

# Certification and Regulations



Dr David Strong  
Chief Executive, Inbuilt Ltd.,  
Chairman of the Directive Implementation Advisory Group (DIAG)


Don't Forget Your Greens – Green Buildings, Green Leases,  
Green Credentials – 4<sup>th</sup> March 2008, Newport



# EU Energy Performance of Buildings Directive (EPBD)

Requires Member States to start implementing by 4<sup>th</sup> Jan 2006, with full implementation of all Articles by Jan 2009:

- **Minimum Energy Performance Standards**
  - an acceptable methodology for calculating the integrated energy performance of buildings
  - minimum energy performance standards for new buildings
  - minimum energy performance requirements for large **existing** buildings subject to major renovation
- **Energy performance certificates**
  - provided to prospective purchaser/tenant
  - prominent display of the energy certificate in all public buildings and “institutions providing public services”
- Regular inspection associated with
  - boilers
  - air-conditioning systems

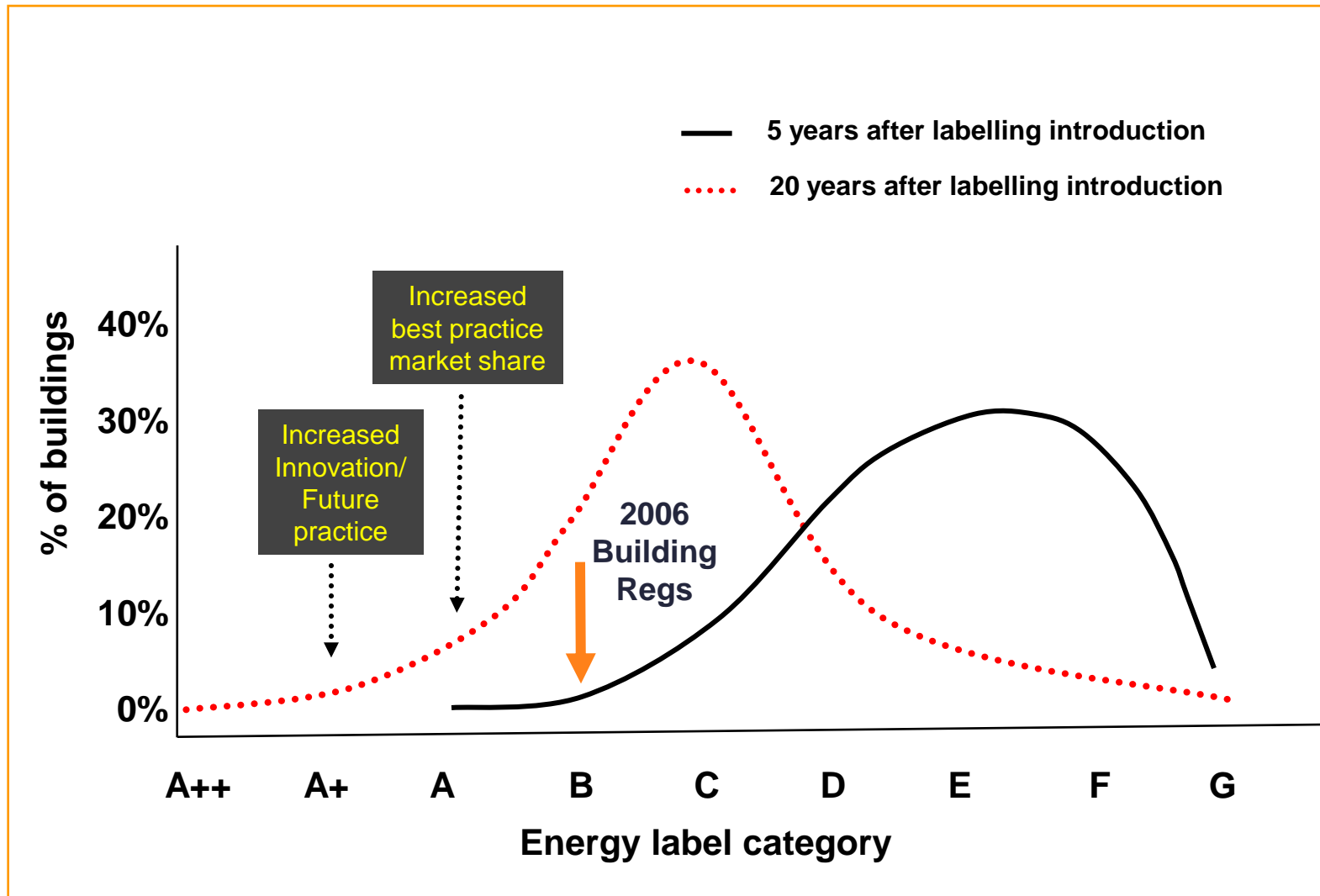
 EUROPEAN UNION	
THE EUROPEAN PARLIAMENT	THE COUNCIL
Brussels, 12 November 2002 (OR. en)	
2001/0098 (COD)	PE-CONS 3665/02 ENER 224 ENV 895 CODEC 1295
<b>LEGISLATIVE ACTS AND OTHER INSTRUMENTS</b>	
Subject: Directive of the European Parliament and of the Council on the energy performance of buildings	
In accordance with Article 25(3) of the EC Treaty, this document will not be the subject of approval by the Council; it is intended solely for the information of delegates	
PE-CONS 3665/02	DG C III SW/jfb EN

