each section) and provides more technical guidance and flexibility to changes in technology and the market place.

3.11 Chapters 10-13 sets out the main procedures to comply with policy CS10 and the details required by the Council in assessing planning application.

- Building Research Establishment - www.bre.co.uk
- Code for Sustainable Homes - www.communities.gov.uk
- Kent Design Guide - www.kent.gov.uk
- Planning Policy Statement 1 : Delivering Sustainable Development - www.communities.gov.uk
- PPS: Planning and Climate Change - Supplement to PPS1- www.communities.gov.uk

4 Energy / Carbon

4.1 Greenhouse gas emissions, particularly carbon dioxide, are the main cause of climate change. In Ashford each person produces approximately 5.9 tonnes[1] of CO_2 emissions per annum - a large percentage of this is generated from the energy use in homes and buildings. Around 27% of the UKs total carbon emissions come from the domestic housing sector through energy use in the home for heating, hot water, lighting and appliances. New homes and buildings provide a real opportunity to deliver substantial cuts in carbon emissions, and to reduce further the environmental impact of new buildings. This is recognised by the coalition Government who announced within their Budget 2011 new regulatory requirements for zero carbon homes, to apply from 2016.

Reducing the carbon emissions from development

4.2 When thinking about reducing the carbon emissions from a development you should apply the energy hierarchy. This will help guide decisions about which energy measures are appropriate in particular circumstances.

The Energy Hierarchy

A. **Reduce the need for energy** – Site layout and orientation of buildings can reduce the energy demand of buildings by capitalising on passive solar gain which utilizes the energy from the sun to heat and provide light for certain rooms of a building.

B. **Use energy efficiently** - There are many measures that you can incorporate that help to save and efficiently use energy. These include thermal efficient glazed windows, draught proofing, insulation, and energy efficient appliances (light fittings etc).

C. **Supply energy efficiently** - By using existing energy supplies more efficiently greenhouse gas emissions can be significantly reduced (also termed low carbon sources), e.g. distributing waste heat energy via power networks improves the efficiency further still; or using Combined Heat and Power (CHP) networks.

D. **Use renewable energy** – Developments can incorporate technologies that obtain energy from flows that occur naturally and repeatedly in the environment – such as from the wind (wind turbines), the fall of water (hydro), the movement of the oceans (tidal), from the sun (Solar PV and Solar Thermal) and from biomass.

[1] Source: DECC - CO_2 emissions within the scope of influence of LA's (2009 figure for Ashford).

Energy / Carbon

What is Sustainable Energy?

4.3 The Core Strategy uses the term 'on-site sustainable energy technologies' in setting out the requirement for Part B of policy CS10. This is a general term but as terminology in this area has evolved it can be taken to mean 'renewable energy' for which there is an array of technology available which by their nature are Low and Zero Carbon Technologies (LZC).

4.4 The Code for Sustainable Homes (CSH) (Ene7) sets out the criteria required to be approved LZC technologies for residential development. Similarly, the British Research Establishment's Environmental Assessment Method (BREEAM) (Ene4) sets out the criteria required to be approved LZC technologies for non-residential developments. Energy generation to reduce carbon dioxide emissions can be undertaken on-site or in the immediate locality using LZC technologies. The Microgeneration Certification Scheme (MCS) is run by the Building Research and Establishment (BRE) for the government and lists approved LZC technologies that must be installed and approved via the schemes in order to gain credits under the CSH or BREEAM. Combined Heat and Power (CHP) schemes above 50kWe are also eligible but must be certified under the CHPQA standard.

Listed below are the main LZC technologies currently eligible. There maybe other technologies available in future, so please check with the Council if you have any queries or your option is not listed below.

Low and Zero Carbon Technologies

- Wind Energy - Converts kinetic energy in wind into electricity by using its natural power to drive a generator.
- Small Scale Hydro – harnesses the power of water flowing from high to lower levels to drive a turbine, converts mechanical to electrical energy.
- Solar thermal (solar water heating) - uses energy from the sun through a heat collector, generally mounted on a roof to heat water.
- Photovoltaics (PV) - convert energy from the sun into electricity through semi conductor cells.
- Ground source heating/cooling - used to extract heat from the ground to provide space and water heating. Heat pumps take in heat at a certain temperature and release it at a higher temperature.
- Air Source Heat Pumps - absorb heat from the outside to heat buildings.
- Biomass - uses organic materials, either directly from plants or indirectly from industrial, commercial or domestic products to generate heat.
- Energy from waste - generating energy from organic waste streams using techniques including anaerobic digestion or incineration.
- Combined Heat and Power (CHP) (fossil fuel) – uses the heat generated from traditional fossil fuel boilers to increase efficiency.

For further detail on these technologies, their design, installation and costs please consult the Microgeneration Certification Scheme website, and the Energy Savings Trust.

Design Issues

4.5 There are a number of design issues associated with each LZC technology which should be taken into consideration when assessing their feasibility and viability. Many of these are set out in *'Planning for Renewable Energy: A Companion Guide to PPS22'*. While they are usually specific to each technology in general, design issues include:

- ***For individual buildings*** where micro-renewable technologies may be employed these can include siting, efficiency (e.g. pitch of solar PV panel or viable wind speed), colour and appearance, noise, connection, safety and potential ecological and landscape impacts.
- ***For groups of buildings*** where CHP and heat networks are employed these can include access (for fuel provision i.e. biomass), visual intrusion, location of plant, noise from traffic and plant operations, health and local ecology, mix of uses to balance the demand for energy, installation and transmission costs, adjoining developments and heat networks and potential ecological and landscape impacts.

4.6 The opportunity for developments to contribute will vary, as the potential for integrating LZC technologies will differ greatly between different developments and sites. Suitable sustainability installations are likely to be affected by the physical nature of the development such as aspect, building height, amount of on-site open space and the ecology of the area.

Applicants should include design considerations of installing LZC technologies within their Design and Access Statement, where a statement is required to support a planning application.

Managing and implementing sustainable energy

4.7 There are various options for delivering sustainable energy in your development, whether big or small. At a community scale these are likely to centre on an Energy Services Company (ESCo). An ESCo is a company set up to manage energy supply. ESCos may be responsible for a private wire electricity network and/or heat main system that supplies energy to the end users. The Council encourages developers of large sites to consider the opportunities for district heating networks and more localised energy generation solutions.

Energy / Carbon

- Ashford Sustainable Energy Feasibility Study www.ashfordbestplaced.co.uk/ashford_-_the_future/document_library/environmental_documents.aspx
- Planning Policy Statement 22 : Renewable Energy (and Companion Guide) - www.communities.gov.uk
- Building Research Establishment Environmental Assessment Method - www.breeam.org
- The Carbon Trust - www.carbontrust.co.uk
- Energy Savings Trust - www.energysavingtrust.org.uk
- Combined Heat and Power Association - www.chpa.co.uk
- Green Book Live - www.greenbooklive.com
- National Energy Foundation - www.nef.org.uk
- British Wind Energy Association - www.bwea.com
- Envirowise - www.envirowise.gov.uk
- Building a Greener Future - www.communities.gov.uk
- Microgeneration Certification Scheme - www.microgenerationcertification.org/
- Department of Energy and Climate Change - www.decc.gov.uk/
- CHPQA - chpqa.decc.gov.uk/
- Kent Design Guide technical appendices: Sustainable Design – www.kent.gov.uk

5 Water

5.1 Managing and reducing the use of water safely and efficiently is an important issue for Ashford and must be considered in any development. Applicants should consult the Kent Design Guide - Water Efficiency Annex to determine measures which will help reduce the amount of water used at their development site. Increased water efficiency has been a principle of the Ashford Integrated Water Management Strategy and Demand Management has been a key theme of the current Ashford Water Action Plan. In order to provide a comprehensive approach to the use of water as a resource the water hierarchy should be considered at the earliest stage in the design process. This ensures that water demand is reduced as far as is practically possible:-

A. **Reduce water use** - water efficient appliances
B. **Use alternative sources of water** - rainwater
C. **Recycling** - the re-use of water used in buildings

5.2 The table below gives examples of the measures that could be applied to deliver water efficiency in a development and gain water credits to satisfy the CS10 policy requirement.

Implementing water efficiency measures in new developments	
Showers	Use showers with lower flow rates without affecting shower performance
Outdoor water use	Water butts should help reduce demand from tap water especially during the summer period. Use of mulching, selection of drought-tolerant plants and good garden management.
Toilets	Achieve specification through either a 4.5 single flush or 6/3 or 4/2 dual flush. All dual flush toilets should be easy to understand and use.
White goods	Machine specification of a maximum water use per kg of load will allow water efficient washing to be specified.
Rainwater & Greywater	Rainwater and greywater use should be considered at the planning stage for all developments
Source: Water Efficient Homes, Kent Design Guide, Kent County Council, 2006	

Water

- Kent Design Guide - Water Efficiency Annex -www.kent.gov.uk
- Environment Agency - www.environment-agency.gov.uk
- Sustainable Homes - www.sustainablehomes.co.uk
- Ashford Integrated Water Management Study - www.ashford.gov.uk

6 Materials

6.1 The average person in the UK currently uses 12 tonnes of materials per annum, whilst the construction industry uses about 420 million tonnes p.a. (6 tonnes per head of population), of which only 10% is from re-cycled sources and less than 1% is reclaimed. The transport of materials in the construction industry alone accounts for 30% of road freight.

6.2 Building and construction materials which are environmentally friendly involves using materials which do not damage the environment, either because of where they come from or their effect on the environment - including the long term health of occupants.

6.3 When looking at the materials for your development you should consider five key principles and opportunities for improving the environmental performance of materials used. These should ideally be considered early on in the design stage. These are:

A. **Environmental Impact** - Use materials which have low embodied energy which have been manufactured through processes which use low consumption of energy.

B. **Responsible Sourcing** - Using materials from a sustainably managed source (i.e. Forestry Stewardship Council).

C. **Re-use of materials** - Re-using uncontaminated materials from the development site and reclaimed or recycled materials for a range of uses including for the benefit of wildlife.

