

# CLIMATE CHANGE WITHIN LOCAL DEVELOPMENT FRAMEWORKS

CASE STUDIES



JUNE 2009

This document has been designed to support the Climate Change LDF guide. It complements the recommendations in the guide and will be periodically reviewed and updated as new examples of good practice emerge. The case studies below have been organised as follows:

- Core strategy preparation and evidence base
- Examples of other LDF documents
- Delivery.

It should be noted that the Partnership Board website has links to adopted DPDs and SPDs in the South East, including links to sustainable design and construction SPDs.

## Core strategy preparation and evidence base

### HASTINGS: RENEWABLE AND LOW CARBON ENERGY STUDY - DECEMBER 2008

Hastings Borough Council has completed a renewable and low carbon energy study to ensure that local policy being prepared is in conformity with regional policies on sustainable design and renewable energy and the national timetable to achieve zero carbon homes.

To guide the development of its LDF, Hastings has undertaken research that:

- Quantifies the existing CO<sub>2</sub> and potential rise in emissions from growth under a business as usual scenario
- Highlights the most technically and

financially viable low carbon technologies that would be required in Hastings to comply with the Code for Sustainable Homes

- Identifies spatially where there is a suitable resource to support MW scale wind turbines and CHP generation
- Quantifies potential CO<sub>2</sub> reductions that could be achieved.

This evidence can then be used to support spatial and policy decisions that will help to deliver zero carbon homes and renewable energy generation.

### DOVER: RENEWABLE ENERGY AND SUSTAINABLE CONSTRUCTION RESEARCH - JANUARY 2009<sup>1</sup>

As part of the evidence base to support its Core Strategy, Dover District Council has undertaken research to comply with the PPS1 Climate Change Supplement, the Code for Sustainable Homes and the Government's proposed definition of zero carbon homes. The research has identified issues with the existing stock and future development and recommended a policy approach that:

- Addresses viability
- Reflects the district wide capacity for renewable energy
- Reflects local circumstances (ie strategic sites).

**Viability** – The research addressed the financial and technical implications of complying with different levels of carbon reduction (as specified in the code) for different types of

residential development. It highlighted that zero carbon could not be achieved on some developments and therefore financial contributions to fund retrofitting or large scale offsite renewable energy generation<sup>2</sup> should be sought. The viability of the proposed policies was also tested with a group of local developers to assess deliverability.

**District-wide capacity** – The energy demand from the existing and new building stock was modelled alongside the potential for renewable and low carbon energy generation in the district. This assessment of potential issues and opportunities was used to support the core strategy recommendation. This was expressed in accordance with the Code for Sustainable Homes and sought to ensure that the residual emissions from developments (post 2016) could be offset through s106 contributions.

**Strategic sites** – The research also looked at four strategic sites to assess the opportunity for higher standards of building sustainability. Policies have been formulated for each site based on an assessment of suitable technologies and future demand for energy, and a policy framework to support delivery has been recommended. Identifying site specific renewable and low carbon energy generation opportunities early will help to inform masterplans and provide clarity for developers from the outset.

<sup>1</sup> See [www.idea.gov.uk/idk/core/page.do?pagelid=9560694](http://www.idea.gov.uk/idk/core/page.do?pagelid=9560694) for more information.

<sup>2</sup> Allowable Solutions proposed in the Government's consultation on zero carbon homes.

## PROPOSED CORE STRATEGY POLICY

All new developments are required to meet Code for Sustainable Homes standards or equivalent. New developments are required to meet Code Level 3 with immediate effect (from granting of permission), at least Code Level 4 from 1 April 2013 and at least Code Level 5 from 1 April 2016.

All new non-residential developments over 1,000m<sup>2</sup> gross are required to meet BREEAM Very Good or equivalent with immediate effect (relevant versions cover offices, retail, industrial, education and healthcare).

More information and supporting guidance will be provided with the Development Contributions SPD.

**Notes for accompanying planning documents and tools:** Planning applications will require credit scoring strategies and preassessments for the required Code for Sustainable Homes or BREEAM levels. Planning conditions will be set to require interim and final Code certificates and post-construction BREEAM certificates as appropriate. The 1,000m<sup>2</sup> gross threshold is derived from Government guidance on the scale of major development. Non-residential development below the threshold is expected to face significantly higher unit costs to achieve BREEAM ratings.

