

Energy Performance Certificates in Scotland

A Guidance Note on Obligations for Universities & Colleges

September 2008

Executive Summary

The Environmental Association for Universities and Colleges (EAUC-Scotland) has published this guidance note to inform senior managers about Energy Performance Certificates (EPCs) and of their institutions' legal obligation to produce and display EPCs within certain buildings in their estates by 4th January 2009. A *revised* flow chart helps identify buildings which might require these certificates.

Background

The EU Energy Performance of Buildings Directive (EPBD) (2002/91/EC) was drafted into UK law for implementation from January 2006. The objective of the Directive was to establish an EU-wide approach to improving energy efficiency and reducing carbon dioxide emissions. In Scotland, most of the EPBD has been transposed through The Building (Scotland) Act 2003.

The Building (Scotland) Amendment Regulations 2006 specifically require an EPC to be displayed in a prominent place within a new public building. From 4th January 2009, this requirement will apply retrospectively to certain existing 'public buildings' (see the flow chart on page 3), through a Direction to local authorities in terms of Section 25 of above Act. Universities and Colleges are included within this Direction.

The legislation – and ensuing obligations for publicly-funded bodies – is significantly different in Scotland to that introduced by the Department for Communities and Local Government for England and Wales. There is no provision for "Display Energy Certificates" and all EPCs for non-domestic properties require a full asset rating energy model to generate the EPC.

Sources of further information are listed at the end. Other enquiries may be made to scotland@eauc.org.uk

1. What is an Energy Performance Certificate?

An EPC is a document which reports the energy efficiency of a building calculated in a standardised way. Carbon dioxide (CO₂) emissions ratings of both as built or as found buildings are prominently displayed in bandings from A to G, with A being least polluting – along with an indication of potentially enhanced rating if certain energy efficiency measures were undertaken. An example certificate is attached at **Annex A**.

In Scotland an EPC should:

- display an indication of calculated CO₂ emissions;
- display an indication of calculated annual energy consumption and CO₂ emissions / square metre
- list recommendations for the cost effective improvement of the energy performance.

The main focus of the certificate is the amount of CO₂ which is calculated to be released from the building. The performance of the building is benchmarked against current building standards and recommended cost effective improvements. The certificate must be displayed and will be valid for a period of 10 years.

2. What is the timetable for introducing EPCs?

Legislation for EPCs for all new buildings was introduced in Scotland on 1st May 2007. For existing, non-public buildings, an EPC will be required when the property is sold or rented out to new tenants.

The timetable for introduction in Scotland is as follows:

Category	Date of Introduction
Construction	Introduced on 1 st May 2008
Sale – dwellings	1 st December 2008
Sale – all other buildings	4 th January 2009
New rental	4 th January 2009
Public buildings	Must be on display by 4 th January 2009

3. What types of buildings are classed as “public buildings”?

The definition of a ‘public building’ in Scotland is stated in the Scottish Building Standards Agency (recently renamed Scottish Building Standards as it has been taken back into government as part of the Directorate of the Built Environment) *Non-Domestic Technical Handbook 2007*, which states:

“Buildings with an area of over 1,000sq.m occupied by public authorities and by institutions providing public services to a large number of persons, and therefore frequently visited by these persons, must have an energy certificate (no more than 10 years old) placed in a prominent place. A suitable location would be an area of wall which is clearly visible to the public in the main entrance lobby or reception.”

The “public buildings” referred to in the paragraph above must fulfil **all five** of the following criteria:

1. the heated or cooled area of the building is over 1,000sq.m;
2. building is occupied by public authorities or provides public services to a large number of persons;
3. building is frequently visited, at least weekly, by members of the public;
4. public have a right of access to the building or parts thereof providing services directly to public; and
5. public funding, even in part, is used in the operation of the building, or in the general upkeep of the building or in the funding costs of staff employed therein.

The Technical Handbook says that examples of such buildings are:

- colleges (further education, higher education), universities;
- community centres;
- concert halls, theatres;
- day centres;
- education centres, schools (nursery, primary, secondary, special);
- exhibition halls (multi-function centres);
- headquarters’ buildings where the public have an unqualified right of access (for example, to attend council meetings, parliamentary meetings or other events to which the public have access);
- hostels; halls of residence;
- leisure centres, swimming pools, sports pavilions;
- libraries, museums, art galleries;
- offices having a public counter and providing services directly to the public;
- outdoor centres;
- residential care buildings; and
- visitor centres; and youth centres.

The above list is not comprehensive but indicates the type of existing public buildings which the Handbook says might be required to display an EPC.

