



The Scottish
Government

Building Standards Division

Improving Energy Performance and Emissions in existing Non-Domestic Buildings

A Guide to Display Energy Certificates and Advisory Reports for Buildings in Scotland

S63-002

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This document is also available on our website at www.gov.scot/section63. If you have enquiries regarding this document, these should be directed to Building Standards Division at the above address.

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Title: S63-002 Improving Energy Performance and Emissions in existing Non-Domestic Buildings - A Guide to Display Energy Certificates and Advisory Reports for Buildings in Scotland

Purpose: To provide an introduction to the assessment of operational energy use in buildings in support of the provisions within The Assessment of Energy Performance of Non-domestic Buildings (Scotland) Regulations 2016.

Version	Date	Notes
1.0	May 2016	Initial issue in support of The Assessment of Energy Performance of Non-domestic Buildings (Scotland) Regulations 2016.

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Introduction.

1. Non-domestic buildings are responsible for approximately 20 per cent of the UK's energy consumption and carbon emissions. This document is intended to help owners, managers and occupiers of non-domestic buildings understand how to undertake an assessment of the operational energy use of their building.
2. An assessment of the operational energy use of a building and subsequent annual assessments can be a valuable tool in planning both improvement works and changes in the manner a building is occupied and used, to reduce energy demand and operating costs.
3. This document also sets out where this form of assessment may be used in a regulatory context and, in such situations, what the owner's responsibilities are and when Display Energy Certificates (DECs) and Advisory Reports are required.
4. Use of Display Energy Certificates as a reporting option under The Assessment of Energy Performance of Non-domestic Buildings (Scotland) Regulations 2016¹ can be found in the publication 'Improving Energy Performance and Emissions in existing Non-Domestic Buildings - A guide for Building Owners', available at www.gov.scot/section63.
5. In Scotland, the production of a DEC and its related Advisory Report does not form part of the implementation of Directive 2010/31/EU on the Energy Performance of Buildings. Accordingly, a DEC cannot be used to meet requirements for energy certification under either the Energy Performance of Buildings (Scotland) Regulations 2008 or the Building (Scotland) Regulations 2004. Under these regulations, an Energy Performance Certificate is required, on construction of new buildings, sale and rental of existing buildings and on display in larger public buildings. Information on the implementation of that Directive in Scotland can be found at www.gov.scot/epc.
6. While this guidance aims to explain how use of these assessments will work in practice, in relation to any regulatory requirements, no interpretation of regulations is offered. The Scottish Government is not in a position to provide legal advice and only the courts can provide an authoritative interpretation of the law. Therefore, it is important that any party seeking to apply the assessment in a regulatory context should read and understand the relevant regulations as well. In cases of doubt, independent legal advice should be sought.

¹ <http://www.legislation.gov.uk/ssi/2016/146/contents/made>

Chapter 1 – What is a Display Energy Certificate?

7. A DEC is a retrospective record of annual energy performance. It shows the energy performance of a building based on actual energy consumption (the 'operational rating') as recorded through metering or utility bills over a 12 month period.

1.1 What is an operational rating?

8. The operational rating is a numerical indicator of the actual annual carbon dioxide emissions from the building. The various types of energy consumption from occupying a building must be brought together on a common basis so that the performance of one building can be compared with that of another. Equally, the performance of the same building can be compared on a year to year basis. The UK has decided that the common unit should be CO₂ emissions, since this is a key driver for energy policy.
9. This rating is shown on a scale from A to G, where A is the lowest CO₂ emissions (best) and G is the highest CO₂ emissions (worst). Building Owners will be familiar with this approach as it is used already in the ratings for non-domestic Energy Performance Certificates.
10. However, whilst an EPC rating is based directly on the emissions calculated for the building, the DEC rating compares actual (measured) energy use to the expected performance of a typical building of that type.
11. The operational rating is based on the amount of energy consumed during the occupation of the building over a period of 12 months from meter readings and is compared to a hypothetical building with performance equal to one typical of its type (the benchmark). Typical performance for that type of building would have an operational rating of 100. A building that resulted in zero CO₂ emissions would have an operational rating of zero, and a building that resulted in twice the typical CO₂ emissions would have an operational rating of 200. If the building is a net energy generator, it would still be given an operational rating of zero.
12. Where information from assessments undertaken in previous years is available, a DEC will also show the operational ratings for the previous two years to illustrate changes in energy consumption.
13. The operational rating must be calculated according to the methodology approved by Scottish Ministers. This is done by a registered energy assessor (DEC assessor) using a software tool for the calculation which has been also been approved by Scottish Ministers. Information on both assessors and tools are available at www.gov.scot/section63.

