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**T** 01273 307167**E** [info@phlorum.com](mailto:info@phlorum.com)**W** [www.phlorum.com](http://www.phlorum.com)**LIVHOMES****DEVELOPMENT OF IA ST JOHN'S WOOD  
PARK, LONDON, NW8 6QS****CODE FOR SUSTAINABLE HOMES  
PRE-ASSESSMENT****NOVEMBER 2013**

	Name	Date
<b>Written By</b>	Richard Schofield	22/11/2013
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<b>Authorised By</b>	Richard Schofield	22/11/2013

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Appendix A - Detailed breakdown of Code for Sustainable Homes Pre-Assessment



## **1. INTRODUCTION**

- 1.1 Phlorum Ltd has been commissioned by Mike Ofori, of Livhomes, to perform a Code for Sustainable Homes (CSH or the Code) pre-assessment at the residential development at 1a St John's Wood Park, London, NW8 6QS, in order to ascertain the likely CSH level the dwellings will achieve on completion. The site at present consists primarily of garages and hard standing.

### **The Development**

- 1.2 The development consists of the construction of one five-bedroom detached house.
- 1.3 This report examines the development as a whole and credit implications made are shown in Appendix A.

### **Pre-assessment**

- 1.4 This pre-assessment is based on evidence obtained from a pre-assessment design meeting carried out 13<sup>th</sup> November 2013, with the architect and client, together with associated drawings and reports.
- 1.5 Close attention has been paid in particular to the Camden Council's requirements for all new developments to achieve a Code Level 4, and that 50% of the Energy, Water and Material Code credits prior to weighting to also be met.
- 1.6 It is wise to be conservative when predicting credits to be obtained as excess ambition may result in an unlikely target. While this report predicts the CSH level that may be obtained, it cannot ensure that the completed dwellings will obtain it.

## 2. THE CODE FOR SUSTAINABLE HOMES

- 2.1 The Code for Sustainable Homes (CSH or the Code) is an assessment model used to evaluate the sustainability of new-build dwellings. It was introduced in April 2007 by Department for Communities and Local Government (CLG). In May 2008 it was made mandatory for all new-build dwellings to be assessed against the Code.
- 2.2 The CSH assesses a dwelling's performance against nine categories, with credits available from 33 indicators located within each (Table 2.1):

**Table 2.1: Environmental indicators assessed in the Code for Sustainable Homes**

Category	Indicators
Energy & CO <sub>2</sub> emissions	Dwelling Emission Rate (DER); building fabric; internal lighting; drying space; energy labelled white goods; external lighting; Low or Zero Carbon (LZC) technologies; cycle storage; and provision of a home office.
Water	Indoor water use; and external water use.
Materials	Environmental impact of materials; and responsible sourcing of materials.
Surface Water Run-off	Management of surface water run-off from development; and flood risk.
Waste	Storage of non recyclable waste and recyclable household waste; construction waste management; and composting.
Pollution	Global Warming Potential (GWP) of insulants; and NOx emissions.
Health & Wellbeing	Daylighting; sound insulation; private space; and Lifetime homes.
Management	Provision of a home user guide; membership of the Considerate Constructors Scheme; construction site impacts; and security.
Ecology	Ecological value of site; ecological enhancement; protection of ecological features; changes in ecological value of the site; and building footprint.

- 2.3 Mandatory scores in Energy & CO<sub>2</sub> emissions, Water, and Health and Wellbeing are required for certain Code levels, and compliance with issues in Surface Water Run-off, Materials and Waste are required to achieve a minimum Code level. Compliance with Lifetime homes is mandatory if the dwelling is to receive the highest Code level (Level 6).
- 2.4 As well as minimum performance in certain categories explained above, a dwelling must also gain a total number of credits across the other seven indicators to achieve one of the six Code levels (Table 2.2):

**Table 2.2: Threshold of scores to obtain Code Levels**

Percentage Score	Code Level
36	Level 1 (★)
48	Level 2 (★★)
57	Level 3 (★★★)
68	Level 4 (★★★★)
84	Level 5 (★★★★★)
90	Level 6 (★★★★★★)