4. Who is responsible for preparing EPCs?

The building owner is responsible for displaying an EPC where one is required (see flow chart overleaf – not all public buildings must display an EPC). So for rented premises / accommodation this means that the landlord is responsible. It may be that an institution provides factoring services for private landlords offering residential accommodation to students. In this case it might be that the accommodation services of the institutions might best offer to manage the process for preparing a domestic EPC for such accommodation and recharge the costs to the landlord.

5. Flats and Halls of Residence

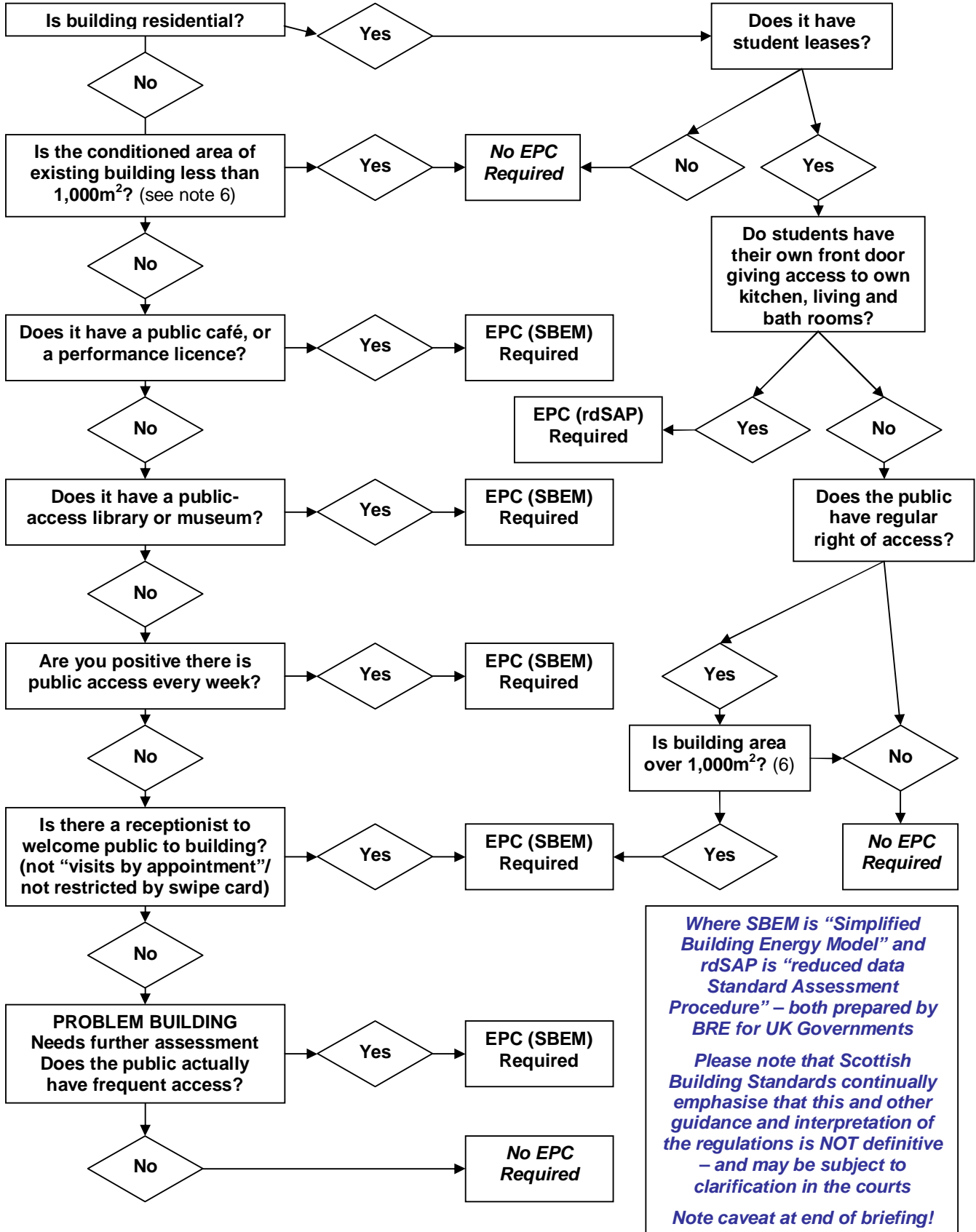
Student flats which have their own front door opening onto a defined accommodation unit comprising rooms, living room, kitchen and bathroom are required to have an EPC prepared using rdSAP provided with a new student lease after 4th January 2008. Halls of residence are not deemed to be dwellings where occupants do not have their own front door opening onto a defined accommodation unit. In this case consider whether the public have a right of access to the hall and whether this is regular / at least weekly. If there is public facility within the hall then the conditioned area rule comes in and that determines whether a certificate is required.

