



Department for
Communities and
Local Government

Code for Sustainable Homes Technical Guide

Code Addendum (2014) England

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Introduction

The Government issued a [Written Ministerial Statement](#) on 13th March setting out the outcome of the Housing Standards Review. The Statement was accompanied by an [Annex](#) which set out more details.

The Statement makes it clear that as a result of the Housing Standards Review many of the requirements of the Code for Sustainable Homes will be consolidated into Building Regulations. This will require substantial changes to the content of the current Code, as well as a reconsideration of its role. In the light of this, the Government thinks that the current Code will need to be wound down to coincide with the changes incorporating the new standards coming into force. The Government will make further announcements in due course on the winding down, the transitional arrangements, and the handling of legacy developments, existing consents and affordable housing commitments being built out to current Code requirements. At the same time an [addenda](#) was issued to the bidding criteria for the National Affordable Housing Programme (2015-18), making it clear that 2015-18 bids are not required to meet Code standards.

Pending the further guidance from the Government, Code assessments will be continuing. The addenda to the Code which are summarised below, are being made to bring the Code into line with regulatory or national guidance changes which have occurred recently, and Part L in particular, to reduce the need for Code users to duplicate work. Other territories within the UK have different regulatory requirements and this addenda to the Code only applies to assessments carried out within England.

The document should be read in conjunction with the Code Technical Guide, November 2010. It includes revised technical issues which replace those in the Code. The technical amendments reflect the changes in Part L1A and ensure that only one Standard Assessment Procedure (SAP) calculation is required where it is necessary to demonstrate compliance with both the Code and Building Regulations. This amendment should be used where a site has been registered to Approved Document L1A 2013 (England). It will not normally apply to developments registered to earlier building regulations except where a voluntary decision has been taken to do so by the developer or client.

In addition to Part L changes, this document also makes changes to the Code to align with the new English Planning Policy Guidance, in relation to Surface Water Run Off and Flooding.

In order to reduce bureaucracy a number of previously reported technical updates have also been incorporated into the document.

The amended issues within this document replace those published within the [current Code](#). No changes have been made to the format and layout of the Code. In addition, the weightings and number of credits available for each Code category remain unchanged.

Summary

Please see below for a summary of changes synopsis:

Page	Issue	Summary of Technical Changes
	Ene 1 (Energy)	<p>The Ene 1 changes follow the following principles;</p> <ul style="list-style-type: none"> • Code continues to award credits for performance <u>above</u> the minimum requirements of Building Regulations Approved Document L1A 2013 England. • The weighting and number of credits remains the same. • Mandatory levels of Code Level 4/5/6 to remain comparable to previous versions. • Not putting additional bureaucratic burden on industry by requiring more than one SAP calculation. <p>Following these principles, the percentage improvement over the Target Emissions Rate (TER) has been interpolated to new percentages. The credits available below Code Level 4 have been compressed and re-aligned to maintain a smooth uplift over the TER.</p>
	Ene 2 (Energy)	<p>The Fabric Energy Efficiency criteria remains broadly the same as the November 2010 version. The Code will continue to;</p> <ul style="list-style-type: none"> • Award for efficient house types based on good building fabric performance. • Use the current Fabric Energy Efficiency Standard based approach that is understood by all stakeholders. • Continue to be a tradable credit at lower Code Levels • Ensure that the Building Regulations Target Fabric Energy Efficiency is the minimum requirement for Code fabric efficiency.
	Ene 6 (Energy)	<p>The Energy Efficient Lighting issue has been updated to:</p> <ul style="list-style-type: none"> • Remove the requirement for dedicated light fittings and focus criteria on the specification of energy efficient light bulbs • Removed the Light Emitting Diode (LED) special case (LED technology has moved on significantly and this relaxation is no longer required)
	Ene 7 (Energy)	<p>The Energy Efficient Lighting issue has been updated to reflect to Standard Assessment Procedure 2012</p>
	Sur 1& 2 (Surface Water)	<p>Please see below</p>

Was 2 (Waste)	This issue has been updated to reflect the abolishment of statutory requirements for Site Waste Management Plans
Pol 2 (Pollution)	This issue has been updated to: <ul style="list-style-type: none"> • Reflect changes in Standard Assessment Procedure 2012 • Take account of the reduction in grid electricity related Nitrogen Oxide emissions.
Man 2 (Management)	This issue has been amended to reflect the changes in the Considerate Construction scoring criteria (Currently covered by Technical Guidance note 003)

Sur 1 & 2 (surface water)

As of the 6th of March 2014, Planning Policy Statement 25 (PPS25) ceased to be a current document for planning purposes. Therefore all instances where PPS25 is referred to within the Technical Guidance, the new Planning Practice Guidance (PPG) available here <http://planningguidance.planningportal.gov.uk/> should be used.

This change does not impact the technical requirements of Sur1 and Sur 2.

The following locations are where PPS 25 is referred to in the November 2010 Technical Guide;

Reference	Page in 2010 Code for Sustainable Homes Technical Guide	Further supporting documentation in addition to the PPG
Flood Risk Assessment	129, 144 and 146	N/A
Flood Risk Management Hierarchy reference	129	The actual Hierarchy is in the Suds Manual
Probability of flooding	131	N/A
Sur 1 Calculation Procedures Peak Rate Volume of Run-off	136 137 138	Documents referring to Climate Change factors are located on the Environment Agency website (see link in the Planning Practice Guidance)
Sur 2 Assessment criteria	143	N/A
Sur 2 Special cases	149	N/A

Category 1: Energy and Carbon Dioxide Emissions

Issue ID	Description	No. of Credits Available	Mandatory Elements
Ene 1	Dwelling Emission Rate (England)	10	Yes

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.

Assessment Criteria

Criteria		
% Improvement 2013 DER/TER England ¹	Credits* ²	Mandatory Requirements
≥ 6%	1	Level 4
≥ 12%	2	
≥ 19%	3	
≥ 32%	4	
≥ 44%	5	
≥ 56%	6	
≥ 70%	7	
≥ 84%	8	
≥ 100%	9	
Zero Net CO₂ Emissions	10	Level 6
Default Cases		
None		

¹ Performance requirements are equivalent to those in previous scheme versions but are now measured using the AD L1A 2013 England TER as the baseline.

² Up to nine credits are awarded on a sliding scale. The scale is based on increments of 0.1 credits, distributed equally between the benchmarks defined in this table.

Note: A definition of a zero carbon home is omitted from this document as it will be defined by future legislation.

Information Required to Demonstrate Compliance

Schedule of Evidence Required	
Design Stage	Post Construction Stage
<p>Detailed documentary evidence confirming the <i>TER</i>, <i>DER</i> and percentage improvement of DER over TER based on design stage <i>SAP outputs</i>*</p> <p>OR</p> <p>Where applicable:</p> <p>A copy of calculations as detailed in the assessment methodology based on design stage <i>SAP outputs</i>*</p> <p>AND</p> <p>Confirmation of FEE performance where <i>SAP</i> section 16 allowances have been included in the calculation</p> <p>*Dated outputs with <i>accredited energy assessor</i> name and registration number, assessment status, plot number and development address.</p> <p>If not produced by an accredited energy assessor additional verification is required as detailed in the assessment methodology.</p>	<p>Detailed documentary evidence confirming the <i>TER</i>, <i>DER</i> and percentage improvement of DER over TER based on As Built <i>SAP outputs</i>*</p> <p>OR</p> <p>Where applicable:</p> <p>A copy of revised/final calculations as detailed in the assessment methodology based on as built <i>SAP outputs</i></p> <p>Confirmation of FEE performance where <i>SAP</i> section 16 allowances have been included in the calculation</p> <p>*Dated outputs with <i>accredited energy assessor</i> name and registration number, assessment status, plot number and development address.</p> <p>If not produced by an accredited energy assessor additional verification is required as detailed in the assessment methodology.</p>

Ene

Definitions

Accredited Energy Assessor

A person registered with an accredited energy assessment scheme provider. The scheme provider will be licensed by Communities and Local Government to accredit competent persons to assess the CO₂ emission rates of domestic buildings for the purposes of demonstrating compliance with *Building Regulations*.

Additional Allowable Electricity Generation

Site-wide electricity generation from the following technologies not included in the DER calculation:

- Wind generators

- Photovoltaic panels
- Hydro-electric generators,

These installations can be located on/off-site provided that the connection arrangements meet the requirements defined in Appendix M of *SAP*.

Additional allowable electricity can be utilised to reduce dwelling CO₂ emissions and achieve the mandatory Ene 1 requirements set at all Code levels. For additional allowable electricity to be included in the Ene 1 calculation, the dwelling(s) must at least meet the minimum FEE standard required to achieve 5 credits.

CO₂ emissions reductions from additional allowable electricity must be calculated in accordance with the methodology defined in table Cat 1.1.

(AD L1A) Approved Document L1A

The Building Regulations for England Approved Document L1A: Conservation of Fuel and Power in New Dwellings (2013 Edition).

Building Control Body

This is the body responsible for ensuring that construction works are according to plan and compliant with applicable requirements through periodic inspection.

Building Regulations

Building Regulations apply in England and promote:

- Standards for most aspects of a building's construction, including structure, fire safety, sound insulation, drainage, ventilation and electrical safety
- Energy efficiency
- The needs of all people, including those with disabilities, in accessing and moving around buildings.

(DER) Dwelling Emission Rate

The DER is the estimated CO₂ emissions per m² per year (KgCO₂/m²/year) for the dwelling as designed. It accounts for energy used in heating, fixed cooling, hot water and lighting.

Energy Averaging

Where a building contains multiple dwellings, it is acceptable to assess this issue based on the average energy performance of all dwellings within the building. The area weighted average DER and TER and must be calculated in accordance with the block averaging methodology defined in clauses 2.7 and 2.16 of *AD L1A*.

