

English Heritage Interim Guidance

Home Information Packs

Advice for Domestic Energy Assessors

Domestic Energy Assessors and Licensed Home Inspectors need to be aware that some improvements automatically generated by the Energy Performance Certificate (EPC) software can be inappropriate, harmful and sometimes even illegal if applied to traditional and historic homes. While some of the energy improvement recommendations may be suitable for traditionally constructed buildings, it is essential that each is considered carefully before allowing them to remain as positive recommendations.

Introduction

From 1st August 2007, as part of the Home Information Pack, an Energy Performance Certificate will be compulsory for all homes being sold which have four or more bedrooms, and other types of home are expected to be included soon thereafter. Energy certification will be extended to cover all other buildings during the next two years.

EPCs are being introduced to fulfil part of the UK's obligations under European Commission's Energy Performance of Buildings Directive. The UK Government also hopes that its introduction will spur building owners to make energy efficiency improvements to enhance the marketability of properties.

English Heritage supports the Government's aims to cut carbon emissions resulting from heating, lighting and cooling buildings, provided that measures taken to improve energy efficiency do not harm the special interest of historic and traditional buildings. A sensible and reasonable approach should achieve improvements in most cases, although often not to the standards recommended for new buildings.

EPCs will be issued by qualified energy assessors, either accredited Domestic Energy Assessors (DEAs) or Licensed Home Inspectors (referred to as Domestic Energy Assessors in this leaflet). EPCs are automatically generated by a software package using data from a survey completed on site by the Domestic Energy Assessor. The EPCs all follow the same format, which will include performance ratings, estimated fuel usage, and automatically generated suggestions for improvements.

Historic and traditional buildings (see box 1) make up about 25% of the housing stock. While they are not exempt from EPCs, they do require more careful consideration since they are built very differently from modern housing and because listed buildings and buildings in conservation areas are subject to statutory protection. The software that generates EPCs, if not controlled by the Domestic Energy Assessor, could generate ratings and recommendations that are inaccurate, misleading, inappropriate and possibly illegal to carry out. This could lead to unnecessary expense for homeowners, harmful alterations to precious buildings, and possibly claims against the Domestic Energy Assessor.

The purpose of this information sheet is to give advice to Domestic Energy Assessors who are producing EPCs for traditional or historic buildings.

Historic buildings have been defined in several parts of the Building Regulations as:

- a. listed buildings,
- b. buildings of local architectural and historical interest which are referred to as a material consideration in a local authority's development plan,
- c. buildings of architectural and historic interest situated in conservation areas, national parks, areas of outstanding natural beauty, and world heritage sites.

The local planning authority will be able to confirm if a particular building falls into any of those categories.

Most historic buildings are built traditionally, but an increasing number of modern buildings are being recognised as having historic significance.

Traditional buildings: are all buildings of a solid wall construction built with permeable fabric that both absorbs and readily allows the evaporation of moisture. These mostly predate the 1920's when cavity wall construction and the use of damp proof membranes became widespread.

Box 1: Historic and traditional buildings

EPCs for traditional and historic buildings: the reason for caution

Energy performance certificates could have unintended harmful consequences for historic and traditional buildings.

Firstly the assumptions made in the Reduced Data SAP (RDSAP) model used to generate performance ratings may be inappropriate because many traditional buildings are very distinctive and do not conform to a 'typical model'. Use patterns in traditional buildings may also vary from those in modern buildings, with fuel consumption lower than would be expected.

Consequently it is likely that the RDSAP will generate a low energy efficiency rating and a correspondingly high estimate of fuel consumption. This may cause owners to embark on a programme of unnecessary and potentially harmful improvements. Conversely, the RDSAP model could produce an inaccurately good rating, which may result in a failure to carry out potentially beneficial energy saving measures. Lastly, the estimated fuel usage generated by the model may by coincidence reflect actual use, reinforcing the impression that the building is more efficient than it might really be.

Even if the ratings generated by the model are accurate there is a risk that low ratings will trigger a hasty and ill-considered response. Standard measures to improve energy efficiency which are appropriate for modern buildings, are often expensive, ineffective and potentially harmful when applied to traditional buildings. They could even be illegal if consent has not been given for works to a listed building.

While some of the energy improvement recommendations may be suitable for traditional buildings it is necessary to assess each of them very carefully before allowing them to remain as positive recommendations within the EPC.

The key issues for consideration are:

- **Compatibility** with the fabric of a traditional building
- **Conservation** of the historic or architectural interest of the building
- **Statutory** protection of listed buildings.

Compatibility

It is important to judge whether the improvement is physically right for the building or will result in long term damage to the building fabric. Some modern materials and techniques can be harmful.

One fundamental difference between modern and traditional buildings is that modern buildings are designed to keep moisture out with impervious materials (e.g. cement, plastic membranes etc). Traditional dwellings were built using materials which could absorb and release moisture (such as lime plasters and mortars). Fitting modern impervious materials (such as aluminium foil backed plaster board wall insulation) into traditional buildings can dramatically change airflows and moisture movements resulting in damper walls which could cause long term damage to the fabric of the building. Box 2 explains in more detail.

