Code for Sustainable Homes
Technical Guide November 2010 - Full Technical Guide
Pre-Assessment Report

STROMA CERTIFIED CODE ASSESSOR

32013013P

LK ACCREDITATION LIMTED

Report Reference:	**LKACC 12 1177**
Site Registration:	
Site Name:	**Petre Wood**
Assessor Number:	**STRO007454**
Company:	**LK Accreditation**
Assessor:	**Gwyn Roberts**

THE CODE FOR SUSTAINABLE HOMES
CERTIFICATION MARK

Site Details	
Site Name:	Petre Wood
Site Registration:	
Site Address:	Petre Wood
	Longsight Road
	Langho
City/Town:	Blackburn
County:	Lancashire
Postcode:	BB6 8FE
No. of Dwellings:	1
No. of Dwelling Types:	0
Planning Authority:	Ribble Valley Borough Council
Funding Body:	Great Places

Assessor Details	
Company:	LK Accreditation
Assessor Name:	Gwyn Roberts
Cert Number:	STRO007454
Address:	Bury Business Centre
	Kay Street
City/Town:	Bury
County:	Lancashire
Postcode:	BL9 6BU
Tel:	0161 763 7200
Email:	g.roberts@thelkgroup.com

Client Details	
Company:	Great Places Housing Association
Contact Name:	Helen Spencer
Job Title:	Development Manager
Email:	
Tel:	Helen.spencer@greatplaces.org.uk
Address:	Southern Gate
	729 Princess Road
City/Town:	Manchester
County:	Greater Manchester
Postcode:	M20 2LT

Architect Details	
Company:	Croft Goode Partnership
Contact Name:	Croft Goode Partnership
Job Title:	4 The Crossroads
Email:	email@croftgoode.co.uk
Tel:	01772 686030
Address:	Freckleton Street
	Kirkham
City/Town:	Preston
County:	Lancashire
Postcode:	PR4 2SH

Developer Details	
Company:	
Contact Name:	
Job Title:	
Email:	
Tel:	
Address:	
City/Town:	
County:	
Postcode:	

Dwelling ID	Plot No.	Address	Social Unit
1	1	Petre Wood Longsight Road	Yes

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Development Summary & Ratings

Dwelling ID	Dwelling Type	Description	Level	Score
		Petre Wood	3	60.62

Deviations from Standard

No deviations from standard

Score Sheet for Petre 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	1.7	3.4	2	1	1	2	0	2	1	4	1	12	3	2	0	2	4	3	1	1	3	1	3	1	0	3	2	2	2	1	1	1	1	0	60.62	3

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Summary Score Sheet

Dwelling Type: Petre Wood

Dwelling ID: 1

	Credit Score	Credits Available	Score Assessment Sub Total	Credits Available	%	Weighting Factor	Points Score
Energy & CO2 Emissions							
ENE 1 Dwelling Emission Rate	1.7	10	14.1	31	45.48	36.4	16.56
ENE 2 Fabric Energy Efficiency	3.4	9					
ENE 3 Energy Display Device	2	2					
ENE 4 Drying Space	1	1					
ENE 5 Energy Labelled White Goods	1	2					
ENE 6 External Lighting	2	2					
ENE 7 Low or Zero Carbon Energy Technologies	0	2					
ENE 8 Cycle Storage	2	2					
ENE 9 Home Office	1	1					
Water							
WAT 1 Internal Water Use	4	5	5	6	83.33	9	7.5
WAT 2 External Water Use	1	1					
Materials							
MAT 1 Environmental Impact of Materials	12	15	17	24	70.83	7.2	5.1
MAT 2 Responsible Sourcing (Basic Building Elements)	3	6					
MAT 3 Responsible Sourcing (Finishing Elements)	2	3					
Surface Water Run-off							
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					
Waste							
WAS 1 Household Waste Storage and Recycling Facilities	4	4	8	8	100	6.4	6.4
WAS 2 Construction Site Waste Management	3	3					
WAS 3 Composting	1	1					
Pollution							
POL 1 Global Warming Potential of Insulants	1	1	4	4	100	2.8	2.8
POL 2 NOx Emissions	3	3					
Health & Wellbeing							
HEA 1 Daylighting	1	3	5	12	41.67	14	5.83
HEA 2 Sound Insulation	3	4					
HEA 3 Private Space	1	1					
HEA 4 Lifetime Homes	0	4					
Management							
MAN 1 Home User Guide	3	3	9	9	100	10	10
MAN 2 Considerate Constructors Scheme	2	2					
MAN 3 Construction Site Impacts	2	2					
MAN 4 Security	2	2					
Ecology							
ECO 1 Ecological Value of Site	1	1	4	9	44.44	12	5.33
ECO 2 Ecological Enhancement	1	1					
ECO 3 Protection of Ecological Features	1	1					
ECO 4 Change of Ecological Value of Site	1	4					
ECO 5 Building Footprint	0	2					
	Level Achieved: 3		**Total Points Scored: 60.62**				

