# Energy Efficient Warmer Homes

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GREENING CAMPAIGN
garden organic
COMMUNITY FUND
HEALTH IMPACTS OF CLIMATE CHANGE
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the Environment Centre (tec)

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Some images from NEW FOREST HEAT project Home Energy Advice Team

Titchfield

## 12.9t $CO_2e$*

per-household consumption footprint (p.a.)

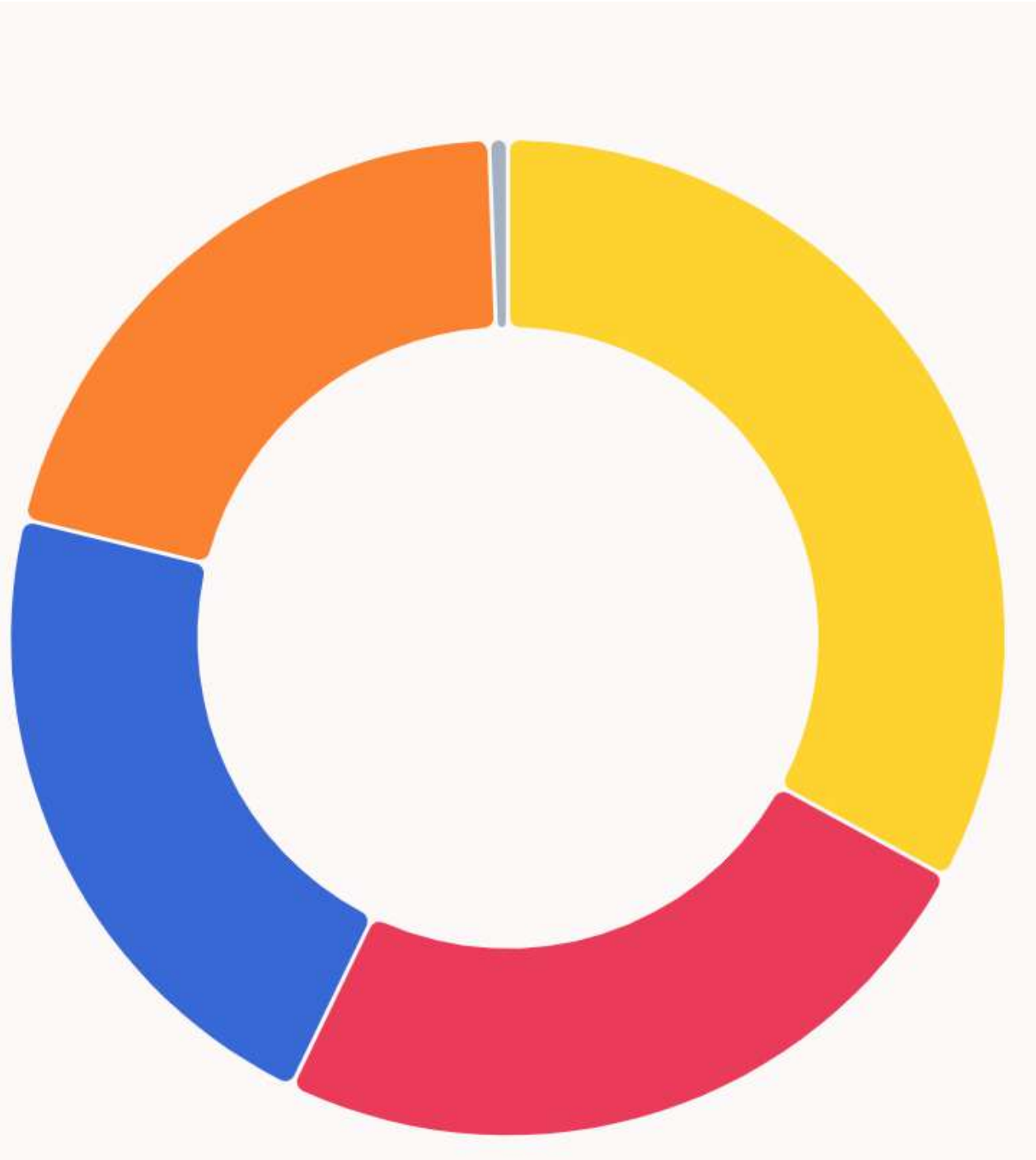
### EMISSIONS BREAKDOWN (t $CO_2e$)

| | |
|---|---|
| Consumption of goods and services | 4.26 |
| Housing | 3.13 |
| Travel | 2.8 |
| Food and diet | 2.66 |
| Waste | 0.08 |

Download full footprint report

Download your full footprint report for detailed breakdowns of emissions in each category and resources to help you take action to reduce them. (PDF, 800kB)

Download the data




Cheaper to run and less renewables required
Well thought out Insulated house
Poorly Insulated house
More expensive to run with more renewables & space required

# So why is thermal imaging important?

When carried out by people in the community, it opens doors.

