

Instant Thermal Imaging Report

Report & Environmental Details





House #, Street
Town
Area
Postcode

Thermographer: Brian Davis
Inspection Date: 20 December 2011
Inspection Time: 21:42
External Temperature: 4°C
Wind Speed: 6 mph from the North West
Humidity: 82%

This home's thermal image with associated observations and recommendations is shown below. Information about the report and the scope of the survey can be seen on page 2. Page 3 gives information about property elements with further information on smart meters, renewables, grants and what you can do now to save money.

Thermal image of property



Property Element	Description / Observation	Recommendations
 ROOF	Pitched, habitable room. Missing or inadequate insulation at roof ridge.	Insulate roof ridge to government recommended depth of 270mm.
 WINDOWS	Main: Poorly performing windows. Roof: Well performing roof window.	Replace single glazed windows with high performing double or triple glazed.
 WALLS	Possible gaps in the insulation at top of wall, where it meets roof. The insulation may have sagged or settled over time.	Reinsulate the affected area. Most insulation firms give a 20 year guarantee, so it is worth contacting them and showing this report.
 DOORS	Air leakage (draughts) noted at top of door.	Draft proof the affected area around the top of the door.

For further recommendation on saving energy and money see further into this report.

About this document

The thermal image for this dwelling was produced using the FLUKE Ti25 thermal imaging camera and the assessment undertaken by a qualified energy performance assessor. This report is an instant thermal imaging report showing a frontal view of the property with comments and recommendations taken from this image. A copy of the report will be kept on the computer server of Energy Reports Ltd.

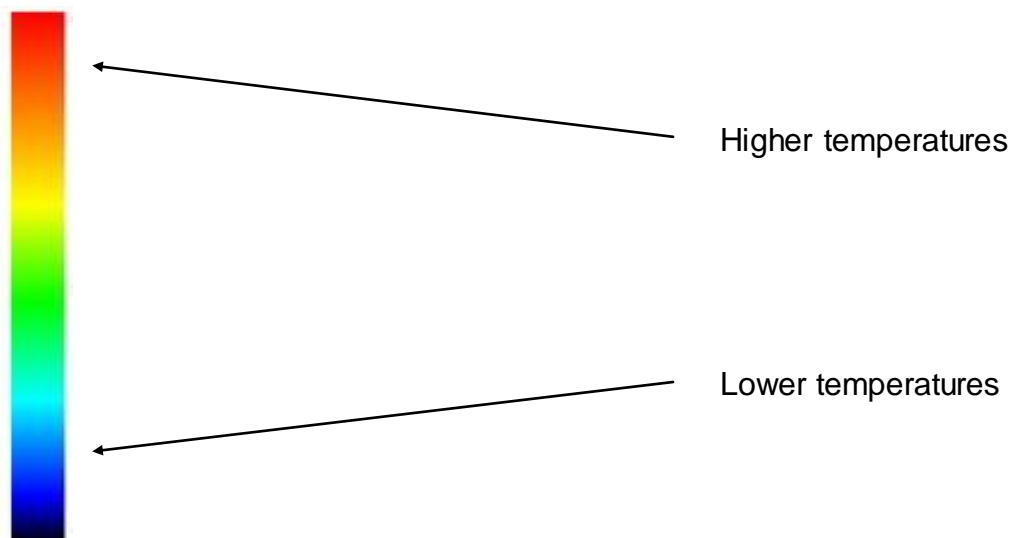
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Related party disclosure:	No related party

Information

All objects above -273°C emit infrared radiation. Thermography is the technique which uses thermal imaging cameras to visually represent the infrared energy emitted from a surface. These visual representations are known as thermal images or thermograms.

A thermographic survey employs the use of thermal imaging cameras to evaluate the thermal performance of the building envelope. The aim is to identify areas of thermal anomaly that could be contributing to excess heat loss through missing or defective insulation and poorly sealed envelope components.

The thermal image was taken whilst the property was under normal heating conditions. This image is shown in a colour palette called 'rainbow high contrast' (see sample scale below).



The survey was conducted at a time to ensure that the solar loading effects of the sun were eliminated and to help with attaining a minimum temperature difference between internal and external temperatures of at least 11°C .

Scope

To provide a thermographic overview of the property, highlighting heat loss from poor building fabric and missing or defect insulation, and giving recommendations about stopping the heat loss.

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 tons 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. Each element of a home is listed below with general recommendations for each.

What can be done?

Every home in England could be more energy efficient, below each element of a home is listed with general recommendations for saving heat and money given.

ROOFS

Around half the heat lost in a typical home is through the walls and roof.

Insulation is the most cost effective and easiest way of reducing energy use within the home. Insulation forms the fabric of a building and lasts for over 40 years, making the payback time very short (typically 2-5 years).

Even if you already have loft insulation, adding another layer to bring it up to the Government's recommended thickness of 270 mm will save further energy and costs.

WINDOWS

Upgrading to double or triple-glazing will significantly reduce heat loss and cold draughts through windows and doors.

Draught proofing is simply filling in the gaps around doors and windows, which decreases the amount of cold air entering the home. Draught proofing could save on energy used for heating and reduce a home's CO₂ emissions.

WALLS

Around half the heat lost in a typical home is through the walls and roof.

Depending on the wall construction there are different methods of insulating external walls.

External walls containing an air gap or 'cavity' are typical of homes built from 1920 onwards. Insulating this cavity can significantly reduce the heat loss through the walls reducing energy use and saving money.

Solid walls can be insulated by adding a weather-proof insulating treatment to the outside or by applying insulating plasterboard to the inside of a wall.

DOORS

Upgrading to double or triple -glazing could half the heat loss and cold draughts through windows and doors.

Draught proofing is simply filling in the gaps around doors and windows, which decreases the amount of cold air entering the home. Draught proofing could save on energy used for heating and reduce a home's CO₂ emissions.

SMART METERS

Understanding how we use energy is the most direct way of reducing energy consumption in the home.

Energy monitors provide real time information for different appliances found in the home, in terms of both energy and cost.

Energy monitors show the financial impact of changing typical habits and behaviours, such as turning off energy intensive appliances when you are not using them.

What can be done? - continued

RENEWABLES

There's never been a better time to generate your own energy with the Government grant incentives and incoming 'feed-in tariffs', helping towards the initial costs and payback periods of technologies.

With the vast selection of renewable and low carbon technologies available it is important that the most appropriate system is selected to maximise potential savings.

The technologies best suited for application in UK homes are:

- **Solar Thermal** - use the energy of the sun to heat domestic hot water.
- **Wind (Rural Areas)** - harness the power of the wind to generate electricity.
- **Photovoltaic** - convert natural sunlight to electricity.
- **Ground Source Heat Pump** - extract the heat stored in the earth to heat your home.

We recommend that you maximise passive energy saving measures such as insulation, before considering low and renewable technologies.

GRANTS

There are a vast number of grants available from the government and local authorities, to help with the costs towards energy efficiency and renewables.

The Carbon Emission Reduction Target (CERT) means energy suppliers with a certain number of customers in the UK are obligated to achieve targets for improving their customer's home energy efficiency. Many suppliers provide a range of offers which reduce the cost of installing energy efficiency measures.

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.
- 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.

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.