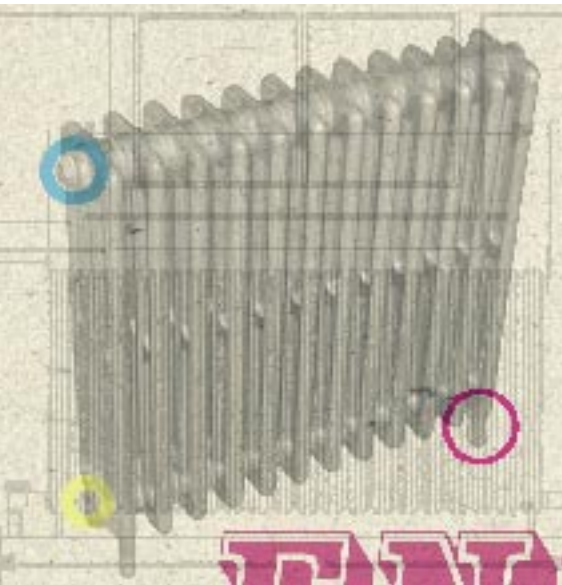


# Toughen up on energy

The EPBD imposes minimum performance standards, as explained by David Strong

Energy efficiency is expected to deliver one-half of the government's proposed improvements, namely a 60% reduction in carbon emissions by 2050 and reductions of 15-25m tonnes of carbon by 2020. For the first time, increased energy efficiency is identified as being the cheapest, cleanest and safest way of achieving the government's objectives.

The Energy Performance of Buildings Directive (EPBD) has wide implications for the owners, operators and developers of all buildings in the UK – domestic or otherwise – and will play a vital role in delivering the government's energy objectives. It provides a major opportunity to effect the step-change in buildings-related energy efficiency. However, practical implementation of the directive will be demanding, given that all national legislation must be in place by 4 January 2006.



APRIL JOHNSON

## UK proposals for implementation

During 2004, the ODPM undertook a major consultation regarding the government's proposals for amending Part L of the Building Regulations and implementing the EPBD. The main implications are:

- The introduction of building energy labelling
- Additional requirements when refurbishing buildings (based upon the estimated value of work, rather than the 1,000m<sup>2</sup> EPBD threshold)
- Encouragement to consider low and zero carbon systems during design
- The introduction of mandatory new-build pressure testing
- A greater emphasis on the avoidance of solar overheating
- A requirement for a 25-27% reduction in CO<sub>2</sub> emissions compared with Part L 2002

The directive's key provisions are:

- minimum requirements for the energy performance of all new buildings;
- minimum requirements for the energy performance of existing large buildings that are subject to major renovation;
- energy certification of all buildings (the certificate for buildings that provide public services must be prominently displayed); and
- regular mandatory inspection of boilers and air-conditioning systems in buildings.

The ODPM is leading the response to the directive, since that department is responsible for most of the legislation that will turn it into law, but the DTI and DEFRA will also play a full part. To help the government implement the directive in a timely and effective way, a high-level working group has been set up. Known as the Directive Implementation Advisory Group (DIAG), it comprises more than 22 key professional bodies and trade associations, including the RICS, RIBA, CIBSE and the Energy Institute. A major aim is to avoid the problems previously encountered by the poorly planned introduction of other EU regulations; for instance, the Ozone Depleting Substance Regulations.

### Setting energy performance requirements

The energy white paper not only commits the government to bring the EPBD into law by the end of 2005 but also (within the same timescale) to implement the next revision of Part L of the Building Regulations. A key issue is the EPBD requirement that whenever buildings with a total useful floor area of more than 1,000m<sup>2</sup> undergo major renovation, their energy performance is upgraded to incorporate all cost-effective energy-efficiency measures. The directive also requires that all new buildings should meet minimum energy

performance requirements. EU governments will have to ensure that, before construction begins on buildings with a useful floor area exceeding 1,000m<sup>2</sup>, the following alternative heating systems are formally considered:

- Combined heat and power (CHP);
- district or block heating or cooling;
- heat pumps;
- decentralised energy supply systems based upon renewable energy.

### Energy performance certificates

Building upon the success of the EU Market Transformation Programme – which has led to the energy labelling of domestic white goods – the EPBD requires that whenever

a building is constructed, sold or rented, a certificate (no older than 10 years) detailing its energy performance must be made available. This can either be provided to the owner or by the owner to the prospective buyer or tenant.

To enable useful comparisons to be made between buildings, the certificate must include reference values such as current legal standards and benchmarks. It must also incorporate any recommendations for cost-effective investments that could lead to the improvement of the building's energy performance.

The energy certificate for buildings that are either occupied by a public authority or regularly visited by a large number of people must be prominently displayed in an area that is clearly visible to the public. In addition, a range of recommended and current indoor temperatures and, where appropriate, other relevant climatic factors should also be clearly displayed. This requirement applies, again, only to those buildings with a total useful floor area of more than 1,000m<sup>2</sup>.

The introduction of building energy certification is likely to have a profound effect upon the commercial property sector. No organisation that is concerned about either its brand equity or its corporate standing on social responsibility issues will be happy to occupy a poorly rated building – particularly if environmental reporting or pension disclosure requirements result in company naming and shaming. ►

## Will the directive affect the property market?

The Association for the Conservation of Energy investigated the prospect of energy certification and the established drivers for tenant decision making.

ACE interviewed 28 decision makers in property procurement and energy services, most from FTSE 100 companies, including a small number of investment fund managers, to assess whether certification and labelling would increase the demand for energy-efficient buildings and reductions in energy consumption in existing buildings.

As might be expected, energy efficiency is a low priority when acquiring buildings and 25% of the end-user group do not consider it at all. Once certificates become available under the EPBD, more than 45% are likely to seek to acquire more energy-efficient buildings; a further 35% said they might do so, with a greater effect upon new developments than existing buildings. Public display of certificates slightly increased the demand for energy-efficient buildings over certification alone. In general, the drivers were:

- reputation with institutional investors;
- competition between peers;

- raised internal awareness;
- financial incentives.

Key drivers were associated with investment value, either directly or indirectly. If a link between energy performance and value were proven to exist, certification and labelling would assume some significance. Two of the participants expressed concern about the risk that tenants might demand higher ratings in the future, and that energy ratings could be seen as a proxy for quality.

Some stakeholders have been concerned that their interest in various environmental sustainability issues when procuring property was increasing the rental premium. The responses to the survey interviews suggest that certification will present potential tenants with the information required for a negotiation over rent, so that a poor energy certificate (obviously implying increased expenditure on fuel bills) runs the risk of reduced rental terms.

The risk that poor energy performers might reduce their return on investment, especially against that forecast, is an important finding.

Source: Association for the Conservation of Energy

### Plant inspection

The EPBD provides member states with two options for reducing the energy consumption of boilers. The first is to lay down the necessary measures to establish a regular inspection of boilers fired by non-renewable liquid or solid fuel of an effective rated output of 20-100kW; inspections can be extended to boilers using other fuels. Boilers with an output exceeding 100kW must be inspected every two years, although, in the case of gas boilers, this can be delayed for up to four years.

Boilers with an output above 20kW and that are more than 15 years old will be subject to a one-off inspection of the entire heating installation, including an assessment of boiler efficiency and size compared to the building's heating requirements. The users must be advised on the replacement of the boilers and other modifications to the heating system and on alternative solutions.

**No organisation that is concerned about either its brand equity or its corporate standing on social responsibility issues want to occupy a poorly rated building**

The second option – most likely to be used in the UK – is for governments to ensure that users are given sufficient advice on the replacement of boilers, modifications to the heating system and alternative solutions, which may include assessment of the efficiency and appropriate size of the boiler. No regular timescale is required for such advice. If governments do choose this route, they will have to produce a report every two years proving its efficacy vis-à-vis the first option.

In order to reduce energy consumption of air-conditioning systems, governments must establish regular inspections of all such plant with an effective rated output of more than 12kW. These inspections must include an assessment of the efficiency and size of the air-conditioning system compared with the cooling requirements of the building. Users must be given appropriate advice on possible improvements or replacements, and on alternative solutions.

### Independent experts

EU member states must ensure that the certification of buildings, the drafting of the accompanying recommendations and the inspection of boilers and air-conditioning systems are carried out in an independent

manner, and are undertaken by qualified and/or accredited experts. These can operate as sole traders or be employed by public or private bodies.

A number of professional institutions (particularly the RICS, CIBSE and the Energy Institute) face major hurdles when it comes to the training (and possibly accreditation) of the independent experts. Current estimates suggest that around 7,500 full-time assessors will be needed to deliver the EPBD's domestic energy rating and labelling requirements. In addition, qualified independent experts will be required to carry out the more technically complex procedures associated with plant inspection and the certification and labelling of non-domestic buildings.

If a member state can demonstrate that the EU as a whole suffers from a dearth of qualified or accredited experts who are able to implement fully the provisions associated with building certification (or plant inspection), that member state may delay the introduction of the EPBD for up to three years. If it does so, the government will have to justify its action to the European Commission, and it will have to submit a schedule detailing precisely when it plans fully to implement the directive.

### Summary

The EPBD provides a significant and realistic opportunity to make substantial reductions in energy use in buildings. Major issues are still to be resolved, including those associated with the delivery of training, qualifications and the quality assurance requirements for those independent experts undertaking building certification and plant inspection.

At a time of increasing corporate social responsibility, the directive will deliver significant benefits by ensuring that major organisations invest in cost-effective energy-efficient measures. Purchasers and tenants are likely to become increasingly concerned about brand equity and/or their reputation for corporate social responsibility.

Furthermore, the EPBD will introduce an additional requirement into the process of property transactions. It is also likely to have a major effect upon seller/purchaser and tenant/landlord relationships by introducing, as it does, a new issue for negotiation.