When it opens doors, it opens minds and conversation.

When conversations start, knowledge is shared.

You are trusted

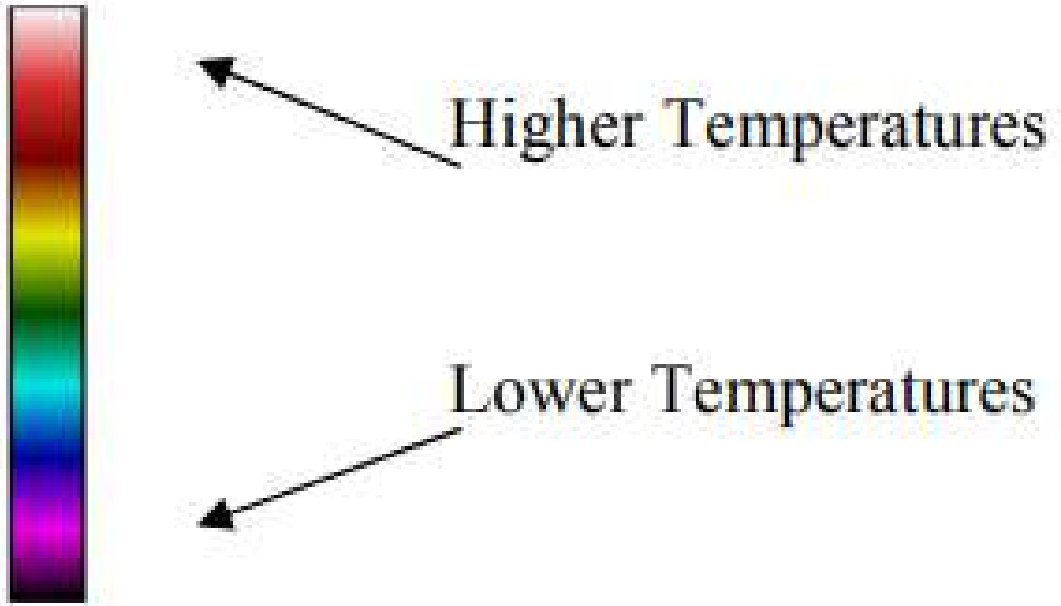
What do Thermal Images identify:

- Causes of Heat Loss
- Causes of Draughts & Air Ingress
- Assess Insulation Performance
- Identify Thermal Bridging
- Assess Performance of Windows & Frames
- Structural defects

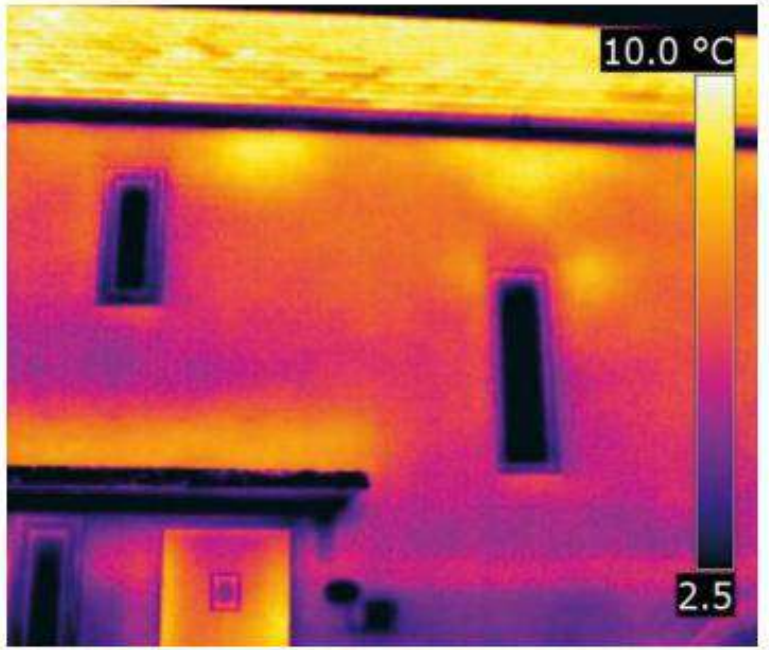
**Where heat and money leave your home!**