**Development Contributions SPD (or future Community Infrastructure Levy):** For new developments that cannot meet the carbon and water reduction targets in DM3 onsite and for new non-residential developments of less than 1,000m<sup>2</sup> gross, applicants must achieve commensurate energy and water savings elsewhere in Dover District. The actions or sums paid must achieve the difference between the onsite performance of the development and the immediate, 2013 and 2016 energy and water standards expected for developments. Dover District will publish updates concerning details of the energy and water efficiency schemes that will be eligible and the cost per tonne of CO<sub>2</sub> and per m<sup>3</sup> of water saved.

Applicants must prove they cannot meet requirements onsite through an open book accounting approach to show the development would not go ahead. Planning conditions will be applied to all domestic and commercial extensions and conversions to require cost effective energy and water efficiency measures to be included, aiming for no net increase in energy or water demand from the property.

## HAVANT: INTEGRATING ADAPTATION INTO THE PLAN MAKING PROCESS - MARCH 2008

In Havant's Borough Council's Strategic Housing Land Availability Assessment (SHLAA) the Council used its Strategic Flood Risk Appraisal (SFRA) to filter potential sites for housing development.

As part of the decision making process for the SHLAA, sites that fell within flood zones 2 and 3 were excluded and the assessment focused on finding suitable sites within flood zone 1. The only exemption were sites in urban areas fundamental to the regeneration of the borough and passing the sequential and exception test, as set out in PPS25, if they were to be allocated for development through the LDF.

## Examples of other LDF documents

### **BARKING AND DAGENHAM: BARKING TOWN CENTRE ENERGY ACTION AREA - NOVEMBER 2006**

The London Borough of Barking and Dagenham has produced a town centre energy action area implementation plan to respond to the challenge of reducing carbon emissions whilst regenerating the town centre, with approximately 7,000 new homes planned for over the next 15 years. The implementation plan seeks to utilise two opportunities for low carbon heat generation:

- Barking Power Station: Large quantities of heat are currently wasted from the power station and with some modifications this heat source could be connected to the town centre via a large transmission pipe
- CHP: An edge of town centre CHP could be built and fuelled by biomass waste.

To help implement these opportunities the implementation plan identifies 20 actions. One of these highlights the need for a strong planning policy framework and an Area Action Plan (AAP) is currently being prepared to assist delivery.

### **SOUTH CAMBRIDGESHIRE: NORTHSTOWE AREA ACTION PLAN - JULY 2007**

South Cambridgeshire District Council has produced an AAP for Northstowe, a new town that is likely to consist of between 8,000 to 10,000 dwellings. The AAP establishes an overall vision for the new town and sets out the

policies and proposals to guide all the phases of development. The AAP provides specific guidance on how climate change adaptation and mitigation should be addressed. The measures included in the AAP are summarised below:

- Surface Water Drainage – Channels within green channels should link to a water park to ensure that water run-off into surrounding water courses is no greater than if the site was undeveloped
- Foul Drainage – Planning conditions should be used to link the phasing of development to the availability of waste water treatment capacity
- Mitigation of Flood Risk – There should be no increase in flood risk to surrounding communities from the development and the risk should be mitigated by providing balancing ponds
- Management and Maintenance of Watercourses – All water bodies and water courses should be managed by one or more publicly accountable bodies and water quality levels should be maintained
- Water Conservation – All new development should promote water efficiency by including water saving devices, rainwater harvesting and greywater recycling
- Energy Provision – Opportunities for renewable energy generation should be utilised and the potential for setting up an ESCO for Northstowe should be considered
- Energy Efficiency – A high level of energy efficiency and energy conservation should be achieved through the internal and external design of new buildings (eg site layout, orientation, insulation, etc).