6. What is the ‘conditioned’ area?

The parts of the building which are heated or cooled through mechanical means, i.e. heating or mechanical-ventilation systems. This will generally be less than the RICS-defined Gross Internal Area (GIA) normally used for reporting the floor area of a building – but more than the Occupied Area comprising the rooms alone and excluding circulation space etc.

7. How can we determine if our existing buildings are considered ‘public buildings’?

This flow chart (*revised 17 September*) may help determine which buildings really do require an EPC. It is possible that as few as half of the institution’s existing buildings may actually require an EPC.



Where SBEM is “Simplified Building Energy Model” and rdSAP is “reduced data Standard Assessment Procedure” – both prepared by BRE for UK Governments

Please note that Scottish Building Standards continually emphasise that this and other guidance and interpretation of the regulations is NOT definitive – and may be subject to clarification in the courts

Note caveat at end of briefing!

8. How is the building “conditioned area” area to be measured?

Detailed calculation methodology can be found in the SBS Non-Domestic Technical Handbook 2007:

Clauses 6.0.11 and 6.9.1

(www.sbsa.gov.uk/tech_handbooks/th_pdf_2007/Section_6_Non-domestic_20072.pdf); and

Regulation 7, clause 0.7.2, schedule 4

(http://www.sbsa.gov.uk/tech_handbooks/th_pdf_2007/Section_0_Non-domestic_2007.pdf)

9. How are EPCs produced?

Buildings are to have an “asset rating” based on predicted energy use, calculated mostly using the so-called Simplified Building Energy Method (SBEM) methodology. This is a new software application specifically created for the EPBD by the Building Research Establishment (BRE) on behalf of the government. The basic principles of the methodology are:

- The building must be zoned by type of use and mode of heating / cooling, so an accurate set of up-to-date dimensioned plans will be required in order to calculate the zone sizes.
- Each zone is treated as a cube and a thermal transmittance (the U-value) of each face of the zone must then be determined either from look up tables or by calculation from first principles.
- Similarly all the services must be determined, such as boiler type and output and the runs of the services around the building.
- All these elements are then entered into the software which compares the building to a benchmark property based on current building standards.
For new buildings, the software will determine whether the property meets energy requirements of the building standards.
For existing buildings it will give an energy performance rating plus a comparative benchmark rating if constructed to current building standards.
- The software will also generate generic cost effective energy efficiency improvement recommendations to accompany the EPC which must be tailored to suit the property. These must be reviewed and matched with observations from the professional preparing the EPC.

10. Who can produce an EPC?

Only accredited assessors will be able to carry out assessments to produce EPCs. Such assessors must be registered with an approved government accreditation scheme. In Scotland, Scottish Building Standards (SBS) has entered into protocol agreements with relevant professional organisations for the provision of EPCs. These include:

- Chartered Institute of Building Services Engineers (CIBSE);
- Association of Building Engineers (ABE);
- Energy Institute (EI);
- Royal Institute of Chartered Surveyors (RICS);
- National Energy Services (NES);
- Building Research Establishment (BRE);
- Elmhurst; and
- Heating & Ventilation Contractors Association (HVCA).

Three other organisations are nearing protocol signing. Accreditation for other parts of the UK will not be valid in Scotland. Before engaging an assessor, institutions should check protocol membership. Further details and contact information can be found at: http://www.sbsa.gov.uk/european_issues/epcprotocols.htm

11. How can we select a suitable organisation to prepare EPCs for our buildings?

The University of Edinburgh is leading a public procurement exercise on behalf of the FHE sector in Scotland to establish a Framework Agreement for the Provision of Energy Performance Certificates (EPC) - Survey, Analysis and Certification with a list of suitable assessor organisations as preferred service providers.

All Scottish institutions were referred to in an OJEU Invitation to Tender issued to over 100 interested parties on 18th July for return on 20th August. In October 2008 all institutions will have the opportunity to undertake a “mini-tender” exercise with a sub-set of preferred service providers to meet specific local requirements.

Those interested please contact Margaret Lochhead, Estates Procurement Manager, University of Edinburgh (margaret.lochhead@ed.ac.uk) or www.edinburghac.g2b.info/cgi-gen/profile.pl?action=view_profile&oid=29#6.