# Why do people want to see a thermal image of their home?

- Curious
- Save money on bills
- Make their homes warmer and more comfortable
- Reduce carbon emissions
- Improve health


Higher Temperatures
Lower Temperatures

# Misleading images

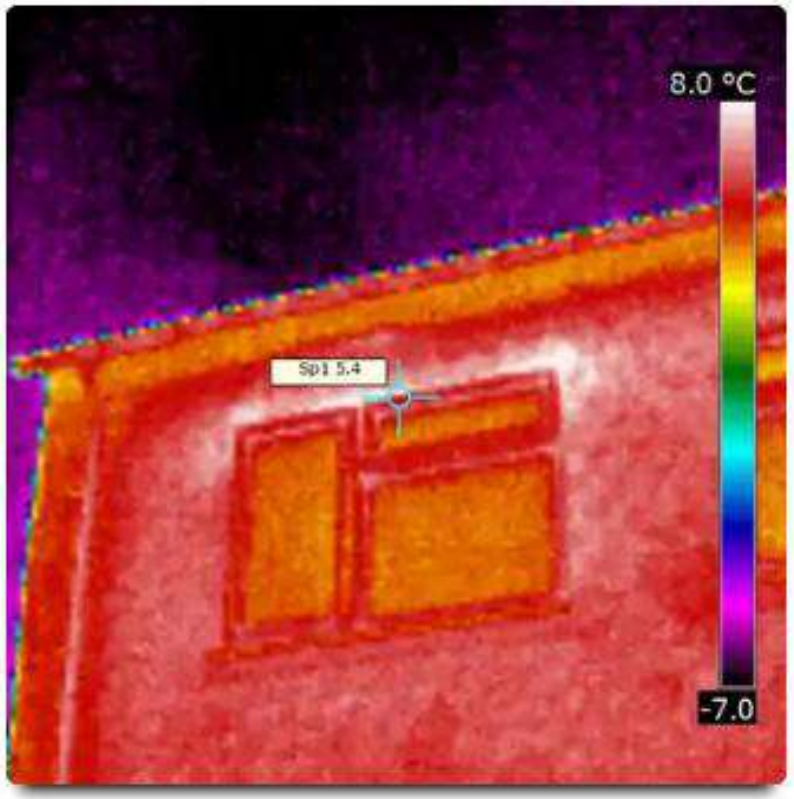



- Reflective surfaces such as glass and metal
- Stored heat (on a sunny day, brick and concrete can store heat and take a long time to cool down)

Good insulation as the house walls are a similar colour and temperature to the garden wall and the ground, meaning that the heat is trapped inside the house.