D. **Transport** - Using local materials to reduce transportation related impacts.

E. **Purchasing** - When considering contractors and suppliers of materials, consider whether the supplier has an environmental policy, a track record in high environmental performance or any environmental accreditation.

- Wrap - Achieving resource efficiency in Construction - www.wrap.org.uk
- Forestry Stewardship Council - www.fsc-uk.org
- Building Research Establishment - www.breeam.org.uk
- CIRIA - www.ciria.org.uk
- Site Waste Management Plan Guidance (DTI) - www.dti.gov.uk
- Association for Environmental Conscious Buildings - www.aecb.net
- BRE The Green Guide - http://www.thegreenguide.org.uk/

7 Waste and Recycling

7.1 Every year in the UK approximately 400 million tonnes of waste is produced; a quarter of this comes from households, commerce and industry. It is a requirement of the Landfill (England and Wales) Regulations 2002 that the amount of material being sent to landfill is reduced and recycling, and composting is increased for a more sustainable management of waste streams.

7.2 As the population of Ashford grows, so will the amount of waste it produces. Therefore it is essential that tackling waste in the design of new buildings and places is a central part of the sustainability agenda for Ashford.

7.3 The Waste Strategy for England 2007 sets out a waste hierarchy which when considered in the design of buildings and places can reduce the amount of waste produced. The hierarchy can be applied at two levels, both in the construction of the development and in its design.

The Waste Hierarchy

A. **Waste Prevention** - During construction waste can be reduced through the development of an appropriate site waste management plan.
B. **Re-use** - By re-using demolition waste, the environmental impact of new development can be reduced and savings can be made on the costs of landfill. Where demolition is appropriate, a strategy should be devised for the handling and re-use or disposal of demolition waste.
C. **Recycle and Composting** - The use of reclaimed or recycled materials in construction can reduce the environmental impact of new development by reducing demand for new materials and by reducing the level of waste being sent to landfill. Recycled materials can be sourced from demolition (e.g. reclaimed steel and timber and recycled masonry for use as aggregate) from construction waste (e.g. broken bricks and tiles) and waste from the manufacture of materials and components or other industries.
D. **Energy recovery** - Waste can also be considered as a resource and in particular as a form of energy, this can be incorporated into community heating schemes as part of the Sustainable Energy technology mix for your development, See Chapter 4 for more information.
E. **Disposal** - As a last resort waste should be disposed of safely.

Providing recycling within new developments

7.4 Whilst there are statutory requirements with regards to provision for waste and recycling, there are additional measures that can be taken to ensure that the development has a negligible impact on the environment. Provision for the storage, collection and recycling of waste needs to be an internal part of any design for a new development since it is fundamental in its operation. Developments can provide facilities for individual or groups of properties or premises for the source separation of and storage of different types of household and business waste for collection. It is important that during the design process an effective waste recycling strategy is adopted and that there is a convenient solution to allow building users to dispose of a sufficient number of segregated waste streams.

7.5 New developments should incorporate facilities which encourage reuse and recycling (Kent Design Guide, 2006).

Site Waste Management Plan

7.6 A Site Waste Management Plan is now a legal requirement for all construction projects over the value of £300,000 and is an important part of meeting the BREEAM/CSH standard. Further guidance is provided by BRE in the technical guidance for these standards. Proposed new developments should be supported by a Site Waste Management Plan of the type encouraged by the code of practise published by the former DTI. Where site management plans are not legally required, the Council would encourage Waste Minimisation Statements to be submitted to encourage sustainable construction methods.

- WasteWatch - www.wastewatch.org.uk
- Waste and Resource Action Programme (WRAP) - www.wrap.org.uk
- Recycled Products Guide - www.recycledproducts.org.uk
- SMART Waste (BRE) - www.smartwaste.co.uk
- Envirowise - www.envirowise.gov.uk
- Kent Sustainable Business Partnership - www.egeneration.co.uk
- Kent County Council Waste Management - www.kent.gov.uk
- South East Centre for the Built Environment (SECBE) - www.secbe.org.uk
- DTi Site Waste Management Plans (SWMP) - www.constructingexcellence.org.uk

8 Biodiversity

8.1 Biodiversity is simply a technical term for the variety of life on earth or in a specified region or area. There are different levels at which biodiversity benefits can be incorporated into new places, this includes at the development site level and the building level. The design, layout and soft landscaping of new developments offers enormous opportunities to maintain, enhance, restore or add to biodiversity and geological conservation. This not only enriches the environment, but creates a higher quality of life, and can increase the marketability and prestige of individual developments. The benefits of which include:

- **Environmental benefits** – Carbon sinks (trees and other plants have the capacity to absorb carbon dioxide), pollution reduction, air cooling, provide shade, flood prevention and protecting complex ecosystems and genetic diversity.
- **Social benefits** – Health and wellbeing promoted through natural greenspace to reduce stress and encourage beneficial exercise and relaxation, an educational function, flood alleviation and an opportunity for urban populations to have contact with the natural world.
- **Economic benefits** – Property values are likely to be increased by proximity to high quality greenspace, trees and managed water bodies. Businesses are attracted to areas with high quality natural environments.

8.2 The maximum gain of biodiversity will be made where design for wildlife is planned from the earliest stage, and is focused on sound ecological principles. In designing new developments and buildings the following issues should be considered:

A. **Design and Layout** - The design and layout of new developments should always be informed by, and respond positively to, ecological considerations and the findings of the site evaluation process. Biodiversity should be addressed within either Design and Access Statements, where a statement is required to support a planning application or through an Environmental Statement for larger strategic developments.
B. **Opportunities** - The nature conservation opportunities and constraints should be identified and worked into the masterplan for the development. Even where little existing biodiversity interest has been identified on the site, developers should aim to create features such as functional habitat networks that will provide wildlife with space to migrate through and places in which to settle and live.
C. **Building fabric** – Minor additions can be made such as providing nesting spaces for species such as swifts and sparrows. Bat bricks can also be incorporated in suitable buildings close to flight corridors with minimal financial or visual impact. Green roofs and walls can be employed on all sorts of buildings from hospitals, schools to homes, and not only helps to create habitats for wildlife but provides insulation and reduces surface water run-off.

D. **Avoidance, mitigation and compensation** – where retention and enhancement cannot be achieved
E. **Landscape design** – Well designed landscaping schemes can provide wildlife benefits and in doing so, can add an extra dimension to the built landscape, parks and open spaces. For instance tree and shrub planting can provide nesting sites, roosting sites and shelter for wild birds, bats, reptiles and amphibians.
F. **Management and aftercare –** The long-term management, aftercare and monitoring of areas of nature conservation value that are to be retained, enhanced or created, is essential to ensure that they attain their full potential for both wildlife and people, providing opportunities for education, experience, learning and involvement. Management and monitoring should be addressed by submission of a management and monitoring plan within the original application.

8.3 When designing new developments it is essential that biodiversity within, and linkages out of the development are considered at the earliest opportunity. In considering a response to biodiversity in your application, the Council recommends that the following are considered:

A) Conception of Development
• Familiarity with the biodiversity policy framework and the general principles of design for wildlife • Professional ecological expertise to ensure that biodiversity is considered at the outset.
B) Scoping Exercise - Surveys and scoping studies to identify ecological constraints
• Understanding of the general principles of design for wildlife and of protected species consideration of the scope and timing of site evaluation • Consideration of the site in a wider context and the potential for green links • A data search with approaches to the Biological Records Centre and other specialist organisations such as Kent Reptile and Amphibian Group, bat groups and badger groups to ascertain what protected and BAP species are recorded within the area. • An extended phase 1 habitat survey to assess the habitat present, any rare plant species and whether the habitat has potential to shelter protected or BAP species. • Detailed species surveys where protected or Biodiversity Action Plan habitats and species are thought to be present within the Phase 1 assessment.

Biodiversity

C) Site Survey - Understanding of site survey needs and the time required for each element of survey work
• Tree survey to inform landscape design and the survey of protected species. • Timing of site clearance and demolition should be planned to avoid disturbance to breeding birds and migratory birds (protected by law) and other protected species such as bats • Ecological information - Ecological information should include an impact assessment of the proposed development including the potential effects of site operations and identify appropriate actions to minimise impacts on biodiversity, including habitats and species along with connections with the wider environment.
D) Design of development - Design to be informed by wildlife considerations
• Integration of design for wildlife with wider design considerations • Designing in biodiversity benefits • Integration of biodiversity into the wider environment through the provision of linkages and wildlife corridors as part of a coherent network of accessible natural green space.
E) Environmental Assessment
Compliance with statutory standards, such as the Environmental Impact Assessment (EIA) Regulations.
F) Submission of planning application
• Ensure that information conforms to general principles and includes appropriate site survey data • Ensure that appropriate information is provided regarding trees, water courses and/or protected species. • It is important to fully assess the BAP habitat potential and BAP species present to enable a full assessment of the biodiversity interest on site.

- Kent Design Biodiversity Technical Appendix -www.kent.gov.uk
- PPS9 Biodiveristy and Geological Conservation - www.communities.gov.uk
- UK Biodiversity Action Plan - www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/ukactionplan.aspx
- Kent Biodiversity Action Plan - www.kentbap.org.uk
- A Charter for Ashford's Wildlife - www.ashford.gov.uk
- Biodiversity Indicators for Construction Projects - www.ciria.org.uk
- Ashford Green and Blue Grid Strategy - www.ashford.gov.uk
- Kent and Medway Biological Records Centre - www.kmbrc.org.uk/aboutus/index/index.php
- Kent Wildlife Trust - www.kentwildlifetrust.org.uk/

9 Adapting to Climate Change

9.1 Climate change will increasingly impact on the built environment. New buildings and places need to be able to withstand the impacts of climate change over the next 50 to 80 years to guarantee their long term sustainability. One of the key guiding principles of the Core Strategy Policy CS1 (M) is to ensure that places are designed to reflect adaptation principles to ensure they are able to withstand future climate conditions.