- 2.5 A CSH assessment can only be performed by a licensed Code assessor. Phlorum Limited is licensed by the Building Research Establishment to perform CSH assessments.
- 2.6 A licensed Code assessor should be introduced into the project as early as possible and preferably on inception to ensure the development achieves the target CSH level, as many credits are obtained by 'designing in' their requirements.
- 2.7 Once a pre-assessment is completed, design changed to achieve targeted credits and methods implemented to obtain others, the development may be registered with the BRE and an optional design stage assessment carried out. A mandatory assessment must be carried out post-construction to ascertain the Code Level of the development on completion, after which certificates can be awarded. Both the design stage and post-construction stage assessments require the collection of evidence providing proof of compliance with each indicator. Evidence requirements for each category can be found in the Code for Sustainable Homes Technical Guide, available for free from [www.communities.gov.uk/publications/planningandbuilding/codeguide](http://www.communities.gov.uk/publications/planningandbuilding/codeguide).

### 3. RESULTS AND RECOMMENDATIONS

- 3.1 Using evidence gained from architects and engineers drawings, and from the design meeting the development at 1A St John's Wood Park, it is estimated to score at **69 Credits**, and therefore achieve **Code level 4**.
- 3.2 The dwelling score, based on the assumptions at the design stage meeting, will achieve 50% of the un-weighted credits for Energy, Water and Materials. 19 of the possible 31 credits have been targeted in the Energy category. 4 of the possible 6 credits have been targeted in Water use, and 13 of the possible 24 credits have been targeted in Materials.
- 3.3 All other mandatory Code 4 targets have been targeted and met.

#### Recommendations

- 3.4 As mentioned previously, it is wise to leave some degree of flexibility in credits and underestimate the number credits obtained rather than overestimate. There is potentially extra credits in the following:
- Energy: improving the dwelling emission rate to target emission rate, and improving the amount of low or zero carbon energy technology could result in further credits.
  - Materials. As design and material specification has not been finalised, our target displays little ambition. Further credits can be obtained through attention to the Green Guide to Specification when specifying materials;
  - HEA 1: A detailed lighting assessment is being planned for the site, in which case full credits may be available for this.
  - Monitoring, reporting and setting targets in carbon, energy and water consumption will gain a further credit under MAN3: Construction Site Impacts; and
  - Ecology: improving the ecological value of the site
- 3.5 Overall, the dwelling is expected to perform very well under the Code. The number of credits gained is high enough above the threshold of Code Level 4 at pre-assessment to expect such a score to be achieved post-construction. If certain credits are unable to be achieved in practice, recommendations made above should ensure aspirations will not be compromised.

## **Appendix A**

### **Detailed Breakdown of Code for Sustainable Homes Pre-Assessment**



**Report Reference:** 5319  
**Site Registration:** 006844-131120-05-1259  
**Site Name:** 1a St Johns Wood  
**Assessor Number:** STRO006844  
**Company:** Phlorum Ltd  
**Assessor:** Richard Schofield





#### Site Details

Site Name: 1a St Johns Wood  
Site Registration: 006844-131120-05-1259  
Site Address: 1a St Johns Wood Park  
  
London  
City/Town: London  
County: Greater London  
Postcode: NW8 6QS  
No. of Dwellings: 1  
No. of Dwelling Types: 0  
Planning Authority: Camden Council  
Funding Body:

#### Assessor Details

Company: Phlorum Ltd  
Assessor Name: Richard Schofield  
Cert Number: STRO006844  
Address: The Sussex Innovation Centre  
Science Park Square  
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#### Client Details

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Address: 1 Northways Parade  
Finchley Road  
  
City/Town: London  
County:  
Postcode: NW3 5EN

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#### Developer Details

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Job Title:  
Email: mike@livhomes.com  
Tel: 02074490449  
Address: 1 Northways Parade  
Finchley Road  
  