1.2 Example of a Display Energy Certificate.

Display Energy Certificate

Scotland

How efficiently is this building being used?

Occupier 1
Address 1
Address 2
Address 3
Livingston
EH54 6GA

A

Reference Number:
5007-0016-0019-0625-0606

B

This certificate indicates how much energy is being used to operate this building. The operational rating is based on meter readings of all the energy actually used in the building. It is compared to a benchmark that represents performance indicative of all buildings of this type. There is more advice on how to interpret this information on the Scottish Government's website <http://www.gov.scot/section63>

D

Energy Performance Operational Rating

This tells you how efficiently energy has been used in the building. The numbers do not represent actual units of energy consumed; they represent comparative energy efficiency. 100 would be typical for this kind of building.

More energy efficient

A 0-25

B 26-50

C 51-75

D 76-100

90

100 would be typical

E 101-125

F 126-150

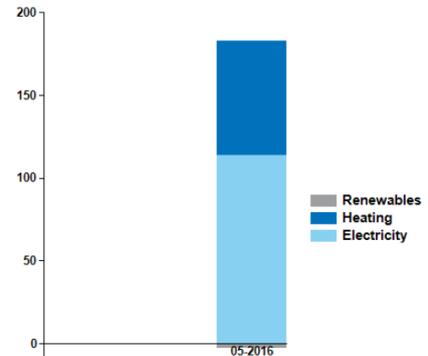
G Over 150

Less energy efficient

C

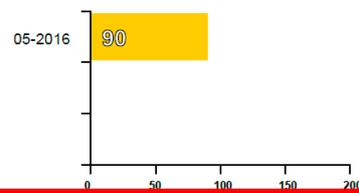
Total CO₂ Emissions

This tells you how much carbon dioxide the building emits. It shows tonnes per year of CO₂.



Previous Operational Ratings

This tells you how efficiently energy has been used in this building over the last three accounting periods.



E

Technical Information

This tells you technical information about how energy is used in this building. Consumption data based on actual meter readings.

Main heating fuel: Natural Gas
Building Environment: Air Conditioning
Total useful floor area (m²): 1345
Asset Rating: 95

	Heating	Electricity
Annual Energy Use (kWh/m ² /year)	237	164
Typical Energy Use (kWh/m ² /year)	384	133
Energy from renewables		2.07%

F

Administrative Information

This is a Display Energy Certificate as defined under The Energy Performance of Buildings (Scotland) Regulations 2015 and, where produced as a requirement of that legislation, must be affixed to the building in a prominent position and not be removed unless replaced with an updated certificate.

Assessment Software: BSD, OR Scotland, v1.0.0
Unique Property Reference Number: 1000600567
S63 Assessor Name: BSD test
S63 Assessor Membership Number: BRE/000001
Approved Organisation: AO details
Company Name/Trading Name: BSD test
Address: Address details
Issue Date: 20-05-2016
Nominated Date: 20-05-2016
Valid Until: 19-05-2017
Related Party Disclosure: Not related to the occupier.

G

If there is an Advisory Report then this will contain recommendations for improving the energy efficiency of the building.