What are the effects of climate change on development?

9.2 Adaptation is needed now because the climate is already changing. Climate change will affect different aspects of spatial planning and the built environment, including the external fabric of buildings, structural integrity, internal environments, service infrastructure, open spaces, human comfort, and the way in which people use indoor and outdoor spaces.

9.3 Scenarios produced by the UK Climate Impacts Programme 2009 suggests that in the UK climate change means on average:

- Warmer, wetter winters
- Hotter, drier summers
- Extreme rainfall events
- Rising sea levels
- Intensification of the urban heat island effect; and
- Higher wind speeds

9.4 The effects of climate change should be considered over the lifetime of a development, especially with regard to its location and design. If adaptation measures are not considered, then the long term sustainability of the development could be compromised, putting buildings and developments at risk of being too uncomfortable to live in or too expensive to run and maintain in future.

Design

9.5 To ensure that new developments have a long-term sustainable future, the Council encourages developers to consider factoring in climate change adaptation into their development proposal. The key issues and opportunities to the adaptation of climate change are set out below. Further detail can be found in Adapting to Climate Change: A Checklist for Development.

Adapting to Climate Change

Location	Flooding, higher temperatures, water resources - key actions include checking the sites flood risk designation with the Environment Agency; undertake a flood risk assessment; consider adaptation measures such as green roofs to help reduce the effect of urban heat islands.
Site layout	Heat gain, outdoor spaces - key actions include minimising solar heat gain in summer, maximise natural ventilation, provide vegetation and private outdoor space wherever possible.
Buildings	Structure - strong enough for increased wind speeds, protect against future subsidence, enable cooling, have an appropriate thermal mass for the intended occupancy. Physical envelope of structure - drainage systems to cope with intense rainfall, buildings exterior to reduce heat gain in summer. Ensure materials will perform at different temperatures.
Ventilation and Cooling	Demonstrate that the building is capable of delivering comfortable temperatures through ventilation and cooling systems (including natural systems) throughout the design life of the development.
Drainage	Increased surface run-off, flash floods, traditional drainage systems – The Sustainable Drainage SPD provides further guidance on reducing surface run-off from developments.
Water	Consider net water consumption of the development under normal and water conservation conditions (drought), water efficiency, rainwater collection and grey water recycling. Minimise the water use within the developments.
Outdoor Spaces	Demand for public and private outdoor spaces, types of surface, shade cast by trees (native where appropriate), soils, choice of vegetation, water features and waste storage facilities and the requirements of wildlife to adapt to the effects of climate change.
Connectivity	Infrastructure resilience and impact on neighbours, e.g. ensure there are safe access routes for occupants in the event of a flood.

Adapting to Climate Change

It is vital that the effects of climate change are considered over the lifetime of a development, especially with regard to its location and design. The Council encourages developers to submit a completed 'checklist for adapting to climate change' along with their planning application.

- Sustainable Drainage SPD - www.ashford.gov.uk
- Adapting to Climate Change : A Checklist for Development - www.london.gov.uk/lccp/publications/development.jsp
- Making Space for Water - www.defra.gov.uk
- The Planning Response to Climate Change - www.communities.gov.uk
- Adaptation By Design - www.tcpa.org.uk
- UK Climate Impacts Programme - www.ukcip.org.uk
- South East Climate Change Partnership - www.climatesoutheast.org.uk
- Association of British Insurers (ABI) - www.abi.org.uk
- Environment Agency - www.environment-agency.gov.uk
- Living Roofs - www.livingroofs.org

10 Complying with the standards

10.1 To ensure applicants comply with policy CS10 of the Core Strategy, the Council will require clear evidence to be provided in their application. The general principles for demonstrating compliance are set out below.

Principles for demonstrating compliance

1. **Early commitment** - The Council recommends the developers early commitment to the standards set out in policy CS10. As with many other aspects of planning, each site will have unique circumstances and achieving high levels of energy efficiency and incorporating low and zero carbon technology requires specific expertise. There are risks associated with not integrating sustainability principles and the requirements of policy CS10 from the concept stage of a development, as redesigns later on in the process to accommodate policy CS10 may be costly and bring about delays. Where possible, policy CS10 requirements should be considered alongside other planning considerations and expertise sought at the earliest opportunity.

2. **Environmental rating evidence** - The Council will require applicants to produce documentation from a competent person to confirm that the development will comply with all parts of policy CS10. As soon as reasonably practicable documentation confirming the predicted environmental rating should be supplied from an accredited person, such as the Building Research Establishment, Stroma etc.

3. **Carbon reduction evidence** – Developers should aim to achieve the highest standard of energy efficiency possible on their development through the application of the energy hierarchy. In meeting Part B of the policy information should be submitted from BRE confirming that the required credits have been achieved for Low and Zero Carbon (LZC) technologies. This will be Ene7 for residential schemes through the CSH and Ene4 for non-residential schemes through BREEAM and Pol4 for existing dwellings and refurbishments using the EcoHomes methodology. SAP calculations must also be submitted to show carbon emissions from energy demand with and without LZC technologies.

4. **Sustainability Statement** - The Council encourages developers to submit a Sustainability Statement at pre-application stage describing the measures being proposed to comply with the policy. This is likely to include a completed CSH / BREEAM Pre Assessment Estimate to support Part A, including predicted credits for LZC to support Part B. A guide to the contents of a Sustainability Statement and information required to be submitted at detailed design stage can be found in Appendix 2.

5. **Cooperation** - The Council encourages co-operation between developers on larger sites where two or more separate development schemes are proposed. Opportunities for connection to a decentralised, renewable or low-carbon energy supply, where available, is encouraged as are opportunities for working together to benefit from the economies of scale related to the amount of development.

Pre-application

10.2 The developer should initially consider the advice provided in this SPD, and contact the Council with any queries this may raise. The Council will check Sustainability Statements at this stage to ensure that all the necessary information has been provided and that the policy has been interpreted correctly.

Outline application (with all matters reserved)

10.3 Sustainable design and construction requires the principles of sustainability and efficient resource use to be applied from the outset and integrated throughout the development. Although specific development information may be limited at this early stage, an outline planning application will still need to give consideration to, and make a commitment to the requirements of policy CS10.

Outline application (with layout and scale to be approved)

10.4 If submitting details for layout and scale as part of an outline application, the Council will expect more detailed information to be provided. In line with the Core Strategy the Council will impose planning conditions to ensure that reserved matter applications follow the same route and provide the same documentation that is expected for full applications.

Full application

10.5 Full planning applications will need to address the key principles detailed in the earlier chapters of this SPD, as well as committing to all parts of the policy. If the site has a previous outline permission the details being proposed as part of the full application should be in line with previous proposals. If different, a justification should be provided to the Council setting out any differences and reasons for change.

Complying with the standards

In demonstrating compliance with policy CS10 the Council strongly recommends the following actions for full planning applications.	
Pre-application stage	Consult with CSH/BREEAM accredited body who will be able to advice on design process to gain the required standard.
	Register the development site with an accredited body (such as BRE, Stroma etc.) under the current CSH/BREAAM version and inform the Council of the unique registration number.
	Submit a Sustainability Statement to the Council setting out the proposed measures to achieve the required CSH/BREEAM standard, including a completed pre-assessment estimator.
Detailed design stage[2]	Provide the Council with CSH/BREEAM Design Stage Report along with SAP calculations to show carbon emissions from energy demand with and without LZC technologies installed.
	Applicants of both residential and non-residential schemes should supply the Council with a LZC feasibility study which should be undertaken at concept design stage or as soon as practically possible.
	Provide the Council with calculations to show any predicted residual carbon emissions for the whole development site once Part A and B has been implemented.
Before occupation	Provide the Council with CSH/BREEAM Post Construction Stage Report and Post Construction Stage Certification.
	SAP calculations should be provided to confirm the amount of carbon emissions from energy demand with and without LZC technologies installed.
	A statement providing details of any residual carbon emissions once Part A and B of the policy has been implemented and the total amount to be contributed into the Ashford Carbon Fund.

The use of planning conditions

10.6 For outline applications with some reserved matters and full applications, planning conditions will be imposed to achieve the outcomes of the sustainable design and construction standards including sustainable energy commitments and their implementation. Examples of a standard planning condition for policy CS10 for both residential and non-residential schemes can be viewed in Appendix 4. The technical and economic feasibility of such measures can be influenced by the stage at which they are considered in the design process. With the planning guidance

[2] At planning application stage or discharge of condition.

now available, and the adopted Core Strategy policies, sustainability and sustainable energy should be fundamental to any new planning application.

Technical feasibility and financial viability

10.7 The Council recognises that on some sites the standards required by policy CS10 may not be achieved, such as small scale Brownfield or infill developments, development in conservation areas, small scale development of constrained sites. Where the applicant has identified a potential shortfall they will need to submit a sound and fully justified case alongside an open book viability analysis for why the policy requirement cannot be met.

10.8 The Council will expect clear evidence and justification to be presented on why a development can not achieve either part, or the whole of the standards set out in policy CS10. This should include a detailed technical and financial appraisal; open to clear inspection, demonstrating why any higher CSH/BREEAM standard would render the development unviable or that standards cannot be achieved for technical reasons.

10.9 The onus is on the developer to demonstrate why meeting the standards set down in the policy is not viable based on reasonable market assumptions. A high purchase price for development land will not be regarded as sufficient justification. The likely timescale for the completion of the development will also be taken into account. Larger schemes that will be built out over several years will need to demonstrate a realistic viability case over the whole build period in order for the Council to consider any relaxation of the standards for those schemes, as these are the developments that will make the largest contributions to achieving the carbon and energy reduction objectives of the policy.

