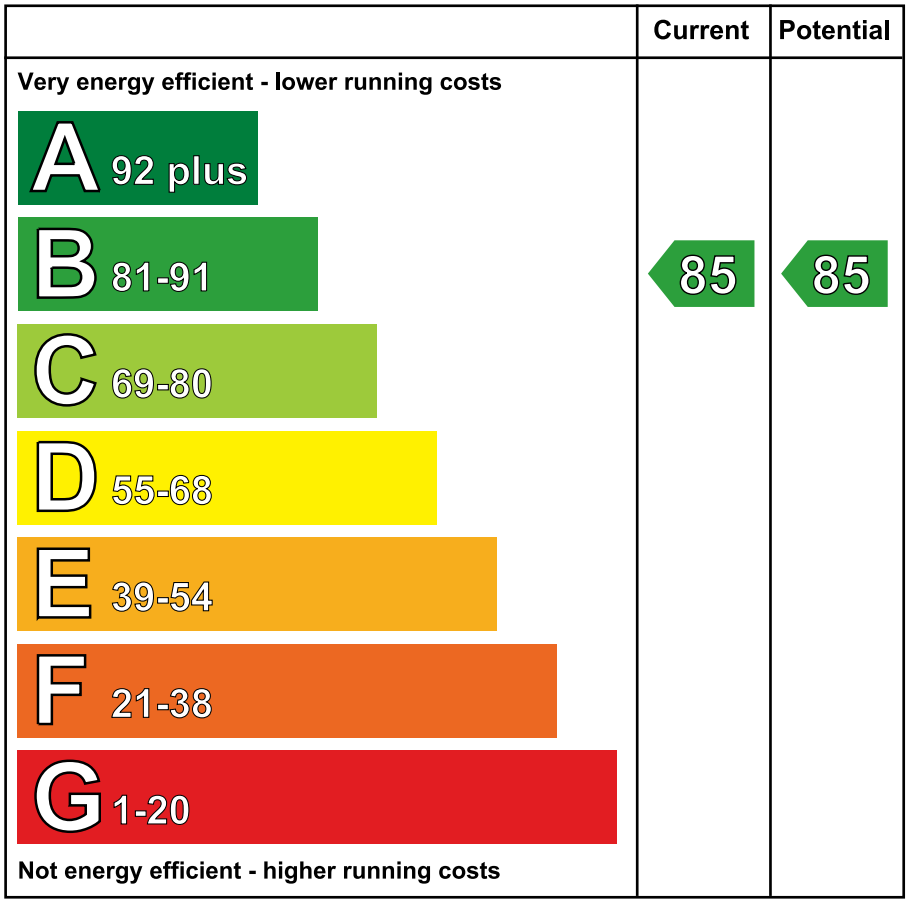
Energy Performance Certificate

Northern Ireland

58, Lagan Gate
Aghagallon
CRAIGAVON
BT67 0WS

Date of assessment:	21 September 2017
Date of certificate:	21 September 2017
Reference number:	2399-4034-0331-7003-0904
Type of assessment:	SAP, new dwelling
Accreditation scheme:	Elmhurst Energy Systems Ltd
Assessor's name:	Mr. Leo Carr
Assessor's accreditation number:	EES/006840
Employer/Trading name:	Air Tight Solutions
Employer/Trading address:	50 Drumherney Road, County Armagh, Keady , BT60 3AT
Related party disclosure:	No related party

Energy Efficiency Rating



Technical Information

Main heating type and fuel:	Boiler and radiators, oil
Total floor area:	107 m²
Primary energy use:	86 kWh/m² per year
Approximate CO_2 emissions:	19 kg/m² per year
Dwelling type:	Semi-detached house

Benchmarks

Typical new build B82

Average for Northern Ireland D60

The primary energy use and CO_2 emissions are per square metre of floor area based on fuel use for the heating, ventilation, hot water and lighting systems. The rating can be compared to two benchmarks: one that would be attained by a typical new dwelling with oil heating constructed to the minimum standards of the building regulations current at the date of the assessment and the second is the average for the housing stock in Northern Ireland.

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

	Current	Potential
Primary energy use	86 kWh/m² per year	86 kWh/m² per year
Carbon dioxide emissions	2.1 tonnes per year	2.1 tonnes per year
Lighting	£70 per year	£70 per year
Heating	£195 per year	£195 per year
Hot water	£110 per year	£110 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 and the data in it

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 SAP 2009 assessment methodology and has been produced under the Energy Performance of Buildings (Certificates and Inspections) Regulations (Northern Ireland) 2008 (as amended). A copy of the certificate has been lodged on a national register. It will be publicly available and some of the underlying data may be shared with others for the purposes of research and compliance. The current property owner and/or tenant may opt out of having this information disclosed.

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 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 Northern Ireland is band D (rating 60).

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.finance-ni.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.



