

EPCs and DEC

creating a market in energy efficiency

This report has been commissioned by MITIE from Oxford Carbon Consultants, as part of a series on climate change, energy and real estate. The series provides a straightforward guide to the present position and likely future developments, for owners and occupiers of commercial and public sector buildings. These reports have been prepared by Dr Mark Hinnells, who has been involved in policy advice to government and industry for 15 years and is a senior researcher at the University of Oxford. The series comprises:

Report 1 Climate change policy

Report 2 EPCs and DEC

Report 3 CRC energy efficiency scheme

Report 4 Low carbon leases

Report 5 The energy market

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Background and overview

The EU Energy Performance of Buildings Directive requires buildings, like many products, to be labelled. The labels take the form of Energy Performance Certificates (EPCs) and Display Energy Certificates (DECs) and provide information intended to create a market in energy efficiency.

The Directive was transposed in England and Wales through Statutory Instrument 2007:991¹. A “building” is defined as any roofed construction having walls, which uses energy to condition the indoor climate, either for the whole building or for parts designed (or altered) to be used separately.

EPCs must be provided on the construction, sale and rent of buildings.

DECs must be provided for public buildings with a floor area in excess of 1000m² and are frequented by members of the public.

Both EPCs and DEC are based on carbon outputs, and the Certificates are accompanied by recommendations for improvement, though there is no requirement to implement these.

EPCs and DEC are produced by Energy Assessors, who must be accredited by an Approved Accreditation Body, which is responsible for assuring the quality of the assessment itself and the recommendation report. These are then lodged on a central register.

Energy Performance Certificates

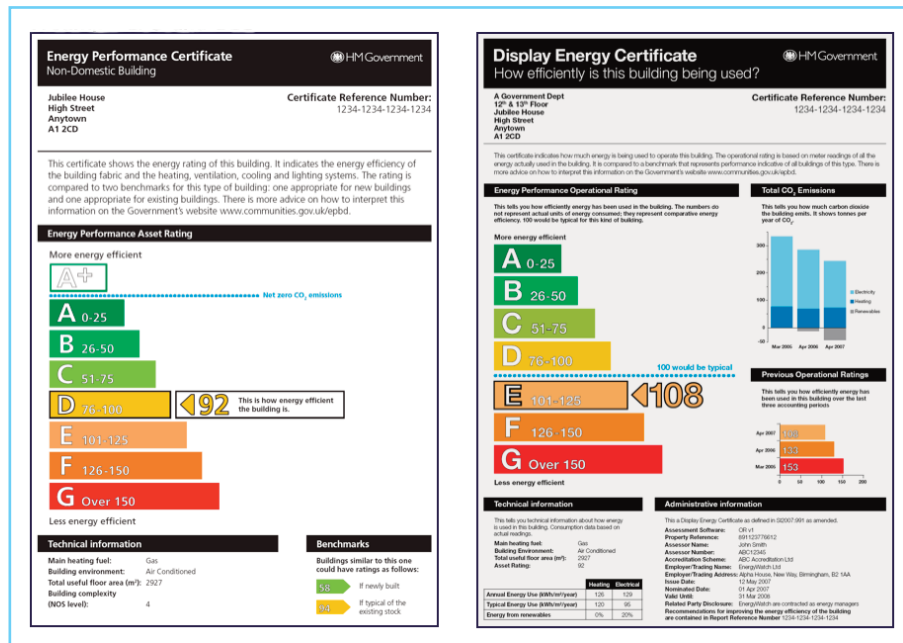
EPCs are intended to inform buyers and tenants of a building’s intrinsic energy efficiency and are required on the construction, sale and rent of all buildings. Certificates are valid for 10 years (although realistically the software is likely to be significantly improved within this timescale, leading to reassessments).

EPCs are based on an asset rating, which compares the energy performance of the building with a notional average building of the same shape and size, with a typical level of services. The effects of the particular occupier, in terms of numbers of occupants, hours of occupation, and associated equipment, are therefore removed.

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The asset rating is calculated using either a model called SBEM (Simplified Building Energy Model) or an approved Dynamic Simulation model. The assessor needs information on the size and shape of the building and its heating, ventilation and air conditioning systems, usually requiring a survey for existing buildings.

