Energy Performance of Buildings Directive

The Energy Performance of Buildings Directive (EPBD) is European legislation which was enacted in 2002. It appears that its basic intention is to measure, record and raise awareness of the energy use in buildings. Although much public attention is given to the energy and environmental effect of car and air travel, the heating, lighting and air-conditioning of buildings is of greater significance. We believe that the EPBD is the start of a global movement to recognize the importance of energy use related to the buildings in which we all live and work.

In the UK, this process was begun in 2007 with the implementation of the regulations requiring 'Home Information Packs' for dwellings. Much of the surrounding publicity seemed to focus on the legal issues of searches and surveys, and appeared to miss the significance of the 'Domestic Energy Assessment'. However, the process of measuring, recording and raising awareness of energy use in buildings has already begun in our homes.

Commercial buildings are now subject to this scrutiny. On sale or letting of a building, the vendor or landlord is required to provide an Energy Performance Certificate ('EPC') to prospective buyers or tenants. Such transactions also include transfers during 'restructuring', such as transfers into pension schemes, company re-organisations, and any occasion where the owner of a property changes. The certificate must be prepared by a qualified 'Energy Assessor'. It will be accompanied by recommendations for the improvement of the energy performance of the building, and will be valid for ten years.

Details for the legislative requirements can be found at
http://www.communities.gov.uk/ - planning and building

New requirements and changes often give rise to uncertainty and inefficiency. EnerCert seeks to reduce or remove these 'implementation' problems by helping owners, agents and managers to understand the process and benefits of energy assessment. The following information is intended as an initial overview of the practicalities and 'processes' involved.

Commercial Aspects of Energy Assessment

Although the legislation has its roots in the environmental cause, the energy performance of buildings has increasing commercial significance. In the present climate of rising fuel and energy prices, all consumers are becoming more conscious of their fuel consumption and efficiency. Owners and occupiers of commercial buildings will also be seeking to reduce fuel costs, and for purely commercial reasons, we believe that the energy rating of buildings will become an important factor in sales and lettings over the coming years. Apart from the official 'enforcement' of Trading Standards, we foresee potential owners and tenants taking a keen interest in energy performance ratings.

In addition, many expect that the CO2 rating of buildings will be used as a basis of 'green' taxation in the years to come. The growing database of commercial and domestic energy assessments will provide the means to levy part of the Rates or local taxes on a building's energy efficiency.

Energy assessment also ties in with the Carbon Reduction Commitment which will affect larger energy users. The control of CO2 emissions required by the CRC will encourage those affected to look to their buildings as part of the improvement in fuel efficiency.

Compiling an Energy Performance Certificate

A commercial EPC is prepared and issued by a trained and accredited energy assessor. However, a higher standard of qualification (up to NVQ level 4) is expected to be the norm for this discipline, compared with that required for domestic surveys. These higher standards reflect the greater size, diversity and complexity of commercial buildings, which range through all sizes of offices, industrial, retail, leisure and specialist premises.

The preparation of an energy certificate requires the collection and processing of a substantial amount of data. This information covers the following aspects of the building.

- **Structure** – the nature of the walls, floors, roof, windows and doors, basically so as to calculate their insulating properties.
- **Layout** - how the building is divided up into spaces, and how these spaces are used and separated from each other, either by outside walls or internal partitions. For the purposes of energy assessment, rooms, workshops or warehouses are often sub-divided into 'zones'.
- **Services** - The heating, lighting, air-conditioning and ventilation serving the building, together with the 'domestic' hot water, and any 'green' energy sources such as wind and solar power, heat recovery and the like.

All of this information is related back to the sub-division, or ‘zones’ of the building. The data is collected on the basis of the zones, with the dimensions, structure and services for each being recorded. The data is then entered into a complex computer model called SBEM. Current opinion is that the data entry could take as long as the survey. As an illustration, the ‘Example Building’ referred to in various presentations and tutorials is considered ‘simple’ and has around 500 data fields and inputs. Once the data is loaded, the modelling software calculates the energy rating for the building, and produces the energy performance certificate and recommendations for improvement.

Collection of Data

As one would expect, an energy certificate can be prepared solely from the survey of the building. This would involve the creation of accurate plans, a survey of the fabric of the building, and the inspection of all the heating, lighting and ventilation equipment. For a large or complicated building this could become very time-consuming and expensive. In addition it is also possible that the rating and performance of some of the plant may not be gathered from inspection, or that various features of the building remain ‘unknown’. If a small proportion of data is unknown, a certificate can still be prepared using the assumptions and defaults given by the computer model. However, these assumptions and defaults are the poorest performance available for that item. Consequently, small number of unknowns may lead to a reduced energy rating.

The Role of the Owner and Agent

THE COST, EFFICIENCY AND RESULTS OF ENERGY ASSESSMENT CAN BE CONSIDERABLY IMPROVED IF OWNERS, AGENTS AND MANAGERS ARE ABLE TO PROVIDE BASIC DATA TO ENERGY ASSESSORS.

This is not complex information, but should comprise the standard ‘documentation’ of the building. As an ideal list, this would consist of:

- **Plans** – Floor plans or layouts, or ideally, the 'As-built' construction drawings.
- **Specifications** - The drawings or specifications of the building, detailing the construction of the walls, floor and roof etc. Alternatively, the age of the building from which these details can be inferred.
- **Services** – Installation or service records, brochures, certificates, specifications; in fact any documentation giving performance details of heating, lighting or ventilation.
- **Plant or Building Manager** – A person on site who can guide and inform the assessor during the course of the survey.

If an owner or agent has this information reasonably to hand, and can provide it to their energy assessor, the process will become more accurate and efficient. A comprehensive survey is still required, but the data provided is only confirmed, rather than gathered from scratch. To help owners and agents identify useful information and make other preparations, Enercert is pleased to provide a checklist which is available from our website.

Prepare your Client

Another matter to be addressed is that of cost. The preparation of an EPC represents a cost which the building owner or lesser must pay. It may therefore be prudent to introduce your clients to this matter at the earliest opportunity. In so doing, it may be beneficial to stress the increasing importance of energy performance in the current climate of fuel efficiency and cost-awareness. Also, one might point out that a certificate is valid for ten years (provided there are no significant alterations to the property or its services), and therefore will not be a repetitive transaction cost. With regard to the ten-year validity, it may also be worthwhile considering the certification of entire portfolios or estates so as to give future flexibility in disposals and lettings. In addition, once energy performance is determined, it may be possible to manage or improve the energy efficiency of a building. A re-survey and re-certification may then be available at nominal cost so as to give commercial effect to the improvements.

Advice

Enercert provides an experienced and specialist commercial energy assessment service. We have provided advice and briefings to solicitors and agents, and would be happy to offer our experience without obligation.