



Report Reference: QA-70 (version 2)
Site Registration: 0040420-120419-70-1163
Site Name: Bushy Mead, Waterloooville
Assessor Number: STR0004020
Company: Therm Enegy Ltd
Assessor: C Marshall



Site Details

Site Name: Bushy Mead, Waterloooville
Site Registration: 0040420-120419-70-1163
Site Address: Bushy Mead

City/Town: Waterloooville
County: Hampshire
Postcode: RH12 4RN
No. of Dwellings: 2
No. of Dwelling Types: 1
Planning Authority: Hampshire County Council
Funding Body:

Assessor Details

Company: Therm Enegy Ltd
Assessor Name: C Marshall
Cert Number: STR0004020
Address: 1Tarrant Street

City/Town: Arundel
County: West Sussex
Postcode: BN18 9AZ
Tel: 01903 884357
Email: colin@thermenergy.co.uk

Client Details

Company: Mr. P Walder
Contact Name: Mr. P Walder
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City/Town:
County:
Postcode:

Architect Details

Company: PMG Ltd
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Developer Details

Company: Mr. P Walder
Contact Name: Mr. P Walder
Job Title:
Email: p.walder@talk21.com
Tel:
Address:

City/Town:
County:
Postcode:



Dwelling ID	Plot No.	Address	Social Unit
1	A	Plot A Bushy Mead	No
2	B	Plot B Bushy Mead	No



Development Summary & Ratings

Dwelling ID	Dwelling Type	Description	Level	Score
		Plot ABushy Mead	3	61.7
		Plot BBushy Mead	3	57.07

Deviations from Standard

No deviations from standard



Score Sheet for Bushy Mead, Waterlooville																																				
	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	3.5	2	1	2	2	1	2	1	3	1	10	3	1	2	2	4	3	1	1	3	3	4	1	4	3	0	0	2	0	0	0	0	0	61.7	3
2	2.3	0	2	1	2	2	1	2	1	3	1	10	3	2	2	2	4	3	1	1	3	3	4	1	4	3	0	0	2	0	0	0	0	0	57.07	3

Summary Score Sheet
 Dwelling Type: Plot A Bushy Mead

Dwelling ID: 1

			Score Assessment				
	Credit Score	Credits Available	Sub Total	Credits Available	%	Weighting Factor	Points Score
Energy & CO2 Emissions							
ENE 1 Dwelling Emission Rate	3	10	17.5	31	56.45	36.4	20.55
ENE 2 Fabric Energy Efficiency	3.5	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	2	2					
ENE 9 Home Office	1	1					
Water							
WAT 1 Internal Water Use	3	5	4	6	66.67	9	6
WAT 2 External Water Use	1	1					
Materials							
MAT 1 Environmental Impact of Materials	10	15	14	24	58.33	7.2	4.2
MAT 2 Responsible Sourcing (Basic Building Elements)	3	6					
MAT 3 Responsible Sourcing (Finishing Elements)	1	3					
Surface Water Run-off							
SUR 1 Management of Surface Water Run-Off from Site	2	2	4	4	100	2.2	2.2
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	3	3	12	12	100	14	14
HEA 2 Sound Insulation	4	4					
HEA 3 Private Space	1	1					
HEA 4 Lifetime Homes	4	4					
Management							
MAN 1 Home User Guide	3	3	5	9	55.56	10	5.56
MAN 2 Considerate Constructors Scheme	0	2					
MAN 3 Construction Site Impacts	0	2					
MAN 4 Security	2	2					
Ecology							
ECO 1 Ecological Value of Site	0	1	0	9	0	12	0
ECO 2 Ecological Enhancement	0	1					
ECO 3 Protection of Ecological Features	0	1					
ECO 4 Change of Ecological Value of Site	0	4					
ECO 5 Building Footprint	0	2					
Level Achieved: 3			Total Points Scored: 61.7				

Evidence for ENE 1 (Dwelling Emission Rate)

Improvement above Part L Building Regulations 2010. 3 credits allocated

Therm Energy Ltd SAP calculation - QA-70

Use of photovoltaic panels assumed for each dwelling, amount varies according to house type.

Assumptions for ENE 1**Evidence for ENE 2 (Fabric Energy Efficiency)**

Detached

3.5 credits allocated

Therm Energy Ltd SAP calculation - QA-70

Use of photovoltaic panels assumed for each dwelling, amount varies according to house type.