Evidence for ENE 1 (Dwelling Emission Rate)

Improvement above Part L Building Regulations 2010. 1.7 credits allocated

Assumptions for ENE 1

Ene 1 and Ene 2 within the Code for Sustainable Homes are based upon SAP, the Standard

Assessment Procedure that calculates improvements for Part L 1a of the Building Regulations.

In 2010, the Government changed Part L 1a which meant that the minimum Building Regulations standards were the equivalent mandatory standard of Code Level 3. Therefore,if minimum Building Regulations are achieved, the mandatory element of Code Level 3 has been met.

Following the Government's preferred hierarchy (first set out in the 2008 Zero Carbon Homes Definition) it is best to follow an Energy Efficiency "Fabric First" approach.

Most of the fabric of the building is likely to last the lifetime of the dwelling (an average of 50 years), whilst bolt on technologies are likely to last only 20 years. Building the fabric to the best feasible standards with little or no renewables also means that the dwellings are easier to improve in the future by adding renewables. Building new dwellings with lower fabric standards and renewables makes the homes more difficult to improve later in life.
This is a similar approach as set out in the consultation for 2013 Part L.

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Evidence for ENE 2 (Fabric Energy Efficiency)

End Terrace
3.4 credits allocated

Assumptions for ENE 2

Assessment Procedure that calculates improvements for Part L 1a of the Building Regulations.

In 2010, the Government changed Part L 1a which meant that the minimum Building Regulations standards were the equivalent mandatory standard of Code Level 3. Therefore,if minimum Building Regulations are achieved, the mandatory element of Code Level 3 has been met.
Following the Government's preferred hierarchy (first set out in the 2008 Zero Carbon Homes Definition) it is best to follow an Energy Efficiency "Fabric First" approach.

Most of the fabric of the building is likely to last the lifetime of the dwelling (an average of 50 years), whilst bolt on technologies are likely to last only 20 years. Building the fabric to the best feasible standards with little or no renewables also means that the dwellings are easier to improve in the future by adding renewables. Building new dwellings with lower fabric standards and renewables makes the homes more difficult to improve later in life.
This is a similar approach as set out in the consultation for 2013 Part L.

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.

Assumptions for ENE 3

It is a Government Target that ALL homes (not just new homes) should have a smart meter by 2020, and it is the energy companies who will be providing them.

Having a dwelling that is highly efficient does not always mean a reduction in energy consumption. People often change their habits when moving into highly efficient home, simply by having it warmer for longer.

Smart meters with Energy Display Devices are one tool that can help residents understand how much energy they are using and when. With this knowledge they are more likely to cut their use.

Currently there are devices that measure both Electricity and Gas, displaying these in a graphical and numerical way that can be logged on a daily, monthly and yearly basis.

Evidence for ENE 4 (Drying Space)

Compliant internal drying space

Assumptions for ENE 4

Providing an external (e.g. a rotary dryer) or an internal (e.g. A Tidy Dry with appropriate ventilation) facility for the natural drying of clothes, reducing the need for electrically driven dryers.

Evidence for ENE 5 (Energy Labelled White Goods)

EU energy efficiency labelling scheme leaflet provision/provided

Assumptions for ENE 5

Where fitted, installing energy efficient white goods that meets or improves on the following specification: fridges or fridge-freezers = A+ rated; washing machines and dishwashers = A rated; tumble dryers and washer dryers = A rated.

To achieve 1 credit, the developer is required to give the occupier information about the European Energy Labelling of White goods scheme.

Evidence for ENE 6 (External Lighting)

Compliant space lighting
Compliant security lighting

Assumptions for ENE 6

External lighting can help improve security and it also improves access for partially sighted people. To improve Energy Efficiency this lighting should perform well, with minimum standards for Lumens (light output) per Watt of energy used.
Equally it is important that this lighting is only used when it is needed, there for daylight sensors and / or movement sensors will be appropriately fitted.

