

# The Code for Sustainable Homes: Overview

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## Overview

- Introduction to the CSH
- The CSH overview

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- Introduction to the CSH
- The CSH overview

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## What is the Code?

- Certification scheme
  - UKAS and ISO 9001 compliant
- Supersedes 
- Owned and Governed by DCLG
- BRE Global advise and manage
  - Consultation with key industry experts, technical advisors, assessors and an independent sustainability board
- Independent
- Holistic
- Credit based
- Customer focused
  - Assessor feedback, consultation exercises



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## Why do we have the Code?

- Mechanism for achieving zero carbon homes
  - Promotes high standards of sustainable design, promotes environmental credentials
- Driver for legislation
  - Going further than the current building regulations
- Current contract lasts for 5 years
  - BRE Global advise on technical issues and manage implementation
- Lower embodied and operational environmental impacts
- Supports a corporate environmental strategy
- Creates a healthy and comfortable internal environment
  - Increased level of occupant satisfaction
- Improved developers image with public and investors

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## Code Levels 1 - 6

Code Levels
Level 1 (★)
Level 2 (★★)
Level 3 (★★★)
Level 4 (★★★★)
Level 5 (★★★★★)
Level 6 (★★★★★★)

DCLG mandatory requirement

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## Code Key Facts

- **Code for Sustainable Homes (CSH):**
  - Operational in England in April 2007
  - Mandatory Code rating requirement for new build homes introduced in May 2008
  - Mandatory requirement for social housing to satisfy at least Code Level 3
  - Code now covers new-build homes in England, Wales and NI
  - 72,969 Design Stage certificates issued and 32,725 Post Construction Stage certificates issued as of June 2011
    - 59,995 Code level 3 DS certificates
  - 77% of homes with DS certification and 88% with PCR certification from public sector
  - 23% of homes with DS certification and 12% with PCR certification from private sector

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## Code Categories

### Energy



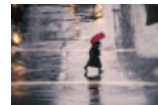
### Water



### Materials



### Surface Water runoff



### Waste



### Pollution



### Health & Wellbeing



### Management



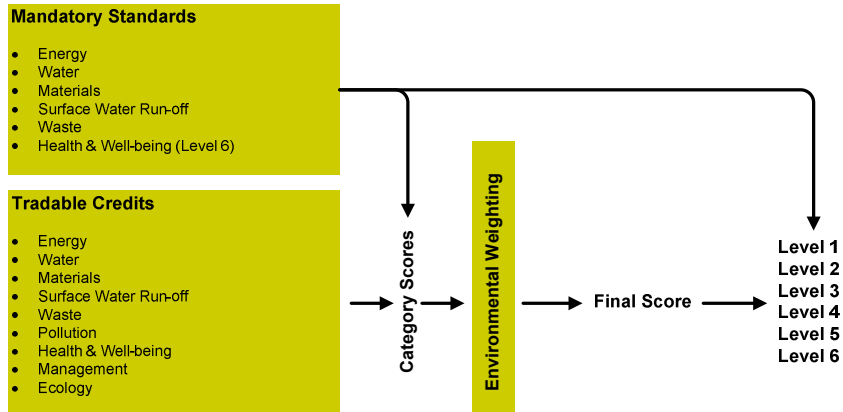
### Ecology



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# How Scoring works in the Code



■ Energy ■ Water ■ Materials ■ Surface Water Run-Off ■ Waste ■ Pollution ■ Health and Wellbeing ■ Management ■ Ecology

## Weighted categories

## Issues

Categories	No. Issues	Example
Energy and CO <sub>2</sub> emissions	9	Drying Space
Water	2	Indoor Water Use
Materials	3	Environmental Impact of Materials
Surface Water Run-off	2	Flood Risk
Waste	3	Composting
Pollution	2	GWP of Insulants
Health and Well-being	4	Daylighting
Management	4	Considerate Constructors Scheme
Ecology	5	Ecological Value of Site
<b>TOTAL:</b>	<b>34</b>	-

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## Total points score

Code Levels	Total Percentage Points out of 100 (equal to or greater than):
Level 1 (★)	36 Points
Level 2 (★★)	48 Points
Level 3 (★★★)	57 Points
Level 4 (★★★★)	68 Points
Level 5 (★★★★★)	84 Points
Level 6 (★★★★★★)	90 Points

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Code for Sustainable Homes  
Technical Guide  
November 2010

www.communities.gov.uk

50 | Code for Sustainable Homes

Issue ID	Description	No. of Credits Available	Mandatory Elements
Ene 4	Drying Space	1	No

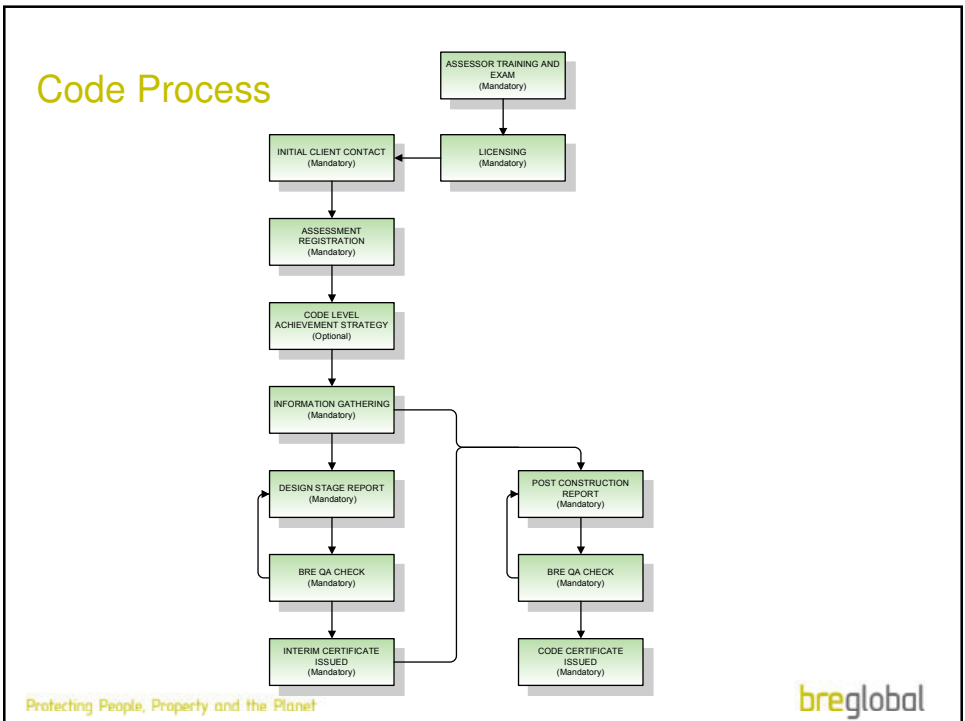
**Aim**

To promote a reduced energy means of drying clothes.

**Assessment Criteria**

Criteria	Credits
Where space and equipment are provided for drying clothes: <ul style="list-style-type: none"> <li>For 1 – 2 bedroom dwellings, the drying equipment must be capable of holding 4m+ of drying line</li> <li>For 3+ bedroom dwellings, the drying equipment must be capable of holding 6m+ of drying line</li> </ul> The drying space (internal or external) must be secure	1
<b>Default Cases</b>	
None	

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# Energy and CO<sub>2</sub> Emissions



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## Ene 1 - Dwelling Emission Rate

**10 Credits**

- Limiting overall CO<sub>2</sub> emissions arising from the dwelling and its services
- DER – Dwelling Emission Rate
  - Estimated CO<sub>2</sub> emissions/m<sup>2</sup>
- TER – Target Emission Rate
  - Maximum allowable CO<sub>2</sub> emissions/m<sup>2</sup>
- % Improvement DER over TER
- Defined by Building Regulations AD L1A 2010
- Calculated using SAP 2009



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## Ene 1 – Dwelling Emission Rate

**10 Credits**

% improvement of DER over TER	Credits	Mandatory Levels
≥ 8%	1	
≥ 16%	2	
<b>≥ 25%</b>	<b>3</b>	<b>Level 4</b>
≥ 36%	4	
≥ 47%	5	
≥ 59%	6	
≥ 72%	7	
≥ 85%	8	
<b>≥ 100%</b>	<b>9</b>	<b>Level 5</b>
<b>Zero Net CO<sub>2</sub> Emissions</b>	<b>10</b>	<b>Level 6</b>

NB the tool will now award fractions of credits\*

\*using linear interpolation

## Ene 2 – Fabric Energy Efficiency (FEE) **9 Credits**

- Focuses on the inherent properties of dwelling
- Aims to improve fabric energy efficiency performance thus future-proofing reductions in CO<sub>2</sub> for the life of the dwelling.
- kWh/m<sup>2</sup>/year
- From SAP FEE Worksheet



## Ene 2 – Fabric Energy Efficiency

Dwelling Type		Credits	Mandatory Levels
Apartment Blocks, Mid-Terrace	End Terrace, Semi-Detached & Detached		
Fabric Energy Efficiency kWh/m <sup>2</sup> /year			
≤ 48	≤ 60	3	
≤ 45	≤ 55	4	
≤ 43	≤ 52	5	
≤ 41	≤ 49	6	
≤ 39	≤ 46	7	Levels 5 & 6
≤ 35	≤ 42	8	
≤ 32	≤ 38	9	



## Ene 3 – Display Energy devices



The specification of equipment to display energy consumption data, thus empowering dwelling occupants to reduce energy use.

## Ene 4 – Drying Space



Reducing energy to dry clothes

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## Ene 5 – Energy Labelled White Goods



Encourage purchase of energy efficient appliances thus reducing CO<sub>2</sub> emissions

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## Ene 6 - External lighting



### Provision of energy efficient external lighting

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## Ene 7 – Zero or Low Carbon Technologies



### Specification of low or zero carbon energy sources to supply a significant proportion of the energy demand

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## Ene 8 – Cycle Storage

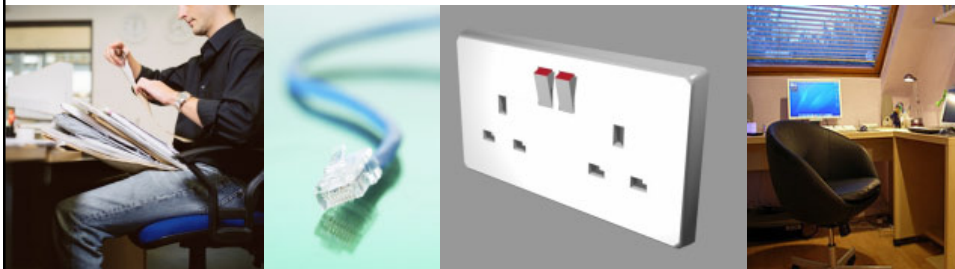


**Encouraging the wider use of bicycles thus reducing the need for short car journeys**

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## Ene 9 – Home Office



**To reduce the need to commute**

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# Water



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## Wat 1 – Internal Potable Water Use



**reduce the consumption of potable water in the home**

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## Wat 1 - Indoor Water Use

5 Credits

- Theoretical average water consumption, using normalised use patterns
- Measure water used by;
  - WC
  - Basin taps
  - Shower
  - Bath
  - Kitchen sink taps
  - White goods
  - Water softeners
- Measured in Litres / person / day



## Wat 1 - Indoor Water Use

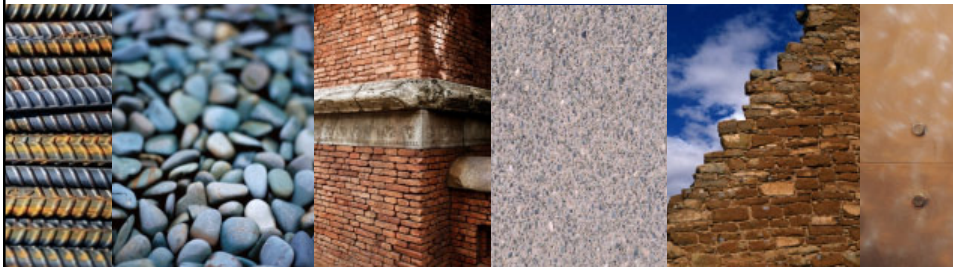
Water consumption (litres / person / day)	Credits	Mandatory Levels
≤120 l/p/day	1	Level 1 and 2
≤110 l/p/day	2	
≤105 l/p/day	3	Level 3 and 4
≤90 l/p/day	4	
≤80 l/p/day	5	Level 5 and 6

## Wat 2 – External Water Use



**encourage recycling of rainwater and reduce the amount of potable water used for external water uses**

## Materials

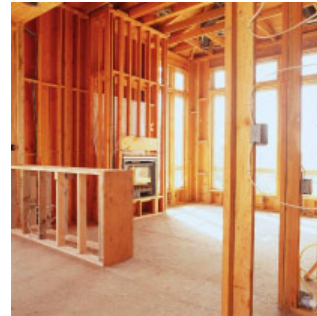




## Mat 1 - Environmental Impact of Materials

- Assessment covers:

- Roof
- External walls
- Internal walls
- Floors
- Windows



- Mandatory Requirement

- 3 out of 5 named elements will need to be rated D or above
- 3 elements which are rated D will result in compliance with the mandatory requirement, but no credits will be awarded

## Mat 2 – Responsible Sourcing of Materials Basic Building Elements

## Mat 3 - Responsible Sourcing of Materials Finishing Elements



To promote the specification of responsibly sourced materials for the basic building elements and finishing elements

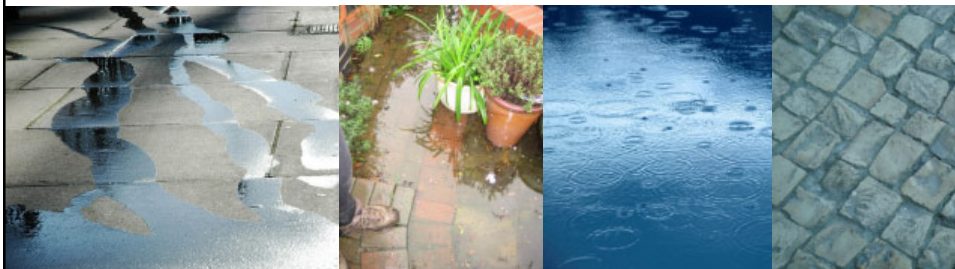
## Surface Water Run-Off



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## Sur 1 - Management of surface water run-off from developments



**To design surface water drainage for housing developments which avoid, reduce and delay the discharge of rainfall to watercourses and public sewers using SuDS techniques. This will protect receiving waters from pollution and minimise the risk of flooding and other environmental damage in watercourses**

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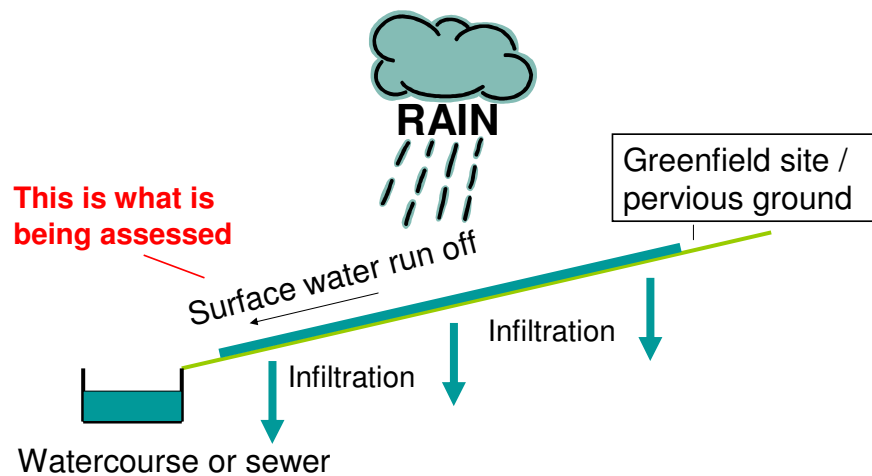
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## Sur 1 - Criteria Overview

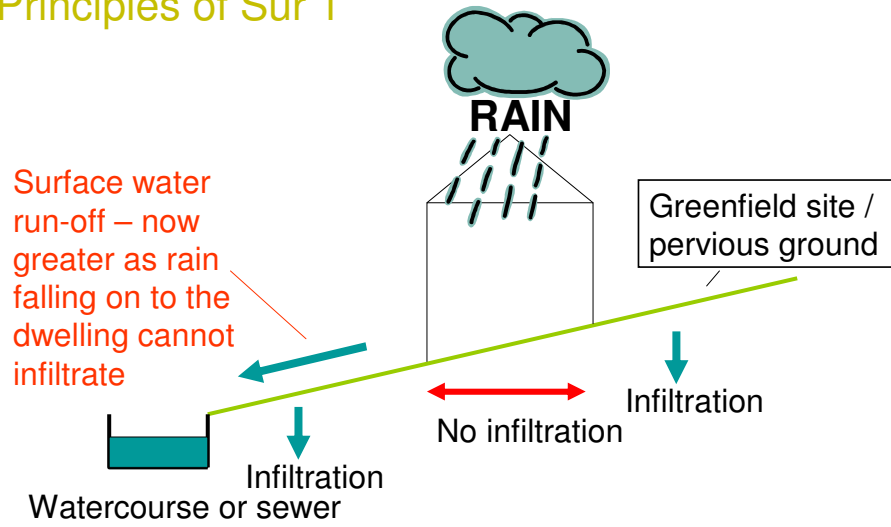
### Mandatory requirements:

- 1 Peak rate of run off
  - No greater than pre developed site
- 2 Volume of run off
  - Additional volume entirely reduced
  - Infiltration or other SuDS techniques – non 'holding back' solutions
- 3 Designing for local drainage system failure

## Principles of Sur 1



## Principles of Sur 1



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## Sur 2 - Flood risk



To promote housing development in low flood risk areas or take measures to reduce the impact of flooding on houses built in medium or high flood risk areas

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## Waste



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## Waste

### Was 1 – Storage of non-recyclable waste & recyclable household waste

- To provide adequate internal and external storage space for non-recyclable waste and recyclable household waste

### Was 2 - Construction site waste management

- To promote resource efficiency via the effective and appropriate management of construction site waste

### Was 3 – Composting

- To promote the provision of compost facilities to reduce the amount of household waste to landfill



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## Was 1 - Storage of non-recyclable waste & recyclable household waste

- A suitable area of sufficient size to house the greatest volume of
  - EITHER*
    - All containers provided by the Local Authority (Refuse and Recycling)
  - OR*
    - The minimum capacity as calculated using BS 5906:2005
- All containers must be accessible to disabled people, particularly wheelchair users (see Checklist IDP)

## Was 1 - Storage of non-recyclable waste & recyclable household waste

### Tradable credits

#### 2 credits:

- No LA or external storage provided
- 3 internal bins

#### 4 credits:

- Combination of:
  - Internal storage
  - LA collection or external storage



# Pollution



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# Pollution

## Pol 1 Global Warming Potential of Insulants

- To promote the reduction of emissions of gases with high GWP associated with the manufacture, installation, use and disposal of foamed thermal and acoustic insulating materials

## Pol 2 – NOx Emissions

- To promote the reduction of nitrogen oxide (NOx) emissions into the atmosphere



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# Health and Wellbeing



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## Health and Wellbeing

### Hea 1 – Daylighting

- Improving quality of life and reducing the need for artificial lighting

### Hea 2 – Sound Insulation

- Provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours

### Hea 3 – Private Space

- Improve quality of life by providing outdoor space which is at least partially private

### Hea 4 – Lifetime Homes

- Encouraging accessible, adaptable homes to meet the changing needs of current and future occupants

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## Management

### Man 1 Home User Guide

- To promote the use of guidance enabling occupants to understand and operate their home efficiently and make best use of local facilities

### Man 2 Considerate Constructors Scheme

- To promote the environmentally and socially considerate, and accountable management of construction sites



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## Management



### Man 3 Construction Site Impacts

- To promote construction sites managed in a manner that mitigates environmental impacts

### Man 4 Security

- To promote the design of developments where people feel safe and secure, where crime and disorder or the fear of crime, does not undermine quality of life or community cohesion.



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# Ecology



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## Eco 1 – Ecological Value of site



**To promote development on land that already has a limited value to wildlife, and discourage the development of ecologically valuable sites**

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## Eco 2 – Ecological Enhancement



**To enhance the ecological value of a site**

## Eco 3 – Protection of Ecological Features



**To promote the protection of existing ecological features from substantial damage during the clearing of the site and the completion of the construction works**

## Eco 4 – Change in Ecological Value of Site



**To minimise reductions and promote an improvement in ecological value**

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## Eco 5 – Building Footprint



**To promote the most efficient use of a building's footprint by ensuring that land and material use is optimised across the development**

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## Associated costs and savings

- DCLG cost analysis
  - 3 bed semi house
  - Code level 3 £2,650 – £9,400
  - Dwelling emission rate improvement 17% - 27%
  - Water efficiency 105 l/p/d

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## Thank you

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