(EPC) Energy Performance Certificate

This is a certificate that confirms the energy rating of the dwelling from A to G, where A is the most efficient and G is the least efficient. The better the rating, the more energy efficient the dwelling is, and the lower the fuel bills are likely to be. The energy performance of the building is shown as a carbon dioxide (CO₂) based index. EPCs are generated using approved software by accredited energy assessors.

Where energy averaging is carried out for the purposes of a Code assessment, it is possible to use better fabric and systems performance in some dwellings to offset worse performance in others. This is not possible for the purposes of the EPC calculation and as such Code energy performance may differ from that indicated on the EPC.

Where energy averaging has been used, performance against the requirements of this issue is not indicative of individual dwelling performance or running costs.

(FEE) Fabric Energy Efficiency

Energy demand for space heating and cooling expressed in kilowatt-hours of energy demand per square metre per year (kWh/m²/year).

Fabric energy efficiency is calculated according to the conditions defined in Section 11 of SAP.

See Ene 2.

Net CO₂ Emissions

The annual dwelling CO₂ emissions (KgCO₂/m²/year) from space heating and cooling, water heating, ventilation and lighting, and those associated with appliances and cooking.

To achieve Code level 6, net CO₂ emissions must be zero when calculated according to the methodology defined in table Cat 1.1.

Residual CO₂ Emissions Offset from Biofuel CHP

Where community biofuel CHP systems are specified it is possible for SAP to calculate negative total CO₂ emissions associated with the system. For the purposes of the DER calculation SAP does not account for the negative figure. Instead, it defaults to a value of zero and the benefit is omitted.

Residual CO₂ emissions offsets from biofuel CHP can be utilised to reduce dwelling CO₂ emissions and achieve the mandatory Ene 1 requirements set at all Code levels. For the offset to be included in the Ene 1 calculation, the dwelling(s) must at least meet the minimum FEE standard required to achieve 5 credits.

CO₂ emissions offsets from biofuel CHP must be calculated according to the methodology defined in table Cat 1.1.

SAP Output (design & as built stage)

This is a dated output from accredited SAP software produced by an *accredited energy assessor*. The output must summarise the data necessary to determine performance against the requirements of this issue and include the name and registration number of the accredited energy assessor, the assessment status, plot number and development address. It is not necessary to produce individual SAP outputs for identical dwellings for the purposes of a Code assessment.

The output will be based on either design stage information or on the dwelling as constructed. Design stage outputs must be used when assessing design stage Code performance and as built outputs for post construction Code assessments.

Where SAP outputs are not produced by an accredited energy assessor they must be verified by either an accredited energy assessor or a member of the *building control body* responsible for assessing the dwelling for compliance with Part L of the Building Regulations.

For the purposes of assessing this issue the applicable SAP outputs are:

- The relevant box as described within the calculation procedures
- SAP DER Worksheet
- AD L1A Building Regulations Compliance Checklist

(SAP) Standard Assessment Procedure for Energy Rating of Dwellings

The Government's approved methodology for assessing the energy performance of new dwellings. The current version is SAP 2012 published on behalf of the Department for Energy and Climate Change (DECC) by BRE and available at www.bre.co.uk/sap2012. The procedure accounts for energy used in:

- Space heating and cooling
- Hot water provision
- Fixed lighting.

The indicators of energy performance are energy consumption per unit floor area, energy cost rating (SAP rating), environmental impact rating based on CO₂ emissions (EI rating) and dwelling CO₂ emission rate (DER). They are used in the production of energy performance certificates (*EPCs*) and to demonstrate compliance with AD L1A and the Code for Sustainable Homes.

To contribute to reducing CO₂ emissions as calculated by SAP, heat and power must be generated either on or in the home, on the development or through other local community arrangements (including district heat and power).

(TER) Target Emission Rate

The target emission rate is the maximum allowable CO₂ emissions per m² (KgCO₂/ m²/year) arising from energy used in heating, cooling, hot water and lighting which would demonstrate compliance with Criterion 1 of AD L1A.

The TER is calculated using the SAP methodology according to the requirements defined in AD L1A.

Assessment Methodology

The assessment criteria should be read with the methodology and the definitions in this section. Mandatory requirements are met and credits are awarded where the performance requirements (set out in the assessment criteria table) have been met.

Design Stage

Confirm that the SAP output for each dwelling being assessed meets the criteria set out in the definitions section.

For Code Levels 1–5:

- Calculate the percentage improvement in DER over TER for each dwelling being assessed.

For Code Level 6:

- Calculate *net CO₂ emissions*.

In all cases where additional allowable electricity or residual emissions offsets from biofuel CHP are included in the calculation ensure the minimum FEE performance requirement has been achieved in accordance with the criteria set out in the definitions section.

In the case of a building containing multiple dwellings, it is acceptable to award credits based on the average percentage improvement of DER over TER for all dwellings. *Energy averaging* must be calculated in accordance with the criteria set out in the definitions section.

Post Construction Stage

Either:

- Confirm that no changes have been made to the design during construction that impact on energy performance.

Or, where changes have been made during construction:

- As for design stage, but based on as built SAP outputs.

Calculation Procedures

For Code Levels 1–5 the percentage improvement in DER over TER must be calculated according to the methodology defined in table Cat 1.1.

For Code level 6, net CO₂ emissions must be calculated according to the methodology defined in table Cat 1.1.

Table Cat 1.1: Dwelling Emission Rate

Value Required	Data Source Guidance (See note [1])	Unit Required	Value
Levels 1–5			
(1) DER	SAP Worksheet: [SAP box 273 for systems assessed under section a] [SAP box 384 for systems assessed under section b] OR AD L1A Building Regulations Compliance Checklist	+/- KgCO ₂ /m ² /yr.	
(2) TER	AD L1A Building Regulations Compliance Checklist	+ KgCO ₂ /m ² /yr.	
(3) CO ₂ emissions offset from <i>additional allowable electricity generation</i> See notes [3] and [4]	SAP Section 16: [SAP box ZC7]	– KgCO ₂ /m ² /yr.	
(4) <i>Residual CO₂ emissions offset from biofuel CHP</i> See notes [3] and [4]	SAP Section 16: [SAP box ZC5]	– KgCO ₂ /m ² /yr.	
(5) Total CO ₂ emissions offset from SAP Section 16 allowances	Value at step (3) + Value at step (4)	– KgCO ₂ /m ² /yr.	
(6) DER accounting for SAP Section 16 allowances	Value at step (1) + Value at step (5)	+/- KgCO ₂ /m ² /yr.	
(7) % improvement DER/TER See note [5]	$100 \times (1 - (\text{Value at step (6)} \div \text{Value at step (2)}))$	+ %	
Level 6 Only			
(8) Net CO ₂ emissions See notes [2] and [4]	SAP Section 16: [SAP box ZC8]	+/- KgCO ₂ /m ² /yr.	

Notes to table Cat 1.1:

- [1] The data sources in this calculation correspond with SAP and are intended as supplementary guidance to assist in identifying the values required. It is the responsibility of the assessor to ensure that the correct value is identified and entered into the calculation as the data source may vary dependent on the type of accredited SAP software used to assess energy performance.

The SAP document is published by BRE available at: www.bre.co.uk/sap2012. Box numbers that appear in approved software may differ to those cited in the SAP document. If this is the case Energy Assessors should verify the correct box numbers described above by contacting the software provider.

- [2] Section 16 of SAP extends the calculation to account for CO₂ emissions from appliances and cooking and to allow for site-wide electricity generating technologies. Follow the procedure set out in Section 16 of SAP 2012 to calculate Net CO₂ emissions for the dwelling.

To achieve the mandatory Ene 1 requirement at Code level 6, no specific conditions are imposed that preclude the use of Section 16 of SAP to calculate net CO₂ emissions apart from those detailed in note [3]. However, it should be noted that to achieve an overall rating of Code level 6 the dwelling(s) must also meet the minimum FEE performance requirement at the 7 credit benchmark.

- [3] The allowances included in Section 16 of SAP for site-wide electricity generating technologies and CO₂ emissions offsets from biofuel CHP systems can be applied to achieve the mandatory Ene 1 requirements set at all Code levels. For the associated emissions offsets to be included in the Ene 1 calculation, the dwelling(s) must meet the minimum FEE performance requirement at the 5 credit benchmark.

For details of acceptable technologies, configurations, output calculations and of how to apportion the output to individual dwellings, refer to Appendix M and Section 16 of SAP.

- [4] Where centralised energy supply infrastructure is in place that services other users (e.g. mixed use developments) the output must be allocated between all users in relation to their proportional net floor area.
- [5] The calculated percentage reduction must rounded to 1 decimal place e.g. 94.8750% becomes 94.9%. This figure is then used to determine the number of credits and mandatory level achieved for Code level 1 – 5 dwellings, in line with the performance requirements defined in the assessment criteria table.

Checklists and Tables

None.

Common Cases of Non-Compliance

Green tariffs cannot be used to offset CO₂ emissions. They do not guarantee increased renewable capacity in line with the increased demand arising from new development and are also not legally binding on occupiers.

Special Cases

None

Issue ID	Description	No. of Credits Available	Mandatory Elements
Ene 2	Fabric Energy Efficiency (England)	9	Yes

Aim

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

Assessment Criteria

Criteria				
Dwelling Type* ¹		Credits* ²	Mandatory Levels	
Apartment Blocks, Mid-Terrace	End Terrace, Semi- Detached & Detached			
Fabric Energy Efficiency kWh/m ² /year				
≤ 48	≤ 60	3	Levels 5 & 6	
≤ 45	≤ 55	4		
≤ 43	≤ 52	5		
≤ 41	≤ 49	6		
≤ 39	≤ 46	7		
≤ 35	≤ 42	8		
≤ 32	≤ 38	9		
Default Cases				
None				
Note: The performance criteria of this category differs from Approved Document L1A 2013 England. The Approved Document is based upon the 'notional dwelling', whilst the criteria in this category is based upon 'absolute performance'. Credits can only be awarded when the Target Fabric Energy Efficiency requirement for Building Regulations has been met.				