Traditional materials and structures have stood the test of time: any historic building of a reasonable age has proved itself well able to withstand the pressures of the internal and external environment. The primary purpose of the building is to keep moisture away from the contents, and from entering the fabric itself: this “waterproofing” is called the *building envelope*. Water comes from rain, drainage, and building use. Most modern buildings attempt to keep it out entirely, by using impermeable materials such as damp-proof courses and vapour membranes, cavities in walls, or protective coatings. In practice these often fail, and can introduce unexpected complications (for example membranes in the roof cavity can cause moisture to collect in the roof, condensing on the plastic and dripping onto the timbers, causing rot).

By contrast traditional buildings rely on the natural resistance of materials to rain (even driving rain cannot penetrate more than a few millimetres into even the most permeable stone or brick if the wall is not soaking wet to begin with), and their ability to readily absorb even large quantities of water vapour, releasing it back into the atmosphere as the ambient humidity drops once again. Timber roof beams, for instance, can absorb a great deal of vapour and still show only a tiny rise in moisture content: experiments have suggested that the moisture content of the roof timbers of a typical house would be only 1% greater even after they have absorb 260kg of water!

To keep the building envelope intact, of course, maintenance must be scrupulous. It is as important to make sure the gutters, rainwater goods, and drains of an historic building are kept clear and functional as it is for a building of modern construction.

Box 2: How traditional buildings perform

Conservation of historic and traditional buildings

Traditional and historic buildings vary greatly in the extent to which they can accommodate change without harming their special interest. Some may be able to accommodate more changes. Others are sensitive to even slight internal or external alteration.

Before carrying out any works to an historic or traditional building it is important to establish its significant features. Some buildings or parts of buildings are of such quality, importance or completeness that they should not be altered save in the most exceptional circumstances. It is important that the DEA makes this clear to an owner or occupier.

If possible alterations should be designed in such a way so that they can be reversed without damaging the existing fabric. This is especially relevant where changes involve building services which are subject to more frequent upgrading.

Statutory Protection

The DEA must find out if the building is listed or in a conservation area. The DEA should also check with the local planning authority to see if any other planning designations are in place. Failure to do so might result in recommending inappropriate works to a traditional building.

Listed buildings, scheduled monuments and buildings in conservation areas are subject to greater controls on development. **It is important that DEAs do not recommend works that will need statutory consent without mentioning it in their report.**

Every part of a listed building, both internally and externally, is protected. This includes services such as cast iron radiators which can have significant historical value. If there is any doubt the DEA should contact the local authority for advice.

Buildings in conservation areas

Conservation areas are usually designated by local planning authorities because they are areas of special architectural or historic interest. Demolition of all buildings is controlled and the scope of work that can be carried out without planning permission is narrowed. The addition of external cladding and the changing of a roof line will generally require planning permission, and in some conservation areas planning permission will also be required for works such as the replacement of doors and windows, loft extensions, dormers and roof-lights.

In a conservation area, the main emphasis is on the protection and enhancement of the external appearance of the area. Great importance is therefore attached to external elements (walls and roofs) and the detailing of windows, doors, and roof-lights. While not all buildings in a conservation area will be listed, many are: their original internal and external features contribute to the importance of these areas and inappropriate changes will have a direct impact on the character of the area.

Internal works to unlisted buildings do not need planning approval. Nevertheless, a well-preserved traditional building may retain important features such as fire surrounds, decorative plasterwork and floors. These buildings may be important as good local examples and could become the listed buildings of the future. However, inserting internal insulation could well destroy much of this character.

Assessing the suggested improvements: positive release




English Heritage recommends that DEAs adopt an approach of “positive release” when considering whether any energy improvement measure is appropriate. That is to say, it is good practice to assume from the outset that none of the energy improvement recommendations would be appropriate in an historic or traditional building. Every box in the RDSAP software should be checked accordingly and cancelled (allowing the recommendation to run through) only if the assessor is certain that the proposed recommendation will cause no damage to the long term performance of the building, or diminish its special interest.

It is worth remembering that DEAs are unlikely to be penalised for erring on the side of caution by refusing to recommend certain improvements. However, if inappropriate improvements are recommended, the DEA could be exposed to prosecution and claims on Professional Indemnity Insurance.

Each traditional building is unique and works should be approached carefully. Where alterations are to be made to older buildings it is advisable to seek the advice of a suitably qualified professional and the local planning authority conservation officer.





















What is appropriate?

The table below lists the standard improvements generated by EPC software. The next two columns assess the suitability of each improvement using a traffic light coding system. The award of a green light indicates that it is likely to be benign, while a red light indicates one which should be avoided in almost all circumstances. The grading scheme is only intended as a general guide. For example, a green light does not necessarily mean that improvement will be acceptable in all circumstances. Equally, changes awarded a red light could be acceptable in some, albeit rare, situations.