12. What might it cost to produce an EPC? [Please note the following are indicative estimates only]

Estimates put the cost of survey, analysis and certification as anywhere between 50p and £4 / sq.m for non-domestic, public buildings – depending on whether full drawings and a host of detailed information is readily available or not. Obviously expensive if a full survey is required! Charges for complex or more highly serviced buildings will naturally be greater than for simple academic office or teaching buildings.

Obligations on Universities may be more extensive because they also need to prepare EPCs for domestic dwellings / student residences they own or manage – both flats (£75/flat) and Halls of Residence (75p to £3.50 / sq.m).

As of October 2008 it is projected there will be 140 accredited assessors registered to produce EPCs in Scotland. This number will increase as the protocol organisations provide more accredited training opportunities but given that the entire public sector is subject to the Directive, demand for and charges of assessors may well be high.

In addition, not all institutions (Universities or Colleges) have current design drawings for all their buildings and therefore a full measured survey may be required.

Finally, once an EPC has been awarded, institutions may in future face the costs of implementing any recommendations that are required to increase a building's energy performance and improve its rating.

13. What information does an EPC contain?

The EPC should display the following information [see Annex A]:

- postal address of the building for which the certificate is issued;
- building type;
- name of the SBS protocol organisation issuing the certificate (if applicable) and may include the member's membership number;
- the date of the certificate;
- the 'conditioned' floor area of the building;
- the main type of heating and fuel;
- the type of electricity generation;
- whether or not there is any form of building integrated renewable energy generation;
- the calculation tool used for certification;
- the type of ventilation system;
- a specific indication of current CO₂ emissions and an indication of potential emissions expressed in kg CO₂/ sq.m of floor area p.a.
- a seven band scale in different colours representing the following bands of carbon dioxide emissions; A, B, C, D, E, F and G, where A = excellent and G = very poor;
- the approximate energy use expressed in kWh / sq.m of floor area per annum;
- a list of cost-effective improvements (lower cost measures);
- a statement to the effect of 'this certificate must be affixed to the building and not be removed unless it is replaced with an updated version'; and
- a statement to the effect of 'this certificate shall be displayed in a prominent place', if the building is a public building and over 1,000sq.m in area and as described above.

14. Where should an EPC be displayed?

In both new and existing public buildings, a suitable location would be an area of wall which is clearly visible to the public in the main entrance lobby or reception area.

For all new, non-public buildings an EPC is required when the building is sold or rented out to new tenants. For these buildings, the EPC should be provided to the new tenant or purchaser and a copy located in a position that is readily accessible, protected from weather and not easily obscured. Such a location might be in a cupboard adjacent to the gas or electricity meter or the water supply stopcock. Any accompanying advisory report giving additional information on energy efficiency recommendations should also be provided.

15. How long is an EPC valid for?

An EPC is valid for 10 years from the date of issue. However, when any work which requires a building warrant a new revised EPC is likely to be required.

16. How will EPCs be enforced?

Responsibility for enforcing the regulations lies with local authorities under Section 25 of The Building (Scotland) Act 2003. Non-compliance will be treated as a criminal offence and local authorities will be able to impose a £5,000 fine for each building not displaying an EPC. Local authorities will act upon a referral from any interested member of the public.

17. We have staff who are members of a protocol organisation - can they prepare our EPCs?

Yes, details of the level of qualifications and training required will be available from protocol organisations.

18. Can an alternative format to the model certificate be used?

Yes, if the mandatory details outlined above are provided.

19. Can we use an operational rating based on metered data to produce our EPC?

No, EPCs must be produced using an asset based calculation methodology and approved software. This is a calculated rating based on an energy model of occupation of the building, not based on metered data.

20. Do we also require a Display Energy Certificate?

No, Display Energy Certificates (DECs) based on operational ratings using measured consumptions are only applicable in England and Wales. Buildings in Scotland only require EPCs.

21. Will there be a central register of EPCs?

Although protocol organisations will hold information on buildings assessed by their members, it is still to be determined whether a central or local registers will be maintained. The Landmark Information Group maintains the *Energy Performance Certificates and Home Performance Register* in England and Wales but SBS is still to confirm if it intends to maintain a similar register for Scotland.

22. Some of our buildings are listed / have historic status – do we need to display an EPC?

Yes but you may wish to display the status of the building next to the EPC.

23. Our building has had Crown Immunity - are we exempt from need to display an EPC?

No, Crown Immunity for buildings will cease in late 2008.

24. Do we have to implement the recommendations contained in the EPC's Report?

The Recommendations Report will simply provide suggested ways in which the building's energy performance can be improved to enhance its energy rating. The EU is currently consulting on the next wave of the EPBD, under which the Recommendations Report issued with the EPC may be subject to mandatory action by the building owner. This is currently due for implementation in 2013.