- A The full postal address** of the building that the DEC applies to.
- B** Every DEC has a unique **report registration number (RRN)** which can be used to get a copy of the certificate from the national register and to verify the validity of a DEC.
- C The Operational Rating for this building.** The rating shows the energy performance of the building as it is being used by the occupants. The blue dotted line indicates the benchmark for the average energy performance for a building of this type. A number below the line indicates the building is below average energy performance. A number above the line indicates the building is above average performance.
- A building with performance equal to one typical of its type would therefore have an Operational Rating of 100. A building that resulted in zero CO₂ emissions would have an OR of zero, and a building that resulted in twice the typical CO₂ emissions would have an OR of 200.
- D Total CO₂ emissions.** The energy used by the building expressed as CO₂ emissions. Different types of fuel emit different amounts of CO₂. The smaller the bar, the better the performance. Below the zero line, CO₂ savings from any Low and Zero Carbon energy sources are shown. In subsequent DEC's, this also shows how the energy use has changed over the last three years.
- E Operational Ratings from previous years.** Up to three year's Operational Ratings are shown here to allow comparison of energy use over time.
- F Technical information about energy use.** Relevant elements of technical information used to produce the certificate. Further details are available in a full technical table.
- **Main Heating Fuel and Building Environment:** This indicates the main type of fuel used and how the internal environment of the building is conditioned.
 - **Total useful floor area:** This is the total area of all enclosed spaces measured to the internal face of the external walls.
 - **Asset Rating:** The asset rating of a building reflects the energy performance of that building in terms of the way it is built rather than the way it is used. It will appear here if the building has an Energy Performance Certificate (EPC), from which the rating is taken. Asset ratings are on a scale of 0-100, where 0 is the most energy efficient building and 100+ is the least energy efficient building.
 - **Operational energy use for this building.** Information on the actual energy use recorded for the building for heating and electricity compared to that of a typical building. Energy generated by renewables is noted, where present.
- G Administrative information** about how the certificate was prepared.
- **Assessment software:** This shows which energy assessment method was used to produce the certificate.
 - **Unique Property Reference Number:** This is a unique reference number which identifies the building.
 - **Assessor Name, membership number, contact details and Approved Organisation:** This identifies the assessor who produced the certificate with details of their registering organisation and their membership number.
 - **Issue and nominated date; valid until:** This shows the date of issue of the certificate and the date from which the DEC is valid (i.e. the nominated date) and its expiry date.
 - **Related Party disclosure:** identified any relationship between assessor and building owner/occupier.

1.3 What information a DEC contains

14. The requirements on the information a DEC must contain are described in regulation 11² of The Assessment of Energy Performance of Non-domestic Buildings (Scotland) Regulations 2016.
15. In summary, a DEC must contain the following information:
 - the address and the total useful floor area of the building;
 - the operational rating as determined by the government approved operational rating methodology;
 - a reference value such as a current legal standard or benchmark;
 - a unique Report Reference Number (RRN) which allows the assessment to be identified;
 - the registration number of the assessor who undertook the assessment;
 - the date on which the assessment issued and the nominated date for the assessment;
 - where there is a valid EPC for the building, the asset rating (A to G) from that EPC; and
 - where available, the operational ratings for the building expressed in any certificates during the last two years before the nominated date.

1.4 Display of the DEC

16. Where a DEC is produced, it should be displayed in a prominent place that is clearly visible to those working in or visiting the building, such as in a reception area at a main entrance. A sample certificate is shown below. To enable the information on the document to be viewed easily, it should be printed no smaller than A3 in size.

1.5 The Advisory Report

17. A DEC may be accompanied by an Advisory Report. The Advisory Report highlights recommendations to improve the energy performance of the building (i.e. its fabric and associated services such as heating, ventilation and lighting). An Advisory Report, which will run to several pages, is a document to inform action by the building owner/occupier and need not be displayed.

