# Energy Performance Certificate

Northern Ireland

50, Victoria Road
LARNE
BT40 1RN

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|---|---|
| Date of assessment: | 22 September 2011 |
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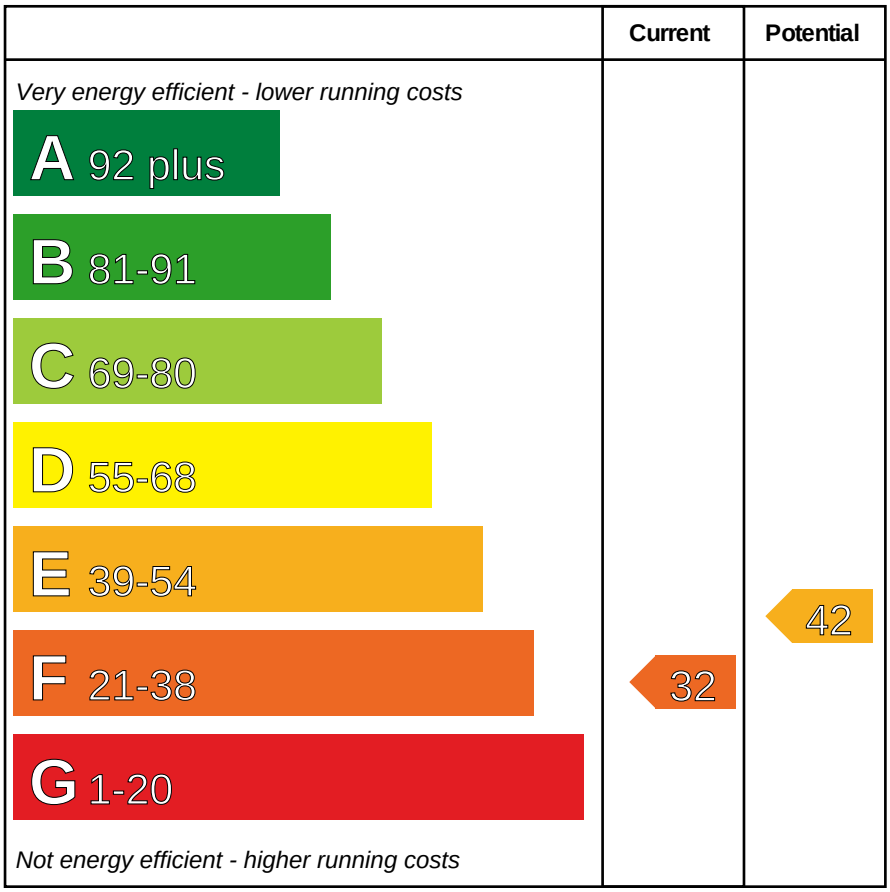
| Reference number: | 0663-2972-0712-9229-1165 |
| Type of assessment: | RdSAP, existing dwelling |
| Accreditation scheme: | Elmhurst Energy Systems Ltd |
| Assessor's name: | Mr. Harold William Bolton |
| Assessor's accreditation number: | EES/004877 |
| Employer/trading name: | HW Bolton T/A NI Energy Services |
| Employer/trading address: | 31 Legmurn Road Brigh Stewartstown Co Tyrone |
| Related party disclosure: | No related party |

## Energy Efficiency Rating




## Technical Information

| | |
|---|---|
| **Main heating type and fuel:** | Boiler and radiators, mains gas |
| **Total floor area:** | 162 $m^2$ |
| **Approximate energy use:** | 418 kWh/$m^2$per year |
| **Approximate $CO_2$emissions:** | 86 kg/$m^2$per year |
| **Dwelling type:** | End-terrace house |

## Benchmark

Average for Northern Ireland 57

The approximate energy use and $CO_2$emissions are per square metre of floor area based on fuel costs for the heating, ventilation, hot water and lighting systems. The rating can be compared to the benchmark of the average energy efficiency rating for the housing stock in Northern Ireland.

## Estimated energy use, carbon dioxide ($CO_2$) emissions and fuel costs of this home

| | Current | Potential |
|---|---|---|
| Energy use | 418 kWh/m$^2$per year | 344 kWh/m$^2$per year |
| Carbon dioxide emissions | 14 tonnes per year | 12 tonnes per year |
| Lighting | £119 per year | £68 per year |
| Heating | £2036 per year | £1755 per year |
| Hot water | £278 per year | £200 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.