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

Credit(s) not sought or contribution of low or zero carbon technologies less than 10%

Assumptions for ENE 7

Evidence for ENE 8 (Cycle Storage)

2 or 3 bedroom dwelling - Storage for 2 cycles per dwelling

Assumptions for ENE 8

It is possible that Secure Cycle Storage will be fitted at the site, this enables residents to have somewhere to easily store bikes which can help to reduce the use of cars and improve health.

Evidence for ENE 9 (Home Office)

Compliant home office

Assumptions for ENE 9

Encouraging people to live and work in the same locality is central to the sustainability agenda as it reduces the need to travel and the negative externalities associated with this. It is anticipated that the dwellings will have provision for home working in accordance with the requirements of the Code for Sustainable Homes.

However it maybe difficult to achieve the required daylighting for all plots.

Evidence for WAT 1 (Internal Water Use)

Internal water use less than or equal to 90 litres per person per day

Assumptions for WAT 1

By conforming to the Code for Sustainable Homes Level 3/4 standard for all dwellings, water use by the residents will be minimised through the specification of water saving sanitary features. The Code mandatory target for water consumption of 105 litres per person per day will be met for the dwellings. This represents a 30% reduction in terms of typical water consumption behaviour and a 16% improvement on the 125 litre per person per day requirement set by the amended Part G of Building Regulations (approved April 2010).
With careful choices for sanitary ware it is possible to achieve higher levels of indoor water efficiency above that of the mandatory level of Code Level 3/4. The homes could achieve 90 litres per person per day, but still use products which have good performance for residents.
The following devices will be incorporated within each dwelling to assist in achieving this requirement:
- Water efficient taps determined through the use of water restrictors
- Water efficient and dual flush toilets
- Shower flow rates no more than 9L/min
- Bath sizes will be in keeping with national practice

Information on ways to reduce water use will be included as part of the Home User Guide which all residents will be given on occupation of their dwelling.

There maybe a need for rain water harvesting due to the site conditions for the Surface Water element. If Rain water harvesting is included, then this water can be used to flush toilets and used for washing.

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Evidence for WAT 2 (External Water Use)

Compliant individual rainwater collection system

Assumptions for WAT 2

By installing rain water butts, not only can residents use the water collected in them for garden use, they also can be helpful as water attenuation when heavy rainfall occurs. If rain water harvesting is included to pass the minimum mandatory elements in Sur 1 then this technology can also be used to gain credits under Wat 2.

Evidence for MAT 1 (Environmental Impact of Materials)

Mandatory requirements met: At least 3 elements rated A+ to D, 12 credits scored

Assumptions for MAT 1

The choice of construction materials affects the level of embodied energy being used by the development and it has a wide impact on the environment. Embodied energy is the energy consumed in the processes associated with the construction of the building. The following practices will be adopted by the developer to assist in reducing levels of embodied energy being used.

Where feasible, the developer will use materials that are locally sourced.
In doing this they will be supporting the local economy and will be minimising transportation of materials to the site.

In selecting the construction materials the developer will endeavour to select materials which are from sustainable sources. BRE have created a Guide which rates construction materials according to sustainability criteria and where possible materials will have the highest sustainability rating, 'A+' or 'A'. Such materials have lower environmental impacts compared with 'B' and 'C' rated materials. Where an A+ or A rated material is not feasible the next level of B would be selected.

The use of recycled materials would be carefully considered from a sustainability perspective and where they can be incorporated in the development, this will be determined at the detailed design stage.

The developer intends that basic building materials are responsibly sourced and will be specified as such when suppliers are sought.

Suppliers of timber products will be required to seek to evidence a full chain of custody e.g. Forest Stewardship Council and the Programme for the Enforcement of Forest Certification As there materials have not been decided upon yet, the credits allocated within the preassessment are indicative of other similar sites.

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

3 credits scored

Assumptions for MAT 2

The choice of construction materials affects the level of embodied energy being used by the development and it has a wide impact on the environment. Embodied energy is the energy consumed in the processes associated with the construction of the building. The following practices will be adopted by the developer to assist in reducing levels of embodied energy being used.

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The developer intends that basic building materials are responsibly sourced and will be specified as such when suppliers are sought.

Suppliers of timber products will be required to seek to evidence a full chain of custody e.g. Forest Stewardship Council and the Programme for the Enforcement of Forest Certification As there materials have not been decided upon yet, the credits allocated within the preassessment are indicative of other similar sites.

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

2 credits scored

Assumptions for MAT 3

The choice of construction materials affects the level of embodied energy being used by the development and it has a wide impact on the environment. Embodied energy is the energy consumed in the processes associated with the construction of the building. The following practices will be adopted by the developer to assist in reducing levels of embodied energy being used.