## Delivery

### **MILTON KEYNES: CARBON OFFSETTING**

When Milton Keynes updated its Local Plan in 2005, it decided to offset the predicted rise in carbon dioxide emissions from increases in housing and population by requiring all new development (exceeding five dwellings or over 1,000m<sup>2</sup>) to be carbon neutral. Milton Keynes developed an evidence base to support this policy approach which:

- Quantified the existing CO<sub>2</sub> and potential rise from growth
- Looked into the viability of energy efficiency measures, renewable energy technologies and a carbon offset fund
- Calculated a cost for offsetting each tonne of CO<sub>2</sub> emitted per year.

This evidence base was then used to justify the policy approach being pursued. The evidence justified that a carbon offset scheme was cheaper than incorporating renewables into new developments and that the most cost effective carbon reductions measures could be achieved via energy efficiency improvements to the existing stock.

Where developers cannot meet the policy requirements on carbon neutrality financial contributions to the carbon neutrality fund are sought via s106 agreements (see the Milton Keynes Sustainable Construction SPD for more information). The carbon neutrality fund is managed on behalf of the council by the Milton Keynes Energy Agency to offset the carbon emissions arising from new developments. At

present the Milton Keynes Energy Agency uses the 'fund' to subsidize energy efficient measures such as loft and cavity wall insulation.

### **WOKING: THAMESWEY ENERGY SERVICES COMPANY (ESCO)**

Woking Borough Council has established Thameswey Limited, an ESCO wholly owned by the Council which enters into public/private ventures to:

- Produce and supply electricity, heat and chilled water to customers
- Develop and implement technologies for the production and supply of energy.

As a separate company, Thameswey Limited has the capacity to pursue a range of projects that would help to deliver the Council's climate change objectives. For example, Thameswey can pursue projects outside of the borough, with profits generated being invested back into sustainable/ renewable energy projects in the borough<sup>3</sup>.

### **WATERLOOVILLE MAJOR DEVELOPMENT AREA: IMPLEMENTATION AND ADOPTION OF SUDS**

The Waterlooville Major Development Area was identified by the EA in 2002 as a site that could benefit from the implementation of SUDS, to help reduce flood risk and deterioration in water quality and ecology. To help address

issues around the maintenance and adoption of SUDS the EA established steering groups to bring interested parties (developers, planners, EA, Highways Agency, water company etc) together to assist with the implementation.

SUDS were identified as critical infrastructure and designed into the masterplan at an early stage. The local authorities involved were supportive of the concept but reluctant to adopt the SUDS initially. However through the steering group approach the design of the SUDS was altered to ensure the parks department had the expertise and machinery to carry out the necessary maintenance, once adopted. With the designs altered, agreement was reached on the maintenance rates required and a commuted sum between the developers and the local authority was included in the draft s106 agreement<sup>4</sup>.

### **WOLVERHAMPTON: BILSTON URBAN VILLAGE**

Bilston Urban Village is regarded as an example of good practice in attempting to incorporate both mitigation and adaptation to climate change in a large redevelopment site. The site covers around 43 hectares of mainly derelict and under-used land in Bilston, Wolverhampton. The Urban Village consists of a fully sustainable mixed use development including housing, employment, leisure, community facilities, retail facilities, formal

sport provision, a neighbourhood park, and a nature reserve and habitat creation.

The scheme makes a positive contribution to climate change mitigation and adaptation by:

- providing a development that encourages pedestrian, cycle and public transport alternatives to the private vehicle
- creating higher density development adjacent to Bilston Town Centre and close to public routes
- connecting street networks to provide clear and direct routes, particularly for pedestrians and cyclists
- providing a range of community facilities that are easily accessible by the local community by foot and cycle
- providing a network of open space and nature conservation areas that are tolerant to potential climate change impacts
- implementing high energy efficiency and performance in the new buildings
- ensuring profiles, groundworks and primary infrastructure are designed to be resilient to climate change
- creating a sustainable urban drainage systems network that will minimise the quantity and improve the quality of water before it is discharged from the development, helping to prevent flooding and pollution.

<sup>3</sup> Thameswey Energy Limited. [www.woking.gov.uk](http://www.woking.gov.uk).

<sup>4</sup> 11th International Conference on Urban Drainage, Edinburgh, Scotland, UK, 2008. Waterlooville major development area, Hampshire: A partnership approach for addressing the barriers to implementation and adoption of sustainable drainage systems.