*¹ To determine the applicable performance scale the dwelling type under assessment must be accurately defined according to the guidance from the Zero Carbon Hub document title '*Informing the Part L 2013 consultation: Fabric energy efficiency for Part L 2013: classification methodology for different dwelling types*' Feb 12

*² Credits are awarded on a sliding scale. The scale is based on increments of 0.1 credits, distributed equally between the benchmarks defined in this table.

Information Required to Demonstrate Compliance

Schedule of Evidence Required	
Design Stage	Post Construction Stage
<p>Detailed documentary evidence confirming fabric energy efficiency based on Design Stage <i>SAP outputs</i></p> <p>OR</p> <p>Where applicable:</p> <p>A copy of calculations as detailed in the assessment methodology based on design stage SAP outputs</p> <p>*Dated outputs with <i>accredited energy assessor</i> name and registration number, assessment status, plot number and development address.</p> <p>If not produced by an accredited energy assessor additional verification is required as detailed in the assessment methodology.</p>	<p>Detailed documentary evidence confirming fabric energy efficiency based on as built SAP outputs</p> <p>OR</p> <p>Where applicable:</p> <p>A copy of calculations as detailed in the assessment methodology based on as built SAP outputs</p> <p>*Dated outputs with <i>accredited energy assessor</i> name and registration number, assessment status, plot number and development address.</p> <p>If not produced by an accredited energy assessor additional verification is required as detailed in the assessment methodology.</p>

Definitions

Accredited energy assessor

A person registered with an accredited energy assessment scheme provider. The scheme provider will be licensed by Communities and Local Government to accredit competent persons to assess the CO₂ emission rates of domestic buildings for the purposes of demonstrating compliance with *Building Regulations*.

(AD L1A) Approved Document L1A

The Building Regulations for England Approved Document L1A: Conservation of Fuel and Power in New Dwellings (2013 Edition).

Building Control Body

This is the body responsible for ensuring construction works are according to plan and compliant with applicable requirements through periodic inspection

Building Regulations

Building Regulations apply in England and promote:

- Standards for most aspects of a building's construction, including structure, fire safety, sound insulation, drainage, ventilation and electrical safety
- Energy efficiency
- The needs of all people, including those with disabilities, in accessing and moving around buildings

Dwelling Type

The type of dwelling under assessment determines the applicable FEE and credit scale. To define the dwelling type under assessment refer to the Zero Carbon Hub document titled '*Information the Part L 2013 consultation, Fabric Energy Efficiency for Part L 2013, Classification methodology for different dwelling types*' Feb. 2012

The FEE scale of ≤ 48 kWh/m²/year to ≤ 32 kWh/m²/year is applicable to:

- Apartment blocks*
- Mid-terrace houses / bungalows**

* For some apartment blocks the FEE scale of ≤ 60 kWh/m²/year to ≤ 38 kWh/m²/year applies. To define the dwelling type under assessment refer to the Zero Carbon Hub document listed above.

** For stepped and staggered terraced houses/bungalows and houses with an internal garage or drive through, refer to special cases.

The FEE scale of ≤ 60 kWh/m²/year to ≤ 38 kWh/m²/year is applicable to:

- End terrace houses / bungalows
- Semi-detached houses / bungalows
- Detached houses / bungalows.

Energy averaging

For all apartment blocks, it is acceptable to assess this issue based on the area weighted average FEE performance of all dwellings within the building. The area weighted average FEE performance must be calculated in accordance with methodology defined in clause 2.7 of *AD L1A*. For the purposes of the Code, this averaging relates to apartment blocks only and not to terraces.

Use of energy averaging to assess performance against this issue is at the discretion of the developer and assessor.

(EPC) Energy Performance Certificate

This is a certificate that confirms the energy rating of the dwelling from A to G, where A is the most efficient and G is the least efficient. The better the rating, the more energy efficient the dwelling is, and the lower the fuel bills are likely to be. The energy performance of the building is shown as a carbon dioxide (CO₂) based index. EPCs are generated using approved software by accredited energy assessors.

Where energy averaging is carried out for the purposes of a Code assessment, it is possible to use better fabric and systems performance in some dwellings to

offset worse performance in others. This is not possible for the purposes of the EPC calculation and as such Code energy performance may differ from that indicated on the EPC.

Where energy averaging has been used, performance against the requirements of this issue is not indicative of individual dwelling performance or running costs.

(FEE) Fabric Energy Efficiency

Energy demand for space heating and cooling expressed in kilowatt-hours of energy demand per square metre per year (kWh/m²/year).

Fabric energy efficiency is calculated according to the conditions defined in Section 11 of SAP. The outputs from FEE calculations should be rounded to 1 decimal place prior to determining the number of credits to award.

The FEE is now referred to as the DFEE (Dwelling Fabric Energy Efficiency) as described in AD L1A 2013 England

SAP Output (design & as built stage)

This is a dated output from accredited SAP software produced by an *accredited energy assessor*. The output must summarise the data necessary to determine performance against the requirements of this issue and include the name and registration number of the accredited energy assessor, the assessment status, plot number and development address. It is not necessary to produce individual SAP outputs for identical dwellings for the purposes of a Code assessment.

The output will be based on either design stage information or on the dwelling as constructed. Design stage outputs must be used when assessing design stage Code performance and as built outputs for post construction Code assessments.

Where SAP outputs are not produced by an accredited energy assessor they must be verified by either an accredited energy assessor or a member of the *building control body* responsible for assessing the dwelling for compliance with Part L of the Building Regulations.

For the purposes of assessing this issue the applicable SAP outputs are:

- Output from SAP box 109 or DFEE
- SAP FEE Worksheet / AD L1A Building Regulations Compliance Checklist

(SAP) Standard Assessment Procedure for Energy Rating of Dwellings

The Government's approved methodology for assessing the energy performance of new dwellings. The current version is SAP 2012 published on behalf of the Department for Energy and Climate Change (DECC) by BRE and available at www.bre.co.uk/sap2012. The procedure accounts for energy used in:

- Space heating and cooling
- Hot water provision
- Fixed lighting.

The indicators of energy performance are energy consumption per unit floor area, energy cost rating (SAP rating), environmental impact rating based on CO₂ emissions (EI rating) and dwelling CO₂ emission rate (DER). They are used in the production of energy performance certificates (EPCs) and to demonstrate compliance with AD L1A and the Code for Sustainable Homes.

To contribute to reducing CO₂ emissions as calculated by SAP, heat and power must be generated either on or in the home, on the development or through other local community arrangements (including district heat and power).

Assessment Methodology

The assessment criteria should be read with the methodology and the definitions in this section. Mandatory requirements are met and credits are awarded where the performance requirements (set out in the assessment criteria table) have been met.

Design Stage

Confirm the *dwelling type* and *FEE* scale to apply to the dwelling being assessed

Confirm that the SAP output for the dwelling being assessed meets the criteria set out in the definitions section.

Identify the FEE performance of the dwelling under assessment.

For all apartment blocks, it is acceptable to award credits based on the area weighted average FEE for all dwellings in the building. *Energy averaging* must be calculated in accordance with the criteria set out in the definitions section.

Post Construction Stage

Either:

- Confirm that no changes have been made to the design during construction that impact on FEE performance.

Or, where changes have been made during construction:

- As for design stage, but based on as built SAP outputs.

Calculation Procedures

None.

Checklists and Tables

None.

Common Cases of Non-Compliance

None.

Special Cases

Terraces of houses/bungalows are often stepped or staggered to account for factors such as site topography or local planning requirements. Where this is the case, the side walls of mid terrace dwellings become partially exposed, increasing heat loss and energy demand.

As the area of exposed side wall increases, the energy performance characteristics of a mid-terrace dwelling become more akin to those of an end terrace dwelling. To account for this, and to maintain the logic behind separate FEE targets for mid and end terrace dwellings, the standard mid terrace FEE performance requirements i.e those defined in the assessment criteria table, can be reduced for stepped or staggered mid terrace dwellings/bungalows and houses with an internal garage or drive through.

Where these dwelling types are under assessment, the following formula can be applied to adjust the standard mid terrace FEE performance requirements set at each credit level; this includes the mandatory Code level 5 and 6 requirements:

$$\text{Revised FEE Performance Benchmark} = B_{MT} + (2 \times (B_{ET} - B_{MT}) \times R)$$

Where:

B_{MT} = Standard mid-terrace FEE performance benchmark

B_{ET} = Corresponding standard end terrace performance benchmark

R = Ratio of exposed/semi exposed side wall to total wall area

Note: This formula is only applicable where $0 < R < 0.5$. Where $R \geq 0.5$ standard end terrace performance benchmarks apply.

To calculate R :

$$R = \frac{\text{Exposed Side Wall Area m}^2 + \text{Semi-exposed side wall Area m}^2}{\text{Total Side Wall Area m}^2}$$

R should be rounded to 2 decimal places.

For guidance on determining the exposed side wall and semi-exposed side wall area, please refer to the Zero Carbon Hub document specified under the definition of a *Dwelling Type*.