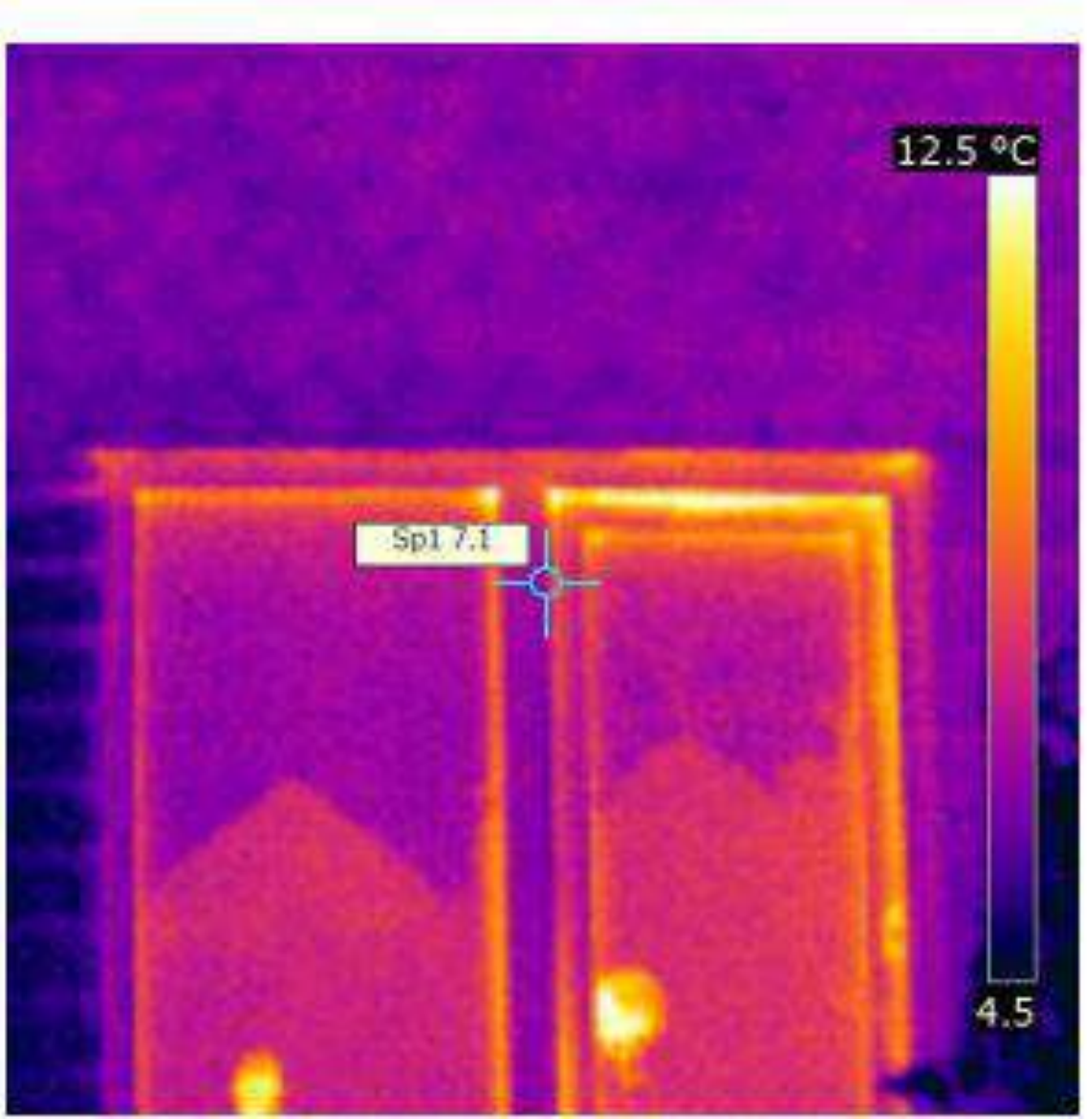
# Windows

Heat escaping from above and down the side of the window suggesting a bad seal around the frame.

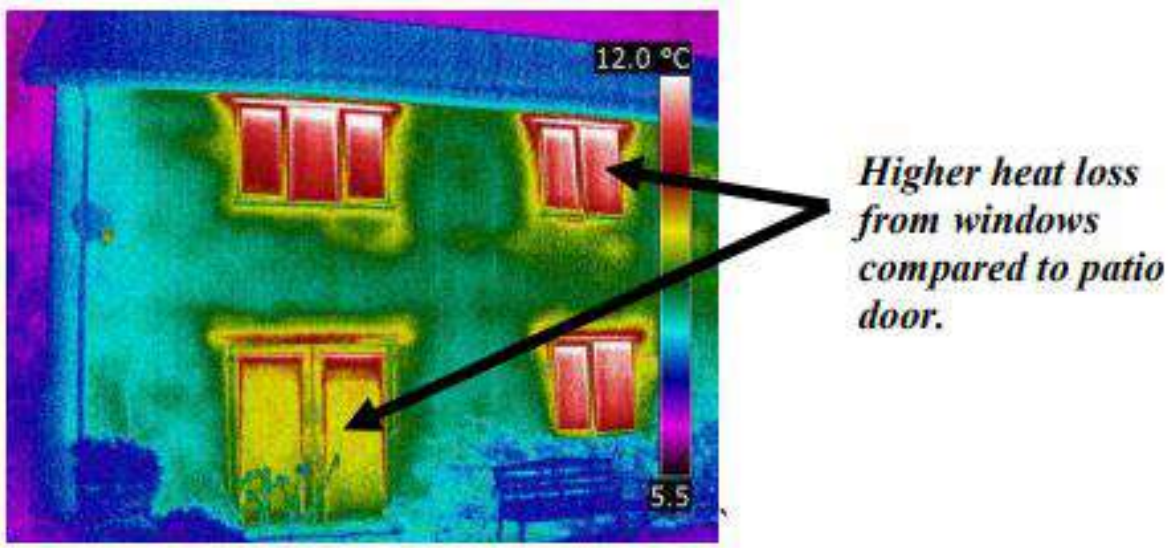


- Demonstrates the reflective properties of glass as can see the house behind.

