

## 6. Guidance

- 6.1 The guidance follows the structure of the CSH, but also recommends special attention is paid to the crucial initial stage of site appraisal and overall design considerations. Many of the suggestions included in the guide are equally applicable to non-residential developments. Where appropriate, specific recommendations for non-residential developments have been included in the text.
- 6.2 The measures recommended in this guidance do not guarantee compliance with the requirements of the Code for Sustainable Homes or BREEAM. They are a menu of good practice options that need to be considered for each development on its merits alongside other design principles and guidance set out in other SPD documents.
- 6.3 The council recognise that not all elements of the Code for Sustainable Homes or BREEAM are suitable for all development proposals. The guidance in this SPD can be used to negotiate the appropriate minimum standard for each development.
- 6.4 Nevertheless, the guidance is designed to encourage developers to follow the council's lead in this area and aim towards the higher standards of CSH and BREEAM. It is only recently that issues such as climate change, ecological capacity, quality of life, resource scarcity and efficiency have started to emerge as key drivers for future prosperity and competitiveness (Porritt 2007). The future is likely to favour cities which are resource efficient and resilient to climate change. Leeds aims to continue to develop and remain a competitive and economically successful city and encouraging developers to design their development to high standards of sustainable construction will be a key component of this future success.
- 6.5 **Benefits of sustainable design and construction**
- 6.6 The Stern Review (Stern 2007), found that the benefits of strong and early action on climate change far outweigh the economic costs of not acting. The review estimates that if actions are not taken to combat climate change, the overall costs and risks from climate change impacts will be equivalent to losing at least 5% of global gross domestic product (GDP) each year, now and for the foreseeable future. If a wider range of risks and impacts is taken into account, the estimates of damage could rise to 20% of GDP or more. In contrast, the costs of the action required to reduce emissions to a level which would avoid the worst impacts of climate change can be limited to around 1% of global GDP each year. Land use planning has a role to play in ensuring these actions are taken.
- 6.7 The results of a recent survey conducted by the Commission for Architecture and the Built Environment (CABE) and the World Wildlife Fund (WWF 2006), suggests that undertaking sustainable practices benefit both the developer and consumer. The survey found that 87% of house buyers would have liked higher quality information about the environmental performance of the property they were considering for purchase. Furthermore, 84% claimed they would be prepared to pay up to 2% more for a sustainable home.



#### CASE STUDY: Trinity

The Trinity Leeds development is a new retail and leisure development intended to transform the retail quarter around Briggate, Commercial Street, Albion Street and Boar Lane through the removal and regeneration of existing retail stock and the encasement of the entire development under a glazed roof.

The development is projected to achieve a BREEAM 'Excellent' rating through a number of initiatives including a process of generating energy through waste and by ensuring the project achieves it's goal of sending zero waste to landfill, a target achieved by the developer at six previous sites.

*Designed by Chapman Taylor for Land Securities*



*as a result of dwelling type, development type and site characteristics (eg ecological value and flood risk)... Lowest costs are typically seen for those developments where there is potential to use site wide carbon saving technologies (eg CHP systems), these are typically sites with relatively high numbers and densities of development... It is expected that costs of compliance will fall over time and that by 2016 they could have reduced by between 16 and 25 per cent depending on Code level."*

6.8 The Government have introduced feed-in tariffs (FIT) to encourage the uptake of small-scale low-carbon energy technologies by guaranteeing a price for a fixed period for electricity generated (for instance by wind, solar PV, hydro, anaerobic digestion, biomass and biomass combined heat and power (CHP) and non-renewable micro CHP) and intend to introduce a renewable heat incentive (RHI) for heat generated by small scale installations (for instance biomass, solar hot water, air-and ground-source heat pumps, biomass CHP, biogas).

6.9 An analysis of the additional costs associated with achieving higher levels of the CSH (Department for Communities and Local Government 2008b) suggests that the greatest additional construction costs are associated with achieving the carbon reduction requirements of code levels 5 and 6. Although this does not take into account the benefit of zero stamp duty associated with achieving the zero carbon standard.

6.10 The report concludes that "the costs of achieving the higher code levels can vary quite substantially

6.11 This conclusion is consistent with the Council's position of encouraging high standards of sustainable construction on major developments where the economies of scale are more likely to be favourable.

6.12 More recently government research has shown (Department for Communities and Local Government 2009), that "for Code level 3, the most common level built, there has been [a] reduction in additional costs of around 6 per cent since 2007 as builders gain experience and supply chains are established."



### CASE STUDY: 'The Green Building', Holbeck Urban Village, Leeds

The four storey office building is to be constructed on the site of the former David Street Café and will, it is hoped, achieve the BREEAM 'Excellent' that it has been accredited with via the implementation of an energy conscious design. The main features are:

- an aim to deliver CO<sub>2</sub> emissions reduction that is 30% better than the level laid down in Building Regulations, and 24% better than the level laid down in Holbeck Urban Village Revised Planning Framework (which proposes a 52% reduction from the Kyoto protocol baseline);
- an insitu concrete frame for fabric energy storage (FES);
- the primary energy supply being a biomass burner;
- the building having a narrow footprint and optimising on the position, scale and height of glazing to allow maximum use of natural daylight, ventilation and solar heat control;
- recycling of 'grey' rainwater run-off in WCs;
- the use of locally sourced materials, plus at least 10% recycled materials in the construction, with materials reclaimed from the demolition of David St Cafe being used in the hard landscaped courtyard to the north of the building;
- a loose-fit, long life design approach to allow flexibility and adaptability of use.