Assumptions for ENE 2**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.

Correctly Specified Energy Display Device to be provided.

1 credit - to display to occupants current electricity OR primary heating fuel consumption.

1 credit - to display to occupants current electricity AND primary heating fuel consumption.

We have assumed that both of these credits will be achieved.

This is a system comprising a self-charging sensor(s) fixed to the incoming mains supply/supplies, to measure and transmit energy consumption data to a visual display unit. As a minimum the visual display unit must be capable of displaying the following information:

- Local time
- Current mains energy consumption (kilowatts and kilowatt hours)
- Current emissions (g/kg CO₂)
- Current tariff
- Current cost (in pounds and pence). For pre-payment customers this should be 'real time' data and for 'credit' paying customers cost should be displayed on a monthly basis
- Display accurate account balance information (amount in credit or debit)
- Visual presentation of data (i.e. non-numeric) to allow consumers to easily identify high and low level of usage
- Historical consumption data so that consumers can compare their current and previous usage in a meaningful way. This should include cumulative consumption data in any of the following forms day/week/month/billing period.

Assumptions for ENE 3**Evidence for ENE 4 (Drying Space)**

Compliant external drying space

External drying space, detailed documentary evidence confirming:

- The location of fixings/footings or posts
- The length of drying line. This should be a minimum of 6m+
- Access restricted to occupants of the dwelling only.
- The space should be accessed directly from an external door.

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 B rated washer-dryers & tumblers dryers, or EU energy efficiency labelling scheme leaflet where washing machines and/or dishwashers not provided

Provide fridges and freezers or fridge-freezers with an A+ rating under the EU Energy Efficiency Labelling Scheme.

and

Provide washing machines and dishwashers with an A rating under the EU Energy Efficiency Labelling Scheme.

AND EITHER

Tumble dryers or washer dryers that have a B rating (where a washer dryer is provided, it is not necessary to also provide a washing machine).

or

A copy of the EU Energy Efficiency Labelling Scheme information to be provided.

Assumptions for ENE 5**Evidence for ENE 6 (External Lighting)**

Complaint space lighting, no security lighting installed

All light fittings are dedicated low-energy, and are only capable of accepting lamps with luminous efficacy > 40 lumens per circuit watt and with appropriate control systems.

Any security lighting that is provided should be code compliant as follows;

All burglar security lights have;

A maximum wattage of 150W

And

Movement detecting control devices (PIR/Daylight cut-off sensors

All other security lighting;

Is provided with dedicated energy efficient fittings with luminous efficacy > 40 lumens per circuit watt

And

Is fitted with daylight cut-off sensors OR a time switch.

Assumptions for ENE 6**Evidence for ENE 7 (Low or Zero Carbon Energy Technologies)**

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

Therm Energy Ltd SAP calculation - QA-70

The gaining of this credit is based on use of photovoltaic panels to each dwelling, The amount required to gain this credit varies according to each house type.

Assumptions for ENE 7

Evidence for ENE 8 (Cycle Storage)

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

Adequate secure, convenient and weather-proof storage to be provided.

For a 4 bed house - storage for 2 cycles = 2m long x 2.5m wide.

For a 2 bed house - storage for 2 cycles = 2m long x 1.5m wide

Where a proprietary storage or hanging system is provided the space requirements are flexible, but the system must provide for each cycle to be removed independently and meet all other criteria.

Where storage is in a shed a minimum additional 1m² space is required for garden tools.

The shed should be set in a concrete base and secure fixing needs to be provided.

For storage in garages, the space allocated should be over and above the minimum stipulated in the Code for car space.

Double Garage- 5.0m X 5.2m

Cycle Storage:

Cycles can be stored in any one of the following;

Garage or shed

External or internal communal cycle store

Proprietary system

Convenient storage:

Easy and direct access to/from the dwelling to a public right of way. Access through the dwelling is not acceptable.

Secure entrance lock

A permanent mortice deadlock or mortice sash lock that conforms to BS 3621:2007 can be used where the door is at least 44mm thick and is locked to the door frame. Alternatively a 'solid secure' Silver Standard padlock with a hasp and staple that are coach bolted through the structure is deemed compliant.

Note: 2 credits have been assumed for the provision of 4 cycle space for Plot A

2 credits have been assumed for the provision of 2 cycle space for Plot B

Secure Fixing:

Means a ground anchor certificated to 'Solid Secure; Silver Standard.