- Leaking from top of door/window can sometimes be corrected by adjusting the hinge.

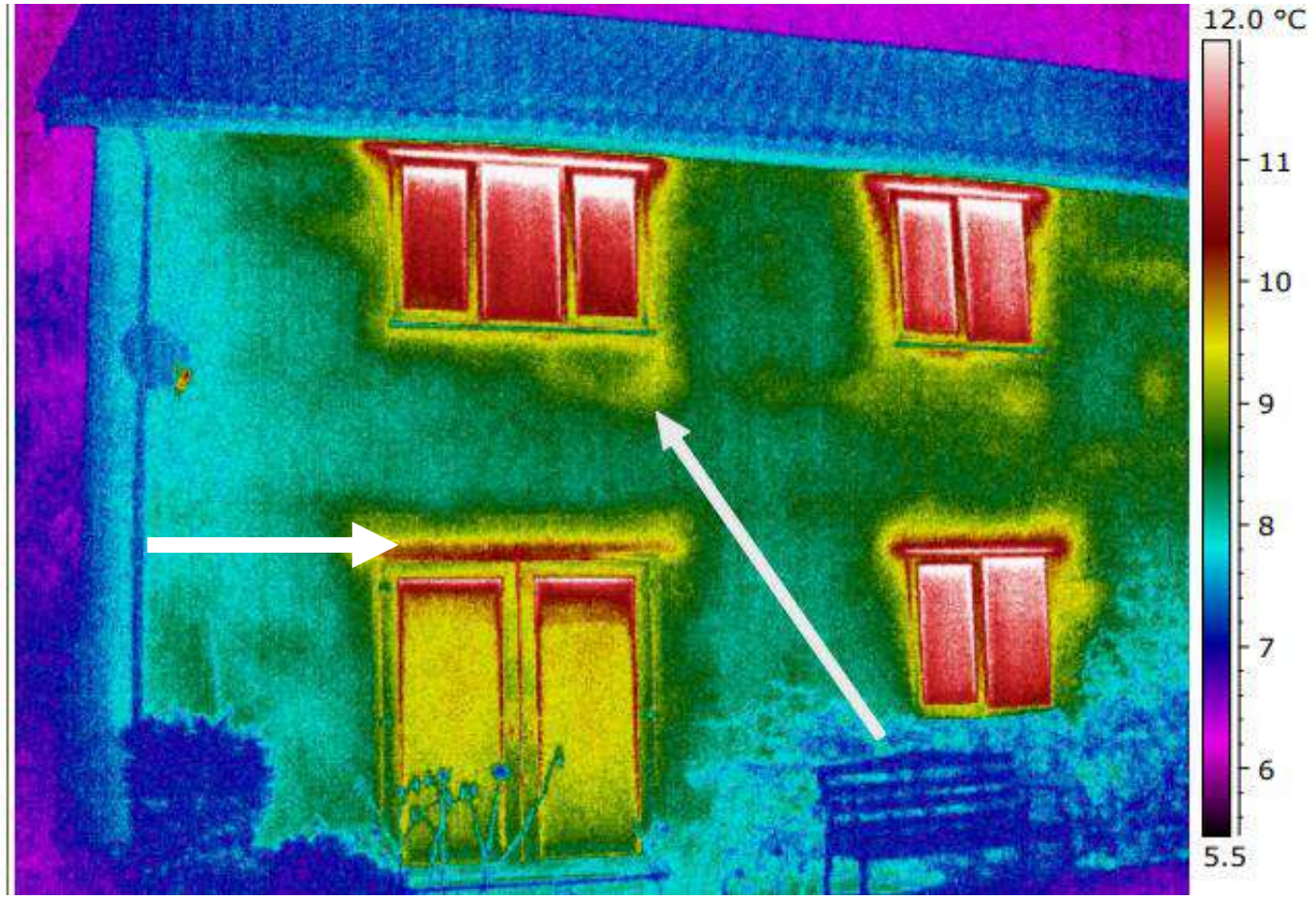


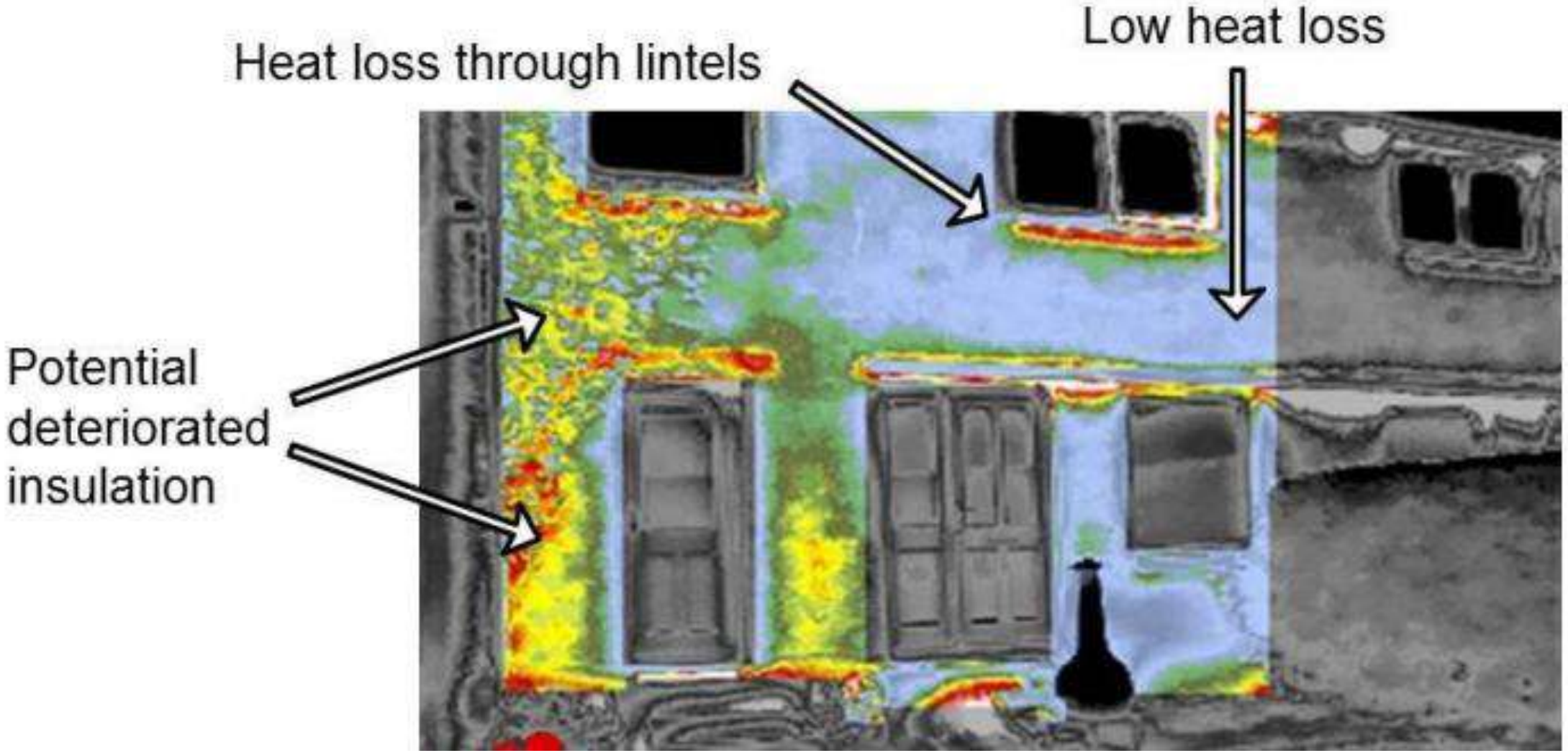
Different effectiveness of double-glazed units in terms of insulation performance. The windows may have lost gas or vacuum over time and now result in higher heat loss.  The glazed patio door seems to be a newer unit.



- Also, the same image highlights possible gaps in cavity wall insulation where it may have settled over time.