10.10 If viability is to be a determining factor then the site location and site characteristics will be considered by officers when determining the planning application. All sites are capable of achieving energy efficiency beyond the minimum Building Regulation requirements, whether through site layout, improvements to the building fabric, insulation and modern methods of construction and air tightness and should aim to reduce energy demand and resulting carbon emissions as much as possible even if full compliance can not be achieved. Shortcutting the policy requirement and paying into the carbon fund without meeting, seeking to meet Part A and Part B requirements will not be acceptable. Developers will be expected to adapt the building form and construction to make installation of the necessary sustainability measures viable. If full policy compliance cannot be provided, contributions under Part C of the policy will be negotiated on an individual basis to ensure that development is a carbon neutral as possible and the developer will be expected to adapt the building form and construction to make

installation of the necessary sustainability measures viable. If full policy compliance cannot be provided then the developer will:

- Need to justify why the whole, or part of the policy cannot be met
- Be expected to set out and install measures that are viable and provide the relevant assessment required.
- Demonstrate that all options have been explored and appraised.
- Set out the sustainable design proofing measures to be incorporated, so to facilitate the future installation or conversion to higher standards.

Monitoring and Review

10.11 Effective monitoring is an essential component in achieving sustainable development. Monitoring provides crucial information to establish what is happening at present, whether policies are working and indicate any direction of change.

10.12 This SPD provides guidance on the measures and opportunities available to developers to integrate sustainable design and construction into their development. The implementation of policy CS10 will be regularly reviewed through the Annual Monitoring Report using a set of local performance indicators as well as information submitted by applicants in their proposals. This will evaluate progress being made towards the Council's aspiration of delivering carbon neutral development, as well as an annual review considering changing social, economic, and environmental circumstances at national, regional and local levels.

11 CS10 A - Environmental Performance Standard

11.1 Part A of policy CS10 requires that a particular environmental performance standard is achieved for all buildings within a development. The assessment methods vary between residential (Code for Sustainable Homes) and non-residential buildings (BREEAM), and refurbishment of existing buildings to residential use (EcoHomes).

RESIDENTIAL : CODE FOR SUSTAINABLE HOMES (CSH)

11.2 Applicants for residential developments are still required to meet the Code levels specified within the adopted Core Strategy for CS10.

11.3 The Code for Sustainable Homes (CSH) is a national accredited standard for key elements of design and construction which affect the sustainability of a new home. The CSH scheme covers nine environmental categories and uses a sustainability rating system indicated by ‘stars’, to communicate the overall sustainability performance of a dwelling. A home can achieve a sustainability rating from one (*) to six (******) stars depending on the extent to which it has achieved the Code standards. One star (*) is the very minimum entry level, three (***) stars aligns with the Building Regulations 2010; and six stars (******) is the highest level achievable reflecting exemplar development in sustainability terms. Developers are encouraged to consider the sustainable design principles at the earliest opportunity to maximise their chances of achieving the minimum Code levels required by policy CS10. Applicants are also expected to reflect the key resource issues of energy, water and materials and are encouraged to exceed the minimum requirements of the Code in these areas.

Categories include:

- Energy and Carbon Dioxide Emissions
- Water
- Materials
- Surface Water Run-off
- Waste
- Pollution
- Health and Well-being
- Management
- Ecology

CS10 A - Environmental Performance Standard

11.4 Each category includes a number of environmental issues and developers are able to choose from a menu of these issues in order to meet the desired Code level. When each performance requirement is achieved, credits will be awarded which will contribute towards the overall total and final Code level achieved.

11.5 CSH has set a minimum mandatory requirement for some issues for which no credits are awarded but which developers must achieve no matter what level they are working towards.

Three mandatory CSH issues for which no credits are awarded:
Mat1: Environmental impact of materials
Sur1: Management of surface water run-off from developments
Was1: Storage of non-recyclable waste and recyclable household waste

11.6 There are also a number of other issues within the CSH that are mandatory and which developers must achieve. These are set at increasing minimum standards depending on the Code level to be achieved.

Other mandatory issues under the Code include:
Ene1: Dwelling emission rate
Ene2: Fabric energy efficiency
Wat1: Indoor water use

11.7 Since the adoption of policy CS10 there have been a number of significant changes to legislation and Government guidance that has prompted a revised approach to the implementation of the policy.

11.8 Building Regulations: When the Core Strategy was adopted the Building Regulations 2006 were in place with developers having to comply with Approved Document L1A, conservation of fuel and power in new buildings. In 2010 this part of the Building Regulations was updated with a number of minor changes; however one significant change was to the Target CO_2 Emissions Rate (TER) which is now 25% lower than under the 2006 Part L. This means that buildings built to 2010 standards will be 25% more efficient in energy terms than those built to 2006 standards under Building Regulations. Building Regulations only account for regulated carbon dioxide emissions from energy consumption through heating, fixed lighting, hot water and building service. The most recent version of the Code (2010) aligns with the revised Building Regulations and incentivises a ‘fabric first approach’ to energy efficiency.

11.9 The difference between the 2006 and 2010 Regulations is set out below:

Code Levels	% Improvement of DER over TER AD L1A 2006	% Improvement of DER over TER AD L1A 2010
Level 1	>10%	Compliance with Part L 2010 only
Level 2	>18%	Compliance with Part L 2010 only
Level 3	>25%	Compliance with Part L 2010 only
Level 4	>44%	>25%
Level 5	>100%	>100%
Level 6	Zero Carbon Home	Net Zero CO_2

11.10 The updated Building Regulations 2010 requires all dwellings to be built to Code level 3 standards (minimum percentage improvement in DER over TER). The Code is designed to set standards beyond the regulatory minimum, and therefore no credits are awarded up to Code level 3 for Ene1.

11.11 Under the new Building Regulations 2010, developments within **Tenterden and the Villages** that are required to meet Code level 2 will not gain any credits for Ene1, they will also need a 25 per cent improvement above Part L 2006 (compared to >18%) in order to meet the new standards.

11.12 Under the new Building Regulations 2010, developments within the **Town Centre and on Brownfield Urban Sites** that are required to meet Code level 3 will also not gain any credits for Ene1.

11.13 Under the new Building Regulations 2010, **Urban Extension and Greenfield Urban Sites** that are required to meet Code level 4 continues to be a 44 per cent improvement above Part L 2006 (25 per cent above Part L 2010).

11.14 In order for dwellings to meet Code level 5 the improvement of DER over TER must be 100%. As you can see there is a large gap between Code level 4 and 5 and to achieve Code level 5 the dwellings will need to have a highly insulated building fabric together with the use of on-site LZC technology.

11.15 The Code's assessment criterion has been updated to reflect the 25% improvement in the (Part L) compliance baseline between the 2006 and 2010 Building Regulations. Therefore, credits that would have been rewarded up to Code level 3 have been removed with all other performance requirements (i.e. those between 25% and 100% improvement) being converted to account for the 25% improvement but still working on a progressive trajectory towards net zero CO_2 emissions.

CS10 A - Environmental Performance Standard

11.16 Other changes include the definition for zero carbon: When the Core Strategy was adopted the Governments definition for zero carbon homes was set out within *'Building a Greener Future: Policy Statement'* (July 2007). This was a high-level definition and was based on both regulated and unregulated emissions as well as exports and imports of energy from the development (and directly connected energy installations) to and from centralised energy networks, to ensure buildings have no net zero carbon emissions over the course of a year. The coalition Government announced in the Budget 2011 the regulatory requirements for zero carbon homes to take effect from 2016. In order to reduce the burden on developers they will only hold house builders accountable for those carbon dioxide emissions that are covered by Building Regulations. This is a departure from previous definitions in that it removes the need to account for unregulated emissions, i.e. cooking or plug-in electrical appliances.

11.17 These changes make it possible to utilise CSH for both Part A and Part B of policy CS10 whilst still maintaining the principles of the adopted policy by requiring all new residential developments to achieve carbon neutrality. Section 12 provides information on how Part B of the policy should be implemented.

Developers of residential developments are now able to satisfy the requirements for Part A and Part B of the policy through the CSH.

Stages of Code compliance

11.18 There are two stages of Code compliance which the Council will expect to be submitted at the relevant stage in the application process. A diagram illustrating the CS10 process and where the Design Stage Assessment and Post Construction Stage Assessment fits into this process is provided in Appendix 1.

Design Stage Assessment	Design Code assessors will conduct initial design stage assessments, recommend a sustainability rating and issue an **Interim Code Certificate**
Post Construction Stage Assessment	A post-completion check will be carried out to verify the rating achieved before a **Final Code Certificate** of compliance is issued.

11.19 The Council expects the developer to submit a completed CSH/BREEAM pre-assessment estimator at pre-application stage to demonstrate compliance with policy CS10.

- Code for Sustainable Homes – www.communities.gov

NON-RESIDENTIAL : BREEAM

11.20 BREEAM is the British Research Establishment's Environmental Assessment Method (BREEAM) which is used to assess the environmental performance of both new and existing buildings. It is regarded by the UK's construction and property sectors as the measure of best practice in environmental design and management. The BREEAM assessment covers the following development types:

- Commercial: offices / industrial / retail
- Public (non housing): education / healthcare / prisons / law courts
- Multi-residential accommodation: residential institutions
- Non residential institutions
- Assembly and leisure
- Mixed use developments

BREEAM 2011 for New Construction is the current version of BREEAM but this maybe revised from time to time in future. BREEAM are currently developing an assessment procedure for small building developments but this will be launched at a future date. BREEAM 2011 for New Construction covers ten categories in total and scores them against 6 different ratings of Outstanding, Excellent, Good, Very Good, Good, Pass and Unclassified. These categories are:

- Management - Overall management policy, commissioning site management policy commissioning site management and procedural issues
- Health and Wellbeing - Indoor and external issues affecting health and well-being
- Energy - Operational energy and carbon dioxide issues
- Transport - Transport related carbon dioxide emissions
- Water - Water consumption and water efficiency
- Materials - Implications of building materials including life cycle impacts
- Waste - Minimising waste
- Land Use and Ecology - Greenfield and brownfield sites
- Pollution - Air and water pollution issues
- Innovation – rewards exemplary performance

11.21 Developers and designers are encouraged to consider these issues at the earliest opportunity to maximise their chances of achieving the required BREEAM rating. Policy CS10 applies a range of standards based on the proposed location of the development, these standards range from Good to Excellent. Credits are awarded in each area according to performance. A set of environmental weightings then enables the credits to be added together to produce a single overall score.