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

## About this document

The Energy Performance Certificate for this dwelling was produced following an energy assessment undertaken by a qualified assessor, accredited by Elmhurst Energy Systems Ltd, to a scheme authorised by the Government. This certificate was produced using the RdSAP 2009 assessment methodology and has been produced under the Energy Performance of Buildings (Certificates and Inspections) Regulations (Northern Ireland) 2008. A copy of the certificate has been lodged on a national register.

## 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 preceding page. You can get contact details of the accreditation scheme from their website at www.elmhurstenergy.co.uk 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 provide a measure of the buildings 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 Northern Ireland is band D (rating 57).

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. Different methods of calculation are used for homes and for other buildings. Details can be found at www.epb.dfpni.gov.uk

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 describe how close this building could get to 100 if all the cost effective recommended improvements were implemented.

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

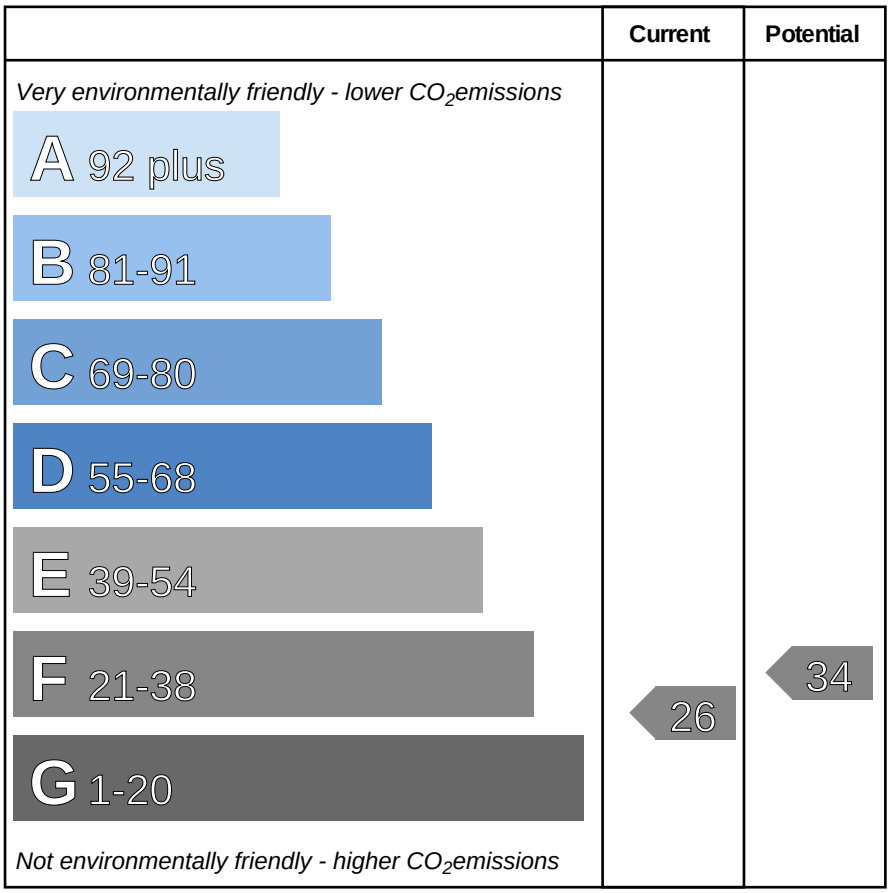
For advice on how to take action and to find out about offers available to help make your home more energy efficient, call 0800 512 012 or visit www.energysavingtrust.org.uk

## 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.

## Environmental Impact $CO_2$ Rating




**Visit the Department of Finance and Personnel website at www.epb.dfpni.gov.uk 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

Further information about Energy Performance Certificates can be found under Frequently Asked Questions at www.epb.dfpni.gov.uk and at www.niepcregister.com

# Recommended measures to improve this home's energy performance

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## 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; 1 star means least efficient and 5 stars means most efficient. 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.

