

Energy Performance Certificate

Address of dwelling and other details

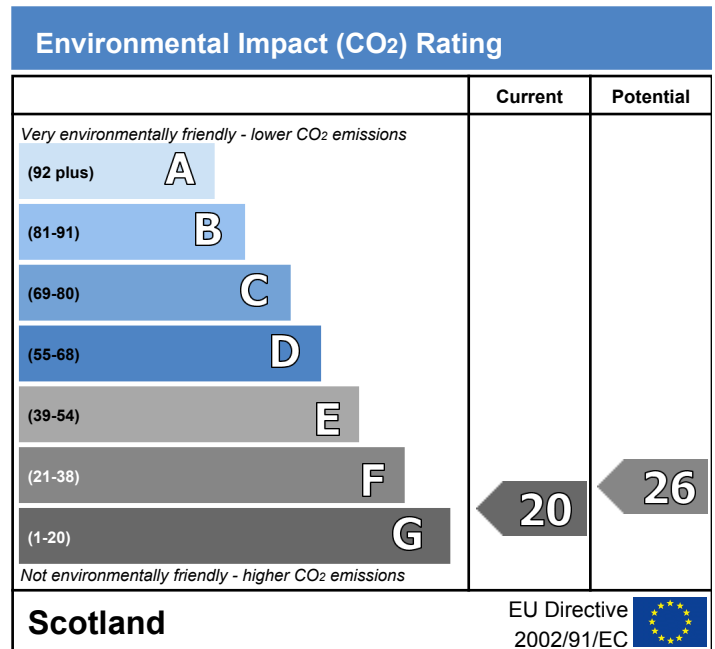
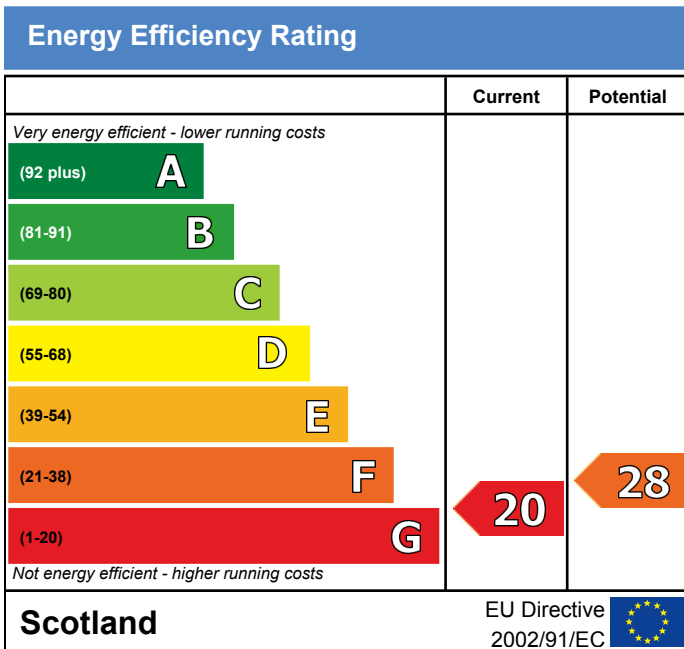
19 WILLOUGHBY STREET,
MUTHILL,
CRIEFF,
PH5 2AB

Dwelling type:
Name of approved organisation:
Membership number:
Date of certificate:
Reference number:
Type of assessment:
Total floor area:
Main type of heating and fuel:

Detached bungalow
RICS Protocol for Scotland
RICS088651
22 April 2010
0710-7924-4000-0252-1926
RdSAP, existing dwelling
70 m²
Electric storage heaters

This dwelling's performance ratings

This dwelling has been assessed using the RdSAP 2005 methodology. Its 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. CO₂ is a greenhouse gas that contributes to climate change.



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 are likely to 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.

Approximate current energy use per square metre of floor area: 852 kWh/m² per year

Approximate current CO₂ emissions: 128 kg/m² per year

Cost effective improvements

Below is a list of lower cost measures that will raise the energy performance of the dwelling to the potential indicated in the tables above. Higher cost measures could also be considered and these are recommended in the attached energy report.

1 Cavity wall insulation	2 Add additional 80 mm jacket to hot water cylinder
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A full energy report is appended to this certificate



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.

Information from this EPC may be given to the Energy Saving Trust to provide advice to householders on financial help available to improve home energy efficiency.