City/Town: London  
County:  
Postcode: NW3 5EN



Dwelling ID	Plot No.	Address	Social Unit
1	1	1A St Johns Wood Park	No

Development Summary & Ratings

Dwelling ID	Dwelling Type	Description	Level	Score
		1ASt Johns Wood Park	4	69.04

Deviations from Standard

No deviations from standard



Score Sheet for 1a St Johns Wood																																				
	ENE									WAT	MAT			SUR		WAS			POL		HEA				MAN				ECO					Summary		
Dwelling ID	1	2	3	4	5	6	7	8	9	1	2	1	2	3	1	2	1	2	3	1	2	1	2	3	4	1	2	3	4	1	2	3	4	5	Score	Level
1	3	6	2	1	2	2	1	1	1	3	1	9	3	1	0	2	4	2	0	1	2	2	4	1	4	3	1	0	2	1	1	1	2	2	69.04	4

Summary Score Sheet

Dwelling Type: 1A St Johns Wood Park

Dwelling ID: 1

			Score Assessment				
	Credit Score	Credits Available	Sub Total	Credits Available	%	Weighting Factor	Points Score
<b>Energy &amp; CO2 Emissions</b>							
ENE 1 Dwelling Emission Rate	3	10	19	31	61.29	36.4	22.31
ENE 2 Fabric Energy Efficiency	6	9					
ENE 3 Energy Display Device	2	2					
ENE 4 Drying Space	1	1					
ENE 5 Energy Labelled White Goods	2	2					
ENE 6 External Lighting	2	2					
ENE 7 Low or Zero Carbon Energy Technologies	1	2					
ENE 8 Cycle Storage	1	2					
ENE 9 Home Office	1	1					
<b>Water</b>							
WAT 1 Internal Water Use	3	5	4	6	66.67	9	6
WAT 2 External Water Use	1	1					
<b>Materials</b>							
MAT 1 Environmental Impact of Materials	9	15	13	24	54.17	7.2	3.9
MAT 2 Responsible Sourcing (Basic Building Elements)	3	6					
MAT 3 Responsible Sourcing (Finishing Elements)	1	3					
<b>Surface Water Run-off</b>							
SUR 1 Management of Surface Water Run-Off from Site	0	2	2	4	50	2.2	1.1
SUR 2 Flood Risk	2	2					
<b>Waste</b>							
WAS 1 Household Waste Storage and Recycling Facilities	4	4	6	8	75	6.4	4.8
WAS 2 Construction Site Waste Management	2	3					
WAS 3 Composting	0	1					
<b>Pollution</b>							
POL 1 Global Warming Potential of Insulants	1	1	3	4	75	2.8	2.1
POL 2 NOx Emissions	2	3					
<b>Health &amp; Wellbeing</b>							
HEA 1 Daylighting	2	3	11	12	91.67	14	12.83
HEA 2 Sound Insulation	4	4					
HEA 3 Private Space	1	1					
HEA 4 Lifetime Homes	4	4					
<b>Management</b>							
MAN 1 Home User Guide	3	3	6	9	66.67	10	6.67
MAN 2 Considerate Constructors Scheme	1	2					
MAN 3 Construction Site Impacts	0	2					
MAN 4 Security	2	2					
<b>Ecology</b>							
ECO 1 Ecological Value of Site	1	1	7	9	77.78	12	9.33
ECO 2 Ecological Enhancement	1	1					
ECO 3 Protection of Ecological Features	1	1					
ECO 4 Change of Ecological Value of Site	2	4					
ECO 5 Building Footprint	2	2					
Level Achieved: 4			Total Points Scored: 69.04				

#### Evidence for ENE 1 (Dwelling Emission Rate)

3 credits allocated

Camden Council require all new developments to reach Code level 4.

#### Assumptions for ENE 1

In order to comply with the Code level 4 the DER/TER ratio will have to be greater than or equal to 25% and therefore 4 credits will be available

#### Evidence for ENE 2 (Fabric Energy Efficiency)

Detached

6 credits allocated

Camden Council require than all new developments meet 50% of the credits for Energy under the Code.

#### Assumptions for ENE 2

Assume that the fabric energy efficiency for the development will have to be good to gain Code Level 4 for ENE 1, and at least 50% of the credits for ENE under the Code.

#### Evidence for ENE 3 (Energy Display Device)

Correctly specified display device showing current primary heating fuel consumption data.

Correctly specified display device showing current consumption data.