25. Other sources of information:

Scottish Building Standards <http://www.sbsa.gov.uk/epc.htm>

Energy Performance of Buildings Directive http://www.sbsa.gov.uk/european_issues/euroguidance.htm

26. Acknowledgements and caveat

Much of this information has been drawn from publicly available sources – especially the Scottish Building Standards web site at www.sbsa.gov.uk/epc. We have also been assisted by informal advice provided at a workshop held for the sector in Edinburgh early June 2008 – which was briefed by Anne Marie Hughes, EPBD Manager at Scottish Building Standards.

Thanks are due for the initial draft to Andrew Chamberlain and to David Stutchfield for his thoughts on the flow chart trying to clarify what might be considered a public building within tertiary education.

NOTE. The content of this guide has been reviewed by the Scottish Association for University Directors of Estates (SAUDE) and is broadly applicable to the further and higher education sector in Scotland as understood at end August 2008.

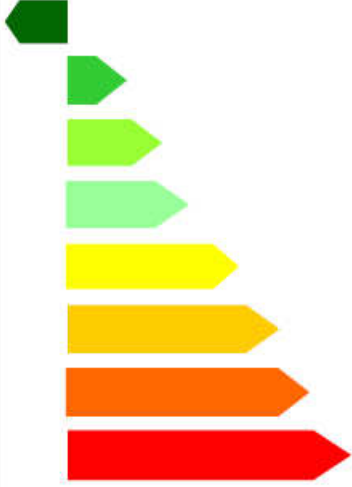



This guidance provides general background advice and does not substitute for professional advice. It may be overtaken by interpretation of the legislation in the courts.

David Somervell, EAUC-Scotland Branch Secretary,
17th September 2008

EAUC-Scotland website at www.eauc.org.uk/scotland

Note – Originally tabled at SAUDE autumn meeting 11 Sept – slightly revised since on costs, residences etc.

Energy Performance Certificate for buildings other than dwellings

Building Energy Performance		Scotland
Energy Performance Certificate	Calculated asset rating using <i>[insert calculation tool e.g. SBEM]</i>	Building type <i>[e.g.office]</i>
		
	Carbon Neutral	
	A (0 to 15)	
	B (16 to 30)	
	C (31 to 45)	
	D (46 to 60)	
E (61 to 80)		
F (81 to 100)		
G (100+)		
		Excellent
		<i>[insert the assessed flag rating and grading letter - where the calculated numerical rating is below the middle of the range, a '+' suffix should be included with the grading letter- see example below]</i>
		 E +
		Very Poor
Carbon Dioxide Emissions		
The number refers to the calculated carbon dioxide emissions in terms of kg per m ² of floor area per year		65
Approximate current energy use per m ² of floor area:		<i>[insert in kWh/m² per year]</i>
Main heating fuel: <i>[insert type e.g. Oil]</i>		Ventilation: <i>[insert type e.g. Natural]</i>
Renewable energy source: <i>[if applicable]</i>		Electricity: <i>[insert source e.g. Grid]</i>
Carbon Dioxide is a greenhouse gas which contributes to climate change. Less Carbon Dioxide emissions from buildings helps the environment.		
Benchmarks		
A building of this type built to building regulations standards current at the date of issue of this certificate would have a rating: <i>[insert appropriate CO₂ emissions e.g. 31]</i>		<i>[Insert flag rating, grading letter & suffix] e.g.  C+</i>
Where the accompanying recommendations for the cost effective improvement of energy performance are applied, this building would have a rating: <i>[insert appropriate CO₂ emissions e.g. 60]</i>		<i>[Insert flag rating, grading letter & suffix] e.g.  D</i>
Recommendations for the cost-effective improvement (lower cost measures) of the energy performance		
1. <i>[e.g. Install additional thermal insulation in roofspace]</i> 2. 3.		

Address: Unit 1A, Any Business Park, Anytown, Anywhere, ZY1 X2
 Conditioned area: *[insert heated/cooled floor area in m²]*
 Name of protocol organisation: *[if applicable] [Membership Number – (optional)]*
 Date of issue of certificate: Day/Month/Year (Valid for a period not exceeding 10 years)

This certificate is a requirement of EU Directive 2002/91/EC on the energy performance of buildings.

N.B THIS CERTIFICATE MUST BE AFFIXED TO THE BUILDING AND NOT BE REMOVED UNLESS IT IS REPLACED WITH AN UPDATED VERSION