Issue ID	Description	No. of Credits Available	Mandatory Elements
Ene 6	External Lighting (England)	2	No

Aim

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

Assessment Criteria

Criteria	Credits
<p>Space Lighting</p> <p>Where all external <i>space lighting</i>, including lighting in common areas, is provided by <i>energy efficient light bulbs / lamps</i> with appropriate <i>control systems</i></p> <p>Note: <i>Statutory safety lighting</i> is not covered by this requirement</p>	1
<p>Security Lighting</p> <p>Where all <i>security lighting</i> is designed for energy efficiency and is adequately controlled such that:</p> <p>All burglar security lights have:</p> <ul style="list-style-type: none"> • A maximum wattage of 150 W <p>AND</p> <ul style="list-style-type: none"> • <i>Movement detecting control devices (PIR)</i> <p>AND</p> <ul style="list-style-type: none"> • <i>Daylight cut-off sensors</i> <p>All other <i>security lighting</i>:</p> <ul style="list-style-type: none"> • Is provided by <i>energy efficient light bulbs / lamps</i> <p>AND</p> <ul style="list-style-type: none"> • Is fitted with <i>daylight cut-off sensors</i> OR a <i>time switch</i> 	1
<p>Default Cases</p> <p>If no security lighting is installed, the security lighting credit can be awarded by default, provided all of the requirements related to the specification of space lighting have been met.</p> <p>Dual lamp luminaires with both space and security lamps can be awarded both credits provided they meet the above criteria for energy efficiency</p>	1

Information Required to Demonstrate Compliance

Schedule of Evidence Required	
Design Stage	Post Construction Stage
<p>Relevant drawings clearly showing the location of all external light fittings</p> <p>AND</p> <p>Detailed documentary evidence confirming:</p> <ul style="list-style-type: none"> • The types of light fitting and efficacy, in lumens per circuit watt, for all lamps • The control systems applicable to each light fitting or group of fittings 	<p>For post construction stage only assessments, provide drawings and detailed documentary evidence (as listed for the design stage) representing the dwellings as built</p> <p>OR</p> <p>Written confirmation from the developer that the external light fittings have been installed as specified in drawings and the design stage detailed documentary evidence</p>
<p>Where detailed information is not available at this stage:</p> <p>A letter of instruction to a contractor/ supplier or a formal letter from the developer giving the specific undertaking</p>	<p>OR</p> <p>Where only a letter of instruction is provided at the design stage, provide calculations and detailed documentary evidence (as listed for the design stage) representing the dwellings as built</p> <p>OR</p> <p>Where different from the design stage, provide revised drawings and detailed documentary evidence (as listed for the design stage) representing the dwellings as built</p> <p>OR</p> <p><i>A site inspection report</i> confirming compliance</p>

Definitions

Control systems

A method for controlling the external lighting to ensure that it will not operate unnecessarily, e.g. during daylight hours or when a space is unoccupied. Control systems that can be considered are passive infra-red (PIR), 'dusk to dawn' daylight sensors and time switches.

Daylight sensors (dusk to dawn)

A type of sensor that detects daylight and switches lighting on at dusk and off at dawn.

Energy efficient light bulb / lamp

A light bulb / lamp that has luminous efficacy greater than 40 lumens per circuit watt.

Dual-level lighting

Artificial lighting, specified with appropriate control systems, which operates at different levels of illuminance to provide an adequate maintained level of lighting to internal spaces.

Dual-level lighting must be specified to reduce levels of illuminance when spaces are less likely to be occupied, in accordance with the minimum maintained illuminance levels defined in CIBSE LG9: 1997 Lighting for Communal Residential Buildings.

Movement detecting control devices (PIR)

A type of motion detector that uses infra-red radiation to detect movement and switches lighting on.

Security lighting

Security lighting is provided to protect property. There are two types of security lighting commonly used in dwellings – high wattage intruder lights that are operated via PIR sensors which only switch on for a short time, and low wattage lighting that is controlled by time switches and daylight sensors.

Site Inspection Report

A report prepared by the Code assessor during a post construction stage assessment and provided as evidence with the assessment.

Space lighting

The normal lighting required to illuminate a space when in use. It can be used outside the entrance to the home, in outbuildings such as garages and cycle stores, and for external spaces such as paths, patios, decks, porches, steps and verandas.

Space lighting must be designed with appropriate control systems to ensure it is switched off during daylight hours.

Statutory safety lighting

Safety lighting is usually provided in multi-residential buildings such as blocks of flats to illuminate stairwells and exit routes when the main lighting system fails. Its design is specified by regulation (BS 5266) and is therefore outside the scope of the Code.

Time switch

A switch with an in-built clock which will allow lighting to be switched on and off at programmed times.

Assessment Methodology

The assessment criteria should be read with the methodology and the definitions in this section. Credits are awarded where the performance requirements (set out in the assessment criteria table) have been met.

Design Stage

- Confirm whether the external space and security lighting specification meets the requirements set out in the assessment criteria.
- For houses, fittings serving the following areas should be included in the assessment: external door, front porch, steps/pathways, patio, garage, garden, carports and any other outbuildings.
- For flats, fittings serving the following areas should be included in the assessment: external steps and pathways, main external entrances and all communal internal spaces.

Post Construction Stage

Either:

- Confirm that no changes have been made to the dwelling design during construction that impact on the external space and security lighting specification.

Or, where changes have been made during construction:

- As for the design stage, but based on as-built information.

Calculation Procedures

None.

Checklists and Tables

None.

Common Cases of Non-Compliance

Credits cannot be awarded by default if no space lighting is installed, even in cases where all security lighting requirements are met.

Special Cases

On a privately managed site, external lighting managed by a Local Authority may be excluded from this issue.

Where a site is redeveloped and existing external lighting remains, the lighting that is retained has to comply with the requirements of the issue. Replacement of the fittings may be necessary.

Where permanent space lighting is required for safety reasons, or for the purpose of meeting other applicable design standards (normally in internal communal corridors or stairwells that receive no daylight), *dual-level lighting* is acceptable.

Issue ID	Description	No. of Credits Available	Mandatory Elements
Ene 7	Low and Zero Carbon Technologies (England)	2	No

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.

Assessment Criteria

Criteria	Credits
Where energy is supplied by <i>low or zero carbon technologies</i> AND	
There is a 10% reduction in CO ₂ emissions as a result	1
OR	
There is a 15% reduction in CO ₂ emissions as a result	2
Default Cases	
None	

Information Required to Demonstrate Compliance

Schedule of Evidence Required	
Design Stage	Post Construction Stage
<p>A copy of calculations as detailed in the assessment methodology based on design stage <i>SAP outputs</i></p> <p>AND</p> <p>Detailed documentary evidence confirming that the specified low or zero carbon technologies:</p> <ul style="list-style-type: none"> • Meet any additional requirements defined in Directive 2009/28/EC as applicable. <p>And are:</p> <ul style="list-style-type: none"> • Certified under the Microgeneration Certification Scheme* <p>OR</p> <ul style="list-style-type: none"> • Certified under the CHPQA standard* <p>*As applicable.</p>	<p>A copy of calculations as detailed in the assessment methodology based on as built SAP outputs</p> <p>AND</p> <p>Detailed documentary evidence confirming that the specified low or zero carbon technologies:</p> <ul style="list-style-type: none"> • Meet any additional requirements defined in Directive 2009/28/EC as applicable. <p>And are:</p> <ul style="list-style-type: none"> • Certified under the Microgeneration Certification Scheme* <p>OR</p> <ul style="list-style-type: none"> • Certified under the CHPQA standard* <p>*As applicable.</p>

Definitions

Accredited energy assessor

A person registered with an accredited energy assessment scheme provider. The scheme provider will be licensed by Communities and Local Government to accredit competent persons to assess the CO₂ emission rates of domestic buildings for the purposes of demonstrating compliance with *Building Regulations*.

Accredited External Renewables

These are renewable energy installations located off site which:

- Are Renewable Energy Guarantee of Origin (REGO) certified.
- Create new installed generation capacity designed to meet the demand of the dwelling.
- Are additional to capacity already required under the Renewables Obligation.

Actual Case CO₂ Emissions

CO₂ emissions from the dwelling (Kg CO₂/m²/year) accounting for the input from specified/installed low and zero carbon technologies.

The standard case dwelling model must be used as the basis for the calculation of actual case emissions. However, where eligible low or zero carbon technologies are specified in the dwelling they can replace the standard systems assumptions from table Cat 1.2 for the purposes of the actual case calculation.

Actual case CO₂ emissions must be calculated in accordance with the methodology defined in table Cat 1.3.

(AD L1A) Approved Document L1A

The Building Regulations for England Approved Document L1A: Conservation of Fuel and Power in New Dwellings (2013 Edition).

Building Control Body

The body responsible for ensuring that construction works are according to plan and compliant with applicable requirements through periodic inspection.

Building Regulations

Building Regulations apply in England and promote:

- Standards for most aspects of a building's construction, including structure, fire safety, sound insulation, drainage, ventilation and electrical safety
- Energy efficiency
- The needs of all people, including those with disabilities, in accessing and moving around buildings.

Direct Supply

The carbon benefit of energy generated by low or zero carbon technologies can only be allocated to dwellings that are directly supplied by the installation via dedicated supplies.

Where electricity is generated which is surplus to the instantaneous demand of the dwelling(s), it may be fed back to the National Grid. The carbon benefit of any electricity fed back to the grid can be allocated as if it were consumed in the dwelling(s) when assessing performance against the requirements of this issue.

For communal PV arrays in buildings with multiple dwellings, the obligations of this definition are satisfied where the requirements of Appendix M of *SAP* are met.

Low and Zero Carbon Technologies

Technologies eligible to contribute to achieving the requirements of this issue must produce energy from renewable sources and meet all other ancillary requirements as defined by Directive 2009/28/EC of the European Parliament

and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

The following requirements must also be met:

- Where not provided by accredited external renewables there must be a *direct supply* of energy produced to the dwelling under assessment.
- Where covered by the *Microgeneration Certification Scheme (MCS)*, technologies under 50kWe or 300kWth must be certified.
- Combined Heat and Power (CHP) schemes above 50kWe must be certified under the CHPQA standard.
- All technologies must be accounted for by SAP.

CHP schemes fuelled by mains gas are eligible to contribute to performance against this issue. Where these schemes are above 50kWe they must be certified under the CHPQA.

(MCS) Microgeneration Certification Scheme

The Microgeneration Certification Scheme (MCS) is an independent scheme that certifies microgeneration products and installers in accordance with consistent standards. It is designed to evaluate microgeneration products and installers against robust criteria, and provides consumers with an independent indication of the reliability of products, assurance that the installation will be carried out to the appropriate standard and a route for complaints should there be any issues.