# Using Energy Performance Certificates to Transform a Market

- Existing EU domestic white goods labelling scheme has resulted in demonstrably better products at no greater cost to the consumer
- Articles 7 to 10 are designed to build upon the success of the Market Transformation Programme
  - allows prospective purchaser or tenant to make an informed decision
  - will influence the landlord/tenant relationship
  - corporate social responsibility/brand equity implications
  - (e.g. homebuilders, RSL's, public sector, retail, offices, hospitality, etc)
- Phased implementation over 3 year period



# Transforming the market



# EPBD – Energy Performance Certification



- Energy performance certificate (EPC) no less than 10 years old must be made available to prospective buyer or tenant **(N.B. applies to all domestic and commercial buildings with some exceptions e.g. historic buildings)**
- Certificate must show reference values (e.g. current legal standard and benchmarks)
- May include a CO<sub>2</sub> emission indicator
- EPC's must be accompanied by recommendations for cost effective improvement of the energy performance (N.B. existing buildings only)
- Certificate prominently displayed in all public buildings over 1000m<sup>2</sup> and “by institutions providing public services” (shops, banks, hotels etc ?)
- The provision of an Energy Performance Certificate introduces a new requirement into the property transaction process.



# Energy rating definitions

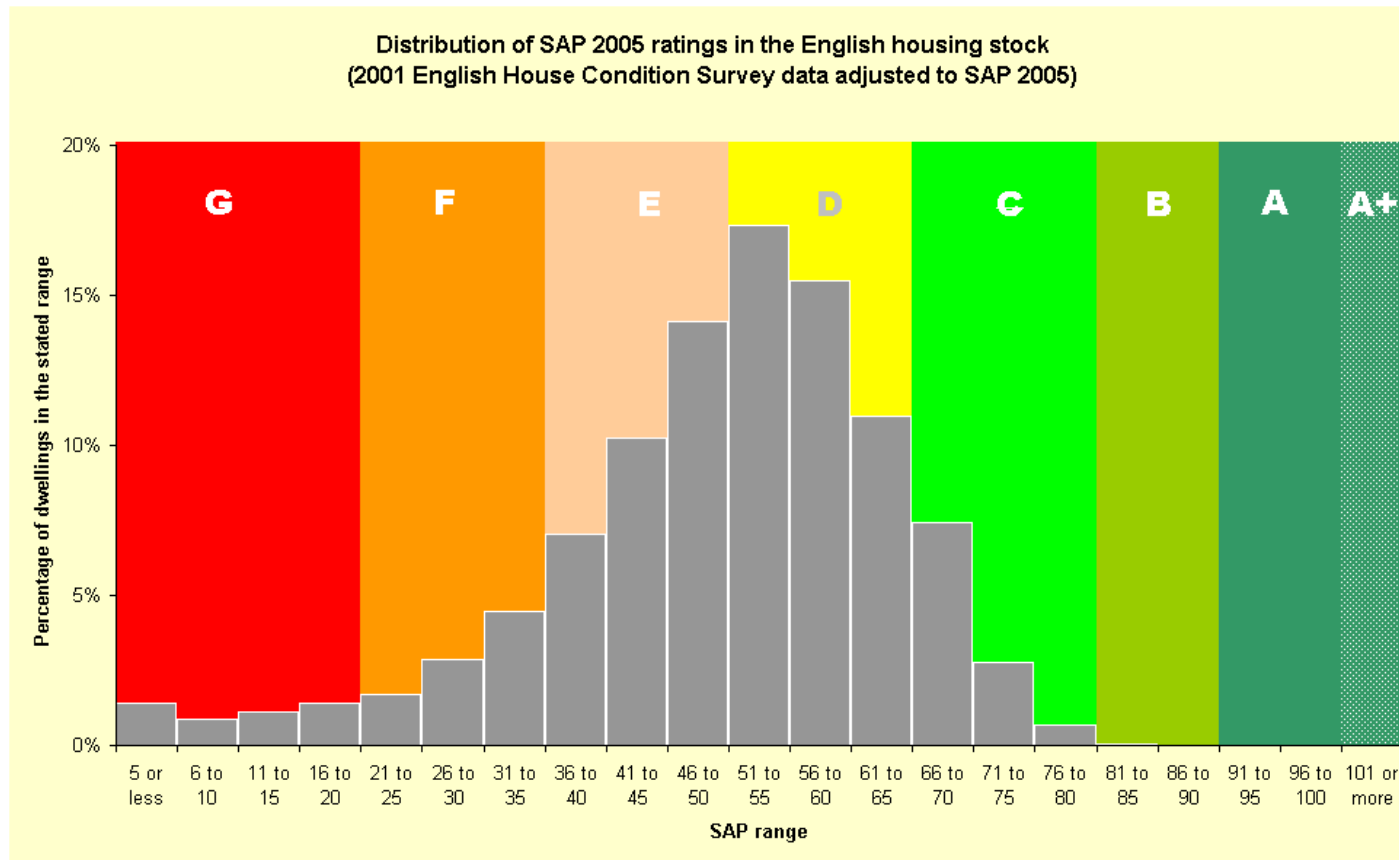
- New Building Design Rating
  - a calculation of building energy performance carried out as part of building control submission
  - used to show compliance with Part L energy performance requirements
- New Building Asset Rating
  - a calculation of intrinsic energy performance “as-built”
  - rating base line to be the equivalent ‘notional building’
- Existing Building Asset Rating
  - provided to prospective purchaser or tenant
  - based on the intrinsic energy performance of the building
- Operational Rating
  - used for public display/disclosure purposes