Where feasible, the developer will use materials that are locally sourced.
In doing this they will be supporting the local economy and will be minimising transportation of materials to the site.

In selecting the construction materials the developer will endeavour to select materials which are from sustainable sources. BRE have created a Guide which rates construction materials according to sustainability criteria and where possible materials will have the highest sustainability rating, 'A+' or 'A'. Such materials have lower environmental impacts compared with 'B' and 'C' rated materials. Where an A+ or A rated material is not feasible the next level of B would be selected.

The use of recycled materials would be carefully considered from a sustainability perspective and where they can be incorporated in the development, this will be determined at the detailed design stage.

The developer intends that basic building materials are responsibly sourced and will be specified as such when suppliers are sought.

Suppliers of timber products will be required to seek to evidence a full chain of custody e.g. Forest Stewardship Council and the Programme for the Enforcement of Forest Certification As there materials have not been decided upon yet, the credits allocated within the preassessment are indicative of other similar sites.

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

Mandatory Met: Peak rate of run-off and annual volume of run-off is no greater for the developed than for the pre-development. The system has also been designed for local drainage system failure.

Assumptions for SUR 1

To achieve the mandatory requirement, the impermeable area must not increase post development.
To determine the correct course of action a suitable qualified hydrologist will need to be employed.

Evidence for SUR 2 (Flood Risk)

Low flood risk - zone 1

Assumptions for SUR 2

A Flood Risk Assessment and Drainage Strategy will need to be been carried out by a suitably qualified consultant for submission of the Code Design Stage.
It is expected that the Site is located in Flood Zone 1 and the flood risk is less than 1 in 1000 in any year, which is classified as 'low'.

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

Assumptions for WAS 1

For all dwellings, external spaces and internal facilities will be provided for waste storage in accordance with the Code for Sustainable Homes (November 2010) requirements and BS 5906.
The developer will undertake early discussions with the Local Authority to establish their requirements for the recycling and general refuse collection service to ensure integration between the two.

Information on how to minimise waste and how and what to recycle will be included in a Home User Guide provided to all residents of the development.

The Mandatory element of this credit that requires level access to the bin storage (assessed through the IDP checklist) will also be achieved.

Evidence for WAS 2 (Construction Site Waste Management)

Compliant site waste management plant containing benchmarks, procedures and commitments for the minimizing and diverting 80% waste from landfill in line with the criteria and with Checklist WAS 2a, 2b & 2c

Assumptions for WAS 2

Construction operations generate waste materials as a result of general handling losses and surpluses. These wastes can be reduced through the appropriate selection of construction methods, good site waste management practices and spotting opportunities to avoid creating unnecessary waste. In accordance with regulatory requirements the developer will prepare a Site Waste Management Plan (SWMP) at the appropriate stage of development.
Implementing the SWMP could result in various benefits for the development, which include:
- Better control of risks relating to the materials and waste on the site.
- Demonstrating compliance with the legislative framework.
- Demonstrating to clients how waste is managed and minimised and how associated costs are controlled.

Evidence for WAS 3 (Composting)

Individual compositing facility/facilities

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

All insulation materials specified by the developer would have an Ozone Depleting Potential of Zero and Global Warming Potential of less than 5.

Evidence for POL 2 (NOx Emissions)

NOx emissions less than or equal to 40mg/kWh

Assumptions for POL 2

Highly efficient gas boilers that will be needed to achieve Ene 1 credits are almost certainly going to achieve 3 credits in this category.
If Heat Pumps, using mains electricity, are used then it is unlikely to achieve credits here.

Evidence for HEA 1 (Daylighting)
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%
Assumptions for HEA 1
Many plots are likely to achieve this credit, however this will depend on daylight calculations. For the purpose of pre-assessment we are assuming worse case.

Evidence for HEA 2 (Sound Insulation)
Accredited Part E sound testing has been undertaken Airborne 5dB higher, impact 5dB lower
Assumptions for HEA 2
During construction, adverse noise and vibration effects will be mitigated as far a possible through specific site practices, and the management and use of appropriate construction techniques. Party Walls will achieve a standard of at least 5dB better than Building Regulations Part E either through accredited sound testing or the use of Robust Details.

Evidence for HEA 3 (Private Space)
Individual private space provided.
Assumptions for HEA 3
Private Space has to adhere to the IDP checklist.