The MCS is a United Kingdom Accreditation Service (UKAS) accredited certification scheme covering all microgeneration products and services. It has support from the Department of Energy and Climate Change (DECC), industry and non-governmental groups as a prime method for making a substantial contribution to cutting the UK's dependency on fossil fuels and carbon dioxide emissions.

SAP output (design & as built stage)

This is a dated output from accredited SAP software produced by an *accredited energy assessor*. The output must summarise the data necessary to determine performance against the requirements of this issue and include the name and registration number of the accredited energy assessor, the assessment status, plot number and development address. It is not necessary to produce individual SAP outputs for identical dwellings for the purposes of a Code assessment.

The output will be based on either design stage information or on the dwelling as constructed. Design stage outputs are normally used when assessing design stage Code performance and as built outputs for post construction Code assessments. However, for the purposes of assessment against the requirements of this issue 'draft' SAP outputs are acceptable.

Where SAP Outputs are not produced by an accredited energy assessor they must be verified by either an accredited energy assessor or

a member of the *building control body* responsible for assessing the dwelling for compliance with Part L of the Building Regulations.

For the purposes of assessing this issue the applicable SAP outputs are:

- SAP DER worksheet

(SAP) Standard Assessment Procedure for Energy Rating of Dwellings

The Government's approved methodology for assessing the energy performance of new dwellings. The current version is SAP 2012 published on behalf of the Department for Energy and Climate Change (DECC) by BRE and available at www.bre.co.uk/sap2012. The procedure accounts for energy used in:

- Space heating and cooling
- Hot water provision
- Fixed lighting.

The indicators of energy performance are energy consumption per unit floor area, energy cost rating (SAP rating), environmental impact rating based on CO₂ emissions (EI rating) and dwelling CO₂ emission rate (DER). They are used in the production of energy performance certificates (EPCs) and to demonstrate compliance with *AD L1A* and the Code for Sustainable Homes.

To contribute to reducing CO₂ emissions as calculated by SAP, heat and power must be generated either on or in the home, on the development or through other local community arrangements (including district heat and power).

Standard Case CO₂ Emissions

CO₂ emissions from the dwelling (Kg CO₂/m²/year) assuming a standard systems specification, based on the Domestic Building Services Compliance Guide 2010 Edition.

Standard case CO₂ emissions create the baseline against which the contribution of low and zero carbon technologies is measured. They represent the common scenario where a gas boiler is installed and ensure a 'level playing field' to allow a fair comparison of the contribution of low and zero carbon technologies, regardless of the carbon intensity of the actual heating fuel specified.

The assumptions to be included in the calculation of standard case CO₂ emissions are included in table Cat 1.2.

Standard case CO₂ emissions must be calculated in accordance with the methodology defined in table Cat 1.3.

Assessment Methodology

The assessment criteria should be read with the methodology and the definitions in this section. Credits are awarded where the performance requirements (set out in the assessment criteria table) have been met.

Design Stage

Confirm that the SAP output for each dwelling being assessed meets the criteria set out in the definitions section.

Calculate the *standard case CO₂ emissions*.

Calculate the *actual case CO₂ emissions*.

Calculate the reduction in actual case CO₂ emissions compared to standard case CO₂ emissions.

Post Construction Stage

Either:

- Confirm that no changes have been made to the dwelling design during construction that impact on the low and zero carbon technologies specification.

Or, where changes have been made during construction:

- As for design stage, but based on as built SAP outputs.

Calculation Procedures

1. Standard Case CO₂ Emissions:

Standard case CO₂ emissions must be calculated according to the methodology defined in table Cat 1.3.

The specification assumptions included in table Cat 1.2 must replace those of the actual dwelling in the calculation of standard case CO₂ emissions.

Where elements or systems are not listed in table Cat 1.2 they should be included in the calculation of standard case CO₂ emissions as specified/constructed.

Table Cat 1.2: Standard CO₂ Emissions Calculation - Specification Assumptions

Element or System		Value
[1]	Main heating fuel (space and water)	Mains gas
[2]	Main heating system (and second main heating system where specified)	Boiler and radiators Fully pumped circulation Water pump in heated space
[2a]	Boiler	SEDBUK (2009) 88% Room-sealed Fanned Flue On/off burner control
[2b]	Heating system controls	Programmer Room thermostats TRVs Boiler interlock
[3]	Secondary heating fuel (<i>where secondary heating is specified</i>)	Electricity
[3a]	Secondary heating system (<i>where secondary heating is specified</i>)	Panel, convector or radiant heaters
[4]	Hot water system	Stored hot water, heated by boiler only Separate time control for space and water heating
[4a]	Hot water storage	150 litre cylinder insulated with 35mm of factory applied foam
[4b]	Primary water heating losses	Primary pipework insulated Cylinder temperature controlled by thermostat
[4c]	Technologies covered by Appendix H of SAP	None specified
[5]	Technologies covered by Appendix M of SAP	None specified

2. Actual Case CO₂ Emissions:

Actual case CO₂ emissions must be calculated according to the methodology defined in table Cat 1.3.

The standard case dwelling model must be used as the basis for the calculation of actual case emissions. However, where eligible low or zero carbon technologies are specified in the dwelling they can replace the standard systems assumptions from table Cat 1.2 for the purposes of the actual case emissions calculation.

The reduction in CO₂ emissions as a result of the specification of low and zero carbon technologies must be calculated according to the methodology defined in table Cat 1.3.

Table Cat 1.3: Reduction in CO₂ Emissions

Value Required		Data Source Guidance (See note [1])	Unit Required	Value
(1)	Standard Case CO ₂ emissions See notes [2] and [4]	SAP Section 16: [SAP box ZC8]	+ KgCO ₂ /m ² /yr.	
(2)	Actual Case CO ₂ emissions See notes [2], [3] and [4]	SAP Section 16: [SAP box ZC8]	+/- KgCO ₂ /m ² /yr.	
(3)	Reduction in CO ₂ emissions See note [5]	$100 \times (1 - (\text{Value at step (2)} \div \text{Value at step (1)}))$	+/- %	

Notes to table Cat 1.3:

- [1] The data sources in this calculation correspond with SAP and are intended as supplementary guidance to assist in identifying the values required. It is the responsibility of the assessor to ensure that the correct value is identified and entered into the calculation, as the data source may vary dependent on the type of accredited SAP software used to assess energy performance.
- [2] Section 16 of SAP extends the calculation to account for CO₂ emissions from appliances and cooking and to allow for site-wide electricity generating technologies. Follow the procedure set out in Section 16 of SAP 2012 to calculate standard case CO₂ emissions and actual case CO₂ emissions for the dwelling under assessment. There are no specific conditions imposed that preclude the use of section 16 of SAP to calculate standard or actual emissions.
- [3] In the calculation of actual case CO₂ emissions, there are no specific conditions that preclude consideration of the allowances included in Section 16 of SAP for site-wide electricity generating technologies and CO₂ emissions offsets from biofuel CHP systems. For details of acceptable technologies, configurations, output calculations and of how to apportion the output to individual dwellings, refer to Appendix M and Section 16 of SAP.
- [4] Where centralised energy supply infrastructure is in place that services other users (e.g. mixed use developments) the output must be allocated between all users in relation to their proportional net floor area.
- [5] The calculated percentage reduction must be truncated (not rounded down) to an integer percentage e.g. 9.8750% becomes 9%. This figure is then used to determine the number of credits achieved, in line with the performance requirements defined in the assessment criteria table.

Checklists and Tables

None.

Common Cases of Non-Compliance

Energy supplied from remote sources through the National Grid is not eligible to contribute towards achieving the requirements set out in this issue. This includes electricity procured through 'green tariffs'.

Special Cases

None.

Issue ID	Description	No. of Credits Available	Mandatory Elements
Was 2	Construction Site Waste Management (England)	3	No

Aim

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

Assessment Criteria

Criteria	Credits
<p>Minimising Construction Waste</p> <p>Where there is a <i>compliant Site Waste Management Plan (SWMP)</i> that contains:</p> <ol style="list-style-type: none"> Target benchmarks for resource efficiency, i.e. m³ of waste per 100 m² or tonnes of waste per 100 m² set in accordance with <i>best practice</i> 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. Procedures for minimising hazardous waste 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) 	1
<p>Diverting Waste from Landfill</p> <p>Where there is a compliant Site Waste Management Plan (SWMP) including procedures and commitments to sort and divert waste from landfill, through either;</p> <ol style="list-style-type: none"> Re-use on site (in situ or for new applications) Re-use on other sites Salvage/reclaim for re-use Return to the supplier via a 'take-back' scheme Recovery and recycling using an approved waste management contractor Compost <p>according to the defined <i>waste groups</i> (in line with the waste streams generated by the scope of the works).</p> <p>AND</p> <p>One of the following has been achieved:</p> <p>Where at least 50% by weight or by volume of non-hazardous construction waste generated by the project has been diverted from landfill.</p> <p>OR</p> <p>Where at least 85% by weight or by volume of non-hazardous construction waste generated by the project has been diverted from landfill.</p>	2 3

Information Required to Demonstrate Compliance

Schedule of Evidence Required	
Design Stage	Post Construction Stage
<p>A copy of the compliant SWMP containing the appropriate benchmarks, commitments and procedures for waste minimisation and diversion from landfill in line with the criteria and with Checklists Was 2a, Was 2b, Was 2c and Was 2d</p> <p>OR</p> <p>Confirmation from the developer that the SWMP includes/will include benchmarks, procedures and commitments for minimising and diverting waste from landfill in line with the criteria and with Checklists Was 2a, Was 2b, Was 2c and Was 2d</p>	<p>For post construction stage only assessments, confirmation that the SWMP implemented meets the criteria</p> <p>OR</p> <p>Confirmation from the developer that no details specified in the SWMP have changed from the evidence provided at the design stage</p> <p>OR</p> <p>Where different from the design stage, provide confirmation from the developer that the SWMP implemented covers all the criteria</p>

Definitions

Best practice

The SWMP should include procedures, commitments for waste minimisation and diversion from landfill, as well as setting target benchmarks for resource efficiency in accordance with guidance from:

- DEFRA (Department for Environment, Food and Rural Affairs)
- BRE (Building Research Establishment)
- WRAP (Waste & Resources Action Programme)
- Environmental performance indicators and/or key performance indicators (KPI) from WRAP or Constructing Excellence.