Project meeting confirmed that an energy display device will be provided.

#### Assumptions for ENE 3

Assumed that the energy display device installed will meet as minimum the requirements for two credits.

#### Evidence for ENE 4 (Drying Space)

Compliant external drying space

The Plans show that there is an external area with sufficient space for a external drying line over 6m in length

#### Assumptions for ENE 4

#### Evidence for ENE 5 (Energy Labelled White Goods)

A+ rated fridge & freezers or fridge/freezer

A rated washing machine and dishwasher, AND EITHER a tumble dryer (a washer-dryer would be an acceptable alternative to a standalone tumble dryer) with a B rating or where a tumble dryer is not provided, the EU Energy Efficiency Labelling Scheme Information will be provided.

The plans show that there is suffieint space in the hosue to provide these white goods. Project meeting stated that the white good provided would meet these energy ratings.

#### Assumptions for ENE 5

Assume that the white good provided meet these energy ratings.

#### Evidence for ENE 6 (External Lighting)

Compliant space lighting

Compliant security lighting

Plans show that some security and space lighting will be provided.

#### Assumptions for ENE 6

Assume that the external lighting will be as follows:

Security lighting has a maximum wattage of 150W, is provided with energy efficient fittings, movement detection control devices, and has day-light cut off sensors or a time swith.

Space lighting with energy efficient fittings, and with day-light cut off sensors or a time switch.

#### Evidence for ENE 7 (Low or Zero Carbon Energy Technologies)

Contribution of low or zero carbon technologies greater than or equal to 10%

In oder to compley with ENE 1 it is likely that some low energy or zero carbon technology will be required.

#### Assumptions for ENE 7

Assume that either PV panels and/or thermal solar pannel will be installed to provide at least a 10% provision.

#### Evidence for ENE 8 (Cycle Storage)

4 bedrooms or more - Storage for 2 cycles per dwelling

Plans show a cycle storage shed.

#### Assumptions for ENE 8

Assume that the bike shed will hold two bikes, be situated on concrete with a secure ground anchor (to solid secure silver standard) and secure entrance lock (to conforming to BS 3621:2007)

#### Evidence for ENE 9 (Home Office)

Compliant home office

The plan show a Study/ library area.

#### Assumptions for ENE 9

Assume that the Study area is sufficient size, gains sufficeint light, has at least two power sockets, and a phone and brodband connection.

#### Evidence for WAT 1 (Internal Water Use)

Internal water use less than or equal to 105 litres per person per day

Camden Council require that at least 50% of the Water Credits are achieved, plus new home shave to be Code Level 4 or higher.

#### Assumptions for WAT 1

Assume to meet Code level 4 the house will have water appliances designed to provided 105 litres per person per day or less.

#### Evidence for WAT 2 (External Water Use)

Compliant individual rainwater collection system

Plans show that an external water butt will be provided.

#### Assumptions for WAT 2

Assume that the water butt is sufficient size (200 litres or more), has a child proof lid, tap for drawing off water, connected to the rainwater downpipe with automatic overflow into drain system, provision to enable it to be detached so it can be cleaned, positioned in a stable location, made of material of a durable quaility, and opaque to sunlight.

#### Evidence for MAT 1 (Environmental Impact of Materials)

Mandatory requirements met: At least 3 elements rated A+ to D, 9 credits scored

Camden Council require that at least 50% of the Material credits are obtained.

#### Assumptions for MAT 1

Assume that the envionmental impacts of the main building elements will be reduced, and therefore at least 9 credits will be acheaved.

#### Evidence for MAT 2 (Responsible Sourcing (Basic Building Elements))

3 credits scored

Camden Council require that at least 50% of the Material credits are obtained.

#### Assumptions for MAT 2

Assume that at least 3 credits are obatiend for this.

#### Evidence for MAT 3 (Responsible Sourcing (Finishing Elements))

1 credit scored

Camden Council require that at least 50% of the Material credits are obtained.

#### Assumptions for MAT 3

Assume that at least 1 credit is obatiend for this.

#### Evidence for SUR 1 (Management of Surface Water Run-Off from Site)

Special Case: No change/decrease in impermeable area. Credits not available

Credits not sought, water quality criteria not met/sought.