Evidence for HEA 4 (Lifetime Homes)
Credits not sought
Assumptions for HEA 4

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
The Home User Guide enables occupants of the dwellings to understand how best to use their homes and local area. With new technology, controls and displays some residents may not be sure how to best operate their homes. The Home User Guide also gives important information about amenities and services in the local area and details of sustainable transport. The Developer will develop the proposed scheme in accordance with the principles of Considerate Constructors Scheme thereby achieving credits under the Code for Sustainable Homes. Part of this accreditation includes waste management measures and re use of materials and recycling. Other components of good construction practice are to be undertaken, including regular consultation with the existing neighbouring community and residents (with a complaints procedure established) and monitoring of site impacts before, during and post construction. Appropriate mitigation measures will then be able to take place to minimise the effects. As this is a small site and therefore easy to control, it should be relatively easy to achieve maximum credits.

Evidence for MAN 2 (Considerate Constructors Scheme)
Considerate constructors scheme: Significantly beyond best practise, a score of between 32 and 40 and at least a score of 4 in every section

Assumptions for MAN 2

The Developer will develop the proposed scheme in accordance with the principles of Considerate Constructors Scheme thereby achieving credits under the Code for Sustainable Homes. Part of this accreditation includes waste management measures and re use of materials and recycling.

Other components of good construction practice are to be undertaken, including regular consultation with the existing neighbouring community and residents (with a complaints procedure established) and monitoring of site impacts before, during and post construction.

Appropriate mitigation measures will then be able to take place to minimise the effects.

It is likely that it will be possible to achieve Significantly Beyond Best Practise

Evidence for MAN 3 (Construction Site Impacts)

Monitor, report and set targets for CO2 production or energy use from site activities
Monitor, report and set targets for water consumption from site activities
Adopt best practise policies in respects to air (dust) pollution from site activities
Adopt best practise policies in respects to water (ground and surface) pollution

Assumptions for MAN 3

Reducing the impacts of the building work during construction also helps to reduce the impact upon the environment. Procedures such as reducing the amount of dust, reducing the amount of water pollution. Measuring on site electricity and water will also be considered by the developer.

Evidence for MAN 4 (Security)

Secure by design section 1 & 2 compliant

Assumptions for MAN 4

The proposed development is expected to be designed to address the principles and objectives of the 'Secured by Design' award scheme. This will allow credits to be achieved in the Security section of Code for Sustainable Homes.

A Local Police Crime Prevention advice will be sought during the design period and recommendations considered and incorporated into the detailed design of the development.

Evidence for ECO 1 (Ecological Value of Site)

Construction zone site has been identified as low ecological value by a suitably qualified ecologist, all land outside the construction zone, but in the development site will remain undisturbed

Assumptions for ECO 1

SEP Ltd have undertaken a Phase 1 habitat survey, this will need to be reworked into a Code compliant report detailing the credits available.

The report suggests that there is some Ecological features, however at this stage it isn't clear if they are within the construction Zone or not.

The current assumption is that there maybe a credit within this section, but if it is not possible then credits will have to be gained elsewhere, preferably within the Ecology section.

Evidence for ECO 2 (Ecological Enhancement)

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

Assumptions for ECO 2

SEP Ltd have undertaken a Phase 1 habitat survey, this will need to be reworked into a Code compliant report detailing the credits available.

Evidence for ECO 3 (Protection of Ecological Features)

Ecological features will be adequately protected and maintained

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Assumptions for ECO 3
SEP Ltd have undertaken a Phase 1 habitat survey, this will need to be reworked into a Code compliant report detailing the credits available. The report suggests that there is some Ecological features, however at this stage it isn't clear if they are within the construction Zone or not. The current assumption is that the maybe a credit within this section, but if it is not possible then credits will have to be gained elsewhere, preferably within the Ecology section. This is dependent on Eco 1

Evidence for ECO 4 (Change of Ecological Value of Site)
Minor negative change: Between -9 and less than or equal to -3
Assumptions for ECO 4
SEP Ltd have undertaken a Phase 1 habitat survey, this will need to be reworked into a Code compliant report detailing the credits available. Improving the Ecolgolocial value of the site maybe difficult as there is already some Ecological features there. Current credit allocation is worse case, it maybe possible to improve this.

Evidence for ECO 5 (Building Footprint)
Credit not sought
Assumptions for ECO 5

Assessor Declaration

I Gwyn Roberts, 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:

Gwyn Roberts
LK Accreditation
06 November 2012

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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:

Code Levels	Total Points Score (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

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 send 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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