Compliant Site Waste Management Plans

A compliant Site Waste Management Plan is one that is deemed to achieve all the criteria as set out in Checklist Was 2a and 2b.

Environmental performance indicators (EPIs)

When operated as part of a measuring-to-manage programme, environmental performance indicators allow companies to track how well they are doing and to identify opportunities to: save money and increase profits; use resources more efficiently; minimise waste (raw materials, product, energy, water, packaging, etc.); and prevent pollution. For more information see <http://envirowise.wrap.org.uk>

SMARTWaste

This is a software tool for preparing, implementing and reviewing a SWMP. This tool includes an integrated waste measurement tool (SMARTStart which is aligned to defined waste groups). SMARTWaste will manage all aspects of creating SWMPs and measuring waste generated on projects. This is linked to online waste measurement, industry waste benchmarks and a recycling site locator tool (BREMAP). For more information see www.smartwaste.co.uk.

Target benchmarks for waste minimisation

These can be set by using best practice and should be reviewed throughout the construction process as part of implementing an SWMP. Results are reported in the SWMP on completion. Specific quantitative targets are not set within this Technical Guide. It is the responsibility of the client and/or the principal contractor (as defined by the SWMP regulations 2008) to ensure that appropriate targets are set for the site.

Waste groups

In a SWMP, details of the amount of waste produced, reduced, re-used, recycled or otherwise recovered on or off site need to be monitored and reported according to the following list (see also Checklist 2c):

- Bricks (170102*)
- Concrete (170101*)
- Insulation (170604*)
- Packaging (15018*)
- Timber (170201*)
- Electrical and electronic equipment (1602*)
- Canteen/office/ad hoc
- Asphalt and tar (1703*)
- Tiles and ceramics (170103*)
- Inert (1705*)
- Metals (1704*)
- Gypsum (170802*)
- Plastics (170203*)
- Floor coverings (soft)

Soils (1705*)

Hazardous

Architectural features

Other/Mixed**

* From the European Waste Catalogue, codes for waste type

** Efforts should be made to categorise waste into the above categories wherever possible

Waste hierarchy

This is a general guide to the relative environmental benefits of different waste management options. It is represented by an inverted pyramid – from top to bottom: waste prevention, re-use of material, recycling/composting, recovery, and disposal.

Assessment Methodology

The assessment criteria should be read with the methodology and definitions in this section. Credits are awarded where the performance requirements (set out in the assessment criteria table) have been met.

Design Stage

- Use Checklist Was 2a to confirm that the SWMP is compliant with the criteria.
- Use Checklist Was 2b to confirm the criteria to minimise construction waste.
- Use Checklist Was 2c to identify all waste groups to be monitored.
- Use Checklist Was 2d to confirm the criteria to divert waste from landfill.
- Confirm the percentage of non-hazardous waste generated by the project that will be diverted from landfill.

Post Construction Stage

- Verify that if the SWMP was revised during the construction phase, any target deviations from the original SWMP have been recorded.
- Confirm the percentage of non-hazardous waste generated by the project that has been diverted from landfill.

Calculation Procedures

None.

Checklists and Tables

Checklist Was 2a -			
Confirmation that SWMP is compliant.			
Criteria	Evidence Demonstrating How Criteria Will Be Met	Reference	Tick
1) SWMP implementation of design phase decision(s) taken to minimise on-site waste produced.			
2) Identification of individual responsible for planning and preparing the SWMP and ensuring that it is followed. This must, either be the client or the principal contractor, according to the stage of the project.			
3) Identification of the waste groups (according to Checklist 2c) and estimated quantities of waste expected at every stages of the work programme/plan.			
4) Identification of waste management options, for each waste group, including reference to the waste hierarchy (reduce, re-use, recycle), on and off-site options. Highlight arrangements to identify and manage any hazardous waste.			
5) Identify and record waste management sites, transactions and contractors for all wastes that require them. Ensure that the contracts are in place and that wastes are handled efficiently, in compliance with legal requirements such as the Duty of Care and waste carrier registration times.			
6) Set targets and procedures for monitoring progress.			
7) Provide suitable site induction, information and training both for in-house and sub-contracted staff, guaranteeing that everyone knows the requirements of the SWMP and what it is expected of them.			
8) Confirmation that the site construction waste is being monitored.			
9) Measure and record the amount of waste per type produced, using an established system, such as SMARTWaste.			
10) Continuously update the SWMP during the construction phase (according to best practice).			
11) After the project completion, revise the SWMP, noting all deviations from initial targets, including resource and estimate cost changes.			

Checklist Was 2b Minimising Construction Waste Generated on Site			
Criteria	Evidence Demonstrating how Criteria will be Met	Reference	Tick
1) Confirmation that target benchmarks are set to reduce waste generated on site. These should be reported as part of the SWMP implementation and on completion. Waste minimisation targets during the construction process can be set using best practice.			
2) Set 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.			
3) Procedures for minimising hazardous waste.			

Checklist Was 2c: Waste Groups					
Actions identified to monitor, reduce, sort and divert from landfill site construction waste (fill in where applicable, i.e. waste groups arising on housing project)					
Codes: (European Waste Catalogue)	Key Group	Examples	All that Apply	As Specified in SWMP	
			Materials to be Monitored	Materials to be Reduced	Materials to be Diverted from Landfill
170102	Bricks	Bricks			
170101	Concrete	Pipes, kerb stones, paving slabs, concrete rubble, precast and in situ			
170604	Insulation	Glass fibre, mineral wool, foamed plastic			
15018	Packaging	Pallets, cardboard, cable drums, wrapping bands, polythene sheets			
170201	Timber	Softwood, hardwood, board products such as plywood, chipboard, medium density fibreboard (MDF)			
1602	Electrical and electronic equipment	Electrical and electronic TVs, fridges, air-conditioning units, lamp equipment			
<i>continued</i>					

Checklist Was 2c: Waste Groups

Actions identified to monitor, reduce, sort and divert from landfill site construction waste (fill in where applicable, i.e. waste groups arising on housing project)

Codes: (European Waste Catalogue)	Key Group	Examples	All that Apply	As Specified in SWMP	
			Materials to be Monitored	Materials to be Reduced	Materials to be Diverted from Landfill
	Canteen/ office	Office waste, canteen waste, vegetation			
1703	Asphalt and tar	Bitumen, coal tars, asphalt			
170103	Tiles and ceramics	Ceramic tiles, clay roof tiles, ceramic sanitary ware			
1705	Inert	Mixed rubble/excavation material, glass			
1704	Metals	Radiators, cables, wires, bars, sheet			
170802	Gypsum	Plasterboard, render, plaster, cement, fibre cement sheets, mortar			
170203	Plastics	Pipes, cladding, frames, non-packaging sheet			
	Floor coverings (soft)	Carpets, vinyl flooring			
1705	Soils	Soils, clays, sand, gravel, natural stone			
	Hazardous	Defined in Environment Agency technical guidance (see www.environment-agency.gov.uk/subjects/waste)			
	Architectural features	Roof tiles, reclaimed bricks, fireplaces			
	Other/Mixed	Try to categorise waste into the above categories wherever possible.			

Checklist Was 2d: Diverting from Landfill Construction Waste Generated on Site			
Criteria	Evidence Demonstrating how Criteria will be Met	Reference	Tick
1) Procedures and commitments to sort and divert waste from landfill, either; <ul style="list-style-type: none"> a. Re-use on site (in situ or for new applications) b. Re-use on other sites c. Salvage/reclaim for re-use d. Return to the supplier via a 'take-back' scheme e. Recovery and recycling using an approved waste management contractor f. Compost according to the defined waste groups (according to the waste streams generated by the scope of the works).			
2) Confirmation of the percentage of non-hazardous construction waste generated by the project that has been diverted from landfill.			

Common Cases of Non-Compliance

Where the credit for minimising waste has not been achieved, the credits for diversion from landfill cannot be awarded.

To achieve any of the construction site waste management credits, the assessed development, regardless of value or locality, must have a SWMP compliant with regulations and best practice.

Hazardous waste should be segregated on site to avoid contaminating non-hazardous waste streams. This is standard practice and therefore no credits for diversion from landfill will be awarded for segregating hazardous waste.

Special Cases

Where space on site is too limited for waste material segregation, a licensed external contractor may be used to separate and process recyclable materials off site or the materials can be returned to the supplier via a take-back scheme. In this case, sufficient documentary evidence must be produced which demonstrates that material segregation is carried out to the correct standards and that materials are re-used/ recycled as appropriate.

Issue ID	Description	No. of Credits Available	Mandatory Elements
Pol 2	NO _x Emissions (England)	3	No

Aim

To promote the reduction of nitrogen oxide (NO_x) emissions into the atmosphere.