  - based on actual building performance/energy management
    - derived from metered energy data and square meterage



<b>Conditions requiring a Energy Performance Certificate</b>	<b>Assessment methodology</b>
A dwelling on completion of construction	<b>SAP</b>
Building not intended as a dwelling on completion of construction	<b>SBEM or DSM</b>
A dwelling being sold or rented out	<b>RDSAP</b> (unless the unusual nature of the building indicates that a more accurate assessment could be obtained using the <b>SBEM</b> or <b>DSM</b> methodology)
For other buildings being constructed, sold or rented out	<b>SBEM or DSM</b>
When a Display Certificate is required for public display	<b>Operational Rating Methodology</b>

# Domestic Building Certification

- Domestic buildings uses SAP 2005 for new build and RD SAP for existing homes
- Distribution of SAP ratings in the stock



# Energy Report for Home Information Pack



- Design based upon focus group and market research
- The research highlighted that it is important to keep the label simple to maximise consumer understanding and impact
- A simple A to G label, has been adopted but, very confusingly, with two Ratings:
  - Energy Efficiency
  - Environmental Impact (CO<sub>2</sub>)

**Energy Performance Certificate**

[address] Dwelling type: Semi-detached house  
 Date of assessment: 09 March 2007  
 Date of certificate: [dd mmmm yyyy]  
 Reference number: 0000-0000-0000-0000-0000  
 Total floor area: 82 m<sup>2</sup>

This home's performance is rated in terms of the energy use per square metre of floor area, energy efficiency based on fuel costs and environmental impact based on carbon dioxide (CO<sub>2</sub>) emissions.

**Energy Efficiency Rating**

	Current	Potential
Very energy efficient - lower running costs (92-100) <b>A</b>		
(81-91) <b>B</b>		
(69-80) <b>C</b>		
(55-68) <b>D</b>		
(39-54) <b>E</b>		
(21-38) <b>F</b>		
(1-20) <b>G</b>		
Not energy efficient - higher running costs		

UK 2007 EU Directive 2002/91/EC

The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills will be.