Assumptions for ENE 8

Assumed all evidence to be allowed for at least 2 Cycles.

Evidence for ENE 9 (Home Office)

Compliant home office

The home office is assumed to be located as follows;

Plot A - Bedroom 2 or 3

Plot B - Living room. Bedroom 2 does not comply on account of it not meeting the required average daylight factor.

Designated space at least 1.8m wall length for desk/chair and filling cabinet/shelving, with adequate ventilation (openable window 0.5m²+), good daylighting, 2 double power sockets, and 1-2 telephone points.

Assumptions for ENE 9

Evidence for WAT 1 (Internal Water Use)

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

Mandatory Internal water use limited to 105 litres/person/day or less (water efficient fittings and appliances will be required). Performance to be met, for example, by water appliances not exceeding the following;

- Bathroom taps 5 litres/min
- Kitchen/Utility taps 7 litres/min
- Showers 8 litres/min,
- Bath 155 litres capacity (to overflow)
- Toilets dual-flush (6/3 litres)
- Washing machine dry load capacity not exceeding 7kg

No contribution to internal water use is assumed from grey water/rainwater recycling systems- please confirm if this is not the case.

A further Credit can be gained if the performance is improved to 90 litres/person/day or less. Performance to be met, for example, by water appliances not exceeding the following;

- Bathroom taps 4 litres/min
- Kitchen/Utility taps 6 litres/min
- Showers 7 litres/min,
- Bath 145 litres capacity (to overflow)
- Toilets dual-flush (4/2.6 litres)
- Washing machine dry load capacity not exceeding 7kg.

Assumptions for WAT 1**Evidence for WAT 2 (External Water Use)**

Compliant individual rainwater collection system

Correctly specified system to collect rainwater for irrigation use. Minimum capacity of water butt required to be 200 litres minimum for 4 bedroom house, and 150 litres for 2 bedroom house, on firm base with lid and tap. connected to rainwater downpipe, with automatic overflow to drainage system.

Assumptions for WAT 2**Evidence for MAT 1 (Environmental Impact of Materials)**

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

We have assessed the number of credits likely to be obtained, based on the specification of floors,walls,roofs etc.

Assumptions for MAT 1**Evidence for MAT 2 (Responsible Sourcing (Basic Building Elements))**

3 credits scored

Basic Building Elements - It is assumed that at least 3 of the 6 available credits will be gained. This issue should be considered before material orders are placed so that the level of compliance of suppliers can be confirmed. In addition 100% of any timber used in these elements must be legally sourced. (e.g. FSC or CSA timber, BES 6001 schemes, certified Environmental Management Systems to BS EN ISO 14001, BES 6001 etc).

Please note that for each element to be assessed, certification must be provided for 80% of the materials used in each element.

Assumptions for MAT 2**Evidence for MAT 3 (Responsible Sourcing (Finishing Elements))**

1 credit scored

Finishing Elements - It is assumed that at least 1 of the 3 available credits will be gained. This issue should be considered before material orders are placed so that the level of compliance of suppliers can be confirmed. In addition 100% of any timber used in these elements must be legally sourced. (e.g. FSC or CSA timber, BES 6001 schemes, certified Environmental Management Systems to BS EN ISO 14001, BES 6001 etc).

Please note that for each element to be assessed, certification must be provided for 80% of the materials used in each element.

Assumptions for MAT 3

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.

No discharge to watercourse(s) for rainfall depth up to 5mm.

Run-off from all hard surfaces shall receive an appropriate level of treatment (as per the SudS manual) to minimise risk of pollution.

1. Flood Risk Assessment - Nimbus Engineering Consultants

2. Sur 1 Report - Nimbus Engineering Consultants

Assumptions for SUR 1**Evidence for SUR 2 (Flood Risk)**

Low flood risk - zone 1

1. Flood Risk Assessment - Nimbus Engineering Consultants

2. Sur 1 Report - Nimbus Engineering Consultants

Assumptions for SUR 2**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

Storage of household waste:

An adequate external space should be allocated for waste storage and sized to accommodate containers according to the largest of the following two volumes.

- Plot A - Minimum 310 litres volume containers, Plot B - Minimum 170 litres volume containers (assuming collection once per week), on hard level surfaces.
- The total volume of the external waste containers provided by the local authority.

