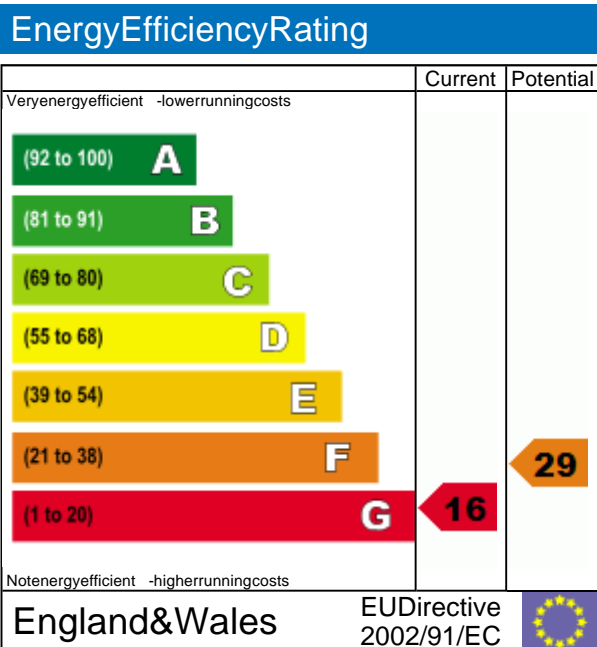


EnergyPerformanceCertificate

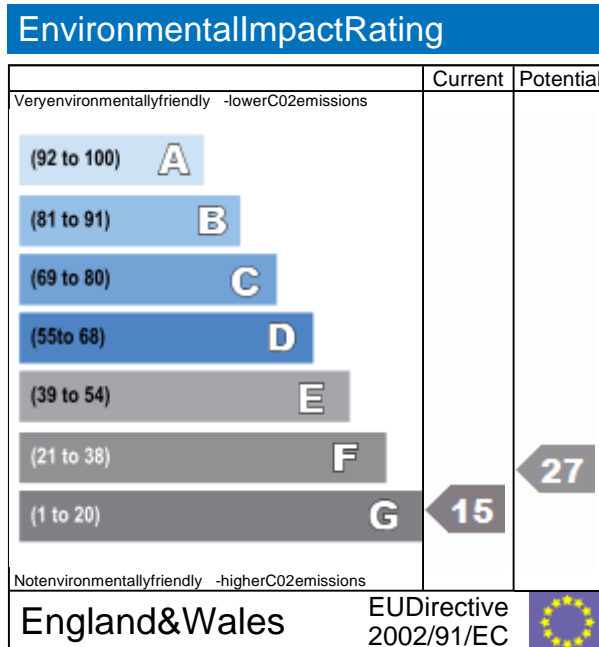
PenyrOdyn
ARTHOG
LL391AJ

Dwellingtype:House
Dateofassessment:27April2007
Dateofcertificate:27April2007
Referencenumber:2738 -9080-6254-4223-0024
Totalfloorarea:216m²

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 (CO₂) emissions.



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 bill 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	510 kWh/m ² per year	382 kWh/m ² per year
Carbon dioxide emissions	23 tonnes per year	17 tonnes per year
Lighting	£168 per year	£86 per year
Heating	£2441 per year	£1922 per year
Hot water	£295 per year	£183 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 512012 or visit www.energysavingtrust.org.uk/myhome

Aboutthisdocument

TheEnergyPerformanceCertificateforthisdwellingwasproducedfollowinganenergyassessment undertakenbyaqualifiedassessor,accreditedbytheNHERAccreditationScheme,toaschemeauthorised bytheGovernment.ThiscertificatewasproducedusingtheRdSAP2005assessmentmethodologyandhas beenproducedundertheEnergyPerformanceofBuildings(CertificatesandInspections)(EnglandandWales) Regulations2007.Acopyofthecertificatehasbeenlodgedonanationalregister.

Assessor'saccreditationnumber: SAVA001156
Assessor'sname: MrPhilipLockwood
Companyname/tradingname: EPCNorthWales
Address: Ferndale,2TrinitySquare,Llandudno,Conwy,LL302PY
Phonenumber: (01492)868500
Faxnumber:
E-mailaddress: lockwoodp@aol.com

Ifyouhaveacomplaintorwishtoconfirmthatthecertificateisgenuine

DetailsoftheassessorandtherelevantaccreditationSchemeareonthecertificate.Youcangetcontact detailsoftheaccreditationSchemefromourwebsiteatwww.nher.co.uktogetherwithdetailsoftheir proceduresforconfirmingauthenticityofa certificateandformakingacomplaint.

Aboutthebuilding'sperformanceratings

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

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.

Abouttheimpactofbuildingsontheenvironment

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, such as:

- 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 that 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.

Visit the Government's website at www.communities.gov.uk/epbd to:

- Find out how to confirm the authenticity of an energy performance certificate
- Find out 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

PenyrOdyn
ARTHOG
LL391AJ

Date of certificate: 27 April 2007
Reference number: 21962

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.

Element	Description	Current performance	
		Energy Efficiency	Environmental
Wall	Granite or whinstone as built, no insulation	Very poor	Very poor
Roof	Pitched roof, no insulation	Very poor	Very poor
Floor	Uninsulated solid concrete (assumed)	-	-
Windows	Double glazed	Good	Good
Main heating	Oil boiler	Poor	Poor
Main heating controls	Programmer, room thermostat and TRVs	Average	Average
Secondary heating	Electric fire	Very poor	Poor
Hot water	From mains system	Poor	Very poor
Lighting	5% of lighting provided by low energy bulbs	Very poor	Very poor
Current energy efficiency rating		G:16	
Current environmental impact (CO₂) rating		G:15	

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 (upto £500)	Typical savings per year	Performance ratings after improvements	
		Energy efficiency	Environmental impact
Replace all non -low-energy light bulbs	£48 per year	G:17	G:15
Sub-total	£48 per year		
Higher cost measures			
Install cylinder thermostat	£188 per year	G:20	G:18
Upgrade existing oil boiler to condensing boiler	£477 per year	F:29	F:27
Total	£713 per year		
Potential energy efficiency rating		F:29	
Potential environmental impact (CO₂) rating			F:27

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.

Fit 50mm internal insulation to wall	£805 per year	E:50	E:45
Add photovoltaic system (25% of roof)	£43 per year	E:52	E:47
Enhanced energy efficiency rating		E:52	
Enhanced environmental impact (CO₂) rating			E:47

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.

Replace all non -low-energy light bulbs

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)

Install 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 hardwired in place, so it should be installed by a competent plumber or heating engineer.

Upgrade existing oil boiler to condensing boiler

A condensing boiler is capable of much higher efficiency 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 departments should be informed, unless the installer is registered with a competent persons scheme^{1}, and can therefore self-certify the work for Building Regulation compliance. Ask a qualified heating engineer to explain the options.

About the further measures to achieve even higher standards

Further measures that could deliver even higher standards for this home

Fit 50mm internal insulation to wall

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 relatively expensive 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. The External Wall Insulation Association keeps a register of professional installers. It should be noted that planning permission might be required.

Add photovoltaic system (25% of roof)

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 departments should be informed, unless the installer is registered with a competent person's scheme^{1}, and can therefore self-certify the work for Building Regulation compliance. Ask a suitably qualified electrician to explain the options.