	Unlikely to be a problem but by no means guaranteed.
	May be practical but needs careful consideration.
	Invariably detrimental. To be avoided.

The second column grades the likely compatibility of the improvement with the fabric of a traditional building. The third column indicates the likely loss of character of a historic building as a result of the work. The award of a green light in this column does not mean that consent would not be required. The fourth column highlights some of the most important issues associated with the changes.

If an improvement has been omitted from this list it does not imply that it is altogether inappropriate. Owners could still choose to implement a specific energy saving measure once they have fully assessed its likely impact.

Improvement measure	Compatibility with traditional building performance	Risk of loss of character	Reasons for caution
Hot water cylinder and pipework insulation			<ul style="list-style-type: none"> • Building fabric can be damaged during installation • Old parts of the heating system may be protected by the listing
Draught proofing			<ul style="list-style-type: none"> • In most cases windows should be repaired prior to draught proofing • Difficult if the windows have moved far out of shape • Difficult if the windows are older, metal-framed windows • Inappropriate if the doors or windows are particularly fine or delicate
Loft Insulation			<ul style="list-style-type: none"> • It is important that cold loft spaces are properly ventilated - insulation should not block ventilation • If the roof space has signs of condensation or water ingress - insulation will be ineffective and may worsen the problem • Insulation must not be laid over electric cables since they may overheat and cause fire
Cavity fill wall insulation			<ul style="list-style-type: none"> • The risk of damp could be serious in houses with early cavity walls
Solid wall insulation			<ul style="list-style-type: none"> • Treatments are often incompatible with traditional building performance • There are very few instances where this will not harm the historic significance or appearance of the wall, either internally or externally • the cost is often prohibitive
Double glazing			<ul style="list-style-type: none"> • Will often result in significant change to the appearance of the building, and irreversible loss of character • The works are unlikely to be given consent if building is listed, in a conservation area, or is a traditional building in a national park, area of outstanding natural beauty or world heritage site • In rare cases some old windows may have a structural role (ie they support the wall above)
Secondary glazing			<ul style="list-style-type: none"> • Where installation might stop the operation of functional shutters • If the secondary glazing will be difficult to open, to clean, or remove (if required) • Inappropriate where windows are used as emergency exits
Heat control upgrade			<ul style="list-style-type: none"> • Take care not to damage historic fabric when laying new pipe or running wires
Fuel change			
Solar water heating			<ul style="list-style-type: none"> • Unlikely to be granted permission if the building is listed, in a conservation area, or is a traditional building in a national park, area of outstanding natural beauty or world heritage site, unless it can be sited unobtrusively • If the roofline is deflected

The data in HTML format is available at: <http://www.helm.org.uk/server/show/ConWebDoc.11599>

Other Guidance for Domestic Energy Assessors

Guidance for DEAs on a range of issues, including how to rate traditional buildings, is available from the organisations running the accreditation schemes. The list of participating organisations is available from the Department for Communities and Local Government website (www.communities.gov.uk).

The information which is currently available tends to be quite general although some of the recommended reading lists contain more detailed and considered works.

DEAs could refer to the manual containing the technical standards for Home Inspectors (see *Home Information Pack: Certification Schemes Standards. Part 2 Technical*

Standards. Available from the DCLG website). This has been compiled by a large number of different contributors mostly from the surveying profession and is updated regularly.

Annex 1 of the *Inspection and Reporting Requirements* specifically relates to historic dwellings and how to undertake Home Condition Reports in historic buildings. Section H of this Annex 1 offers specific advice to Home Inspectors creating EPCs for historic and traditional buildings, including advice on situations where it is appropriate to remove standard recommendations from the report (see box 3 below).

DCLG Guidance on overriding recommendations

C.5.72 Home Inspectors should be aware that some of the automatically created suggested improvements produced in the RDSAP Energy Performance Certificate will not be appropriate for older buildings, either as a result of their statutory protection and or their performance requirements.

C.5.73 It is important that a balance is struck between energy conservation requirements and building conservation. Strict adherence to the energy conservation requirements of Part L of the Building Regulations may be inappropriate where a building is listed, is in a conservation area or has historic and architectural features for the preservation of which a sound case can be made.

C.5.74 Where Home Inspectors identify that particular suggested improvements are not appropriate they can be removed

C.5.76 Where Home Inspectors remove a suggested improvement, the reason for this must be entered in the software

Excerpt from: Home Information Pack: Certification Schemes Standards Part 2; Annex 1; Section H

Box 3: EPCs - DCLG Guidance on overriding recommendations

Comments

English Heritage would value comments from Domestic Energy Assessors and members of the public on the usefulness (or otherwise) of this interim guidance note. We would also be interested in hearing about your experiences using Home Information Packs and especially the SAP process and its applicability to your building.

Please send these to conservation@english-heritage.org.uk . We will not be able to acknowledge individual submissions, or give advice, but we will do our best to incorporate your comments into future editions of these guidance notes.

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