The site is existing site is hardstanding with limited if any soft landscaping.

#### Assumptions for SUR 1

Assume that the hardsurface covering for the site is reduced and therefore the mandatory requirements can be met by default. However, assume that the geology is clay and therefore credits may not be possible.

#### Evidence for SUR 2 (Flood Risk)

Low flood risk - zone 1

The site is located in Flood zone 1.

#### Assumptions for SUR 2

Assume that flooding from other sources, such as stream/rivers, coastal flooding, groundwater, sewers, surface water and infrastructure (e.g. canals/resevoirs/failed pumping stations)

#### Evidence for WAS 1 (Household Waste Storage and Recycling Facilities)

Mandatory requirements met: Adequate storage of household waste with accessibility in line with checklist WAS 1. Local authority collection: After collection sorting with appropriate internal storage of recyclable materials

Cambden Web states that mixed recycling is collected from houses, including mixed recycling, green waste and food waste.

#### Assumptions for WAS 1

Assume that appropriate space and access to the bins is provided to enable full credits.

#### Evidence for WAS 2 (Construction Site Waste Management)

Compliant site waste management plan containing benchmarks, procedures and commitments for the minimizing and diverting 50% waste from landfill in line with the criteria and with Checklist WAS 2a, 2b & 2c

The existing garages on site will have to be demolished.

#### Assumptions for WAS 2

Assume that a waste management plan will be developed and including the demolition at least 50% of the waste generated will be diverted from landfill.

#### Evidence for WAS 3 (Composting)

Credits not sought or no compliant composting provision

Little garden space provided and therefore unlikely to provide a composting bin. The council also collects food waste as a segregated waste stream.

#### Assumptions for WAS 3

#### Evidence for POL 1 (Global Warming Potential of Insulants)

All insulants have a GWP of less than 5

#### Assumptions for POL 1

Assume that all the insulants used will have a GWP of less than 5.

#### Evidence for POL 2 (NOx Emissions)

Class 5 boiler

#### Assumptions for POL 2

Assume that the boiler chosen will at least be a Class 5 boiler.

#### Evidence for HEA 1 (Daylighting)

Kitchen: Average daylight factor of at least 2%

Living room: Average daylight factor of at least 1.5%

Dining room: Average daylight factor of at least 1.5%

Home office: Average daylight factor of at least 1.5%

The plans show a detached house with windows on all sides.

#### Assumptions for HEA 1

Assume that all the main living areas will obtain a daylight factor of at least 1.5%.

#### Evidence for HEA 2 (Sound Insulation)

Robust details have been incorporated

Airborne 8dB higher, impact 8dB lower

#### Assumptions for HEA 2

Assume that robust details are used.

#### Evidence for HEA 3 (Private Space)

Individual private space provided

The plans show garden space around the building.

#### Assumptions for HEA 3

Assume that the garden space is sufficient to obtain the credit.

#### Evidence for HEA 4 (Lifetime Homes)

All criteria of Lifetime Homes in line with all 16 principles of Lifetime Homes

Most new homes have to comply with certain aspects of Lifetime homes.



#### Assumptions for HEA 4

Assume that all 16 stages of lifetimes homes are met.

#### Evidence for MAN 1 (Home User Guide)

All criteria inline with checklist MAN 1 Part 1 - Operational Issues will be met

All criteria inline with checklist MAN 1 Part 2 - Site and Surroundings will be met

#### Assumptions for MAN 1

Assume that a home user guide will be produced that meets the requirements of the Code to enable 3 credits.

#### Evidence for MAN 2 (Considerate Constructors Scheme)

Considerate constructors scheme: Best practise only, a score of between 25 - 34, and at least a score of 5 in each section\*

#### Assumptions for MAN 2

Assume that Considerate Construction Scheme will be used, and complied with to enable 1 credit to be achieved.

#### Evidence for MAN 3 (Construction Site Impacts)

Credit(s) not sought

#### Assumptions for MAN 3

#### Evidence for MAN 4 (Security)

Secured by design section 1 & 2 compliant

#### Assumptions for MAN 4

Assume that an appropriate security person will be consulted with subsequent actions taken to comply with their requirements to enable two credits to be awarded.

