

4. Code for Sustainable Homes

- 4.1 The structure and content of this SPD is based on the categories and environmental issues covered by the Code for Sustainable Homes and includes the latest proposed amendments (Department for Communities and Local Government 2009).
- 4.2 Since May 2008, all new homes are required to have a rating against the Code for Sustainable Homes (CSH).
- 4.3 From April 2008, all new social housing must be built to a minimum of level 3 of the CSH. The CSH is voluntary for privately built housing except for the elements of the code covered by Building Regulations (principally CO₂ emissions and water), although Leeds City Council is preparing a policy in the Core Strategy of the Local Development Framework which would make performance against all of the standards in the code mandatory for all major development, consistent with the voluntary standards included in this SPD.

4.4 Rating system

- 4.5 The CSH uses a 1 to 6 star rating system to communicate the overall sustainability performance of a new home.
- A 1* home will be 10% more efficient and 20% more water efficient than most new homes built in 2008. It may also have some of the other features in the CSH such as providing office work space with communication links within the home, secure cycle storage or greater security features;

- A 3* home would be 25% more efficient and have many more sustainable features than a 1* home;
- A 6* home would be highly sustainable, including most of the sustainability features in the CSH and over the course of the year, the net carbon emissions would be zero.

4.6 Categories

- 4.7 There are nine categories in the CSH with credits assigned to each category. The code sets minimum standards for energy and water use at each level. The rating a home receives depends on how it measures up in each category.
- 4.8 Each category includes a number of environmental issues which have a potential impact on the environment. The issues can be assessed against a performance target and awarded one or more credits. Performance targets are more demanding than the minimum standard needed to satisfy Building Regulations or other legislation. They represent good or best practice, are technically feasible and can be delivered by the building industry.



Table 4.1: Categories and environmental issues in the Code for Sustainable Homes

<p>Energy & CO₂ Emissions</p> <ul style="list-style-type: none"> □ Dwelling emission rate** □ Fabric energy efficiency □ Renewable technologies □ Energy labelled white goods □ Drying space □ Lighting □ Cycle storage □ Home office □ Energy display devices <p>Surface Water Run-off</p> <ul style="list-style-type: none"> □ Management of surface water run-off from developments* □ Flood risk <p>Health & Wellbeing</p> <ul style="list-style-type: none"> □ Daylighting □ Sound insulation □ Private space □ Lifetime homes*** <p>Waste</p> <ul style="list-style-type: none"> □ Storage of non-recyclable waste and recyclable household waste* □ Construction site waste management*⁴ □ Composting 	<p>Management</p> <ul style="list-style-type: none"> □ Home user guide □ Considerate constructors scheme □ Construction site impacts □ Security <p>Water</p> <ul style="list-style-type: none"> □ Internal potable water use** □ External water use <p>Materials</p> <ul style="list-style-type: none"> □ Environmental impact of materials* □ Responsible sourcing of materials – basic building elements □ Responsible sourcing of materials – finishing elements <p>Pollution</p> <ul style="list-style-type: none"> □ Global warming potential of insulants □ NOx emissions <p>Ecology</p> <ul style="list-style-type: none"> □ Ecological value of site □ Ecological enhancement □ Protection of ecological features □ Change in ecological value of site □ Building footprint
--	--

* Minimum standards exist for four categories – these must be achieved to gain a CSH level 1 rating.

** If the mandatory minimum performance standard is met for the four categories, two further categories need to be considered: energy efficiency and water efficiency have minimum standards that must be achieved at every level of the CSH, recognising their importance to the sustainability of any home.

*** The Lifetime Homes standards are mandatory at CSH level 6. From 2010 they will be mandatory at CSH level 4⁵ and in 2013 at CSH level 3.



CASE STUDY:
Gledhow Bank Eco-Houses

A development of three houses built in a single terrace by the individual owners of the properties. The construction is post and beam timber frame based on the Segal method of construction using materials with low embodied energy, high

energy efficiency through the highest affordable levels of insulation and efficient heating methods. The houses are independent of the mains sewer, featuring compost toilets and reed bed treatment.

Designed by Jonathan Lindh and LEDA Ltd

⁴ The Government are currently consulting on whether to remove the mandatory requirement for SWMPs (Department for Communities and Local Government 2009).

⁵ The Government are currently consulting on whether to postpone making the Lifetime Home Standards a mandatory requirement from Code Level 4 upwards pending a review in 2010 (Department for Communities and Local Government 2009).

