

# Energy Performance Certificate

## For Training Purposes Only



Sample EPC  
TheDomesticEnergyAssessor.com

Dwelling type: Mid-terrace house  
Date of assessment: 09 June 2007  
Date of certificate: 31 August 2007  
Reference number: 2903-0016-0000-0051-0006  
Total floor area: 109 m2

xxxxThis 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 (CO2) 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>		71
(55-68) <b>D</b>	59	
(39-54) <b>E</b>		
(21-38) <b>F</b>		
(1-20) <b>G</b>		
Not energy efficient - higher running costs		
<b>England &amp; Wales</b>	EU Directive 2002/91/EC	

### Environmental Impact Rating

	Current	Potential
Very environmentally friendly - lower CO2 emissions		
(92-100) <b>A</b>		
(81-91) <b>B</b>		
(69-80) <b>C</b>		66
(55-68) <b>D</b>		
(39-54) <b>E</b>	52	
(21-38) <b>F</b>		
(1-20) <b>G</b>		
Not environmentally friendly - higher CO2 emissions		
<b>England &amp; Wales</b>	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.

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO2) emissions. The higher the rating the less impact it has on the environment.

### Estimated energy use, carbon dioxide (CO2) emissions and fuel costs of this home

	Current	Potential
Energy use	302 kWh/m2 per year	212 kWh/m2 per year
Carbon dioxide emissions	5.5 tonnes per year	3.9 tonnes per year
Lighting	£85 per year	£44 per year
Heating	£516 per year	£414 per year
Hot water	£162 per year	£93 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 product. 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 12 012 or visit [www.energysavingtrust.org.uk/myhome](http://www.energysavingtrust.org.uk/myhome)

### About this document

The Energy Performance Certificate for this dwelling was produced following an energy assessment undertaken by a qualified assessor, accredited by Elmhurst, to a scheme authorised by the Government. This certificate was produced using the RdSAP 2005 assessment methodology and has been produced under the Energy Performance of Buildings (Certificates and Inspections)(England and Wales) Regulations 2007. A copy of the certificate has been lodged on a national register.

Assessor's accreditation number: ABCD123446  
Assessor's name: TheDomesticEnergyAssessor.com  
Company name/trading name:  
Address: ??  
  ??  
Phone number: .  
Fax number: ??  
E-mail address: ??  
Related party disclosure: ??

### If you have a complaint or wish to confirm that the certificate is genuine

Details of the assessor and the relevant accreditation scheme are on the certificate. You can get contact details of the accreditation scheme from our website ?? together with details of their procedures for confirming authenticity of a certificate and for making a complaint.

### About the building's performance ratings

The ratings on the certificate provide a measure of the building's overall energy efficiency and its environmental impact, calculated in accordance with a national methodology that takes into account factors such as insulation, heating and hot water systems, ventilation and fuels used. The average energy efficiency rating for a dwelling in England and Wales is band E (rating 46).

Not all buildings are used in the same way, so energy ratings use 'standard occupancy' assumptions which may be different from the specific way you use your building. Different methods of calculation are used for homes and for other buildings. Details can be found at [www.communities.gov.uk/epbd](http://www.communities.gov.uk/epbd)

Buildings that are more energy efficient use less energy, save money and help protect the environment. A building with a rating of 100 would cost almost nothing to heat and light and would cause almost no carbon emissions. The potential ratings in the certificate describe how close this building could get to 100 if all the cost effective recommended improvements were implemented.

### About the impact of buildings on the environment

One of the biggest contributors to global warming is carbon dioxide. The way we use energy in buildings causes emissions of carbon. The energy we use for heating, lighting and power in homes produces over a quarter of the UK's carbon dioxide emissions and other buildings produce a further one-sixth.

The average household causes about 6 tonnes of carbon dioxide every year. Adopting the recommendations in this report can reduce emissions and protect the environment. You could reduce emissions even more by switching to renewable energy sources. In addition there are many simple every day measures that will save money, improve comfort and reduce the impact on the environment, such as:

- | Check that your heating system thermostat is not set too high (in a home, 21oC in the living room is suggested) and use the timer to ensure you only heat the building when necessary.
- | Make sure your hot water is not too hot - a cylinder thermostat need not normally be higher than 60oC
- | Turn off lights when not needed and do not leave appliances on standby. Remember not to leave chargers (e.g. for mobile phones) turned on when you are not using them.

**Visit the Government's website at [www.communities.gov.uk/epbd](http://www.communities.gov.uk/epbd) to:**

- | Find how to confirm the authenticity of an energy performance certificate.
- | Find how to make a complaint about a certificate or the assessor who produced it.
- | Learn more about the national register where this certificate has been lodged.
- | Learn more about energy efficiency and reducing energy consumption.

## Recommended measures to improve this home's energy performance For Training Purposes Only

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Date of certificate: 31 August 2007  
Reference number: 2903-0016-0000-0051-0006

### Summary of this home's energy performance related features

The following is an assessment of the key individual elements that have an impact on this home's performance rating. Each element is assessed against the following scale: Very poor / Poor / Average / Good / Very good.