N.B. THIS CERTIFICATE MUST BE AFFIXED TO THE DWELLING AND NOT BE REMOVED UNLESS IT IS REPLACED WITH AN UPDATED VERSION

Energy Report



The Energy Performance Certificate and Energy Report for this dwelling were produced following an energy assessment undertaken by a member of RICS Protocol for Scotland. This is an organisation which has been approved by the Scottish Ministers. The certificate has been produced under the Building (Scotland) Amendment Regulations 2006 and a copy of the certificate and this energy report have been lodged on a national register.

Assessor's name: Mr. Roger Price
 Company name/trading name: Allied Surveyors Scotland Plc
 Address: Unit 3 Delta House, Gemini Crescent, Dundee Technology Park, Dundee, DD2 1SW
 Phone number: 01382 349 930
 Fax number: 01392 349 939
 E-mail address: roger.price@alliedsurveyors.com
 Related party disclosure: No related party

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

	Current	Potential
Energy use	852 kWh/m ² per year	733 kWh/m ² per year
Carbon dioxide emissions	9.0 tonnes per year	7.7 tonnes per year
Lighting	£48 per year	£48 per year
Heating	£1,101 per year	£954 per year
Hot water	£285 per year	£235 per year

The figures in the table above have been provided to enable prospective buyers and tenants to compare the fuel costs and carbon emissions of one home with another. To enable this comparison the figures have been calculated using standardised running conditions (heating periods, room temperatures, etc.) that are the same for all homes, consequently they are unlikely to match an occupier's actual fuel bills and carbon emissions in practice. The figures do not include the impacts of the fuels used for cooking or running appliances, such as TV, fridge etc.; nor do they reflect the costs associated with service, maintenance or safety inspections. Always check the certificate date because fuel prices can change over time and energy saving recommendations will evolve.

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.

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 home.

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 everyday measures that will save money, improve comfort and reduce the impact on the environment. Some examples are given at the end of this report.

Summary of this home's energy performance related features

The table below gives an assessment of the key individual elements that have an impact on this home's energy and environmental performance. Each element is assessed by the national calculation methodology against the following scale: Very poor / Poor / Average / Good / Very good. The assessment does not take into consideration the physical condition of any element. 'Assumed' means that the insulation could not be inspected and an assumption has been made in the methodology based on age and type of construction.

Elements	Description	Current performance	
		Energy Efficiency	Environmental
Walls	Sandstone, as built, no insulation (assumed)	Poor	Poor
	Cavity wall, as built, no insulation (assumed)	Poor	Poor
Roof	Pitched, 250 mm loft insulation	Good	Good
Floor	Suspended, no insulation (assumed)	-	-
Windows	Some double glazing	Poor	Poor
Main heating	Electric storage heaters	Poor	Very poor
Main heating controls	Manual charge control	Poor	Poor
Secondary heating	Room heaters, electric	-	-
Hot water	Electric immersion, off-peak	Very poor	Poor
Lighting	Low energy lighting in 80% of fixed outlets	Very good	Very good
Current energy efficiency rating		G 20	
Current environmental impact (CO ₂) rating		G 20	

Low and zero carbon energy sources

These are sources of energy (producing or providing electricity or hot water) which emit little or no carbon dioxide into the atmosphere. There are none applicable to this home.

Recommended measures to improve this home's energy performance

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. However you should check the conditions in any covenants, warranties or sale contracts, and whether any legal permissions are required such as a building warrant, planning consent or listed building restrictions.

Lower cost measures (up to £500)	Typical savings per year	Performance ratings after improvement	
		Energy efficiency	Environmental impact
1 Cavity wall insulation	£163	F 26	F 26
2 Add additional 80 mm jacket to hot water cylinder	£35	F 28	F 26
Sub-total	£198		
Higher cost measures (over £500)			
3 Fan assisted storage heaters and dual immersion cylinder	£253	E 39	F 30
Total	£451		
Potential energy efficiency rating		E 39	
Potential environmental impact (CO₂) rating		F 30	

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. Some of these measures may be cost-effective when other building work is being carried out such as an alteration, extension or repair. Also they may become cost-effective in the future depending on changes in technology costs and fuel prices. However you should check the conditions in any covenants, warranties or sale contracts, and whether any legal permissions are required such as a building warrant, planning consent or listed building restrictions.

4 Solar water heating	£41	E 41	F 32
5 Replace single glazed windows with low-E double glazing	£82	E 46	F 36
6 50 mm internal or external wall insulation	£123	E 54	E 43
7 Solar photovoltaic panels, 2.5 kWp	£183	D 66	E 51
Enhanced energy efficiency rating		D 66	
Enhanced environmental impact (CO₂) rating		E 51	

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

If you are a tenant, before undertaking any work you should check the terms of your lease and obtain approval from your landlord if the lease either requires it, or makes no express provision for such work.