A sample EPC and DEC



Display Energy Certificates

DECs are required by public authorities or institutions that provide a face-to-face public service and occupy premises of more than 1,000m², dropping to 250m² as of 31 December 2010.

DECs are based on an operational rating, which reflects the actual use and management of all energy types by the occupiers, and must be renewed every year. Performance is compared against typical benchmarks for the same building type.

The operational rating is calculated using Government or approved software that makes an allowance for weather variations from year to year, using the concept of 'degree days'. The assessor needs meter readings and an understanding of the heating, ventilation and air conditioning systems installed.

The EPC asset rating and the DEC operational rating provide complementary data, informing decisions on asset management and energy management respectively.

Future changes to EPCs and DEC

A new Energy Performance of Buildings Directive is currently being discussed in Brussels. The Commission is keen to see it adopted before the Copenhagen summit in December 2009. It will have to be implemented within 2-3 years of being agreed.

Updates to assessment methodologies and benchmarks are likely. Concerns have already been expressed about the level and quality of assumptions in the asset rating, the consistency of rating across accreditation schemes, assessors and software, and the appropriateness and limitations of recommendations.

EPCs, at present, are only available to the parties to a prospective sale or lease, and there are calls for much wider public access to the data (for example, lodging them on a public database such as the Land Registry), to open up a real market in energy efficiency. It is difficult to set a price on an efficient building without much better data. One could argue that the current lack of data is a fundamental flaw in implementation, since the certificates are there to correct the market failure of imperfect information.

DECs were meant to apply to 'public buildings', but a very narrow definition of 'public' has been adopted. The Government is committed to a consultation on extending the requirement for DEC to private sector buildings, such as retail premises, that are open to the public.

Combining EPCs and DEC

The asset rating used for EPCs and the operational rating for DEC provide different and complementary information, informing decisions on asset management and energy management respectively.

For managers of commercial real estate there would be more value than cost in implementing DEC alongside EPCs on a voluntary basis. The use of an operational rating alongside an asset rating might raise the importance of energy performance as a KPI for facilities management providers. Facilities management could become the 'boiler house of change'. DEC may also influence the nature of the contract with facilities managers: for example, causing a shift towards longer contracts in order to deliver on KPIs.

DEC's may reveal 'green buildings' as less green than expected, and can be a powerful tool to drive up performance where an organisation has a number of comparable buildings. For example, the London Fire Brigade has 112 stations and will be developing a league table to stimulate competition between facilities managers in different stations. There is no reason why private organisations could not do this on a voluntary basis.

Actions for landlords

EPCs and DEC's are evidence of a building's energy and carbon performance, especially valuable in a downturn market where supply exceeds demand. Location, desirability and price aside, 'non green' stock runs a greater risk of voids, which increases insurance risks and premiums. Even if occupied, it will attract lower rents and higher depreciation.

Early collection of data takes resource, but enables a better understanding of the portfolio, the development of asset league tables and improved benchmarking. It also means that the data is ready when an EPC is required, and will not hold up or prevent a sale.

Alongside this, landlords might consider implementing DEC's on a voluntary basis, or alternatively working with their tenants on the British Property Federation programme LES-TER (Landlords Energy Statement, Tenants Energy Review)².

Landlords may also wish to develop an improved metering and sub-metering strategy to enable individual tenants to monitor their energy, throughout the building or in particular areas.

Actions for occupiers

Occupiers can use a good DEC rating as part of their PR and Corporate Social Responsibility reporting.

Occupiers can develop programmes that influence staff behaviour, and may incorporate DEC's in their carbon management plans and climate change policies.

EPC's may become a resource for different actors in the negotiation surrounding the procurement process. Be aware also that a lower rating will allow property agents to make the energy performance of buildings part of 'price chipping' (although an EPC is not required unless the property is advertised for rent).

More information

More information is available from www.communities.gov.uk. See in particular:

- **Department for Communities and Local Government** (January 2008) Improving the energy efficiency of our buildings. A guide to energy performance certificates for the construction, sale and let of non-dwellings.

¹ www.opsi.gov.uk/si/si2007/uksi_20070991_en_1

² www.bpf.org.uk/topics/subtopic/374/landlords-energy-statements