Elements	Description	Current performance	
		Energy Efficiency	Environmental
Walls	Cavity wall, as built, no insulation (assumed)	Poor	Poor
Roof	Pitched, no insulation (assumed) Roof room(s), limited insulation (assumed)	Very poor Average	Very poor Average
Floor	Solid, no insulation (assumed)	-	-
Windows	Fully double glazed	Average	Average
Main heating	Boiler and radiators, mains gas	Good	Good
Main heating controls	Programmer and room thermostat	Poor	Poor
Secondary heating	Room heaters, mains gas	-	-
Hot water	From main system, no cylinderstat	Average	Average
Lighting	Low energy lighting in 8% of fixed outlets	Very poor	Very poor
<b>Current energy efficiency rating</b>		<b>D 59</b>	
<b>Current environmental impact (CO2) rating</b>			<b>E 52</b>

## Recommendations

The measures below are cost effective. The performance ratings after improvement listed below are cumulative, that is they assume the improvements have been installed in the order that they appear in the table.

Lower cost measures (up to £500)	Typical savings per year	Performance ratings after improvement	
		Energy efficiency	Environmental
1 Cavity wall insulation	£36	D 61	D 55
2 Increase hot water cylinder insulation to 160 mm	£17	D 62	D 56
3 Low energy lighting for all fixed outlets	£33	D 64	D 57
<b>Sub-total</b>	<b>£86</b>		
<b>Higher cost measures (over £500)</b>			
4 Hot water cylinder thermostat	£47	D 67	D 60
5 Upgrade heating controls	£25	D 68	D 62
6 Replace boiler with Band A condensing boiler	£54	C 71	D 66
<b>Total</b>	<b>£212</b>		
<b>Potential energy efficiency rating</b>		<b>C 71</b>	
<b>Potential environmental impact (CO2) rating</b>			<b>D 66</b>

## Further measures to achieve even higher standards

The further measures listed below should be considered in addition to those already specified if aiming for the highest possible standards for this home.

7 Solar photovoltaics panels, 25% of roof area	£25	C 73	C 69
<b>Enhanced energy efficiency rating</b>		<b>C 73</b>	
<b>Enhanced environmental impact (CO2) rating</b>			<b>C 69</b>

Improvements to the energy efficiency and environmental impact ratings will usually be in step with each other. However, they can sometimes diverge because reduced energy costs are not always accompanied by a reduction in carbon dioxide (CO2) emissions.

## About the cost effective measures to improve this home's performance ratings

### Lower cost measures (typically up to £500 each)

These measures are relatively inexpensive to install and are worth tackling first. Some of them may be installed as DIY projects. DIY is not always straightforward, and sometimes there are health and safety risks, so take advice before carrying out DIY improvements.

#### 1 Cavity wall insulation

Cavity wall insulation, to fill the gap between the inner and outer layers of external walls with an insulating material, reduces heat loss. The insulation material is pumped into the gap through small holes that are drilled into the outer walls, and the holes are made good afterwards. As specialist machinery is used to fill the cavity, a professional installation company should carry out this work, and they should carry out a thorough survey before commencing work to be sure that this type of insulation is right for this home. They should also provide a guarantee for the work and handle any building control issues. Further information can be obtained from National Cavity Insulation Association (<http://dubois.vital.co.uk/database/ceed/cavity.html>).

#### 2 Hot water cylinder insulation

Increasing the thickness of existing insulation up to 160 mm around the hot water cylinder will help to maintain the water at the required temperature; this will reduce the amount of energy used and lower fuel bills. A cylinder jacket is a layer of insulation that is fitted around the hot water cylinder. The jacket should be fitted over the top of the existing insulation and over any thermostat clamped to the cylinder. Hot water pipes from the hot water cylinder should also be insulated, using pre-formed pipe insulation of up to 50 mm thickness, or to suit the space available, for as far as they can be accessed to reduce losses in summer. All these materials can be purchased from DIY stores and installed by a competent DIY enthusiast.

#### 3 Low energy lighting

Replacement of traditional light bulbs with energy saving recommended ones will reduce lighting costs over the lifetime of the bulb, and they last up to 12 times longer than ordinary light bulbs. Also consider selecting low energy light fittings when redecorating; contact the Lighting Association for your nearest stockist of Domestic Energy Efficient Lighting Scheme fittings.

### Higher cost measures (typically over £500 each)

#### 4 Cylinder thermostat

A hot water cylinder thermostat enables the boiler to switch off when the water in the cylinder reaches the required temperature; this minimises the amount of energy that is used and lowers fuel bills. The thermostat is temperature sensor that sends a signal to the boiler when the required temperature is reached. To be fully effective it needs to be sited in the correct position and hard wired in place, so it should be installed by a competent plumber or heating engineer.