All relevant inclusive design principles necessary to provide access and usability to amenities to be complied with as specified in the code technical guide checklist IDP..

Storage of re-cyclable household waste:

In addition to a local authority collection scheme (with a collection frequency of at least fortnightly) at least one of the following requirements must be met:

- Recyclable household waste is sorted after collection and a single bin of at least 30 litres is provided in adequate internal space.
- Materials are sorted before collection and at least 3 separate bins are provided with a total capacity of 30 litres. Each bin must have a capacity of at least 7 Litres and be located in an adequate space.
- Bins should be located in a dedicated non-obstructive position. Free standing bins placed directly on the floor or in a cupboard are not acceptable.

Assumptions for WAS 1

Evidence for WAS 2 (Construction Site Waste Management)

Compliant site waste management plan 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

Minimising Construction Waste Where there is a compliant Site Waste Management Plan (SWMP) that contains: a. Target benchmarks for resource efficiency, i.e. m3 of waste per 100 m2 or tonnes of waste per 100 m2 set in accordance with best practice b. Procedures and commitments to minimize non-hazardous construction waste at design stage. Specify waste minimisation actions relating to at least 3 waste groups and support them by appropriate monitoring of waste. c. Procedures for minimising hazardous waste d. Monitoring, measuring and reporting of hazardous and non-hazardous site waste production according to the defined waste groups (according to the waste streams generated by the scope of the works)

Assumptions for WAS 2

1 credit for KG Designs Site Waste Management Plan.

Futher credits can be obtained by diverting waste generated by the project being diverted from landfill.

50% - 2 credits

85% - 3 credits

Evidence for WAS 3 (Composting)**Individual composting facility/facilities**

Individual composting facilities to be in a dedicated position, meet the requirements of checklist IDP and have an information leaflet. External composting facilities and storage need to be located within a maximum distance of 30m from the entrance door of the dwelling.

The requirements are:

- Space for a kitchen waste container in the home and for an exterior composter accessed by an inclusive route must be provided for home composting.
- The internal kitchen waste container space should be large enough to hold at least a 7-litre container.

Assumptions for WAS 3**Evidence for POL 1 (Global Warming Potential of Insulants)**

All insulants have a GWP of less than 5

All insulation materials, including cylinder, pipes, loft hatch and doors, assumed to have a GWP less than 5. Developer to confirm details of insulation materials using Checklist IDP.

Assumptions for POL 1**Evidence for POL 2 (NOx Emissions)**

NOx emissions less than or equal to 40mg/kWh

Credits can be gained based on NOx Emissions of the boiler.

We have assumed 3 credits based on boiler emissions to be less than or equal 40mg/kWh.

It is assumed there is no secondary heating system - please conform if this is incorrect.

Assumptions for POL 2**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%

All rooms (kitchen, living, dining and where applicable the home office) have 80% of the working plane with direct light from the sky

Kitchens to achieve a minimum average daylight factor of 2% with living/dinning and home office to achieve 1.5%.

80% of the working place in the above rooms must receive direct light from the sky.

A preliminary check by Therm Energy indicates that 3 credit can be gained.

Assumptions for HEA 1

Based on Therm Energy calculations at this early stage we have assumed 2 of the 3 available credits can be obtained.

This however is subject to additional calculations from us when exact window sizes have been approved.

Evidence for HEA 2 (Sound Insulation)

Detached property

Detached dwellings so 4 credits awarded by default.

Assumptions for HEA 2**Evidence for HEA 3 (Private Space)**

Individual private space provided

A dedicated outdoor space to be provided with easy access by all occupants including wheel chair users.

A minimum space of 1.5m² per bedroom required ie 6.0m² minimum total. This should easily be achieved by the rear gardens.**Assumptions for HEA 3****Evidence for HEA 4 (Lifetime Homes)**

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

It has been assumed that all 16 of the Lifetime Homes Standards will be complied with.

Criteria. The working drawings should indicate how the requirements of Lifetime Homes are met.

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

Home user guide (non-technical) to be provided to end owner/occupier on the operation and environmental performance of the home and its surroundings (see Checklist Man part 1 and 2.).

Note: Information must be provided that the guide is available in different formats, i.e foreign language, braille large print or audio cassette/cd, where required.

Assumptions for MAN 1

KG Designs Home User Guide Provided

Evidence for MAN 2 (Considerate Constructors Scheme)

Credits not sought

credit not sought

Assumptions for MAN 2**Evidence for MAN 3 (Construction Site Impacts)**

Credit(s) not sought

credit not sought

Assumptions for MAN 3**Evidence for MAN 4 (Security)**

Secure by design section 1 & 2 compliant

Secured by design certificate or

Confirmation from the developer that all recommendations provided by the ALO/CPDA have been incorporated into the design

AND

the site meets the standards required in Section 2- Physical Security 'Secured by Design - New Homes' is complied with.

Assumptions for MAN 4



Evidence for ECO 1 (Ecological Value of Site)
Credit not sought
Assumptions for ECO 1

Evidence for ECO 2 (Ecological Enhancement)
Credit not sought or no compliant enhancement
Assumptions for ECO 2

Evidence for ECO 3 (Protection of Ecological Features)
Credit not sought
Assumptions for ECO 3

Evidence for ECO 4 (Change of Ecological Value of Site)
Credit not sought
Assumptions for ECO 4

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

Summary Score Sheet
 Dwelling Type: Plot B Bushy Mead

Dwelling ID: 2

			Score Assessment				
	Credit Score	Credits Available	Sub Total	Credits Available	%	Weighting Factor	Points Score
Energy & CO2 Emissions							
ENE 1 Dwelling Emission Rate	2.3	10	13.3	31	42.9	36.4	15.62
ENE 2 Fabric Energy Efficiency	0	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	2	2					
ENE 9 Home Office	1	1					
Water							
WAT 1 Internal Water Use	3	5	4	6	66.67	9	6
WAT 2 External Water Use	1	1					
Materials							
MAT 1 Environmental Impact of Materials	10	15	15	24	62.5	7.2	4.5
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	2	2	4	4	100	2.2	2.2
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	3	3	12	12	100	14	14
HEA 2 Sound Insulation	4	4					
HEA 3 Private Space	1	1					
HEA 4 Lifetime Homes	4	4					
Management							
MAN 1 Home User Guide	3	3	5	9	55.56	10	5.56
MAN 2 Considerate Constructors Scheme	0	2					
MAN 3 Construction Site Impacts	0	2					
MAN 4 Security	2	2					
Ecology							
ECO 1 Ecological Value of Site	0	1	0	9	0	12	0
ECO 2 Ecological Enhancement	0	1					
ECO 3 Protection of Ecological Features	0	1					
ECO 4 Change of Ecological Value of Site	0	4					
ECO 5 Building Footprint	0	2					
Level Achieved: 3			Total Points Scored: 57.07				

Evidence for ENE 1 (Dwelling Emission Rate)

Improvement above Part L Building Regulations 2010. 2.3 credits allocated

Therm Energy Ltd SAP calculation - QA-70

Use of photovoltaic panels assumed for each dwelling, amount varies according to house type.

Assumptions for ENE 1**Evidence for ENE 2 (Fabric Energy Efficiency)**

Detached

0 credits allocated

Therm Energy Ltd SAP calculation - QA-70

Use of photovoltaic panels assumed for each dwelling, amount varies according to house type.

Assumptions for ENE 2**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.

Correctly Specified Energy Display Device to be provided.

1 credit - to display to occupants current electricity OR primary heating fuel consumption.

1 credit - to display to occupants current electricity AND primary heating fuel consumption.

We have assumed that both of these credits will be achieved.

This is a system comprising a self-charging sensor(s) fixed to the incoming mains supply/supplies, to measure and transmit energy consumption data to a visual display unit. As a minimum the visual display unit must be capable of displaying the following information:

- Local time
- Current mains energy consumption (kilowatts and kilowatt hours)
- Current emissions (g/kg CO₂)
- Current tariff
- Current cost (in pounds and pence). For pre-payment customers this should be 'real time' data and for 'credit' paying customers cost should be displayed on a monthly basis
- Display accurate account balance information (amount in credit or debit)
- Visual presentation of data (i.e. non-numeric) to allow consumers to easily identify high and low level of usage
- Historical consumption data so that consumers can compare their current and previous usage in a meaningful way. This should include cumulative consumption data in any of the following forms day/week/month/billing period.

Assumptions for ENE 3

A Code compliant Energy Display Device to display to occupants electricity OR primary heating fuel consumption - 1 Credit

A Code compliant Energy Display Device to display to occupants electricity AND primary heating fuel consumption - 1 Credit

In this assessment it is assumed that both of these credits will be achieved.