1.6 What an Advisory Report contains

² <http://www.legislation.gov.uk/ssi/2016/146/regulation/11/made>

18. The Advisory Report which can accompany the DEC contains recommendations for improving the energy performance of the building. The Advisory Report may contain a range of possible improvements, including cost effective measures that may be implemented to improve the energy performance of the property. The report includes zero and low cost operational and management improvements, possible upgrades to the building fabric or services, and opportunities for the installation of low and zero carbon (LZC) technologies.
19. The report enables the occupier to identify what may be done to improve, for example, building energy management, building services, etc. therefore helping reduce energy consumption and CO₂ emissions.
20. The Advisory Report categorises the list of recommendations, by payback period as follows:
 - short term payback (up to three years), for example building energy management measures
 - medium term payback (three to seven years), for example upgrading building services.
 - long term payback (more than seven years), for example low and zero carbon technologies
21. Each category includes the energy assessor's selection of the most suitable improvement measures for the building, generally between five and 10 measures. The Advisory Report also includes the energy assessor's recommendations which may include additional improvement measures, for example measures recommended by a previous energy audit.
22. The advice provided in the Advisory Report is intended to be for information only. Owners/occupiers receiving an Advisory Report are advised to seek further detailed professional advice before reaching any decision on how to improve the energy performance of the building.

Chapter 2 – Display Energy Certificate requirements.

23. This section describes the process that must be undertaken where a Display Energy Certificate or Advisory Report is produced to illustrate and report upon the carbon and energy performance of a non-domestic building.
24. It also describes the situations where this assessment process, and the Display Energy Certificate as an output, may be used as means of meeting specific regulatory requirements.

2.1 Why introduce Display Energy Certificates?

25. In England, Wales and Northern Ireland, as part of the implementation of Directive 2010/31/EU on the Energy Performance of buildings, a DEC is required. It is obtained and displayed in buildings with a total useful floor area greater than 250 m² which are also occupied by a public authority and frequently visited by members of the public.
26. In Scotland, under that Directive, legislation instead requires the display of an Energy Performance Certificate in such buildings. Information on the implementation of this Directive in Scotland is published at www.gov.scot/epc.
27. However, in Scotland, production of an annual Display Energy Certificate is a 'reporting option' under the The Assessment of Energy Performance of Non-domestic Buildings (Scotland) Regulations 2016³. Further information on the use of a DEC for this purpose may be found in the publication 'Improving Energy Performance and Emissions in existing Non-Domestic Buildings - A guide for Building Owners', available at www.gov.scot/section63.
28. The broader purpose of introducing a DEC as a reporting tool in Scotland is that it offers another means of raising awareness of energy use and to inform owners, occupiers and visitors about the way energy use is managed in a building. This also includes the facility to utilise the DEC and its accompanying Advisory Report as one element in reporting where an organisation is subject to the UK government Energy Savings Opportunity Scheme (ESOS)⁴.
29. DECs follow a familiar format, used for various energy labels, and already implemented in the production of non-domestic energy performance certificates (EPCs). It provides an energy/emissions rating for the building from A to G, where A is very efficient and G is the least efficient.
30. However the DEC assessment differs from that undertaken for an EPC as is based on the actual amount of metered energy used by the building over the last 12 months within the validity period of the DEC.

³ <http://www.legislation.gov.uk/ssi/2016/146/contents/made>

⁴ <https://www.gov.uk/guidance/energy-savings-opportunity-scheme-esos>

2.2 Buildings that can be subject to a DEC.

31. As described in section 1.1, there is no legislation which mandates the production of a DEC for a building in Scotland. Production of a DEC will be triggered by decisions that a building owner makes, either in response to legislation or voluntarily, where they consider that an assessment of operational energy use will be beneficial to a programme of work to monitor and improve the energy performance of their buildings.
32. For a building to be suitable for assessment, and the production of a DEC, it must:
 - have a roof and walls; and
 - use energy to condition the indoor climate. This is the case where the building has any of the following fixed services: heating, mechanical ventilation or air conditioning.
33. A building can either be:
 - the whole of a building; or
 - part of a building, where the part is designed or altered to be used separately⁵.

2.3 Validity period of DECs

34. A DEC is valid for 12 months. The validity period of a DEC starts on its 'nominated date', which must be no earlier than three months before, and no later than, the date on which the assessment data was lodged to the Scottish EPC register.
35. The accompanying Advisory Report, where produced, is valid for a period of seven years from the date of lodgement of the DEC it supports.
36. Additional information is noted in section 3 of this document. More detailed information on the assessment process can be found in the publication 'Methodology for the production of Operational Ratings, Display Energy Certificates and Advisory Reports in Scotland', available at www.gov.scot/section63.