#### 5 Heating controls (thermostatic radiator valves)

Thermostatic radiator valves allow the temperature of each room to be controlled to suit individual needs, adding to comfort and reducing heating bills provided internal doors are kept closed. For example, they can be set to be warmer in the living room and bathroom than in the bedrooms. Ask a competent heating engineer to install thermostatic radiator valves. Thermostatic radiator valves should be fitted to every radiator except the radiator in the same room as the room thermostat. Remember the room thermostat is needed as well as the thermostatic radiator valves, to enable the boiler to switch off when no heat is required.

#### 6 Band A condensing boiler

A condensing boiler is capable of much higher efficiencies than other types of boiler, meaning it will burn less fuel to heat this property. This improvement is most appropriate when the existing central heating boiler needs repair or replacement, but there may be exceptional circumstances making this impractical. Condensing boilers need a drain for the condensate which limits their location; remember this when considering remodelling the room containing the existing boiler even if the latter is to be retained for the time being (for example a kitchen makeover). Building Regulations apply to this work, so your local authority building control department should be informed, unless the installer is registered with a competent persons scheme<sup>{1}</sup>, and can therefore self-certify the work for Building Regulation compliance. Ask a qualified heating engineer to explain the options.

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<sup>{1}</sup> For information on competent persons schemes enter "existing competent person schemes" into an internet search engine or contact your local Energy Saving Trust advice centre on 0800 512 012.

## About the further measures to achieve even higher standards

Further measures that could deliver even higher standards for this home

### **7 Solar photovoltaics (PV) panels**

A solar PV system is one which converts light directly into electricity via panels placed on the roof with no waste and no emissions. This electricity is used throughout the home in the same way as the electricity purchased from an energy supplier. The Solar Trade Association has up-to-date information on local installers who are qualified electricians and any grant that may be available. Planning restrictions may apply in certain neighbourhoods and you should check this with the local authority. Building Regulations apply to this work, so your local authority building control department should be informed, unless the installer is registered with a competent persons scheme<sup>{1}</sup>, and can therefore self-certify the work for Building Regulation compliance. Ask a suitably qualified electrician to explain the options.

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<sup>{1}</sup> For information on competent persons schemes enter "existing competent person schemes" into an internet search engine or contact your local Energy Saving Trust advice centre on 0800 512 012.

# Reduced Data SAP 2005 Input Data Summary



Sample EPC TheDomesticEnergyAssessor.com . . .	Located in: Date of assessment: Date of certificate: UPRN: Reference number:	England & Wales 09 June 2007 31 August 2007 0000000002 2903-0016-0000-0051-0006
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## Property overview

Dwelling type:	House	Main property age:	1950 - 1966
Built form:	Mid Terrace	Main roof age:	1983 - 1990
Storeys:	2	Perimeters and areas:	Internal
Habitable rooms:	8		
Heated habitable rooms:	8		

## Main property construction

Lowest floor	area = 39.97	room height = 2.48	perimeter = 5.76
First floor	area = 40.97	room height = 2.40	perimeter = 11.52
Room in roof	area = 12.61	room height =	perimeter =
Wall construction	Cavity with insulation as built		
Roof construction	Pitched, no access to insulation of unknown thickness		

## Windows

Area of windows:	Typical
Double glazing:	100% installed before 2002
Measured windows:	None

## Heated Conservatory

There is a double glazed conservatory with a glazed perimeter of 7.11, a floor area of 15.55 with a height of 1 storeys

## Space heating and controls

Database Reference No: 10224 - BAXI BERMUDA 50/6 INSET:  
 GAS:REGULAR:NON-CONDENSING:BACK BOILER:OF:NO FAN:NO PILOT

Main heating:	CENTRAL HEATING SYSTEM, GAS BOILER (INCLUDING LPG) PRE-1998, WITH BALANCED OR OPEN FLUE, BACK BOILER
Main heating fuel:	GAS, MAINS GAS
Heat emitter:	Radiators
Boiler flue type:	Open flue
Boiler fan type:	Natural draught
Main heating controls:	BOILER SYSTEM WITH RADIATORS OR UNDERFLOOR HEATING, PROGRAMMER + ROOM THERMOSTAT
Secondary heating:	GAS (INCLUDING LPG) ROOM HEATERS, GAS FIRE, OPEN FLUE(OPEN FRONTED), PROUD OF, AND SEALED TO, FIREPLACE OPENING, WITH BACK BOIL
Secondary heating fuel:	GAS, MAINS GAS

## Water heating and cylinder

Water heating:	FROM MAIN HEATING SYSTEM		
Water heating fuel:	GAS, MAINS GAS		
Solar panel:	No	Immersion type:	
Cylinder present:	Yes		
Cylinder size:	Normal	Cylinder insulation type:	Loose jacket
Cylinder insulation:	38 mm	Cylinder thermostat:	No

## Miscellaneous

Open fireplaces: 0  
Ventilation type:  
Electricity meter: Single

Photovoltaic cells: 0%  
Low energy lights: 8%  
Main gas supply: Yes

## Measures

Selected:  
Cavity wall insulation (B)  
Hot water cylinder insulation (C)  
Low energy lights (E)  
Cylinder thermostat (F)  
Heating controls for wet central heating system (G)  
Upgrade boiler, same fuel (I)  
Photovoltaics (U)

Cancelled: