

Introduction to Domestic Energy Assessment

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Introduction

Key points:

- From 1 June 2007 the Government announced that all domestic properties required a Home Information Pack (HIP) to be provided to prospective buyers when marketed for sale.
- A mandatory part of the HIP is the Energy Performance Certificate (EPC), which provides information on the energy efficiency and projected carbon emissions of the property.
- All EPCs is produced by accredited Domestic Energy Assessors (DEAs) using RdSAP software.
- In order to join an accreditation scheme, a candidate must first gain an approved qualification in Domestic Energy Assessment.
- This distance learning pack covers the competencies and underlying knowledge required to comply with the National Occupational Standards (NOS) for Domestic Energy Assessors.

Disclaimer

The information contained in these training materials was correct at the time of printing. However domestic energy assessment is an emerging field subject to rapid change and further regulation. PTS Ltd has endeavoured to provide up to date information based the published National Occupational Standards at the time.

Why do we need to energy rate properties?

Climate change is becoming an increasing concern, both in the UK and worldwide.

Levels of carbon dioxide (CO₂) in the atmosphere, one of the main causes of climate change, have risen by more than a third since the industrial revolution and are now rising faster than ever before. This has led to rising temperatures and some quite significant environmental changes.

- Ice caps retreating
- Arctic sea ice has thinned by 40%
- Global mean sea level rising an average 1-2mm a year
- Global snow cover decreased by 10% since 1960's
- 'El Nino' events more frequent & intense
- Increased use of Thames Barrier from once every 2 yrs to 6 times per year over past 5 yrs
- Weather related economic losses increased 10 fold over last 40 years

(Source: Governments 'Energy White Paper' Feb. 2003)

In light of these concerns, the Government has committed to a target of a 60% reduction in carbon dioxide emissions by 2050.

In terms of CO₂ emissions, buildings are the biggest culprit in the UK, with domestic homes contributing more greenhouse gases than other buildings. Up to a third of all the CO₂ emissions from the UK are from the domestic home!

The Government seeks to change attitudes by raising awareness; by giving home owners consistent information on how energy efficient their properties are the Government's aim is to stimulate improvement in thermal performance of the housing stock in the UK.

Energy Ratings provide a measure of the fuel cost and CO₂ emissions of a property, similar to the miles-per-gallon and exhaust emission figures published for new cars.

Everyone wins with energy conservation; the householder spends less on fuel, the Government meets its targets and scarce resources are conserved. There is considerable scope for improvement.

More than 75% of cavity walls in existing dwellings remain un-insulated, more than 60% of loft spaces have less than 100mm of loft insulation and most heating systems are poorly controlled with low efficiency.

Improvements in thermal performance are excellent investments for the home owner:

- A typical 1960's house could have its fuel bills reduced by £200 per year for an expenditure of about £500 on additional insulation - an effective rate of return of 40%
 - tax free and inflation proof.

What is a SAP Rating?

SAP stands for the Standard Assessment Procedure for the Energy Rating of Dwellings.

It has been devised as a simple and easy to understand method of measuring the overall energy efficiency of a property and is the Governments recommended system for producing a home energy rating.

The SAP is related to the Energy Cost Factor (ECF), based on the calculated annual energy cost for lighting, space heating and water heating for a square meter of floor space.

SAP ratings are from zero to 100, a low rating indicates high cost per square metre and a high rating low costs.

The graph below illustrates that a SAP rating of 100 represents zero costs and SAP rating of 0 represents an ECF of £10 per square metre per annum (based on SAP 2005 energy prices).

In addition to producing a cost based rating, called the Energy Efficiency Rating, the SAP produces an estimate of carbon dioxide emissions, called the Environmental Impact Rating.

The SAP also produces recommendations for improvements that will increase the two ratings, with likely costs of implementation and projected reductions in fuel costs and CO₂ emissions.

The Government hopes that giving consumers comparative information will enable them to invest wisely. For instance, spending perhaps £3000 on replacement double glazing might add only 4 SAP points, whereas spending that money on a new boiler might add 15 SAP points:

RdSAP Providers

The full SAP is used in the Building Regulations and has to be calculated for every new home built. It is based on a detailed study of building plans, assessing design, construction materials and specifications. Such detail is rarely available for existing buildings, so RdSAP (Reduced data SAP) has been developed for DEFRA (the Dept of Environment, Food and Rural Affairs) to provide a consistent method for delivering a SAP rating from a purely visual inspection of an existing home.