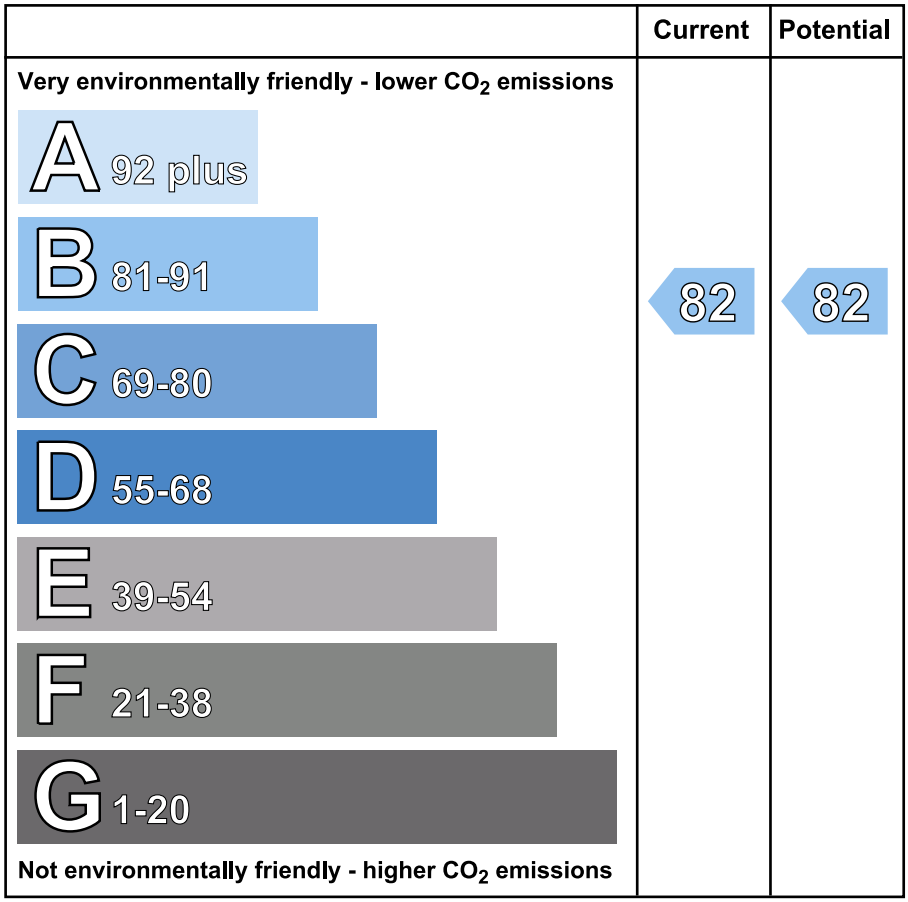
For further advice on home energy efficiency please see **www.nidirect.gov.uk/energy-wise**

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 website at www.finance-ni.gov.uk to:

- 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.finance-ni.gov.uk** and **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 following is an assessment of the key individual elements that have an impact on this home's performance rating. Each element is assessed by the national calculation methodology; 1 star means least efficient and 5 stars means most efficient.

Element	Description	Current performance	
		Energy Efficiency	Environmental
Walls	Average thermal transmittance 0.23 W/m²K	★★★★★	★★★★★
Roof	Average thermal transmittance 0.10 W/m²K	★★★★★	★★★★★
Floor	Average thermal transmittance 0.14 W/m²K	—	—
Windows	High performance glazing	★★★★★	★★★★★
Main heating	Boiler and radiators, oil	★★★★☆	★★★★☆
Main heating controls	Time and temperature zone control	★★★★★	★★★★★
Secondary heating	Room heaters, wood logs	—	—
Hot water	From main system	★★★☆☆	★★★☆☆
Lighting	Low energy lighting in all fixed outlets	★★★★★	★★★★★
Air tightness	Air permeability 4.2 m³/h.m² (assessed average)	★★★★☆	★★★★☆
Current energy efficiency rating		B 85	
Current environmental impact (CO_2) rating			B 82

Thermal transmittance is a measure of the rate of heat loss through a building element; the lower the value the better the energy performance.
Air permeability is a measure of the air tightness of a building; the lower the value the better the air tightness.

Low and zero carbon energy sources

The following low or zero carbon energy sources are provided for this home:

- Biofuel secondary heating

Recommendations

None

Further measures to achieve even higher standards

The measures listed below should be considered 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.

1 Solar water heating	£4,000 - £6,000	£41	B 87	B 85
2 Solar photovoltaic panels, 2.5 kWp	£9,000 - £14,000	£270	A 95	A 93

Enhanced energy efficiency rating	A 95
Enhanced environmental impact (CO_2) rating	A 93

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 reduced carbon dioxide emissions.

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

Not applicable

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 Energywise or your local council to see if any grants are available.

1 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.

2 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. The papers you are given by the builder and the warranty provider will help you in this.
- 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.