

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



18 MAR 2011

ECL

Energy Calculations Limited

Report Reference:
Site Registration:
Site Name: 13 Cross Street
Assessor Number:
Company: Energy Calculations Limited
Assessor: Matthew Carter



CERTIFICATION MARK



Dwelling ID	Plot No	Address	Social Unit
1	1		No
2	4		No
3	8		No
4	1		No
5	2		No
6	3		No
7	4		No
8	5		No



Development Summary & Ratings

Dwelling Type	Description	Level	Score
all		3	59.46

Deviations from Standard

No deviations from standard



Score Sheet for 13 Cross Street

Dwelling ID	ENE									WAT			MAT			SUR			WAS			POL			HEA				MAN				ECO					Summary	
	1	2	3	4	5	6	7	8	9	1	2	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	4	1	2	3	4	1	2	3	4	5	Score	Level	
1	4.25	6	1	1	1	2	0	1	1	4	1	10	1	1	0	2	4	1	0	1	0	0	3	0	4	3	1	0	2	1	0	1	2	2	59.46	3			
2	4.25	6	1	1	1	2	0	1	1	4	1	10	1	1	0	2	4	1	0	1	0	0	3	0	4	3	1	0	2	1	0	1	2	2	59.46	3			
3	4.25	6	1	1	1	2	0	1	1	4	1	10	1	1	0	2	4	1	0	1	0	0	3	0	4	3	1	0	2	1	0	1	2	2	59.46	3			
4	4.25	6	1	1	1	2	0	1	1	4	1	10	1	1	0	2	4	1	0	1	0	0	3	0	4	3	1	0	2	1	0	1	2	2	59.46	3			
5	4.25	6	1	1	1	2	0	1	1	4	1	10	1	1	0	2	4	1	0	1	0	0	3	0	4	3	1	0	2	1	0	1	2	2	59.46	3			
6	4.25	6	1	1	1	2	0	1	1	4	1	10	1	1	0	2	4	1	0	1	0	0	3	0	4	3	1	0	2	1	0	1	2	2	59.46	3			
7	4.25	6	1	1	1	2	0	1	1	4	1	10	1	1	0	2	4	1	0	1	0	0	3	0	4	3	1	0	2	1	0	1	2	2	59.46	3			
8	4.25	6	1	1	1	2	0	1	1	4	1	10	1	1	0	2	4	1	0	1	0	0	3	0	4	3	1	0	2	1	0	1	2	2	59.46	3			

Summary Score Sheet

Dwelling Type: all

Dwellings: 1 to 8

		Score Assessment					Weighting Factor	Points Score
		Credit Score	Credits Available	Sub Total	Credits Available	Score		
Energy & CO2 Emissions								
ENE 1	Dwelling Emission Rate	4.2	10	16.8	31	54.19	36.4	19.73
ENE 2	Fabric Energy Efficiency	5.6	9					
ENE 3	Energy Display Device	1	2					
ENE 4	Drying Space	1	1					
ENE 5	Energy Labeled White Goods	1	2					
ENE 6	External Lighting	2	2					
ENE 7	Low or Zero Carbon Energy Technologies	0	2					
ENE 8	Cycle Storage	1	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	10	15	12	24	50	7.2	3.6
MAT 2	Responsible Sourcing (Basic Building Elements)	1	6					
MAT 3	Responsible Sourcing (Finishing Elements)	1	3					
Surface Water Run-off								
SUR 1	Management of Surface Water run-off from Development	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	5	8	62.5	6.4	4
WAS 2	Construction Site Waste Management	1	3					
WAS 3	Composting	0	1					
Pollution								
POL 1	Global Warming Potential of Insulants	1	1	1	4	25	2.8	0.7
POL 2	NOx Emissions	0	3					
Health & Wellbeing								
HEA 1	Daylighting	0	3	7	12	58.33	14	8.17
HEA 2	Sound Insulation	3	4					
HEA 3	Private Space	0	1					
HEA 4	Lifetime Homes	4	4					
Management								
MAN 1	Home User Guide	3	3	6	9	66.67	10	6.67
MAN 2	Conserve Construction Waste	1	2					
MAN 3	Construction Site Impacts	0	2					
MAN 4	Security	2	2					
Ecology								
ECO 1	Ecological Value of Site	1	1	6	9	66.67	12	8
ECO 2	Ecological Enhancement	0	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: 3		Total Points Scored: 59.46				