#### Evidence for ECO 1 (Ecological Value of Site)

Land of low ecological value, achieved through checklist ECO 1. Development site has been identified as low ecological value by a suitably qualified ecologist

The site is an existing large area

#### Assumptions for ECO 1

Assume that the site is assessed as low ecological value to enable one credit to be awarded.

#### Evidence for ECO 2 (Ecological Enhancement)

Key recommendations and 30% additional recommendations by a suitably qualified ecologist

Plans show proposed hedges and planting at the front of the property.

#### Assumptions for ECO 2

Assume that ecological enhancement stated by an ecologist are met including the key recommendations and 30% of the additional recommendations.

#### Evidence for ECO 3 (Protection of Ecological Features)

Ecological features will be adequately protected and maintained

The tree on site will have to be removed, which may result in no credits available for this section.

#### Assumptions for ECO 3

#### Evidence for ECO 4 (Change of Ecological Value of Site)

Neutral: Greater than -3 and less than or equal to +3

#### Assumptions for ECO 4

Assume that ecologist is employed and their recommendations are followed to enable neutral change on the site.

#### Evidence for ECO 5 (Building Footprint)

Weight ratio of housing and flats (2.3:1 and 4:1)



Assumptions for ECO 5

#### Assessor Declaration

I Richard Schofield, can confirm that I have compiled this report to the best of my ability, I have based all findings on the information that is referenced within this report, and that this report is appropriate for the registered site.

To the best of my knowledge all the information contained within this report is correct and accurate. I have within my possession all the reference material that relates to this report, which is available for inspection by the client, the clients representative or Stroma Certification for Quality Assurance monitoring.

Signed:



Richard Schofield  
Phlorum Ltd  
20 November 2013

## Information about Code for Sustainable Homes

The Code for Sustainable Homes (the Code) is an environmental assessment method for rating and certifying the performance of new homes. It is a national standard for use in the design and construction of new homes with a view to encouraging continuous improvement in sustainable home building. The Code is based on EcoHomes®.

It was launched in December 2006 with the publication of 'Code for Sustainable Homes: A stepchange in sustainable home building practice' (Communities and Local Government, 2006), and became operational in England from April 2007.

The Code for Sustainable Homes covers nine categories of sustainable design. Each category includes a number of environmental issues. Each issue is a source of impact on the environment which can be assessed against a performance target and awarded one or more credits. Performance targets are more demanding than the minimum standards 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. The issues and categories are as follows:

- Energy & CO2 Emissions
  - Dwelling Emission Rate
  - Building Fabric
  - Internal Lighting
  - Drying Space
  - Energy Labelled White Goods
  - External Lighting
  - Low or Zero Carbon Technologies
  - Cycle Storage
  - Home Office
- Water
  - Internal Water Use
  - External Water Use
- Materials
  - Environmental Impact of Materials
  - Responsible Sourcing of Materials - Basic Building Elements
  - Responsible Sourcing of Materials - Finishing Elements
- Surface Water Run-off
  - Management of Surface Water Run-off from the Development
  - Flood Risk
- Waste
  - Storage of Non-Recyclable Waste and Recyclable Household Waste
  - Construction Site Waste Management
  - Composting
- Pollution
  - Global Warming Potential of Insulants
  - NOx Emissions

- Health & Wellbeing
  - Daylighting
  - Sound Insulation
  - Private Space
  - Lifetime Homes
- Management
  - Home User Guide
  - Considerate Constructors Scheme
  - Construction Site Impacts
  - Security
- Ecology
  - Ecological Value of Site
  - Ecological Enhancement
  - Protection of Ecological Features
  - Change in Ecological Value of Site
  - Building Footprint

The Code assigns one or more performance requirements (assessment criteria) to all of the above environmental issues. When each performance requirement is achieved a credit is awarded (with the exception of the four mandatory requirements which have no associated credits). The total number of credits available to a category is the sum of credits available for all the issues within it.