Assessment Criteria

Criteria		
Dry NO _x Level (mg/kWh)	Boiler Class (BS EN 297: 1994)	Credits
≤ 100	4	1
≤ 70	5	2
≤ 40	–	3
Default Cases Where all space heating and hot water energy requirements are fully met by systems which do not produce NO _x emissions.		3

Note:

1. No credits may be awarded for open flue space and/or water heating systems.

Information Required to Demonstrate Compliance

Schedule of Evidence Required	
Design Stage	Post Construction Stage
<p>Detailed documentary evidence describing:</p> <ul style="list-style-type: none"> The primary and any secondary heating systems and flue type <i>Dry NO_x</i> levels and/or <i>boiler class</i> of the primary and any secondary heating systems 	<p>For post construction stage only assessments, provide detailed documentary evidence (as listed for design stage) representing the dwellings as built</p> <p>OR</p> <p>Written confirmation from the developer that heating systems have been installed as specified in the design stage detailed documentary evidence</p>
<p>Where NO_x averaging is required due to multiple heating systems within the dwelling:</p> <p>Copy of calculations as detailed in the methodology based on design stage <i>SAP outputs</i></p>	<p>OR</p> <p>Where only a letter of instruction is provided at design stage provide detailed documentary evidence and NO_x averaging calculations (as listed for design stage but based on as built SAP outputs) representing the dwellings as built</p>
<p>Where detailed documentary evidence is not available at this stage;</p> <p>A letter of instruction to a contractor/supplier or a formal letter from the developer to the Code assessor giving the specific undertaking</p>	<p>OR</p> <p>Where different from design stage, provide detailed documentary evidence (as listed for Design Stage) representing the dwellings as built</p> <p>OR</p> <p><i>Site inspection report</i> confirming compliance</p>

Definitions

Accredited energy assessor

A person registered with an accredited energy assessment scheme provider. The scheme provider will be licensed by Communities and Local Government to accredit competent persons to assess the CO₂ emission rates of domestic buildings for the purposes of demonstrating compliance with *Building Regulations*.

(AD L1A) Approved Document L1A

The Building Regulations for England Approved Document L1A: Conservation of Fuel and Power in New Dwellings (2013 Edition).

Boiler class

An indication of a boiler's NO_x emissions. Boilers are classified on a scale of 1 to 5, with 1 indicating high NO_x emissions through to relatively low NO_x emissions for a class 5.

Boiler class (BS EN 297: 1994)

The relevant British Standard that defines and classifies boilers based on their NO_x emissions. Applies to boilers fitted with atmospheric burners of nominal heat input not exceeding 70 kW.

Building Control Body

The body responsible for ensuring that construction works are according to plan and compliant with applicable requirements through periodic inspection.

Building Regulations

Building Regulations apply in England and promote:

- Standards for most aspects of a building's construction, including structure, fire safety, sound insulation, drainage, ventilation and electrical safety
- Energy efficiency
- The needs of all people, including those with disabilities, in accessing and moving around buildings.

Dry NO_x

The NO_x emissions (mg/kWh) resulting from the combustion of a fuel at zero per cent excess oxygen levels. If electricity is sourced from the national grid, the associate Dry NO_x emissions are approximately 750 mg/kWh.

SAP Output (design & as built stage)

This is a dated output from accredited SAP software produced by an *accredited energy assessor*. The output must summarise the data necessary to determine performance against the requirements of this issue and include the name and registration number of the accredited energy assessor, the assessment status, plot number and development address. It is not necessary to produce individual SAP outputs for identical dwellings for the purposes of a Code assessment.

The output will be based on either design stage information or on the dwelling as constructed. Design stage outputs are normally used when assessing design stage Code performance and as built outputs for post construction Code assessments.

Where SAP outputs are not produced by an accredited energy assessor they must be verified by either an accredited energy assessor or a member of the *building control body* responsible for assessing the dwelling for compliance with Part L of the Building Regulations.

For the purposes of assessing this issue the applicable SAP outputs are:

- SAP DER worksheet
- The relevant SAP box as described within the calculation procedures

(SAP) Standard Assessment Procedure for Energy Rating of Dwellings

The Government's approved methodology for assessing the energy performance of new dwellings. The current version is SAP 2012 published on behalf of the Department for Energy and Climate Change (DECC) by BRE and available at www.bre.co.uk/sap2012. The procedure accounts for energy used in:

- Space heating and cooling
- Hot water provision
- Fixed lighting.

The indicators of energy performance are energy consumption per unit floor area, energy cost rating (SAP rating), environmental impact rating based on CO₂ emissions (EI rating) and dwelling CO₂ emission rate (DER). They are used in the production of Energy Performance Certificates (EPCs) and to demonstrate compliance with *AD L1A* and the Code for Sustainable Homes.

To contribute to reducing CO₂ emissions as calculated by SAP, heat and power must be generated either on or in the home, on the development or through other local community arrangements (including district heat and power).

Site inspection report

This is a report prepared by the Code assessor during a post construction stage assessment and provided as evidence with the assessment.

Assessment Methodology

The assessment criteria should be read with the methodology and the definitions in this section. Credits are awarded where the performance requirements (set out in the assessment criteria table) have been met.

Design Stage

- Determine the specification and NO_x emissions of all heating systems in the dwelling. If a secondary space and/or water heating system supplies less than 8% of the dwelling's combined space heating and hot water demand, it can be omitted from the assessment.

- Confirm that NO_x emissions are estimated under normal operating conditions i.e dry NO_x in mg/kWh. If mains electricity meets some or all of the heating demand, assume a NO_x emission rate of 750 mg/kWh supplied.
- If the figures are not stated in dry NO_x and/or in mg/kWh as required, apply any necessary conversion/correction factors to the NO_x figure(s) stated for the heating system(s). (See Sections A & B in Calculation Procedures below for guidance.)
- Where applicable, calculate the average NO_x emissions using the methodology detailed in Section C of Calculation Procedures.

Post Construction Stage

- Confirm which specifications and evidence provided at the design stage are still valid.
- Assess all the new specifications and evidence provided at the post construction stage.
- Where the heating system has not been commissioned at the time of the post construction stage assessment, a contractual commitment must be in place to ensure that the heating system will be servicing the dwelling either before more than 60% of dwellings on the development are certified or within 18 months of the dwelling's completion.

Calculation Procedures

A: Conversion Factors

Manufacturers should supply dry NO_x emissions data in mg/kWh. Where this is not possible the assessor should use the following conversion factors to convert figures in mg/m³, ppm or wet NO_x (derived using data from BS EN 297:1994). It should be noted that these conversion factors assume worst-case efficiencies and are likely to give a high estimate. This could have the effect of lowering the number of credits achieved.

1. Figures in mg/m³ should be multiplied by 0.857 in order to show emissions in mg/kWh. A conversion may also be necessary for data not calculated at 0% excess oxygen (see B below).
2. Figures in parts per million (ppm) should be multiplied by 1.76 in order to show emissions in mg/kWh. A conversion may also be necessary for data not calculated at 0% excess oxygen (see B below).
3. Figures in mg/MJ should be multiplied by 3.6 in order to show emissions in mg/kWh (1 kWh = 3.6 MJ). A conversion may also be necessary for data not calculated at 0% excess oxygen (see B below).

The assessment criteria are based on dry NO_x values – almost all manufacturers quote emissions in dry NO_x. However if wet NO_x figures are supplied, these should be converted to dry NO_x. This can be done by multiplying wet NO_x figures by 1.75.

B: Excess Oxygen Correction

If a NO_x emission rate is quoted by the manufacturer in mg/m³ or ppm, then it should be established at what % oxygen this emission was made.

The greater the amount of excess oxygen in the flue gases at the time of measurement, the more 'diluted' the NO_x. It is therefore important to convert any emission rate back to 0% excess oxygen. For the purpose of this assessment, use the following conversion factors for the most frequently used rates supplied by manufacturers:

% excess O ₂	Conversion (c)
3%	× 1.17
6%	× 1.40
15%	× 3.54

Conversion factor $c = 20.9 / (20.9 - x)$

Where $x = \% \text{ excess O}_2$ (NOT excess air) and 20.9 is the percentage of O₂ in the air.

C: Calculating the average NO_x emissions for dwellings with more than one heating/hot water system

Where heat and hot water is provided by more than one system in a dwelling (i.e. there is more than one 'main' heating system and/or a 'secondary' system) it may be necessary to calculate the total NO_x emissions for the systems combined. For the purposes of this assessment, this is only necessary when the secondary system satisfies more than 8% of the dwelling's combined total space heating and hot water demand. Where any heating system supplies less than 8% of the combined space and water heating demand it can be omitted from the assessment. However, including a low NO_x heating system that supplies less than 8% of the combined demand can lower the average NO_x figure. Where this is the case inclusion of the secondary system is at the discretion of the developer and assessor. The procedure to calculate average dry NO_x levels is detailed in tables: Cat 6.1 and 6.2.

D: Calculation method for Combined Heat and Power (CHP) systems

Where CHP systems are specified, it is only necessary to consider the heat related NO_x emissions for the assessment of this issue.

NO_x emissions are allocated to heat and electricity in line with the respective power outputs. A NO_x emission rate equivalent to the current rate for grid electricity should be assumed for the electrical output (i.e. 750 mg/kWh supplied) and the remaining NO_x should be allocated to heat output. Only the heat-related component is then compared to the assessment criteria. The following formula must be used to determine this:

$$X = (A - B)/C$$

Where:

X = NO_x emissions per unit of heat supplied (mg/kWh)

A = NO_x emissions per unit of electricity generated (mg/kWh)

Note: This is the NO_x emitted by the CHP system per unit of electricity generated and should be obtained from the supplier. Where data is provided in different units or at a level of excess oxygen above zero it must be corrected using the factors above.

B = NO_x emissions per unit of electricity supplied from the grid (mg/kWh).

Note: this should be assumed to be 750mg/kWh supplied

C = Heat to Electricity Ratio of the CHP scheme

The above methodology determines the net NO_x emissions from CHP generated electricity compared to central generation of electricity and allocates this amount to the heat production. Where X is calculated to be negative it should be assumed to be zero.

Where the CHP system operates in conjunction with other heat sources, the calculation methodology outlined in table Cat 6.2 must be used and steps [2] and [4] repeated as appropriate.