**Environmental Impact (CO<sub>2</sub>) Rating**

	Current	Potential
Very environmentally friendly - lower CO <sub>2</sub> emissions (92-100) <b>A</b>		
(81-91) <b>B</b>		
(69-80) <b>C</b>		
(55-68) <b>D</b>		
(39-54) <b>E</b>		
(21-38) <b>F</b>		
(1-20) <b>G</b>		
Not environmentally friendly - higher CO <sub>2</sub> emissions		

UK 2007 EU Directive 2002/91/EC

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO<sub>2</sub>) emissions. The higher the rating the less impact it has on the environment.

**Estimated energy use, carbon dioxide (CO<sub>2</sub>) emissions and fuel costs of this home**

	Current	Potential
Energy Use	375 kWh/m <sup>2</sup> per year	198 kWh/m <sup>2</sup> per year
Carbon dioxide emissions	5.1 tonnes per year	2.7 tonnes per year
Lighting	£63 per year	£32 per year
Heating	£509 per year	£286 per year
Hot water	£119 per year	£75 per year

Based on standardised assumptions about occupancy, heating patterns and geographical location, the above table provides an indication of how much it will cost to provide lighting, heating and hot water to this home. The fuel costs only take into account the cost of fuel and not any associated service, maintenance or safety inspection. This certificate has been provided for comparative purposes only and enables one home to be compared with another. Always check the date the certificate was issued, because fuel prices can increase over time and energy saving recommendations will evolve.

To see how this home can achieve its potential rating please see the recommended measures.

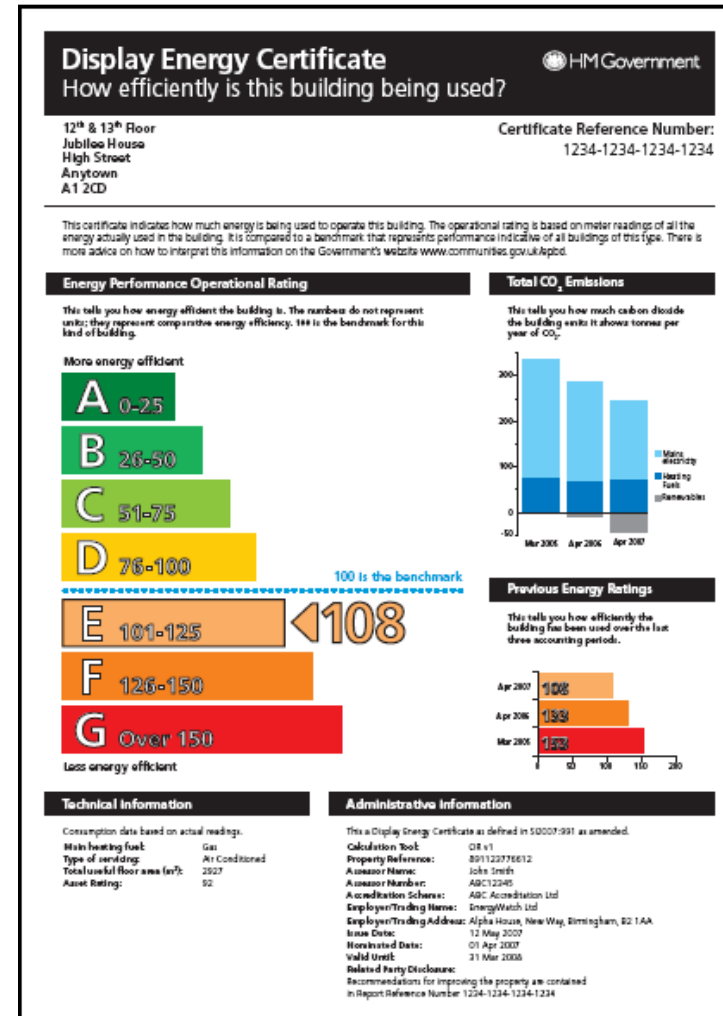
Remember to look for the energy saving recommended logo when buying energy-efficient products. It's a quick and easy way to identify the most energy-efficient products on the market.