Evidence for ENE 4 (Drying Space)

Compliant external drying space

External drying space, detailed documentary evidence confirming:

- The location of fixings/footings or posts
- The length of drying line. This should be a minimum of 6m+
- Access restricted to occupants of the dwelling only.
- The space should be accessed directly from an external door.

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 B rated washer-dryers & tumblers dryers, or EU energy efficiency labelling scheme leaflet where washing machines and/or dishwashers not provided

Provide fridges and freezers or fridge-freezers with an A+ rating under the EU Energy Efficiency Labelling Scheme.

and

Provide washing machines and dishwashers with an A rating under the EU Energy Efficiency Labelling Scheme.

AND EITHER

Tumble dryers or washer dryers that have a B rating (where a washer dryer is provided, it is not necessary to also provide a washing machine).

or

A copy of the EU Energy Efficiency Labelling Scheme information to be provided.

Assumptions for ENE 5**Evidence for ENE 6 (External Lighting)**

Complaint space lighting, no security lighting installed

All light fittings are dedicated low-energy. and are only capable of accepting lamps with luminous efficacy > 40 lumens per circuit watt and with appropriate control systems.

Any security lighting that is provided should be code compliant as follows;

All burglar security lights have;

A maximum wattage of 150W

And

Movement detecting control devices (PIR/Daylight cut-off sensors

All other security lighting;

Is provided with dedicated energy efficient fittings with luminous efficacy > 40 lumens per circuit watt

And

Is fitted with daylight cut-off sensors OR a time switch.

Assumptions for ENE 6**Evidence for ENE 7 (Low or Zero Carbon Energy Technologies)**

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

Therm Energy Ltd SAP calculation - QA-70

The gaining of this credit is based on use of photovoltaic panels to each dwelling, The amount required to gain this credit varies according to each house type.

Assumptions for ENE 7

Evidence for ENE 8 (Cycle Storage)

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

Adequate secure, convenient and weather-proof storage to be provided.

For a 4 bed house - storage for 2 cycles = 2m long x 2.5m wide.

For a 2 bed house - storage for 2 cycles = 2m long x 1.5m wide

Where a proprietary storage or hanging system is provided the space requirements are flexible, but the system must provide for each cycle to be removed independently and meet all other criteria.

Where storage is in a shed a minimum additional 1m² space is required for garden tools.

The shed should be set in a concrete base and secure fixing needs to be provided.

For storage in garages, the space allocated should be over and above the minimum stipulated in the Code for car space.

Double Garage- 5.0m X 5.2m

Cycle Storage:

Cycles can be stored in any one of the following;

Garage or shed

External or internal communal cycle store

Proprietary system

Convenient storage:

Easy and direct access to/from the dwelling to a public right of way. Access through the dwelling is not acceptable.

Secure entrance lock

A permanent mortice deadlock or mortice sash lock that conforms to BS 3621:2007 can be used where the door is at least 44mm thick and is locked to the door frame. Alternatively a 'solid secure' Silver Standard padlock with a hasp and staple that are coach bolted through the structure is deemed compliant.

Note: 2 credits have been assumed for the provision of 4 cycle space for Plot A

2 credits have been assumed for the provision of 2 cycle space for Plot B

Secure Fixing:

Means a ground anchor certificated to 'Solid Secure; Silver Standard.

Assumptions for ENE 8

Evidence for ENE 9 (Home Office)

Compliant home office

The home office is assumed to be located as follows;

Plot A - Bedroom 2 or 3

Plot B - Living room. Bedroom 2 does not comply on account of it not meeting the required average daylight factor.

Designated space at least 1.8m wall length for desk/chair and filling cabinet/shelving, with adequate ventilation (openable window 0.5m²+), good daylighting, 2 double power sockets, and 1-2 telephone points.

Assumptions for ENE 9

Evidence for WAT 1 (Internal Water Use)

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

Mandatory Internal water use limited to 105 litres/person/day or less (water efficient fittings and appliances will be required). Performance to be met, for example, by water appliances not exceeding the following;

- Bathroom taps 5 litres/min
- Kitchen/Utility taps 7 litres/min
- Showers 8 litres/min,
- Bath 155 litres capacity (to overflow)
- Toilets dual-flush (6/3 litres)
- Washing machine dry load capacity not exceeding 7kg

No contribution to internal water use is assumed from grey water/rainwater recycling systems- please confirm if this is not the case.