Table 4.2: Mandatory Elements of the Code for Sustainable Homes

Category	Energy & CO ₂ emissions		Water		Materials		Surface water run-off		Waste		Health and wellbeing	
	CSH level	Minimum percentage reduction in Dwelling Emission Rate over Target Emission Rate	Maximum potable water (litres/person/day)	Environmental impact of materials	Management of surface water run-off from developments	Storage of non recyclable waste and recyclable household waste	Construction site waste management ⁶	Lifetime Homes				
Level 1 (*)	10	120	At least 3 of the following 5 key elements achieve a relevant Green Guide rating from the 2008 version of The Green Guide of A+ to D	The peak rate of run-off into watercourses is no greater for the developed site than it was for the pre-development site.	The space allocated for household waste storage should be able to accommodate containers with at least the minimum volume recommended by BS 5906 based on a maximum collection frequency of once per week.	A Site Waste Management Plan (SWMP) must be developed and implemented. This will require monitoring and reporting of waste generated on site in defined waste groups and compliance with legal requirements as set in SWMP regulations 2008 for and with best practice. The plan should include the setting of targets to promote resource efficiency in accordance with guidance from WRAP, Envirowise, BRE and DTI.	Mandatory from 2013					
Level 2 (**)	18	120	<input type="checkbox"/> Roof <input type="checkbox"/> External walls <input type="checkbox"/> Internal walls (including separating walls)									
Level 3 (***)	25	105	<input type="checkbox"/> Upper and ground floors (including separating floors) <input type="checkbox"/> Windows				Mandatory from 2010 ⁷					
Level 4 (****)	44	105										
Level 5 (*****)	100	85										
Level 6 (******)	Zero carbon home	85						All principles of Lifetime Homes, applicable to the dwelling being assessed have been complied with.				

⁶ The Government are currently consulting on whether to remove the mandatory requirement for SWMPs (Department for Communities and Local Government 2009).

⁷ The Government are currently consulting on whether to postpone making the Lifetime Home Standards a mandatory requirement from Code Level 4 upwards pending a review in 2010 (Department for Communities and Local Government 2009).

Apart from these minimum requirements, the CSH is completely flexible. Developers can choose which and how many standards they implement to obtain credits under the CSH in order to achieve a higher sustainability rating.

4.9 Building Regulations

4.10 The CSH is closely linked to Building Regulations which are minimum building standards required by law. In 2006 the Government announced a 10-year timetable towards a target that all new homes from 2016 must be built to zero-carbon standards, to be achieved through a step-by-step tightening of the Building Regulations (Department for Communities and Local Government 2007). The CSH signals the future direction of Building Regulations in relation to carbon emissions from and energy use in homes, providing greater regulatory certainty for the homebuilding industry.

4.11 The most recent consultation (Department for Communities and Local Government 2009) proposes the timetable set out in table 4.3.

4.12 Assessment

4.13 A CSH assessment can only be carried out by a licensed and accredited CSH assessor. This ensures the rating is independent and trustworthy. In order to build to the CSH, a builder needs to hire the services of the CSH. Leeds City Council offer CSH Assessment at different stages of a development project tailored to clients' and project requirements. Early involvement is important to provide advice and assurance about how the project will meet the required code level. Contact building.control@leeds.gov.uk or call 0113 247 8106 for more information and assistance. Leeds City Council also offer SAP calculation which will have an impact on code ratings.

4.14 Further information on the CSH, the assessment process and the performance standards required for the CSH, is set out in 'The Code for Sustainable Homes: Setting the standard in sustainability for new homes' (Department for Communities and Local Government 2008a), available from the Department for Communities and Local Government (www.communities.gov.uk).

4.15 Full details on how to assess a home against the CSH is set out in Technical Guidance which provides more detailed information on the evidence needed to meet the performance standard and relevant references. The Technical Guidance is amended as necessary on a six-monthly basis (April and October) to reflect changes in materials, building techniques and as a result of feedback from assessors and industry. The latest version is available from the Department for Communities and Local Government (www.communities.gov.uk).

Table 4.3: Proposed implementation of the Code for Sustainable Homes

CSH Level	Current energy standard (Percentage Improvement over 2006 Part L)	Date change to regulations takes place	2009 Code consultation proposals (Percentage Improvement over 2006 Part L)
1	10%		25%
2	18%		25%
3	25%	2010	25%
4	44%	2013	44%
5	100% regulated emissions		70% onsite + 30% allowable solutions
6	zero carbon onsite – 100% onsite plus appliances (equivalent to approximately 150% in total)	2016	'Zero Carbon Home' – 70% onsite + allowable solutions to reach zero carbon

Other case studies to refer to:
 – Greenhouse p16
 – Allerton Bywater p33
 – Oxford Eco-house p54
 – Denby Dale Passivhaus p60