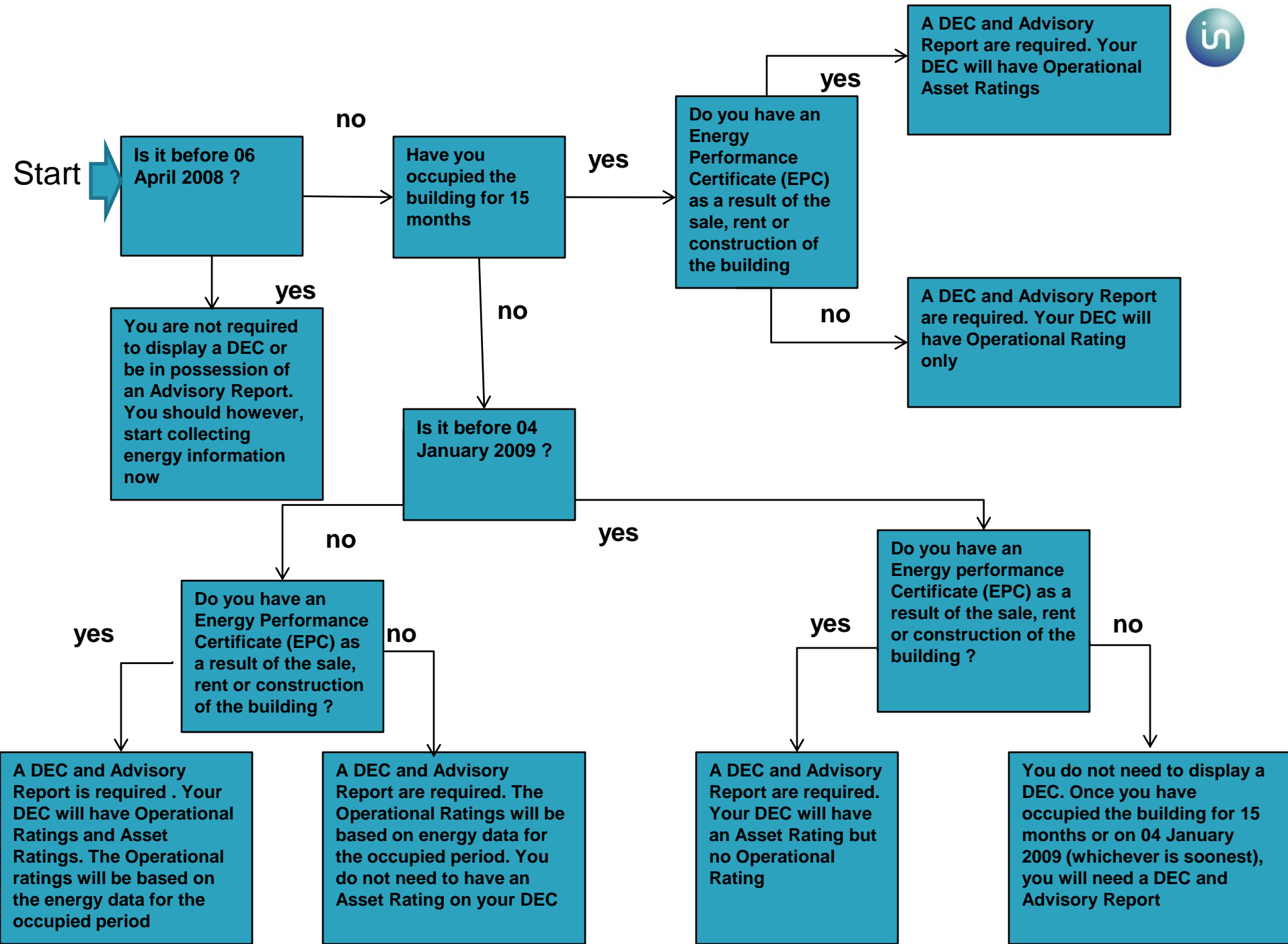
For advice on how to take action and to find out about offers available to help make your home more energy efficient, call 0800 512 012 or visit [www.energysavingtrust.org.uk/myhome](http://www.energysavingtrust.org.uk/myhome)

# Display Energy Certificates (DEC's)



- From Oct 2008 public sector occupiers of large buildings (over 1000m<sup>2</sup>) will need to display a DEC
  - Will need to be recalculated each year
  - Calculation will need to use the government's “approved methodology”
  - To comply you must start collecting relevant data now!
  - Special arrangements for multiple buildings and large campuses
  - DEC can only be produced by an Approved Energy Assessor
  - Must be accompanied by an “Advisory Report”







## **A DEC must contain, by law, the following information:**

- The operational rating and the asset rating (if available), as determined by the government's approved method
- Show the Operational Ratings for the building expressed in any certificates displayed by the occupier during the last two years before the nominated date
- Include a reference value such as a current legal standard or benchmark
- The DEC must be accompanied by an Advisory Report.
  - DEC's are valid for 12 months,
  - Advisory Reports for 7 years

# Are there any penalties if I don't display a DEC?



Civil law applies and Weights and Measures Authorities (usually Trading Standards) have a duty to enforce.