CS10 A - Environmental Performance Standard

Energy, Water and Materials standards

11.22 Within policy CS10 for non-residential developments Energy, Water and Materials are considered particular priorities for Ashford and the policy responds to this by setting higher standards for these themes within BREEAM. The levels are based on the BREEAM ratings of Good, Very Good, Excellent and includes a rating of Maximum. An explanation of the standards is set out below.

Energy, Water and Materials credits in BREEAM	
Maximum	Where a Maximum standard is required under Water the development will be expected to meet ALL the credits for that theme under the respective BREEAM method.
Excellent	Where an Excellent standard is required under Energy, Water or Materials, the development is expected to meet 70% or above for the BREEAM credits for that theme.
Very Good	Where a Very Good standard is required for the development under Materials the development is expected to meet 55% or above for BREEAM, and 58% or above for EcoHomes for that theme.
For Example, under BREEAM 2011 for New Construction there are 30 credits available for energy. To meet the Excellent standard this requires that 21 credits are achieved under that particular theme. The way in which the 21 credits are achieved is up to the developer. Achieving an excellent standard represents best practice and the top 10% of UK new non-domestic buildings.	

Mixed-use developments

11.23 BREEAM 2011 New Construction also covers schemes that are a mixture of building types/uses, if the development covers both residential and non-residential elements it will be classified as a non-standard building type under BREEAM but the developer is advised to consult the BRE first. Contact details can be found below.

Building Research Establishment - www.breeam.org.uk

12 CS10 B - Carbon Reduction through on-site Sustainable Energy

12.1 The previous version of this SPD required a percentage reduction in the developments total energy demand through on-site low carbon and/or renewable energy measures to comply with Part B. However, there have been a number of changes within sustainable design and construction since the adoption of policy CS10 that have impacted on the implementation of the policy. Building Regulations have been revised, making buildings built under 2010 Part L 25% more energy efficient than those previously built under the 2006 Building Regulations. The coalition Government announced in the Budget 2011 the regulatory requirements for zero carbon homes to take effect from 2016. In order to reduce the burden on developers they will now only hold house builders accountable for those carbon dioxide emissions that are covered by Building Regulations. This is a departure from previous definitions in that it removes the need to account for unregulated emissions, i.e. cooking and plug-in electrical appliances.

12.2 Compliance with Part B for residential developments

In order to align policy CS10 to these changes the Council will now accept compliance with Part B for residential developments through the implementation of Ene7: Low and Zero Carbon Technologies of the Code for Sustainable Homes. The CSH rewards 1 credit for a 10% reduction in CO_2 emissions as a result of energy supplied by low or zero carbon technologies (LZC), and 2 credits for a 15% reduction in CO_2 emissions. The applicant should undertake a feasibility study at the earliest opportunity to establish the most appropriate LZC technologies to install.

The table below shows the amount of credits to be gained through Ene7 to comply with Part B of policy CS10 for the different spatial areas.

Part B – Number of credits to be gained through Ene7			
(CS3) Town Centre & (CS4) Brownfield Urban Sites	(CS5) Urban Extensions & (CS4) Greenfield Urban Sites	(CS6) Tenterden, the Villages	Existing and refurbishment
1	2	1	2

Extensions to existing residential buildings and refurbishments - will need to meet EcoHomes 'Very Good' and gain 2 credits for Pol4 renewable and low emission energy source, this is equivalent to achieving a 10% reduction in CO_2 emissions.

CS10 B - Carbon Reduction through on-site Sustainable Energy

12.3 Compliance with Part B for non-residential developments
The Council will now accept compliance with Part B for non-residential developments through the implementation of Ene4: Low and Zero Carbon Technologies of BREEAM. All proposals must be accompanied by a feasibility study which must form part of the BREEAM assessment criteria for Ene4. Policy CS10 does not specify which type of LZC technology is to be incorporated. It is for the applicant to consider the full range of viable possibilities and choose the most appropriate solution. This may need to be a mix of technologies but should meet the criteria set out within BREEAM.

12.4 Regardless of spatial area, all non-residential developments must install LZC technology that results in a 10% reduction in regulated CO_2 emissions in line with the recommendations of the submitted feasibility study. BREEAM 2011 for New Construction sets challenging energy efficiency requirements through Ene1 and it is highly likely that developers will also need to utilise LZC technologies to meet this issue.

12.5 Extensions to existing non-residential buildings and refurbishments - will need to meet BREEAM 'Very Good' and result in a 10% reduction in regulated CO_2 emissions in line with the recommendations of the submitted feasibility study. For extensions to existing non-residential buildings and refurbishments in Tenterden and the Villages an overall level of BREEAM 'Good' should be achieved.

Other considerations

12.6 Consideration should also be given to decentralized energy supply connected to a local distribution network with neighbouring developments, if possible, which may benefit from economies of scale.

12.7 Reliance on green electricity tariffs is not acceptable as there is no control over future occupants switching to tariffs which are not green.

13 CS10 C - Carbon Offsetting

13.1 This part of the policy should be viewed as a last resort for developers and aims to capture the remaining predicted carbon emissions from a development once Part A and B of the policy have been met or exceeded. Before having to make a contribution into the Ashford Carbon Fund a developer may choose to further reduce carbon emissions through additional energy efficiency measures on-site or consider implementing renewable energy technologies off-site within the Borough agreed by the Council.

13.2 Part C supports the Government's long term commitment to carbon budgets to reduce greenhouse gas emissions by at least 34 per cent by 2020 and 80 per cent by 2050 as set out in the Climate Change Act 2008. To achieve this aim the Government will expect (through enhanced Building Regulations) all new dwellings to be constructed to zero carbon, which is to Code level 6 by 2016. Zero carbon means that over a year, the development achieves no carbon dioxide emissions from regulated energy use on site.

13.3 The Council accepts that at present it may be challenging for developers to achieve zero carbon developments on some sites and in some circumstances, therefore, the policy requires developments to be carbon neutral which is more flexible. For the purpose of this document carbon neutral means that over a year, the development achieves no net carbon dioxide emissions from energy use on site. There may still be emissions but these are balanced by savings in emissions elsewhere in the Ashford Borough. Any net increase in carbon dioxide emissions from a development should be calculated at site level and as tonnes per year.

13.4 The Council will require a one-off contribution into the Ashford Carbon Fund upon completion of a development, based on the Shadow Price of Carbon (SPC) set by DEFRA. Following a review in 2009, the Government have moved away from using the SPC to a method of abating the costs of carbon emissions, however the SPC still provides a useful methodology in setting a local price for carbon and will be maintained until policy CS10 is reviewed as part of the forthcoming Core Strategy review. The SPC is dependent upon the year the carbon is abated/emitted and will rise over time, to account for observed inflation and rising damage costs from higher greenhouse gas concentrations. At 2011 prices, the SPC per tonne of CO_2 emissions is £28.1 and will rise at 2% per annum. Although it is important to consider the profile of carbon emitted over the expected lifetime of the building (which may be up to 60 years), the Council feels that in the current social, environmental and economic conditions the SPC should be quantified over a 10 year period. A working example is provided in Appendix 3. For large developments the payment into the fund may be required in phases, e.g. Upon completion of a certain number of dwellings, this will be detailed within the planning condition (if necessary).

CS10 C - Carbon Offsetting

13.5 Where as infrastructure contributions required under policy CS8 only apply to developments within the Ashford Growth Area, a payment into the Ashford Carbon Fund is applicable on all developments within the borough where implementing Part A and Part B of policy CS10 does not lead to carbon neutrality.

13.6 The Ashford Carbon Fund will be managed and monitored by Ashford Borough Council and reviewed annually through the Annual Monitoring Report. Monies from the fund will pay for carbon savings through energy efficiency schemes, and tree planting as part of Ashford's Blue and Green Grid. Energy efficiency schemes are favoured by the Council as they are the most cost effective method for reducing CO_2 being released into the atmosphere, from energy use in existing dwellings.