A further Credit can be gained if the performance is improved to 90 litres/person/day or less. Performance to be met, for example, by water appliances not exceeding the following;

- Bathroom taps 4 litres/min
- Kitchen/Utility taps 6 litres/min
- Showers 7 litres/min,
- Bath 145 litres capacity (to overflow)
- Toilets dual-flush (4/2.6 litres)
- Washing machine dry load capacity not exceeding 7kg.

Assumptions for WAT 1**Evidence for WAT 2 (External Water Use)**

Compliant individual rainwater collection system

Correctly specified system to collect rainwater for irrigation use. Minimum capacity of water butt required to be 200 litres minimum for 4 bedroom house, and 150 litres for 2 bedroom house, on firm base with lid and tap. connected to rainwater downpipe, with automatic overflow to drainage system.

Assumptions for WAT 2**Evidence for MAT 1 (Environmental Impact of Materials)**

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

We have assessed the number of credits likely to be obtained, based on the specification of floors,walls,roofs etc.

Assumptions for MAT 1**Evidence for MAT 2 (Responsible Sourcing (Basic Building Elements))**

3 credits scored

Basic Building Elements - It is assumed that at least 3 of the 6 available credits will be gained. This issue should be considered before material orders are placed so that the level of compliance of suppliers can be confirmed. In addition 100% of any timber used in these elements must be legally sourced. (e.g. FSC or CSA timber, BES 6001 schemes, certified Environmental Management Systems to BS EN ISO 14001, BES 6001 etc).

Please note that for each element to be assessed, certification must be provided for 80% of the materials used in each element.

Assumptions for MAT 2**Evidence for MAT 3 (Responsible Sourcing (Finishing Elements))**

2 credits scored

Finishing Elements - It is assumed that at least 1 of the 3 available credits will be gained. This issue should be considered before material orders are placed so that the level of compliance of suppliers can be confirmed. In addition 100% of any timber used in these elements must be legally sourced. (e.g. FSC or CSA timber, BES 6001 schemes, certified Environmental Management Systems to BS EN ISO 14001, BES 6001 etc).

Please note that for each element to be assessed, certification must be provided for 80% of the materials used in each element.

Assumptions for MAT 3

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.

No discharge to watercourse(s) for rainfall depth up to 5mm.

Run-off from all hard surfaces shall receive an appropriate level of treatment (as per the SudS manual) to minimise risk of pollution.

1. Flood Risk Assessment - Nimbus Engineering Consultants

2. Sur 1 Report - Nimbus Engineering Consultants

Assumptions for SUR 1**Evidence for SUR 2 (Flood Risk)**

Low flood risk - zone 1

1. Flood Risk Assessment - Nimbus Engineering Consultants

Assumptions for SUR 2**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

Storage of household waste:

An adequate external space should be allocated for waste storage and sized to accommodate containers according to the largest of the following two volumes.

- Plot A - Minimum 310 litres volume containers, Plot B - Minimum 170 litres volume containers (assuming collection once per week), on hard level surfaces.

- The total volume of the external waste containers provided by the local authority.

All relevant inclusive design principles necessary to provide access and usability to amenities to be complied with as specified in the code technical guide checklist IDP..

Storage of re-cyclable household waste:

In addition to a local authority collection scheme (with a collection frequency of at least fortnightly) at least one of the following requirements must be met:

- Recyclable household waste is sorted after collection and a single bin of at least 30 litres is provided in adequate internal space.

- Materials are sorted before collection and at least 3 separate bins are provided with a total capacity of 30 litres. Each bin must have a capacity of at least 7 Litres and be located in an adequate space.

- Bins should be located in a dedicated non-obstructive position. Free standing bins placed directly on the floor or in a cupboard are not acceptable.

Assumptions for WAS 1

Evidence for WAS 2 (Construction Site Waste Management)

Compliant site waste management plan 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

Minimising Construction Waste Where there is a compliant Site Waste Management Plan (SWMP) that contains: a. Target benchmarks for resource efficiency, i.e. m3 of waste per 100 m2 or tonnes of waste per 100 m2 set in accordance with best practice b. Procedures and commitments to minimize non-hazardous construction waste at design stage. Specify waste minimisation actions relating to at least 3 waste groups and support them by appropriate monitoring of waste. c. Procedures for minimising hazardous waste d. Monitoring, measuring and reporting of hazardous and non-hazardous site waste production according to the defined waste groups (according to the waste streams generated by the scope of the works)

Assumptions for WAS 2

1 credit for KG Designs Site Waste Management Plan.

Futher credits can be obtained by diverting waste generated by the project being diverted from landfill.

50% - 2 credits

85% - 3 credits

Evidence for WAS 3 (Composting)**Individual composting facility/facilities**

Individual composting facilities to be in a dedicated position, meet the requirements of checklist IDP and have an information leaflet. External composting facilities and storage need to be located within a maximum distance of 30m from the entrance door of the dwelling.

The requirements are:

- Space for a kitchen waste container in the home and for an exterior composter accessed by an inclusive route must be provided for home composting.
- The internal kitchen waste container space should be large enough to hold at least a 7-litre container.

Assumptions for WAS 3**Evidence for POL 1 (Global Warming Potential of Insulants)**

All insulants have a GWP of less than 5

All insulation materials, including cylinder, pipes, loft hatch and doors, assumed to have a GWP less than 5. Developer to confirm details of insulation materials using Checklist IDP.

Assumptions for POL 1**Evidence for POL 2 (NOx Emissions)**

NOx emissions less than or equal to 40mg/kWh

Credits can be gained based on NOx Emissions of the boiler.

We have assumed 3 credits based on boiler emissions to be less than or equal 40mg/kWh.

It is assumed there is no secondary heating system..

Assumptions for POL 2**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%

All rooms (kitchen, living, dining and where applicable the home office) have 80% of the working plane with direct light from the sky

Kitchens to achieve a minimum average daylight factor of 2% with living/dinning and home office to achieve 1.5%.

80% of the working place in the above rooms must receive direct light from the sky.

A preliminary check by Therm Energy indicates that 3 credit can be gained.

Assumptions for HEA 1

Based on Therm Energy calculations at this early stage we have assumed 2 of the 3 available credits can be obtained.

This however is subject to additional calculations from us when exact window sizes have been approved.

Evidence for HEA 2 (Sound Insulation)

Detached property

Detached dwellings so 4 credits awarded by default.

Assumptions for HEA 2**Evidence for HEA 3 (Private Space)**

Individual private space provided

A dedicated outdoor space to be provided with easy access by all occupants including wheel chair users.

A minimum space of 1.5m² per bedroom required ie 6.0m² minimum total. This should easily be achieved by the rear gardens.**Assumptions for HEA 3****Evidence for HEA 4 (Lifetime Homes)**

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

It has been assumed that all 16 of the Lifetime Homes Standards will be complied with.

Criteria. The working drawings should indicate how the requirements of Lifetime Homes are met.

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

Home user guide (non-technical) to be provided to end owner/occupier on the operation and environmental performance of the home and its surroundings (see Checklist Man part 1 and 2.).

Note: Information must be provided that the guide is available in different formats, i.e foreign language,braille large print or audio cassette/cd, where required.

Assumptions for MAN 1

KG Designs Home User Guide Provided

Evidence for MAN 2 (Considerate Constructors Scheme)

Credits not sought

credit not sought

Assumptions for MAN 2**Evidence for MAN 3 (Construction Site Impacts)**

Credit(s) not sought

credit not sought

Assumptions for MAN 3**Evidence for MAN 4 (Security)**

Secure by design section 1 & 2 compliant

Secured by design certificate or

Confirmation from the developer that all recommendations provided by the ALO/CPDA have been incorporated into the design

AND

the site meets the standards required in Section 2- Physical Security 'Secured by Design - New Homes' is complied with.

Assumptions for MAN 4



Evidence for ECO 1 (Ecological Value of Site)
Credit not sought
Assumptions for ECO 1

Evidence for ECO 2 (Ecological Enhancement)
Credit not sought or no compliant enhancement
Assumptions for ECO 2

Evidence for ECO 3 (Protection of Ecological Features)
Credit not sought
Assumptions for ECO 3

Evidence for ECO 4 (Change of Ecological Value of Site)
Credit not sought
Assumptions for ECO 4

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

Assessor Declaration

I C Marshall, 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:



C Marshall
Therm Enegy Ltd
12 June 2012

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 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: NO_x Emissions

Available Credits: 3

Aim: To promote the reduction of nitrogen oxide (NO_x) 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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