- The penalty is £500 for failing to display a DEC at all times in a prominent place clearly visible to the public and £1,000 for failing to be in possession of a valid Advisory Report
- In addition to these penalties, it is still necessary to commission the production of a DEC and Advisory Report

# Types of buildings – public sector display of certificates (Article 7.3)

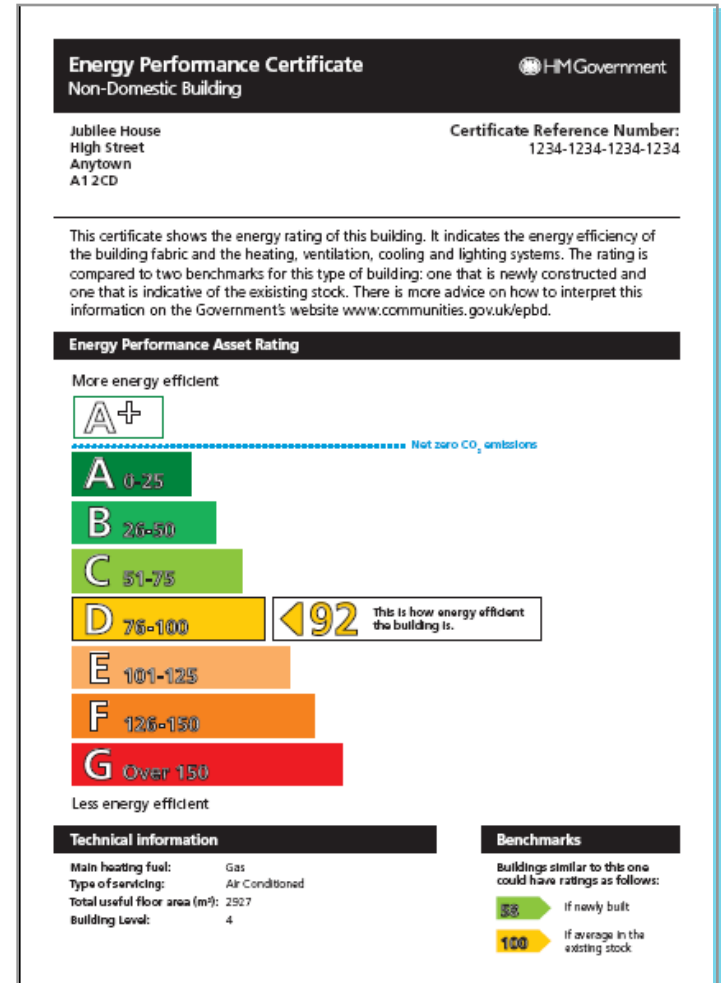


1a	Offices with public visiting – naturally ventilated – open plan
1b	Offices with public visiting – air conditioned – open plan
1c	Town Halls
2	Primary schools
3a	Secondary schools
3b	Sixth form colleges
3c	City academies, tech college etc
4	Leisure centres with swimming pools
5	Leisure centres without swimming pools
6	Libraries
7	Hospital campus public buildings
8	Museums
9	Public halls
10	Law courts
11	University campus public buildings
12	Employment centres

# Asset Rating – the calculation methodology

A methodology which calculates ‘integrated energy performance of buildings’ (Art 1),

- Taking account of (Annex):
  - Indoor conditions
  - Fabric performance
  - HVAC and DHW
  - Lighting and daylighting
  - Position and orientation
  - Passive design features
  - Renewable and chp options
- Produced using SBEM or DSM





## Building Certification – requirements for independent experts

- DCLG appointed Asset Skills to develop National Occupational Standards (NOS) for Energy Assessors. NOS have been developed for:-
  - New Build Homes – SAP (Standard Assessment Procedure) methodology
  - Marketed sales of “second hand” homes – RDSAP (Reduced Data Standard Assessment Procedure)
  - Homes when let in both the private rented and social rented sectors (also RDSAP)
  - All other non-domestic property when sold or let – SBEM (Simplified Building Energy Model)
  - Operational ratings/EPC’s of public buildings and due course probably others with large footfall (e.g. large supermarkets, hotels etc.)
  - Air Conditioning systems and central heating boilers
- All energy assessors must be a member of a DCLG approved Accreditation Scheme