The full text of the Energy Performance of Buildings Directive and other information can be found at [www.DIAG@bre.co.uk](mailto:www.DIAG@bre.co.uk)

*Professor David Strong is the managing director of BRE Environment, and the chairman of the Directive Implementation Advisory Group (DIAG)*

# The rough and the smooth

The new regime has positive and negative implications. By Malcolm Dowden

The aim of the Energy Performance of Buildings Directive (EPBD) is genuine and verifiable energy efficiency, rather than mere "greenwashing".

The objective is sound, and the level of professional guidance being offered by DIAG is reassuring. Nevertheless, implementation will create significant issues for owners, occupiers, buyers and sellers of commercial property. It is important, while the detailed provisions for implementation are still open for debate, that the positive and negative implications are highlighted and discussed.

### "Major renovation" and refurbishment

As discussed in the previous article, the EPBD is primarily concerned with buildings with a total useable floor area of more than 1,000m<sup>2</sup>. On any major renovation, such buildings



must be upgraded to meet minimum requirements so far as this is technically, functionally and economically feasible. As with any complex test, the scope for dispute will be extensive. Further, simultaneous revision of Part L of the Building Regulations will extend the effect of implementation to any building where the costs of refurbishment exceed a specified threshold. At present, no distinction is drawn between residential and commercial property and the same low threshold figure (£8,000) will apply to each category. That figure may be too low for residential properties; it is undoubtedly so for commercial premises. It would bring buildings into the scheme on the basis of relatively trivial works, or works carried out to part only of a multi-let building.

Once the threshold is passed, additional works may be required. The strict position is that extra expenditure will be limited to 10% of the cost of the works. But situations will inevitably arise in which works that could be carried out within that 10% envelope would make little or no difference – particularly if the requirement were to be triggered by works just exceeding the threshold. In practice, therefore, a higher level of expenditure would be needed. Over the coming months, it will be a priority for industry and professional bodies lobbying the ODPM to reach a sensible figure for the commercial property threshold.

The objective is sound, but implementation will create significant issues for owners, occupiers, buyers and sellers of commercial property

#### Service charge and dilapidations

The provisions relating to plant and equipment mean that items that are not beyond economic repair will sometimes have to be replaced. Where the requisite standards for airtightness have not been met on new buildings subject to prelet agreements, it might become necessary to replace perfectly sound equipment. Landlords would be unlikely to recover the costs of upgrades or replacement from tenants. Service charges generally cover the cost of repair and not improvement. It is only where an item of plant or equipment cannot be patch-repaired that replacement falls within the concept of repair. Landlords will be able to include as recoverable costs arising from the new regulations, but any such additions would be hotly negotiated.

A similar point arises in full repairing leases, where a tenant is responsible for repairing plant and equipment as well as the fabric of the building. Further, at the end of the term, tenants will be keen to assess the effect of the new requirements upon claims for terminal dilapidations. If plant and equipment must be replaced and not repaired, the cap imposed by section 18 of the Landlord and Tenant Act 1927 will apply, and settlements might be reduced accordingly. Certainly, the point will be argued.

#### Rent review

Would a hypothetical tenant make an increased rental bid for premises that carry a higher rating?

If a rent review clause directs the valuer to assume a better rating than the premises in question has been given, would that represent an onerous provision justifying a discount? In the world of rent review, new law will always generate new points for debate.

#### Transactional and investment issues

Energy performance certificates will be required whenever a building is constructed, sold or rented out. Further, the concept of “rented out” appears to include any change in tenancy, and a letting or reletting of part may trigger the requirement for the entire building. As with any additional search or enquiry, this could potentially delay the sale or letting process. Equally, for those alert to the new requirements, the inclusion in a sale or letting pack of a current certificate – particularly one showing a good rating – would add to the attraction of the building for investment or occupation. The ACE research (see box on p213) observes that higher ratings might be regarded as “a proxy for quality”.

Of course, high ratings can also indicate quality. An excellent energy-efficiency rating would fit well with corporate social responsibility and so attract a superior covenant. Moreover, improved rating will offer real opportunities to enhance the yield and capital value of an investment.

#### Who will inspect?

As with home information packs, a significant question mark hangs over the availability of suitably qualified and experienced inspectors. Although there might well be some overlap with the HIP regime in terms of residential property, it is not clear where the necessary experts will be found for the more complex inspections of commercial buildings, plant and equipment. Over-reliance upon software and “inference engines” could result, leading to inflexible and potentially absurd results. The government may seek to delay full implementation of this aspect of the changes for up to three years. This would buy time – but would not avoid the need – to make suitable arrangements for training and accreditation.

#### Will litigation follow?

The new regime will provide ample scope for dispute. In particular, mandatory testing on a pass/fail basis could lead to disagreements over liability for failure, encompassing architects, contractors, subcontractors and manufacturers of plant. In some cases, buildings that fail to meet the standards might not reach practical completion, leading to the termination of conditional contracts. In extreme cases, a building might be demolished. The potential damages and litigation costs would be high. Professional appointments and warranties will need closer scrutiny. But those who get it right will prosper.

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