| Element | Description | Current performance | |
|---|---|---|---|
| | | Energy Efficiency | Environmental |
| Walls | Solid brick, as built, no insulation (assumed)<br>Cavity wall, as built, no insulation (assumed) | ★☆☆☆☆<br>★★☆☆☆ | ★☆☆☆☆<br>★★☆☆☆ |
| Roof | Flat, no insulation (assumed)<br>Roof room(s), ceiling insulated | ★☆☆☆☆<br>★★☆☆☆ | ★☆☆☆☆<br>★★☆☆☆ |
| Floor | Solid, no insulation (assumed) | — | — |
| Windows | Fully double glazed | ★★★☆☆ | ★★★☆☆ |
| Main heating | Boiler and radiators, mains gas | ★★★★☆ | ★★★★☆ |
| Main heating controls | Programmer, TRVs and bypass | ★★★☆☆ | ★★★☆☆ |
| Secondary heating | Room heaters, coal | — | — |
| Hot water | From main system, no cylinder thermostat | ★★☆☆☆ | ★★☆☆☆ |
| Lighting | Low energy lighting in 24% of fixed outlets | ★★☆☆☆ | ★★☆☆☆ |
| Current energy efficiency rating | | F 32 | |
| Current environmental impact ($CO_2$) rating | | | F 26 |

See addendum on the last page relating to items in the table above.

## Low and zero carbon energy sources

None

## 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. The indicative costs are representative for most properties but may not apply in a particular case.

| Lower cost measures | Indicative Cost | Typical savings per year | Ratings after improvement | |
|---|---|---|---|---|
| | | | Energy Efficiency | Environmental Impact |
| 1 Cavity wall insulation | £100 - £300 | £209 | F 37 | F 30 |
| 2 Low energy lighting for all fixed outlets | £33 | £40 | F 38 | F 31 |
| 3 Hot water cylinder thermostat | £200 - £400 | £40 | E 39 | F 32 |
| 4 Upgrade heating controls | £350 - £450 | £122 | E 42 | F 34 |
| Total | | £411 | | |

| | |
|---|---|
| Potential energy efficiency rating | E 42 |
| Potential environmental impact ($CO_2$) rating | F 34 |

## 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, planning conditions, warranties or sale contracts before undertaking any of these measures. The indicative costs are representative for most properties but may not apply in a particular case.

| | | | | |
|---|---|---|---|---|
| 5 Solar water heating | £4,000 - £6,000 | £55 | E 43 | F 35 |
| 6 50 mm internal or external wall insulation | £5,500 - £14,500 | £226 | E 50 | E 41 |
| 7 Solar photovoltaic panels, 2.5 kWp | £11,000 - £20,000 | £214 | D 56 | E 45 |

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| Enhanced energy efficiency rating | D 56 |
| Enhanced environmental impact ($CO_2$) rating | E 45 |

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 ($CO_2$) emissions.

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

Building regulations apply to most measures. Building regulations approval and planning consent may be required for some 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. Also check with the Energy Saving Trust or your local council to see if any grants are available.

### Lower cost measures

These measures are relatively inexpensive to install and are worth tackling first. The indicative costs of measures included earlier in this EPC include the costs of professional installation in most cases. 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. They should also provide a guarantee for the work and handle any building control 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 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.

### 3 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 a 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.

### 4 Heating controls (room thermostat)

The heating system should have a room thermostat to enable the boiler to switch off when no heat is required. A competent heating engineer should be asked to do this work. Insist that the thermostat switches off the boiler as well as the pump and that the thermostatic radiator valve is removed from any radiator in the same room as the thermostat. It is best to obtain advice from a qualified heating engineer.

## 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. Building regulations apply to most measures. Building regulations approval and planning consent may be required for some 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. Also check with the Energy Saving Trust or your local council to see if any grants are available.

### 5 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.

### 6 Internal or external wall insulation

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).

### 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. It is best to obtain advice from a qualified electrician. Ask the electrician to explain the options.

## 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 $CO_2$emissions.
- 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.
- Close your curtains at night to reduce heat escaping through the windows.
- 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.
- Check the draught-proofing of windows and replace it if appropriate.
- If you have unused open chimneys consider blocking them off (making provision for a ventilation opening and a cowl on top of the chimney to avoid dampness).

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.