# Implications of energy labelling/certification



- Significant new drivers for building clients, owners and operators associated with:-
  - Brand equity/CSR issues
  - Environmental reporting (and disclosure requirements) associated with property portfolios
  - Impact on asset value (positive and negative)
- Introduces new requirement into the property transaction process
- Building energy labelling will make architectural greenwash more difficult

# Boilers (Article 8) Inspection or information campaign?

- UK government (together with Industry) are launching a new energy efficiency advice campaign, covering:
  - heating and hot water systems
  - homes and business
- Will need independent verification to demonstrate that energy/carbon saving are equivalent to regular plant inspection



# Inspection of large air conditioning systems (Article 9)



The features of the inspection are:

- Air conditioning systems where the total system cooling capacity is greater than 12kW<sub>r</sub> (whether in dwellings or non-dwellings) will be inspected at intervals not exceeding 5 years
- The inspection will include an assessment of efficiency, a review of their sizing and advice on improvements or replacements and alternative solutions





6 <sup>th</sup> April 2008	EPC's required on construction for all dwellings EPC's required for the construction, sale or rent of buildings other than dwellings with a floor area over 10,000 m <sup>2</sup>
1 <sup>st</sup> July 2008	EPC's required for the construction, sale or rent of buildings other than dwellings with a floor space of over 2,500m <sup>2</sup>
1 <sup>st</sup> October 2008	EPC's required on the sale or rent of all remaining dwellings EPC's required on the construction, sale or rent of all remaining buildings other than dwellings Display certificates required for all public buildings >1,000m <sup>2</sup>
4 <sup>th</sup> January 2009	First inspection of all existing air-conditioning systems over 250 kW must have occurred by this date*
4 <sup>th</sup> January 2011	First inspection of all remaining air-conditioning systems over 12kW must have occurred by this date*

\*Note – a system first put into service on or after 1<sup>st</sup> January 2008 must have a first inspection within 5 years of being put into service

# Summary



- For further information contact DCLG Helpline 0845 365 2468 or e-mail [help@epbduk.info](mailto:help@epbduk.info)
- Main portal for EPBD information:- [www.diag.org.uk](http://www.diag.org.uk)

European Energy Performance of Buildings Directive - Windows Internet Explorer

http://www.diag.org.uk

European Energy Performance of Buildings Directive

home about key documents advisory groups events news

**D·I·A·G**  
EU Energy Performance of Buildings  
Directive Implementation Advisory Group

**LATEST ....**

- EU directive to make business energy efficient
- UK Government announces timetable for implementing EPBD Articles
- Government announces the Energy Assessor Accreditation Standards and Minimum Requirements for buildings other than Existing Dwellings

**Building Performance Directive Implementation Advisory Group**

The (EU) European Energy Performance of Buildings Directive (EPBD) Directive Implementation Advisory Group (DIAG) has been established to advise the UK Government on the energy performance of buildings and the implementation of the European Energy Building Performance Directive in a timely manner.

**The UK governments Implementation Timetable for phasing-in the EPBD measures is provided in the table below:**

6 April 2008	EPCs required on construction for all dwellings. EPCs required for the construction, sale or rent of buildings other than dwellings with a floor area over 10,000 m <sup>2</sup> .
1 July 2008	EPCs required for the construction, sale or rent of buildings other than dwellings with a floor area over 2,500 m <sup>2</sup> .
1 October 2008	EPCs required on the sale or rent of all remaining dwellings EPCs required on the construction, sale or rent of all remaining buildings other than dwellings. Display certificates required for all public buildings >1,000 m <sup>2</sup> .
4 January 2009	First inspection of all existing air-conditioning systems over 250 kW must have occurred by this date*.
4 January 2011	First inspection of all remaining air-conditioning systems over 12 kW must have occurred by this date*.

**Note - a system first put into service on or after 1 January 2008 must have a first inspection within 5 years of it first being put into service.**

Website sponsors' links:

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Professor David Strong, Chief Executive, Inbuilt Ltd

E-mail: [david.strong@inbuilt.co.uk](mailto:david.strong@inbuilt.co.uk)

Tel: 01923 277061

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