Table Cat 6.1 Calculation of average NO _x emissions Systems assessed under Section A of SAP				
System and Data Source Guidance [See note 1]		Energy demand (kWh/year) (A)	NO _x emission rate (mg/kWh) (B)	NO _x Emissions (mg/yr.) (A) × (B) = (C)
(1a)	Space heating fuel (main heating system 1) [SAP box 211]			
(2a)	Space heating fuel (main heating system 2) [SAP box 213]			
(3a)	Space heating fuel (secondary) [SAP box 215]			
(4a)	Energy generating technologies [Σ SAP boxes 233 to 235a]			
(5a)	Energy saving technologies [(Σ SAP boxes 236a to n) – (Σ SAP boxes 237a to n)] (n = all eligible technologies) [See note [2]]			
(6a)	Water heating fuel [Σ SAP boxes 621 to 12] OR [SAP box 62 × 303a or b × 305a × 306 as applicable] For DHW only community schemes			<i>continued</i>

Table Cat 6.1 Calculation of average NO_x emissions			
Systems assessed under Section A of SAP			
System and Data Source Guidance [See note 1]		Energy demand (kWh/year) (A)	NO _x emission rate (mg/kWh) (B)
			NO _x Emissions (mg/yr.) (A) × (B) = (C)
(7a)	Solar DHW input [Σ SAP boxes 63 ₁ to 12]		
Totals			
(8a)	Total Annual NO _x Emissions (mg/yr) [Σ Value at step (1a)(C) to Value at (7a)(C) = (8a)]		
(9a)	Total Annual Energy Demand (kWh/yr.) [Σ Value at (1a)(A) to Value at (7a)(A) = (9a)]		
(10a)	Average NO _x Emissions (mg/kWh) [Value at (8a) ÷ Value at (9a) = (10a)]		

Note: If the value displayed in any of the required SAP boxes is negative, consider it positive when entering in to table Cat 6.1 e.g. if -250 is displayed, enter 250

Table Cat 6.2 Calculation of average NO_x emissions for a dwelling			
Systems assessed under Section B of SAP			
System and Data Source Guidance [See note 1]		Energy demand (kWh/year) (A)	NO _x emission rate (mg/kWh) (B)
			NO _x Emissions (mg/yr.) (A) × (B) = (C)
(1b)	Space heat from CHP [SAP box 307a]		
(2b)	Space heat from heat source N (N = 2,3,4 or 5) [SAP box 307b, 307c, 307d or 307e as applicable]		
(3b)	Energy generating technologies [Σ SAP boxes 333 to 335a]		
(4b)	Energy saving technologies [(Σ SAP boxes 336a to n) - (Σ SAP boxes 337a to n)] (n = all eligible technologies) [See note [2]]		
(5b)	Water heat from CHP [SAP box 310a]		<i>continued</i>

Table Cat 6.2 Calculation of average NO_x emissions for a dwelling Systems assessed under Section B of SAP				
System and Data Source Guidance [See note 1]		Energy demand (kWh/year) (A)	NO _x emission rate (mg/ kWh) (B)	NO _x Emissions (mg/yr) (A) × (B) = (C)
(6b)	Water heat from heat source n (n = 2,3,4 or 5) [SAP box 310b, 310c, 310d or 310e as applicable]			
(7b)	Solar DHW input [Σ SAP boxes 63_{1 to12}]			
Totals				
(8b)	Total Annual NO _x Emissions (mg/yr) [Σ Value at step (1b)(C) to Value at (7b)(C) = (8b)]			
(9b)	Total Annual Energy Demand (kWh/yr) [Σ Value at (1b)(A) to Value at (7b)(A) = (9b)]			
(10b)	Average NO _x Emissions (mg/kWh) [Value at (8b) ÷ Value at (9b) = (10b)]			

Note: If the value displayed in any of the required SAP boxes is negative, consider it positive when entering in to table Cat 6.2 e.g. if -250 is displayed, enter 250

Notes to tables Cat 6.1 and 6.2:

- [1] The data sources in this calculation correspond with SAP and are intended as supplementary guidance to assist in identifying each value required. It is the responsibility of the assessor to ensure that the correct value is identified and entered into the calculation, as the data source may vary dependent on the type of accredited SAP software used.

The SAP document is published by BRE available at; www.bre.co.uk/sap2012. Box numbers that appear in approved software may differ to those cited in the SAP document. If this is the case Energy Assessors should verify the correct box numbers described above by contacting the software provider.

- [2] Where not accounted for on a monthly basis, energy savings from SAP Appendix Q technologies are accounted for in SAP box 236 for section A assessments and box 336 for section B assessments. These output boxes are repeated for each Appendix Q technology specified. To calculate the annual savings from Appendix Q technologies it is necessary to sum the energy savings from each system specified.

Checklists and Tables

None.

Common Cases of Non-Compliance

None.

Special Cases

None.

Issue ID	Description	No. of Credits Available	Mandatory Elements
Man 2	Considerate Constructors Scheme (England)	2	No

Aim

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

Assessment Criteria

Criteria	Credits
Where there is a commitment to meet <i>best practice</i> under a nationally or locally recognised certification scheme such as the <i>Considerate Constructors Scheme</i>	1
Where there is a commitment to go <i>significantly beyond best practice</i> under a nationally or locally recognised certification scheme such as the Considerate Constructors Scheme	2
Default Cases	
None	

Information Required to Demonstrate Compliance

Schedule of Evidence Required	
Design Stage	Post Construction Stage
<p>For Considerate Constructors Scheme:</p> <p>Specification clause or other confirmation of commitment from the contractor or developer to comply with the Considerate Constructors Scheme and achieve formal certification under the scheme with best practice or significantly beyond best practice.</p> <p>AND</p> <p>Confirmation that registration with the Considerate Constructor Scheme has taken place no later than the commencement of the construction phase</p>	<p>For Considerate Constructors Scheme:</p> <ul style="list-style-type: none"> A copy of the Considerate Constructors Certificate <p>AND</p> <ul style="list-style-type: none"> The final Considerate Constructors Monitor's report highlighting the total score and the sub-scores in each section <p>NOTE: Where developments are phased and the Considerate Constructor Certificate is not yet available the intermediate report covering the developed site completed by the Considerate Constructors Monitor will be accepted. Where no inspection has yet taken place details of registration and a commitment from the contractor or developer to achieve either best practice or significantly beyond best practice. will be accepted until such time as the first inspection takes place.</p>
<p>For an <i>alternative locally or nationally recognised</i> scheme:</p> <p>The independent scheme assessor must complete Checklist Man 2 and provide the assessor with a copy as evidence</p> <p>NOTE: The Assessor must seek confirmation from the Code Service Provider that an alternative scheme is acceptable prior to formal submission of an assessment</p>	<p>For an alternative scheme:</p> <p>A copy of the alternative scheme's Certificate of Compliance or equivalent documentary evidence (from an independent third party assessor) confirming that all the mandatory elements items plus 50% or 80% (as applicable) of the optional items have been achieved</p>

Definitions

Alternative locally or nationally recognised schemes

An alternative scheme may demonstrate compliance by fulfilling the criteria stated in Checklist Man 2 for other locally and nationally recognised schemes. Any such scheme must be approved by the Code service provider prior to assessment. This can be achieved by submitting a completed Checklist Man 2– Compliance with an Alternative Scheme.

Best practice

Achieving a score of at least 5 in every section, and a total score between 25 and 34, of the Considerate Constructors Scheme's Code of Considerate Practice indicates that a site is being managed in accordance with best practice.

Alternative schemes demonstrate this where, in addition to meeting all the mandatory requirements, 50 per cent of the optional items in Checklist Man 2– Compliance with an Alternative Scheme, are addressed.

Considerate Constructors Scheme (CCS)

The Considerate Constructors Scheme is a UK certification scheme that encourages the considerate management of construction sites. The scheme is operated by the Construction Umbrella Bodies (Holdings) Ltd which consists of 2 members – Construction Products Association and Construction Industry Council. Points are awarded in increments of 1 over the following sections:

- Enhancing the Appearance
- Respecting the Community
- Protecting the Environment
- Securing everyone's Safety
- Caring for the Workforce

To achieve certification under this scheme, a score of at least 25 is required.

Alternative locally or nationally recognised schemes

An alternative scheme may demonstrate compliance by fulfilling the criteria stated in Checklist Man 2 for other locally and nationally recognised schemes. Any such scheme must be approved by the Code service provider prior to assessment. This can be achieved by submitting a completed Checklist Man 2– Compliance with an Alternative Scheme.

Significantly beyond best practice

Achieving a score of at least 7 in every section, and a total score of between 35 and 50 of the Considerate Constructors Scheme's Code of Considerate Practice indicates that a site is being managed significantly beyond best practice.

Alternative schemes demonstrate this where, in addition to meeting all the mandatory requirements, 80 per cent of the optional items in Checklist Man 2 – Compliance with an Alternative Scheme, are addressed.

Assessment Methodology

The assessment criteria should be read with the methodology and the definitions in this section. Credits are awarded where the performance requirements (set out in the assessment criteria table) have been met.

Design Stage

- Where the site is being assessed using the Considerate Constructors Scheme, confirm the contractor's commitment as set out in the assessment criteria.
- Where the site is being assessed using an alternative scheme, the details of that scheme should be checked to confirm that it covers equivalent items. This is done by completing Checklist Man 2 – Compliance with an Alternative Scheme (available from the Code Service Provider). The checklist sets out a number of mandatory items and a wider range of issues equivalent to those in the Considerate Contractors Scheme. In addition to the mandatory issues:
 - For one credit, 50% of these issues must be achieved to demonstrate compliance with best practice standards.
 - For two credits, 80% of these issues must be achieved to demonstrate going significantly beyond best practice standards.

Post Construction Stage

- Where the site has been assessed using the Considerate Constructors Scheme, confirm that certification has taken place and the final score on the monitor's report.
- Where the site has been assessed using an alternative scheme, confirm that all the mandatory items and 50% (or 80%) of the optional items (as applicable) have been achieved. Confirm compliance with Checklist Man 2 – Compliance with an Alternative Scheme using information provided by the third-party certifier of the alternative scheme.

Calculation Procedures

None.

Checklists and Tables

Checklist Man 2 – Compliance with an Alternative Scheme is available from the Code service provider on request.

Common Cases of Non-Compliance

None.

Special Cases

None.