*Designed by BDP Architects for Igloo Regeneration Ltd and CTP St James Ltd*



6.13 Individuals are becoming increasingly aware of the long-term benefits of sustainable buildings, in terms of cheaper bills, health benefits, more pleasant indoor environments, as well as greater productivity in sustainable offices. In addition, large energy users now have to comply with the requirements of the CRC Energy Efficiency Scheme while Energy

Performance Certificates (EPCs) giving information on the energy efficiency of dwellings have been mandatory since 2007. There is also a requirement for EPCs on the sale, rent or construction of buildings other than dwellings with a floor area greater than 500m<sup>2</sup> from 6 April 2008. From 1 October 2008 all large public sector buildings in England and Wales will have to display a

Display Energy Certificate (DEC) which will show up to three years data on the energy used in that building. The sustainable development guidance contained in this document therefore make social and economic as well as environmental sense.

#### 6.14 Evidence

6.15 The local evidence supporting the need to aim to higher standards of sustainable construction is included and examples of successful developments that adhere to the expected standards are highlighted throughout this document along with sources of further information.

Evidence is drawn from:

- Leeds' participation in the Managing Urban Europe (MUE25) project which was a European funded research project in response to legislation which encourages cities to prepare an environmental management plan for their administrative area. More information on the project can be found at [www.mue25.net](http://www.mue25.net);
- One of the outcomes of the MUE25 project was an improved and more systematic approach to gathering and managing baseline information for the purposes of Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA). Examples of baseline information can be found in SAs of LDF documents on the Leeds City Council website;
- The Natural Resource flow analysis (Leeds City Council 2008d), prepared to support the development of Leeds City Council's Natural Resources and Waste Development Plan Document (NRWDPD);

- Carbon footprint of housing in the Leeds City Region – A best practice scenario analysis (Stockholm Environment Institute 2008), commissioned by the Environment Agency. This study determines the ability of the Leeds City Region to meet the 80% by 2050 challenge of energy efficiency in the housing sector;
- The sustainability appraisal of the Core Strategy concluded that higher standards for sustainable design and construction are necessary to mitigate the impacts of increased development levels in Leeds.



## 6.16 Climate change resilience

6.17 Even if carbon emissions were drastically reduced tomorrow, there is so much additional greenhouse gas already in the atmosphere that a certain amount of climate change is inevitable. Indeed, the average global temperature has been rising rapidly for a number of years already. The Climate Change Strategy for Leeds (Leeds Initiative 2009) sets out the evidence on the impacts of future climate change including local data from the Leeds Weather Centre and Leeds City Council Met Station. The broad trends to be expected are that winters get warmer and wetter; summers become hotter and drier and that rainfall and other precipitation becomes more intense.

6.18 To help the council and other organisations prepare for the predicted effects of climate change, past extreme weather events and their consequences have been examined. This information is available in Leeds' Local Climate Impacts Profile (LCLIP) which can be downloaded from [www.leedsinitiative.org/environment](http://www.leedsinitiative.org/environment)

From the LCLIP patterns can be seen in Leeds' weather that mirrors UK climate change projections. Leeds can expect to see:-

- seasonal warming, greatest in autumn and winter;
- more wet months;
- more intense, short-periods of rainfall;
- less air frost and snowfall; and
- more winter gales.

6.19 LCLIP show that high winds, flooding and winter conditions affected the road network the most. Flooding caused the most damage with wind damage also causing severe problems. Flooding and high temperatures affected the rail network. Power cuts were caused by flooding and strong winds and an increased demand for power during a heatwave was caused by more people using air conditioning. Sporting and leisure events were disrupted by high winds and flooding. Schools had to close because

of flooding, high winds and wintry conditions. Using this information from severe weather events, and looking at the way organisations and communities have responded, can help to identify areas in Leeds and services that could be vulnerable and will help to target the most cost effective ways to adapt infrastructure and working practices to increase Leeds' resilience to severe weather events in the future.

6.20 The business case for resilience to climate change is set out in *Adapting to climate change: A checklist for development* (South East Climate Change Partnership 2005) and covers the opportunities (financial, market differentiation, risk management, staff retention, innovation, social responsible investment) and risks (operational/financial, consumer expectations, legislation, funding, reputational risk, weather risk, delayed action and loss of productivity).

*Throughout this guidance, opportunities to improve a development's resilience to future climate change impacts are highlighted in these boxes, many of which are drawn from the South East checklist<sup>9</sup>.*

<sup>9</sup> A further source of guidance is "Adapting to the impact of climate change on buildings, neighbourhoods and cities: A Briefing Guide for the North West" available from [www.climatechangenorthwest.co.uk](http://www.climatechangenorthwest.co.uk).