Evidence for ENE 1 (Dwelling Emission Rate) - all

Improvement above Part L Building Regulations 2010. 4.2 credits allocated

Evidence for ENE 2 (Fabric Energy Efficiency) - allApartment
Detached
6 credits allocated**Evidence for ENE 3 (Energy Display Device) - all**

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

Evidence for ENE 4 (Drying Space) - all

Compliant internal drying space

Evidence for ENE 5 (Energy Labelled White Goods) - all

EU energy efficiency labelling scheme leaflet provision/provided

Evidence for ENE 6 (External Lighting) - allCompliant space lighting, no security lighting installed
Dual lamp luminaires with compliant space & security lamps**Evidence for ENE 7 (Low or Zero Carbon Energy Technologies) - all**

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

Evidence for ENE 8 (Cycle Storage) - allStudio or 1 bedroom dwelling - Storage for 1 cycle per two dwellings
2 or 3 bedroom dwelling - Storage for 1 cycle per dwelling**Evidence for ENE 9 (Home Office) - all**

Compliant home office

Evidence for WAT 1 (Internal Water Use) - all

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

Evidence for WAT 2 (External Water Use) - all

Compliant communal rainwater collection system

Evidence for MAT 1 (Environmental Impact of Materials) - all

Mandatory requirements met: At least 3 elements rated A+ to D, 10 credits scored

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

1 credit scored

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

1 credit scored

Evidence for SUR 1 (Management of surface water run-off from developments) - all

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

Evidence for SUR 2 (Flood Risk) - all

Low flood risk - zone 1

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

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

Evidence for WAS 2 (Construction Site Waste Management) - all

Compliant site waste management plant containing appropriate benchmarks, commitments and procedures for waste minimisation in line with the criteria and with Checklist WAS 2a, 2b & 2c

Evidence for WAS 3 (Composting) - all**Evidence for POL 1 (Global Warming Potential of Insulants) - all**

All insulants have a GWP of less than 5

Evidence for POL 2 (NOx Emissions) - all

Credit(s) not sought

Evidence for HEA 1 (Daylighting) - all

Home office: Average daylight factor of at least 1.5%

Evidence for HEA 2 (Sound Insulation) - all

Accredited Part E sound testing has been undertaken
Airborne 5dB higher, impact 5dB lower

Evidence for HEA 3 (Private Space) - all

Credit not sought or no compliant space provided

Evidence for HEA 4 (Lifetime Homes) - all

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

Evidence for MAN 1 (Home User Guide) - all

All criteria of inline with checklist MAN 1 part 1 - operational issues will be met
All criteria of inline with checklist MAN 1 part 2 - site and surroundings will be met

Evidence for MAN 2 (Considerate Constructors Scheme) - all

Considerate constructors scheme: Best practise only, a score of between 24 and 31.5 and at least a score of 3 in every section

Evidence for MAN 3 (Construction Site Impacts) - all

Evidence for MAN 4 (Security) - all

Secure by design section 2 compliant

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Evidence for ECO 1 (Ecological Value of Site) - all

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

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Evidence for ECO 2 (Ecological Enhancement) - all

Evidence for ECO 3 (Protection of Ecological Features) - all

Land of low ecological value as identified under ECO 1

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Evidence for ECO 4 (Change of Ecological Value of Site) - all

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

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Evidence for ECO 5 (Building Footprint) - all

Flats ratio of 4:1

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Assessor Declaration

I Matthew Carter, 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 referencematerial that relates to this report, which is available for inspection by the client, the clients representative or Stroma Certificationfor Quality Assurance monitoring.

Signed:

Matthew Carter
Energy Calculations Limited
16 March 2011

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
<p>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.</p>
<p>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.</p>
<p>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.</p>
<p>ENE 4: Drying Space Available Credits: 1 Aim: To promote a reduced energy means of drying clothes.</p>
<p>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.</p>
<p>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.</p>
<p>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.</p>
<p>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.</p>
<p>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.</p>
Water
<p>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.</p>
<p>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.</p>
Materials
<p>MAT 1: Environmental Impact of Materials Available Credits: 15 Aim: To specify materials with lower environmental impacts over their life-cycle.</p>
<p>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.</p>
<p>MAT 3: Responsible Sourcing of Materials - Finishing Elements Available Credits: 3 Aim: To promote the specification of responsibly sourced materials for the finishing elements.</p>

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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