Mandatory minimum performance standards are set for some issues. For four of these, a single mandatory requirement is set which must be met, whatever Code level rating is sought. Credits are not awarded for these issues. Confirmation that the performance requirements are met for all four is a minimum entry requirement for achieving a level 1 rating. The four un-credited issues are:

- Environmental Impacts of Materials
- Management of Surface Water Run-off from Developments
- Storage of Non-Recyclable Waste and Recyclable Household Waste
- Construction Site Waste Management

If the mandatory minimum performance standard is met for the four un-credited issues, four further mandatory issues need to be considered. These are agreed to be such important issues that separate Government policies are being pursued to mitigate their effects. For two of these, credits are awarded for every level of achievement recognised within the Code, and minimum mandatory standards increase with increasing rating levels.

The two issues with increasing mandatory minimum standards are:

- Dwelling Emission Rate
- Indoor Water Use

For one issue a mandatory requirement at Level 5 or 6:

- Fabric Energy Efficiency

The final issue with a mandatory requirement for Level 6 of the Code is:

- Lifetime Homes

Further credits are available on a free-choice or tradable basis from other issues so that the developer may choose how to add performance credits (converted through weighting to percentage points) achieve the rating which they are aiming for.

The environmental impact categories within the Code are not of equal importance. Their relative value is conveyed by applying a consensus-based environmental weighting factor (see details below) to the sum of all the raw credit scores in a category, resulting in a score expressed as percentage points. The points for each category add up to 100.

The weighting factors used in the Code have been derived from extensive studies involving a wide range of stakeholders who were asked to rank (in order of importance) a range of environmental impacts. Stakeholders included international experts and industry representatives.

It is also important to note that achieving a high performance in one category of environmental impact can sometimes result in a lower level of performance for another. For instance, if biomass is used to meet heating demands, credits will be available for performance in respect of energy supplied from a renewable source, but credits cannot be awarded for low NOX emission. It is therefore impossible to achieve a total percentage points score of 100.

The Code uses a rating system of one to six stars. A star is awarded for each level achieved. Where an assessment has taken place by where no rating is achieved, the certificate states that zero stars have been awarded:

<b>Code Levels</b>	<b>Total Points Score (Equal to or Greater Than)</b>
<b>Level 1</b> ★☆☆☆☆	<b>36 Points</b>
<b>Level 2</b> ★★☆☆☆	<b>48 Points</b>
<b>Level 3</b> ★★★☆☆	<b>57 Points</b>
<b>Level 4</b> ★★★★☆	<b>68 Points</b>
<b>Level 5</b> ★★★★★	<b>84 Points</b>
<b>Level 6</b> ★★★★★★	<b>90 Points</b>

Formal assessment of dwellings using the Code for Sustainable Homes may only be carried out using Certified assessors, who are qualified 'competent persons' for the purpose of carrying out Code assessments.

### Energy & CO2 Emissions

#### ENE 1: Dwelling Emission Rate

**Available Credits:**10

**Aim:** To limit CO2 emissions arising from the operation of a dwelling and its services in line with current policy on the future direction of regulations.

#### ENE 2: Fabric Energy Efficiency

**Available Credits:**9

**Aim:** To improve fabric energy efficiency performance thus future-proofing reductions in CO2 for the life of the dwelling.

#### ENE 3: Energy Display Device

**Available Credits:**2

**Aim:** To promote the specification of equipment to display energy consumption data, thus empowering dwelling occupants to reduce energy use.

#### ENE 4: Drying Space

**Available Credits:**1

**Aim:** To promote a reduced energy means of drying clothes.

#### ENE 5: Energy Labelled White Goods

**Available Credits:**2

**Aim:** To promote the provision or purchase of energy efficient white goods, thus reducing the CO2 emissions from appliance use in the dwelling.

#### ENE 6: External Lighting

**Available Credits:**2

**Aim:** To promote the provision of energy efficient external lighting, thus reducing CO2 emissions associated with the dwelling.

#### ENE 7: Low or Zero Carbon Technologies

**Available Credits:**2

**Aim:** To limit CO2 emissions and running costs arising from the operation of a dwelling and its services by encouraging the specification of low and zero carbon energy sources to supply a significant proportion of energy demand.