Appendix 1: Diagram showing Policy CS10 Process

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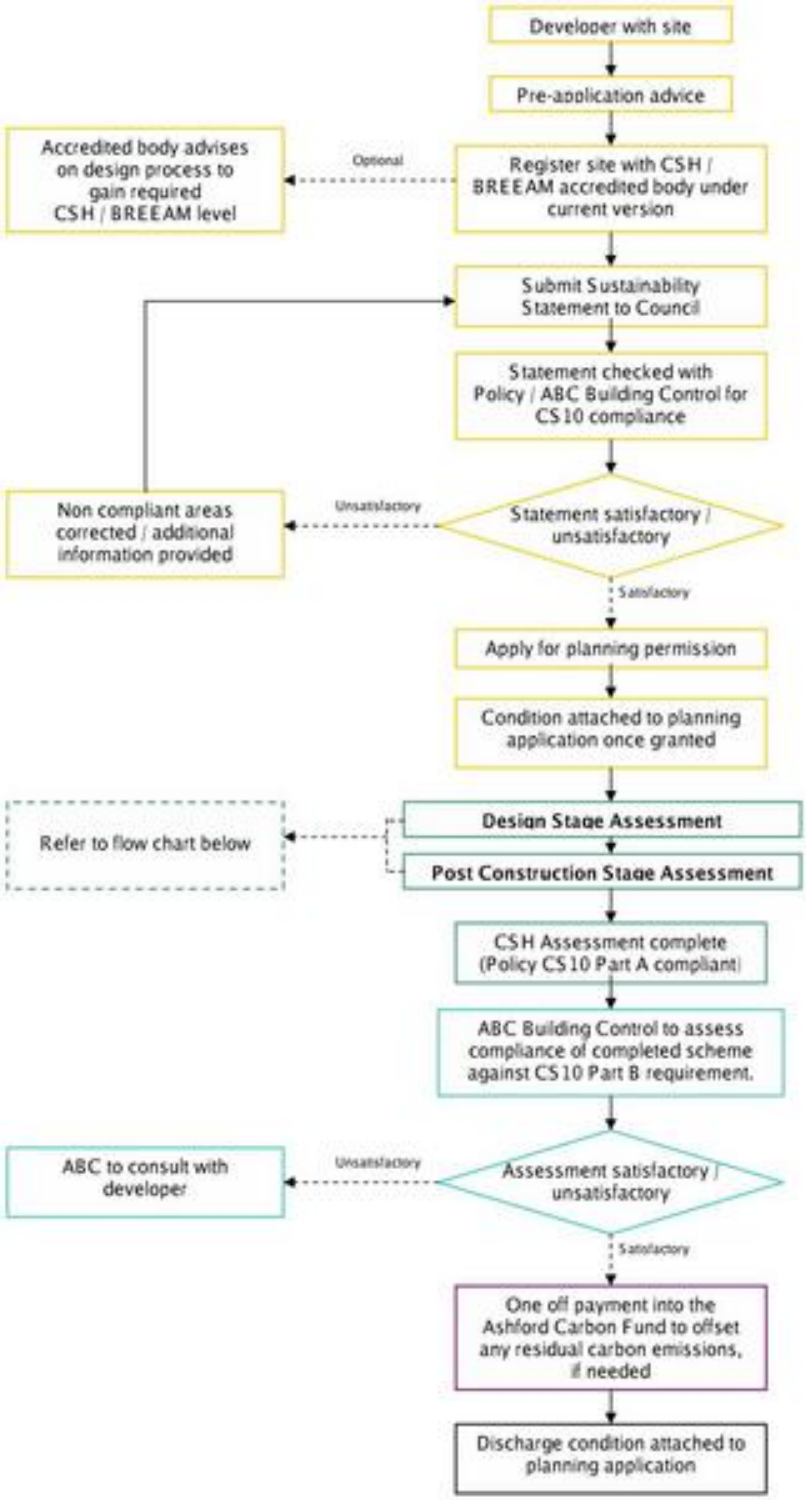

Diagram showing Policy CS10 Process

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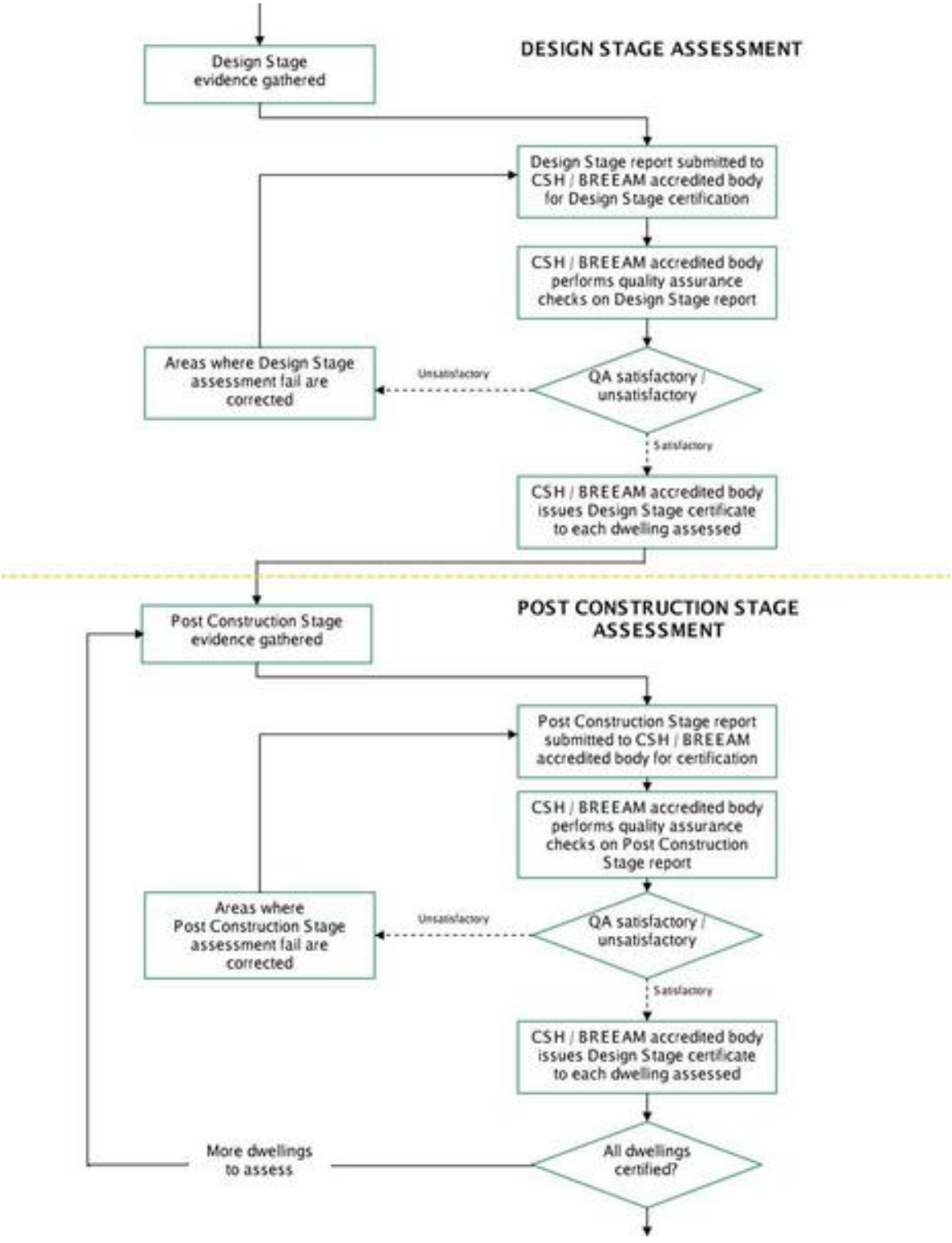

Design Stage and Post Construction Stage Diagram

Appendix 2: Guide to when information is required to support compliance with policy CS10

Appendix 2: Guide to when information is required to support compliance with policy CS10

Pre-application stage
Applicants are encouraged to submit a Sustainability Statement at pre-application stage to demonstrate how their development responds positively to the sustainable development principles and key policies set out in the Core Strategy.

The statement should include:

- The applicants response to key sustainability policies set out in the Core Strategy: CS1(e), CS1(m), CS9(i), CS10, CS11.
- Development commitments and sustainability principles
- How the development addresses key resource issues: energy, waste, materials, biodiversity etc.

The Sustainability Statement should also include a completed Pre-Assessment Estimate to provide officers with a clear indication as to what measures are likely to be incorporated into the scheme to achieve the required environmental rating (CSH/BREEAM). The Pre-Assessment Estimate can be used to support both Part A and B of policy CS10.

Detailed design stage
The applicants of both residential and non-residential schemes will need to undertake a feasibility study to establish the most appropriate local low and zero carbon technologies to install to comply with Part B of the policy. The feasibility study should be undertaken at concept design stage or as soon as reasonably practical. For non-residential schemes this should be inline with the feasibility study requirements set out within BREEAM 2011 New Construction in order to gain credits under Ene04.

Provide the Council with CSH/BREEAM Design Stage Report along with SAP calculations to show carbon emissions from energy demand with and without LZC technologies installed.

Provide the Council with calculations to show any predicted residual carbon emissions for the whole development site once Part A and B has been implemented.

Before occupation
Provide the Council with CSH/BREEAM Post Construction Stage Report and Post Construction Stage Certification.

Appendix 2: Guide to when information is required to support compliance with policy CS10

SAP calculations should be provided that confirms the amount of carbon emissions from energy demand with and without LZC technologies installed to ensure compliance with Part B of policy CS10.

Details confirming the amount of any residual carbon emissions once Part A and B of the policy has been implemented including the total amount to be contributed into the Ashford Carbon Fund.

Information about chosen low and zero carbon (LZC) technology to be included within your Sustainability Statement.

Below is a list of sustainable energy technologies that are currently available. This list is not exhaustive but provides an indication of the types of information needed by development and building control officers to support a planning application. This information should be accompanied by the energy calculations and the technical and economical feasibility of the technology being proposed.

Combined Heat and Power

- Description of technology, main contractor
- Capacity, e.g. electrical output 100kWe; heat output 120kW
- Capacity as a percentage of total site energy demand
- Map showing site size, boundary and location of infrastructure, (e.g. location of boilerhouse,
- CHP units and boilers).
- Connection to a distribution network
- Noise and visual impact
- Details of operation and management of installations

Solar thermal (solar water heating)

- The design of collector, flat plate or evacuated tube
- Capacity, e.g. 8 panels, 40 tubes, total area of 18m_2, 6,312kWh/y savings per panel
- Capacity as a percentage of total site energy demand
- Photographs of the existing built environment
- Detail of the roof mounting arrangement, if applicable
- Indicative drawings of the module or array in place
- Potential shading of module, i.e. trees, other buildings
- Connection details to the building or grid if relevant
- Visual impact

Appendix 2: Guide to when information is required to support compliance with policy CS10

Photovolaics (PV)

- Description of technology
- Capacity, e.g. 16kWp
- Capacity as a percentage of total site energy demand
- The design of the module or array
- Orientation / roof pitch
- Photographs of the existing built environment
- Detail of the roof mounting arrangement, if applicable
- Indicative drawings of the module or array in place
- Connection details to the building or grid relevant
- Visual impact

Wind Turbines

- Description of technology, main contractor
- Capacity, e.g. 2 x 1.8MW Turbines 7million kWh per annum
- Capacity as a percentage of total site energy demand
- Map showing site size, boundary and location of infrastructure, (e.g. location of turbines,
- sub-station, access tracks).
- Average site wind speed at hub height
- Grid connection
- Proximity to dwellings
- Noise and visual impact