There are currently 9 DEFRA accredited suppliers of RdSAP software:

BRE	<u>BRE</u>	01923 664 829
Elmhurst	<u>Elmhurst</u>	01455 883 253
NES	<u>NHER</u>	0870 837 6500
Northgate	Northgate	0117 906 4404
RICS	<u>RICS</u>	0870 333 1600
Quidos	<u>Quidos</u>	01225 448500
EPC Ltd (ECMK)	<u>EPC-Solutions</u>	0845 8123999
Home Inspector Certification	<u>Home Inspector Certification</u>	0800 0842074
Stroma	<u>Stroma</u>	0845 621 1111

These companies are part of a trade organisation called the Federation of Authorised Energy Rating Organisations (FAERO) and they have worked with the Building Research Establishment (BRE) to develop RdSAP and gained DEFRA approval.

The Kyoto Protocol

Kyoto is an agreement made under the United Nations Framework Convention on Climate Change (UNFCCC). With other EU members, the United Kingdom ratified the protocol in May 2002. It has committed to reduce emissions of carbon dioxide (and five other greenhouse gases) to 92% of 1990 levels by 2008/12. Failure to achieve the savings will result in a "fine" of additional emissions reductions relative to other countries in the next reduction period.

The EU Directive

Directive 2002/91/EC of the European Parliament and Council on the energy performance of buildings came into force on 4 January 2003. Its purpose is to raise awareness of energy use in buildings and it is intended to lead to substantial increases in investment in energy efficiency measures.

The directive requires each member state to introduce legislation to raise awareness by 4 January 2006 for both domestic and non-domestic buildings. The directive sets out its requirement in fifteen articles. The two that affect DEAs are as follows:

Article 3: Adoption of a methodology

This requires every government to apply a methodology which calculates the energy performance of buildings.

The methodology can be set either at national or regional level, it must be regularly updated and be easy to understand. It may include an indicator of the CO₂ emissions from the building.

Article 7: Energy performance certificates

Whenever a building is constructed, sold or rented out, a certificate detailing its energy performance must be made available. This can either be to the owner or by the owner, to the prospective buyer or tenant.

No certificate may be older than 10 years.

For apartments or for units designed for separate use in blocks, it is possible for certificates to be based on either common certification of the whole building, (where a block has a common heating system), or upon the assessment of another representative apartment within the same block.

In order to facilitate comparisons between buildings, the energy performance certificate must include reference values, such as current legal standards and benchmarks. It also must include recommendations for the cost effective investments which can be undertaken in the building, and which will improve its energy performance.

The Housing Act 2004

The Housing Act, which received Royal Assent on 18 November 2004, contains wide-ranging reforms related to housing. The main provisions are:

- New Housing Health and Safety Rating System (HHSRS)
- Licensing of Houses in Multiple Occupation (HMOs)
- Changes to the Right to Buy Scheme
- Introduction of Home Information Packs

Home Information Packs

Buying and selling a property can be a slow, stressful and costly experience which is often prone to delay and failure. The Government believes Home information Packs (HIPs) will improve the process. From 1 June 2007, all home owners in England and Wales will need to prepare a Home Information Pack before putting their home up for sale.

The Home Information Pack Regulations 2006 set out provisions on the "required" and "authorised" content of the pack. Required documents **must** be included in the pack where as appropriate and authorised documents may be included at the seller's discretion.

The required documents are:

- An index (i.e. a list of the contents of the Pack)
- A sale statement (summarising terms of sale)
- An Energy Performance Certificate
- PIQ (Property Information Questionnaire)
- Evidence of title
- Standard searches (i.e. local authority enquiries + drainage and water search)
- Leasehold information (where applicable)

The authorised documents include:

- A Home Condition Report*
- Guarantees and warranties
- Other searches.

*** *The Home Condition Report (HCR) was originally a required document but is now an authorised part of the HIP.***

An authorised document means that sellers can use them to top up their HIPs voluntarily, to include additional material where they judge that it will be of interest to prospective buyers.

National Occupational Standards

In order to deliver Energy Performance Certificates to a consistently high standard, the Government has issued regulations to control the content of the EPC and the qualifications of those providing them. The only people authorised to produce EPCs are those holding the Diploma in Home Inspection (Home Inspectors) or the Diploma in Domestic Energy Assessment (DEAs).

For each qualification the Government has issued National Occupation Standards (NOS) approved by the Qualification and Curriculum Authority (QCA) and written by the property sector skills council Asset Skills.

The National Occupational Standards for Domestic Energy Assessors is included in your **ABBE Qualification Handbook** (part of your Introduction Pack). Please refer to **pages 27 – 59**.

IT IS IMPORTANT THAT YOU ARE FAMILIAR WITH THE NOS FOR THIS QUALIFICATION.

The training materials are provided in five modules to cover the five units of the Standards.