⁵ A part of a building designed or altered to be used separately is where the accommodation is suitable for separate occupation. This could be indicated by the accommodation having its own access, separate provision of heating and ventilation or shared heating and ventilation but with the ability by the occupier to independently control those services. The part could be deemed to be separate even if some facilities. (i.e. kitchen and toilet facilities) were shared.

Chapter 3 - Obtaining and producing DEC's

37. An energy assessor, registered by an Approved Organisation to produce DEC's, is the only person who can produce a DEC and Advisory Report for a building. It is acceptable for employees to produce DEC's provided they meet the standards of, and are accepted by, an Approved Organisation. Any relationship between the assessor and the client is recorded within the DEC output file as part of the information provided by the assessor.
38. Information on Approved Organisations is published at www.gov.scot/section63 whilst a search facility to find registered DEC Assessor is also available on the Scottish EPC register at www.scottishepcregister.org.uk.

3.1 The assessment process

39. Firstly the energy consumption data provided by the building owner/occupier will be reviewed by the energy assessor in line with the approved methodology. Under certain conditions, the methodology allows adjustments to be made for longer hours of occupation, variations to weather and climate and allows certain activities to be separated if they are not typical of the type of building (separable energy uses).
40. The carbon dioxide emissions for the certificate are based on the adjusted energy consumption and adjusted total useful floor area and building type to give a measured CO₂ emission per square metre.
41. The energy assessor will then use an approved tool to calculate the operational rating and produce a DEC and, where required, Advisory Report from the information gathered in line with the approved methodology.
42. To produce the first DEC and Advisory Report, the energy assessor must visit the site. In subsequent years the DEC and Advisory Report can be based on previous knowledge of the building, provided that:
 - They are being produced by the same assessor; and
 - A declaration that nothing has changed has been provided by the building occupant.
43. The DEC and Advisory Report must be lodged on the national register and will each have a unique report reference number (RRN). The national register is operated on behalf of Scottish Ministers and can be found at www.scottishepcregister.org.uk.
44. Energy assessors must act in an independent manner – this is addressed by their membership of an Approved Organisation. Information on the assessor role, the Approved Organisation function and the operating framework that is

applied to the production of DEC's is provided at www.gov.scot/section63 and can be summarised as follows:

- Energy assessors are responsible for conducting an energy assessment for a client in a consistent and professional manner, producing a DEC and Advisory Report and lodging the DEC and Advisory Report to the national register.
 - The Approved Organisation is responsible for managing the activity of registered assessors, including demonstration of their initial and ongoing competence in their role. Approved Organisations are also responsible for monitoring the quality of the assessments energy assessors produce.
45. Once an energy assessor has been commissioned to produce a DEC and/or Advisory Report, there are three main steps to performing the assessment, which are:
- gathering the relevant information (dimensions, energy meter readings and building energy services);
 - entering the information into an approved software (operational rating methodology) program;
 - the software producing the certificate and the Advisory Report for the building.
46. The energy assessor then submits the certificate and Advisory Report for lodgement on the national register and provides the building owner/occupier (whoever has engaged their services) with a copy.

3.2 Collecting the information required for a DEC

47. The occupier, in collaboration with the energy assessor, will need to obtain actual meter readings or consignment notes for all fuels used in the buildings that are affected by this legislation. This may include gas fuels, oil fuels, solid fuels, district heating and cooling, grid electricity and electricity generated on site or obtained by private distribution systems from other sites.
48. For district heating and cooling and electricity generated on site, or obtained by private distribution systems from other sites, the average carbon factor for the fuel over the accounting period will need to be obtained e.g. in kg of carbon dioxide per kWh delivered.
49. The building owner/occupier can obtain the information required to produce a DEC from a number of sources:
- on-site energy meters;