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: this will improve levels of comfort, reduce energy use and lower fuel bills. 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 ensure that this type of insulation is suitable for this home and its exposure. They should also provide a guarantee for the work and handle any building standards issues. Further information about cavity wall insulation and details of local installers can be obtained from the National Insulation Association (www.nationalinsulationassociation.org.uk).

2 Hot water cylinder insulation

Increasing the thickness of existing insulation by adding an 80 mm cylinder jacket around the hot water cylinder will help maintain the water at the required temperature; this will reduce the amount of energy used and lower fuel bills. The jacket should be fitted over the top of the existing foam 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.

Higher cost measures (typically over £500 each)

3 Fan assisted storage heaters

Modern storage heaters are smaller and easier to control than the older type in the property. Ask for a quotation for new, fan-assisted heaters with automatic charge control. A dual-immersion cylinder, which can be installed at the same time, will provide cheaper hot water than the system currently installed. Installations should be in accordance with the current regulations covering electrical wiring. Building regulations may apply to this work, so it is best to obtain advice from your local authority building standards department and from a qualified heating engineer. Ask the heating engineer to explain the options, which might also include switching to other forms of electric heating.

About the further measures to achieve even higher standards

Further measures that could deliver even higher standards for this home. You should check the conditions in any covenants, planning conditions, warranties or sale contracts before undertaking any of these measures. If you are a tenant, before undertaking any work you should check the terms of your lease and obtain approval from your landlord if the lease either requires it, or makes no express provision for such work.

4 Solar water heating

A solar water heating panel, usually fixed to the roof, uses the sun to pre-heat the hot water supply. This will significantly reduce the demand on the heating system to provide hot water and hence save fuel and money. The Solar Trade Association has up-to-date information on local installers and any grant that may be available or call 0800 512 012 (Energy Saving Trust). Building regulations may apply to this work.

5 Double glazing

Double glazing is the term given to a system where two panes of glass are made up into a sealed unit. Replacing existing single-glazed windows with double glazing will improve comfort in the home by reducing draughts and cold spots near windows. Double-glazed windows may also reduce noise, improve security and combat problems with condensation. Building standards may apply to this work, so it is best to obtain advice from your local authority building standards department.

6 Internal or external wall insulation

22 April 2010

RRN: 0710-7924-4000-0252-1926

Solid wall insulation involves adding a layer of insulation to either the inside or the outside surface of the external walls, which reduces heat loss and lowers fuel bills. As it is more expensive than cavity wall insulation it is only recommended for walls without a cavity, or where for technical reasons a cavity cannot be filled. Internal insulation, known as dry-lining, is where a layer of insulation is fixed to the inside surface of external walls; this type of insulation is best applied when rooms require redecorating and can be installed by a competent DIY enthusiast. External solid wall insulation is the application of an insulant and a weather-protective finish to the outside of the wall. This may improve the look of the home, particularly where existing brickwork or rendering is poor, and will provide long-lasting weather protection. Further information can be obtained from the National Insulation Association (www.nationalinsulationassociation.org.uk). It should be noted that planning permission might be required and that building standards may apply to this work.

7 Solar photovoltaic (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 British Photovoltaic Association has up-to-date information on local installers who are qualified electricians and on any grant that may be available, or call 0800 512 012 (Energy Saving Trust). Planning restrictions may apply in certain neighbourhoods and you should check this with the local authority. Building regulations may apply to this work, so it is best to obtain advice from your local authority building standards department and from a suitably qualified electrician. The assessment does not include the effect of any feed-in tariff, which could appreciably increase the savings that are shown on this EPC for solar photovoltaic panels.

What can I do today?

Actions that will save money and reduce the impact of your home on the environment include:

- Ensure that you understand the dwelling and how its energy systems are intended to work so as to obtain the maximum benefit in terms of reducing energy use and CO₂ emissions.
- If you have a conservatory or sunroom, avoid heating it in order to use it in cold weather and close doors between the conservatory and dwelling.
- Check that your heating system thermostat is not set too high (in a home, 21°C 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 60°C.
- 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.
- If you're not filling up the washing machine, tumble dryer or dishwasher, use the half-load or economy programme. Minimise the use of tumble dryers and dry clothes outdoors where possible.
- Close your curtains at night to reduce heat escaping through the windows.

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.