#### ENE 8: Cycle Storage

**Available Credits:**2

**Aim:** To promote the wider use of bicycles as transport by providing adequate and secure cycle storage facilities, thus reducing the need for short car journeys and the associated CO2 emissions.

#### ENE 9: Home Office

**Available Credits:**1

**Aim:** To promote working from home by providing occupants with the necessary space and services thus reducing the need to commute.

### Water

#### WAT 1: Indoor Water Use

**Available Credits:**5

**Aim:** To reduce the consumption of potable water in the home from all sources, including borehole well water, through the use of water efficient fittings, appliances and water recycling systems.

#### WAT 2: External Water Use

**Available Credits:**1

**Aim:** To promote the recycling of rainwater and reduce the amount of mains potable water used for external water uses.

### Materials

#### MAT 1: Environmental Impact of Materials

**Available Credits:**15

**Aim:** To specify materials with lower environmental impacts over their life-cycle.

#### MAT 2: Responsible Sourcing of Materials - Basic Building Elements

**Available Credits:**6

**Aim:** To promote the specification of responsibly sourced materials for the basic building elements.

#### MAT 3: Responsible Sourcing of Materials - Finishing Elements

**Available Credits:**3

**Aim:** To promote the specification of responsibly sourced materials for the finishing elements.

### Surface Water Run-off

**SUR 1:**Management of Surface Water Run-off from developments

**Available Credits:**2

**Aim:**To design surface water drainage for housing developments which avoid, reduce and delay the discharge of rainfall run-off 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.

**SUR 2:**Flood Risk

**Available Credits:**2

**Aim:**To promote housing development in low flood risk areas, or to take measures to reduce the impact of flooding on houses built in areas with a medium or high risk of flooding.

### Waste

**WAS 1:**Storage of non-recyclable waste and recyclable household waste

**Available Credits:**4

**Aim:**To promote resource efficiency via the effective and appropriate management of construction site waste.

**WAS 2:**Construction Site Waste Management

**Available Credits:**3

**Aim:**To promote resource efficiency via the effective and appropriate management of construction site waste.

**WAS 3:**Composting

**Available Credits:**1

**Aim:**To promote the provision of compost facilities to reduce the amount of household waste sent to landfill.

### Pollution

**POL 1:**Global Warming Potential of Insulants

**Available Credits:**1

**Aim:**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

**Available Credits:**3

**Aim:**To promote the reduction of nitrogen oxide (NOX) emissions into the atmosphere.

### Health & Wellbeing

**HEA 1:**Daylighting

**Available Credits:**3

**Aim:**To promote good daylighting and thereby improve quality of life and reduce the need for energy to light the home.

**HEA 2:**Sound Insulation

**Available Credits:**4

**Aim:**To promote the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours.

**HEA 3:**Private Space

**Available Credits:**1

**Aim:**To improve quality of life by promoting the provision of an inclusive outdoor space which is at least partially private.

**HEA 4:**Lifetime Homes

**Available Credits:**4

**Aim:**To encourage the construction of homes that are accessible and easily adaptable to meet the changing needs of current and future occupants.



## Management

**MAN 1:**Home User Guide

**Available Credits:**3

**Aim:**To promote the provision of guidance enabling occupants to understand and operate their home efficiently and make the best use of local facilities.

**MAN 2:**Considerate Constructors Scheme

**Available Credits:**3

**Aim:**To promote the environmentally and socially considerate, and accountable management of construction sites.

**MAN 3:**Construction Site Impacts

**Available Credits:**2

**Aim:**To promote construction sites managed in a manner that mitigates environmental impacts.

**MAN 4:**Security

**Available Credits:**2

**Aim:**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.

## Ecology

**ECO 1:**Ecological value of site

**Available Credits:**1

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

**ECO 2:**Ecological enhancement

**Available Credits:**1

**Aim:**To enhance the ecological value of a site.

**ECO 3:**Protection of ecological features

**Available Credits:**1

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

**ECO 4:**Change in ecological value of site

**Available Credits:**4

**Aim:**To minimise reductions and promote an improvement in ecological value.

**ECO 5:**Building footprint

**Available Credits:**2

**Aim:**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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