Ground source heating/cooling

- Description of technology
- Capacity, e.g. 234kW heating; 221kW cooling
- Capacity as a percentage of total site energy demand
- Number and location of boreholes
- Location of ground loop system
- Connection details to the building
- Seasonal coefficient of performance

Air source heat pumps

- Description of technology, air-to-air, air-to-water system
- Capacity e.g. 5kW per dwelling
- Capacity as a percentage of total site energy demand
- Location of equipment
- Visual impact, i.e. evaporator coil on external wall

Appendix 2: Guide to when information is required to support compliance with policy CS10

Biomass

- Size and description of technology, fuel type, main contractor
- Capacity, e.g. 50kW
- Capacity as a percentage of total site energy demand
- Appearance of flues on the building, if applicable
- Maps, drawings showing the location and design of the plant and storage facilities
- Details of vehicle access to and from plant
- Source of fuel supply and principle transport routes to and from the supply
- Landscaping and visual impact of plant
- Details of noise emissions
- Details of air pollution

Appendix 3: Table showing cost per tonne of carbon workings

Appendix 3: Table showing cost per tonne of carbon workings

Shadow Price of Carbon (SPC) from 2007 to 2034 (in 2008 prices £/tCO_2)

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
SPC in 2008 prices and with 2% pa increase	26.0	26.5	27.0	27.6	28.1	28.7	29.2	29.8	30.4	31.0	31.6	32.3

2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
32.9	33.6	34.3	34.9	35.6	36.4	37.1	37.8	38.6	39.4	40.1	40.9	41.8	42.6	43.4	44.3

Shadow Price of Carbon

The Shadow Price of Carbon (SPC) has been sourced from DEFRA.

DEFRA used the SPC to value the expected increase or decrease in greenhouse gas emissions resulting from a proposed government policy, and is in line with the Stern Review's assessment of the social cost of carbon. Following a review in 2009, the Government moved away from using the SPC to a methodology of abating the cost of carbon emissions. However, at a local level the SPC is still useful and has been through the consultation process and is set at an acceptable level. The SPC reflects the damage costs of climate change caused by each residual tonne of carbon dioxide created by a new development. The use of the SPC will be maintained but this approach will be reviewed when policy CS10 is fully reviewed as part of the forthcoming Core Strategy review.

Example of Policy CS10 Part C workings

Below are examples only, more information about the SPC can be found on the DECC website at:
www.decc.gov.uk/en/content/cms/emissions/valuation/shadow_cost/shadow_cost.aspx

Appendix 3: Table showing cost per tonne of carbon workings

At 2008 prices, 1 tonne of residual CO_2 emissions emitted from a development and quantified over 10 years.

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total residual in tCO_2	1	1	1	1	1	1	1	1	1	1
Shadow Price of Carbon values	26.5	27.0	27.6	28.1	28.7	29.2	29.8	30.4	31.0	31.6
Value (using SPC) of greenhouse gas emissions £	26.5	27.0	27.6	28.1	28.7	29.2	29.8	30.4	31.0	31.6

Amount to be paid into the fund (if payment made in 2008)	£290

At 2008 prices, 3.5 tonnes of residual CO_2 emissions emitted from a development and quantified over 10 years.

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total residual in tCO_2	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Shadow Price of Carbon values	26.5	27.0	27.6	28.1	28.7	29.2	29.8	30.4	31.0	31.6
Value (using SPC) of greenhouse gas emissions £	92.7	94.5	96.6	98.3	100	102	104	106	108	110

Amount to be paid into the fund (if payment made in 2008)	£1,012

Example of Policy CS10 Part C workings

Appendix 4: Example of standard planning conditions

Below are some sample planning conditions for policy CS10. As with all other planning conditions, each will be bespoke, devised and adapted to suit the particular circumstances of the scheme. These samples have been provided to give you an indication of the type that may be used when granting a planning permission.

Sample 1: New build applications (excluding extensions)

The development shall be carbon neutral. Each building or house hereby approved shall be constructed to achieve:

a) a minimum Building Research Establishment BREEAM (or subsequent equivalent quality assured scheme) overall 'Good / Very Good / Excellent' standard comprising the following minimum credit requirements:

   i) 'Excellent' standard in respect of energy credits
   ii) 'Maximum / Excellent' standard in respect of water credits
   iii) 'Excellent / Very Good' standard in respect of materials credits
   iv) under criterion Ene4 (Low and Zero Carbon Technologies) (or subsequent equivalent criterion) 1 credit for a feasibility study and 2 credits for a 10% reduction in carbon emissions

   or (as the case may be)

b) a minimum Code for Sustainable Homes (or subsequent equivalent quality assured scheme) Level 2 / 3 / 4 with 1 / 2 credits awarded under the Ene7 (Low and Zero Carbon Technologies) criterion (or subsequent equivalent criterion)

Unless otherwise agreed in writing by the Local Planning Authority, no work on each building or house shall commence until the following for that building or house have been submitted to and approved in writing by the Local Planning Authority:

a) A feasibility study to establish the most appropriate local low and zero carbon ("LZC") technologies to install and which, for non-residential schemes, shall be in accordance with the feasibility study requirements set out within BREEAM 2011 New Construction (or subsequent equivalent requirements)

b) Standard Assessment Procedure ("SAP") calculations from a competent person stating the estimated amount of carbon emissions from energy demand with and without LZC technologies installed

c) A BREEAM or Code for Sustainable Homes (as the case may be) 'Design Stage' report and related certification produced by a registered assessor

d) Details of the measures and LZC and other technologies to be used to achieve the BREEAM credit requirements or the Code for Sustainable Homes Level and credit(s) specified above (as the case may be)

The development shall be carried out in accordance with the approved report and details.

The approved measures and LZC and other technologies for achieving the BREEAM credit requirements and/or Code for Sustainable Homes Level and credit(s) (as applicable) specified above shall thereafter be retained in working order unless otherwise agreed in writing by the Local Planning Authority.
Unless otherwise agreed in writing by the Local Planning Authority, no building or house shall be occupied until a) and either b) or c) below (as the case may be) have been submitted to and approved in writing by the Local Planning Authority for that building or house:

a) SAP calculations from a competent person stating (i) the actual amount of carbon emissions from energy demand with the LZC technologies that have been installed and what the emissions would have been without them and (ii) the actual amount of residual carbon emissions

b) a BREEAM 'Post Construction Stage' report and related certification produced by a registered assessor confirming the BREEAM standard that has been achieved and the credits awarded under Ene4

c) a Code for Sustainable Homes 'Post Construction Stage' report and related certification produced by a registered assessor confirming the Code level that has been achieved and the credits awarded under Ene7

Reason: In order to (i) achieve zero carbon growth and ensure the construction of sustainable buildings and a reduction in the consumption of natural resources, (ii) seek to achieve a carbon neutral development through sustainable design features and on-site low and/or zero carbon technologies and (iii) confirm the sustainability of the development and a reduction in the consumption of natural resources and to calculate any amount payable into the Ashford Carbon Fund, thereby making the development carbon neutral, all pursuant to Core Strategy policy CS10, the Sustainable Design and Construction SPD and advice in PPS1 and the Supplement to PPS1.

Appendix 4: Example of standard planning conditions

Sample 2:

- **Change of use of non-residential to (another) non-residential use**
- **Change of use of residential to non-residential use**
- **Change of use to a mixed non-residential and residential use**
- **Refurbishment of existing non-residential building**
- **Extension to non-residential building (in which case the requirements will relate to the extension only and not the original building)**

Each building to which this permission related shall be carbon neutral. The development shall be carried out so that each building will achieve a minimum Building Research Establishment BREEAM (or subsequent equivalent quality assured scheme) overall 'Very Good' standard comprising the following minimum credit requirements:

a) 'Excellent' standard in respect of energy credits
b) 'Excellent' standard in respect of water credits
c) 'Very Good' standard in respect of materials credits
d) under criterion Ene4 (Low and Zero Carbon Technologies) (or subsequent equivalent criterion) 1 credit for a feasibility study and 2 credits for a 10% reduction in carbon emissions

Unless otherwise agreed in writing by the Local Planning Authority, no work on each building shall commence until the following for that building have been submitted to and approved in writing by the Local Planning Authority:

a) A feasibility study to establish the most appropriate local low and zero carbon ("LZC") technologies to install and which shall be in accordance with the feasibility study requirements set out within BREEAM 2011 New Construction (or subsequent equivalent requirements)

b) Standard Assessment Procedure ("SAP") calculations from a competent person stating the estimated amount of carbon emissions from energy demand with and without LZC technologies installed

c) A BREEAM 'Design Stage' report and related certification produced by a registered assessor.

d) Details of the measures and LZC and other technologies to be used to achieve the BREEAM credit requirements specified above.

The development shall be carried out in accordance with the approved report and details.

Appendix 4: Example of standard planning conditions

The approved measures and LZC and other technologies for achieving the BREEAM credit requirements specified above shall thereafter be retained in working order unless otherwise agreed in writing by the Local Planning Authority.

Unless otherwise agreed in writing by the Local Planning Authority, no building shall be occupied until a) and b) below have been submitted to and approved in writing by the Local Planning Authority for that building:

a) SAP calculations from a competent person stating (i) the actual amount of carbon emissions from energy demand with the LZC technologies that have been installed and what the emissions would have been without them and (ii) the actual amount of residual carbon emissions

b) a BREEAM 'Post Construction Stage' report and related certification produced by a registered assessor confirming the BREEAM standard that has been achieved and the credits awarded under Ene4

Reason: In order to (i) achieve zero carbon growth and ensure refurbishment and change of use of buildings in a sustainable manner and a reduction in the consumption of natural resources, (ii) seek to achieve a carbon neutral development through sustainable design features and on-site sustainable energy technologies and (iii) confirm the sustainability of the building and a reduction in the consumption of natural resources and to calculate any amount payable into the Ashford Carbon Fund, thereby making the development carbon neutral, all pursuant to Core Strategy policy CS10, the Sustainable Design and Construction SPD and advice in PPS1 and the Supplement to PPS1.