- the building landlord or their representative⁶;
 - the utility supplier;
 - the district heating/cooling provider.
50. The calculation of the operational rating is based on annual energy consumption, which means the energy consumed over the period of one calendar year (365 days). Ideally all energies are metered over the same one-year period.
51. More detailed information on assessment and measurement periods is set out in section 3 of the publication 'Methodology for the production of Operational Ratings, Display Energy Certificates and Advisory Reports in Scotland', available at www.gov.scot/section63.
52. A team of people can work on gathering the information for an energy assessment as long as they are working under the direction of a registered energy assessor. The registered energy assessor must ensure that anyone visiting a property or gathering information on their behalf is both fit and proper and suitably qualified to gather the information. Only registered energy assessors can produce and lodge DEC's.
53. A registered energy assessor may use data previously collected about a building. They must, however, be satisfied that any data about a building has been properly collected and accurately reflects the building as they will be responsible for any data used to produce a DEC.

⁶ A completed landlord's energy statement offers one means for the landlord to collect and provide the necessary data. See www.bpf.org.uk or www.les-ter.org.

Chapter 4 - Consumer protection and enforcement

54. A DEC must be produced from data lodged, by a registered energy assessor, to the Scottish EPC Register. This central register contains all DECs and Advisory Reports. It is not possible to opt out of this process where a formal DEC or Advisory report is required.

4.1 Checking the authenticity of a DEC

55. If you have commissioned a DEC for your building you will receive a copy of the certificate for your records and to display in your building.
56. A DEC is identified by a unique report reference number. If you have been given a DEC and wish to check its authenticity, you can access the national register at www.scottishepcregister.org.uk and enter the reference number on the certificate. You can also search the register by entering the address of the property.
57. For a DEC or Advisory Report to be recognised as an official document, it must be produced from data lodged to the national register. If you cannot locate your document on the register, you should contact your assessor in the first instance.
58. If you cannot find your certificate in the register or have any other concerns regarding the assessment, you should raise this with your assessor in the first instance. If they cannot resolve your concerns, this should then be referred to their Approved Organisation.

4.2 Checking the authenticity of your energy assessor

59. All energy assessors must be registered through an Approved Organisation. The Approved Organisation will maintain an up-to-date list of registered assessors which is also provided to the Scottish EPC register to enable assessor access to register services.
60. If you want to find a suitable registered energy assessor in your area to provide you with a DEC, a search function is provided at www.scottishepcregister.org.uk which will assist in locating assessors in your area.
61. If you wish to check an assessor's credentials, this can be done via the search function or directly with their registering Approved Organisation. The Approved Organisation can confirm that your energy assessor is registered to practise as a DEC assessor for your particular type of building.

4.3 Complaints

62. Where a complaint may arise, it may be in relation to:

- the quality and accuracy of the DEC and the Advisory Report
- regarding an energy assessor or any aspects of the energy assessment
- regarding the Approved Organisation

63. In the first two categories, building owners/occupiers should contact the energy assessor in the first instance and if the matter is not resolved, contact the Approved Organisation of the energy assessor who produced the DEC. Contact details can be found on the DEC.
64. In the third category, building owners/occupiers should contact the Approved Organisation of the energy assessor who produced the DEC. Again, contact details can be found on the DEC.
65. In either case, if an issue cannot be resolved by the Approved Organisation, it may be referred to the Scottish Government. Contact details are provided at www.gov.scot/section63.

4.4 Penalties for not having a DEC

66. As noted in section 2, in Scotland there is no direct requirement to obtain and display a DEC for a building under legislation. Consequentially, there is no direct penalty in regulations for failure to either obtain or display a DEC. Any penalty arising will depend upon the purpose for which a DEC is obtained and any regulatory requirement attached to that purpose.
67. In Scotland, production of an annual Display Energy Certificates is a reporting option under the The Assessment of Energy Performance of Non-domestic Buildings (Scotland) Regulations 2016⁷. Where the reporting of operational ratings is recorded in an Action Plan produced under these regulations, failure to produce an annual DEC will have implications for the building owner. These are set out in brief in section 3 of the publication 'Improving Energy Performance and Emissions in existing Non-Domestic Buildings - A guide for Building Owners', available at www.gov.scot/section63.

⁷ <http://www.legislation.gov.uk/ssi/2016/146/contents/made>