Appendix 4: Example of standard planning conditions

Sample 3:

- **Change of use of non-residential building to residential use**
- **Change of use of dwellinghouse or flat to HMO**
- **Refurbishment of existing dwellinghouse or flat**
- **Extension to dwellinghouse or flat (in which case the requirements will relate to the extension only and not the original dwellinghouse or flat)**

Each building or flat to which this permission relates shall be carbon neutral. The development shall be carried out so that each building or flat will achieve a minimum EcoHomes (or subsequent equivalent quality assured scheme) overall 'Very Good' standard and with 2 credits awarded under criterion Pol4 (renewable and low emission energy source) (or subsequent equivalent criterion).

Unless otherwise agreed in writing by the Local Planning Authority, no work on each building or flat shall commence until the following for that building or flat have been submitted to and approved in writing by the Local Planning Authority:

a) A feasibility study to establish the most appropriate local low and zero carbon ("LZC") technologies to install

b) Standard Assessment Procedure ("SAP") calculations from a competent person stating the estimated amount of carbon emissions from energy demand with and without LZC technologies installed

c) An EcoHomes 'Design Stage' report and related certification produced by a registered assessor.

d) Details of the measures and LZC and other technologies to be used to achieve the EcoHomes standard and credits under Pol4.

The development shall be carried out in accordance with the approved report and details.

a) The approved measures and LZC and other technologies for achieving the EcoHomes standard and credits under Pol4 shall thereafter be retained in working order unless otherwise agreed in writing by the Local Planning Authority.

Appendix 4: Example of standard planning conditions

Unless otherwise agreed in writing by the Local Planning Authority, no building or flat shall be occupied until a) and b) below have been submitted to and approved in writing by the Local Planning Authority for that building or flat.:

a) SAP calculations from a competent person stating (i) the actual amount of carbon emissions from energy demand with the LZC technologies that have been installed and what the emissions would have been without them and (ii) the actual amount of residual carbon emissions

b) an EcoHomes 'Post Construction Stage' report and related certification produced by a registered assessor confirming the EcoHomes standard that has been achieved and the credits awarded under Pol4

Reason: In order to (i) achieve zero carbon growth and ensure the dwellings are sustainable and reduce the consumption of natural resources, (ii) seek to achieve a carbon neutral development through sustainable design features and on-site sustainable energy technologies and (iii) confirm the sustainability of the dwellings and a reduction in the consumption of natural resources and to calculate any amount payable into the Ashford Carbon Fund, thereby making the development carbon neutral, all pursuant to Core Strategy policy CS10, the Sustainable Design and Construction SPD and advice in PPS1 and the Supplement to PPS1.

Glossary

Accredited body for CSH/BREEAM: A competent person licensed by a service provider to carry out CSH/BREEAM assessments and recorded on the service provider's register of licensed assessors. Service providers can be any organisation licensed by (and including) BRE Global which offers training and accreditation to licensed assessors.

Adaptation: Making adjustments to natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

Annual Monitoring Report (AMR): The Council is required to produce an AMR each year to assess the performance and effects of the LDF.

Ashford Growth Area: Term relating to Ashford town including its proposed expansion areas at Cheesemans Green and Chilmington Green.

Ashford's Future: The company was wound down in 2011 and a new partnership between Ashford Borough Council and Kent County Council has been set up, that corresponds with the new coalition Government's focus on localism.

Biomass: A fuel derived from plant material or natural residues. A wide range of biomass can be used to generate electricity and/or heat and to produce transport fuel.

BREEAM standard: The Building Research Establishment's Environmental Assessment Method, which is used to assess the environmental performance of new and existing non-residential and mixed use buildings. It is regarded by the UK's construction and property sectors as the measure of best practice in environmental design and management.

Carbon Dioxide (CO_2): A significant contributor to global warming and climate change. A gas resulting from the combustion of fossil fuels including gas, oil and coal.

Carbon Footprint: The total greenhouse gas emissions caused by an individual or organisation, event or product.

Carbon neutral: A development that achieves no net carbon emissions of energy use on an annual basis. It is usual for a development to have emitted some greenhouse gas emissions, so it is necessary to use carbon offsets to achieve neutrality.

Carbon offset: These are emissions reductions that have been made or will be made off site (for policy CS10 this will be elsewhere within the Borough) which are sold to, or paid for by the entity that seeks to reduce its impact.

Glossary

Carbon sinks: Carbon dioxide is captured and stored in living (trees and other green vegetation) or non-living reservoirs (soil, geological formations, oceans, wood products).

Climate Change: The variation in the Earth's global climate or in regional temperatures. It describes changes in the variability or state of the atmosphere and weather.

Code for Sustainable Homes (CSH): A national environmental standard for sustainable design and construction for certifying and rating new homes, to ensure new homes deliver improvements in key areas such as carbon dioxide and water use reduction.

Combined Heat and Power (CHP): CHP is the simultaneous generation of usable heat and power in a single process, therefore producing less waste. CHP's overall fuel efficiency is around 70-90% of fuel input compared to 40-50% efficiency in conventional generation.

Decentralised energy supply: Energy supply from low carbon sources on a small or community scale and including electricity generation that is connected to a local distribution network rather than directly to the national grid.

Design and Access Statement: A document which must accompany most types of planning applications explaining the design process for a development and providing details on how it can be accessed by everyone, including elderly or disabled people.

EcoHomes: This environmental standard remains in operation for refurbished homes in the UK.

Ecological Footprint: An ecological footprint is a measure of human demand on an ecosystem, and compares human demand with the ecological capacity to regenerate it.

Embodied Energy: Refers to the quantity of energy required to manufacture, and supply to the point of use, a product, material or service.

Energy Service Company (ESCo): A business that provides energy management services to energy users. An ESCo will identify and evaluate energy supply and saving opportunities. Services provides by an ESCo may be contracted through an Energy Service Agreement that provides a return on an investment by an energy user.

Greenhouse gases: There are six greenhouse gases regulated by the Kyoto Protocol, which are emitted in significant quantities into the atmosphere through human activity. The six regulated gases are Carbon dioxide (CO_2), Methane (CH_4), Nitrous oxide (N_2O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Sulphur hexafluoride (SF6).

Glossary

Ground Source Heat Pumps: Transfer the heat from the earth to a building by means of a heat exchanger. The heat can then be used for space heating and hot water. They can also be used to remove heat from a building and deposit it into the ground to cool the building in hot weather.

Kilowatt hour (kWh): A one kilowatt power generating unit running for one hour produces one kilowatt-hour of electrical energy.

Local Development Framework (LDF): A term used to describe a folder of documents, which includes all the local planning authority's Local Development Documents, including the Core Strategy and other Development Plan Documents, Supplementary Planning Documents, and the Statement of Community Involvement (SCI) amongst others.

Low or Zero Carbon (LZC) Technologies: Technologies that produce energy with low or zero carbon emissions.

Mitigation: Taking action to reduce the impact of human activity on the climate system, primarily through reducing greenhouse gas emissions.

National Planning Policy Framework (NPPF): sets out the coalition Government's proposed vision for sustainable development through a set of economic, environmental and social planning policies.

Passive Solar Gain: Refers to the siting, form, fabric and internal layout of buildings so that natural light and solar heat gains are harnessed and controlled reducing the need for artificial lighting, space heating, and mechanical ventilation and cooling.

Photovoltaics (PV): Thin silicone wafers that convert any light, not only sunlight, directly into electricity. They can be fitted to buildings including panels and roof tiles.

Regulated emissions: Those emissions included within the SAP 2009 methodology and arising from space heating, water heating, fixed lighting and ventilation.

Renewable energy: Those energy flows that occur naturally and repeatedly in the environment - from the wind, the fall of water, the movement of the oceans, from the sun and also from biomass.

Standard Assessment Procedure (SAP): This is a Government standard for energy rating of all new dwellings, and is now a compulsory component in Part L of the Building Regulations. It calculates the typical annual energy costs for space, water heating and lighting, as well as CO_2 emissions.

Glossary

Scoping Report: This report details the scope and level of detail to be included within the Sustainability Appraisal (SA), including the sustainability effects and options which need to be considered, the assessment methods used, and the structure and contents of the SA report.

Standard carbon factor: When calculating emissions from energy use it is important to know what quantity of energy was used. Standard carbon factors enable a conversion to be made from the input measure of energy to the amount of carbon dioxide emissions that will result. Defra publish the UK conversion factors for energy to CO_2, and these are also available from the Carbon Trust.

Statement of Community Involvement (SCI): A key document within the Local Development Framework prepared by the Council, which sets out how the local community and stakeholders will be involved in the preparation of LDF documents. It also sets out arrangements for involving the community when considering planning applications and major proposals for development.

Supplementary Planning Document (SPD): A Local Development Document that adds further detail to policies and proposals in a 'parent' Development Plan Document. Unlike Development Plan Documents, SPDs do not form part of the statutory development plan.

Sustainability Appraisal (SA): An appraisal of the economic, environmental and social effects of a plan from the outset of the preparation process to allow decisions to be made that accord with sustainable development.

Strategic Environmental Assessment (SEA): An environmental assessment of plans and programmes, including Development Plan Documents.

Unregulated emissions: Those emissions arising from electrical appliances, cooking and non-fixed lighting.

Urban heat island effect: Means that the urban area is significantly warmer than the surrounding rural area. The heat difference is mainly caused through urban development and the generation of waste heat.

Wind Turbine: A machine for converting the kinetic energy in wind into electricity by using its natural power to drive a generator. Can be free standing or mounted on a building and comes in a variety of sizes.

Zero carbon: A development that achieves no emissions of carbon from energy use on site, on an annual basis.

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Also call this number if you would like a copy of this document to be translated.

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