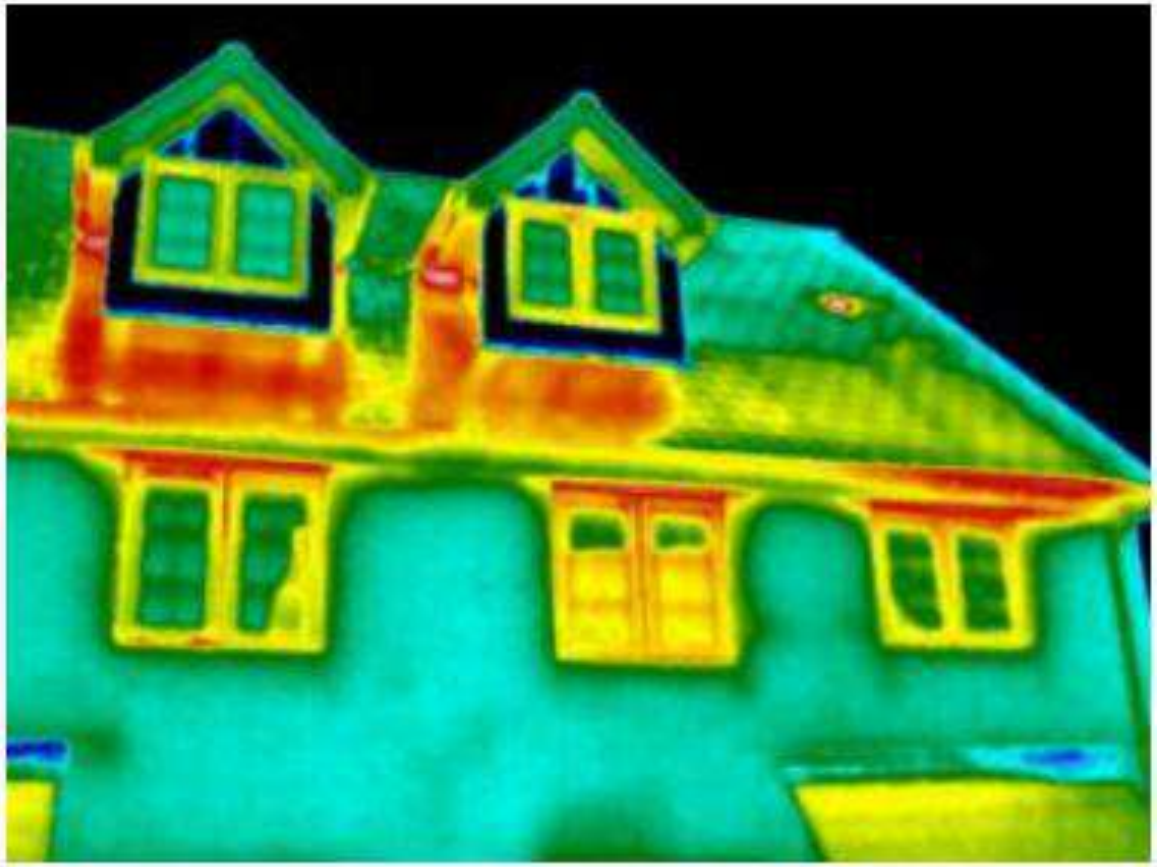
- And thermal bridging above the windows and patio door where lintels or support beams have not been insulated and are conducting heat from the property.




Heat loss through lintels
Low heat loss
Potential deteriorated insulation

Poorly insulated dorma space

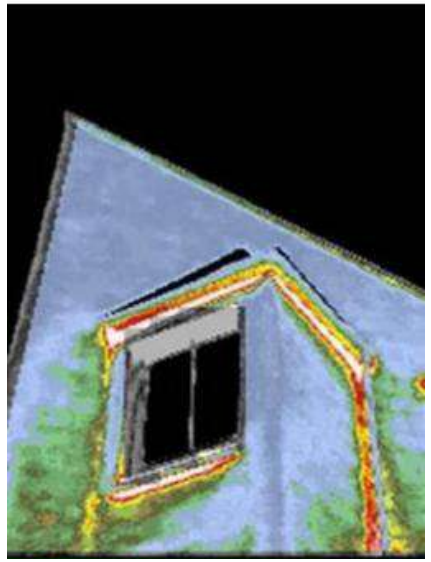
Windows also losing heat

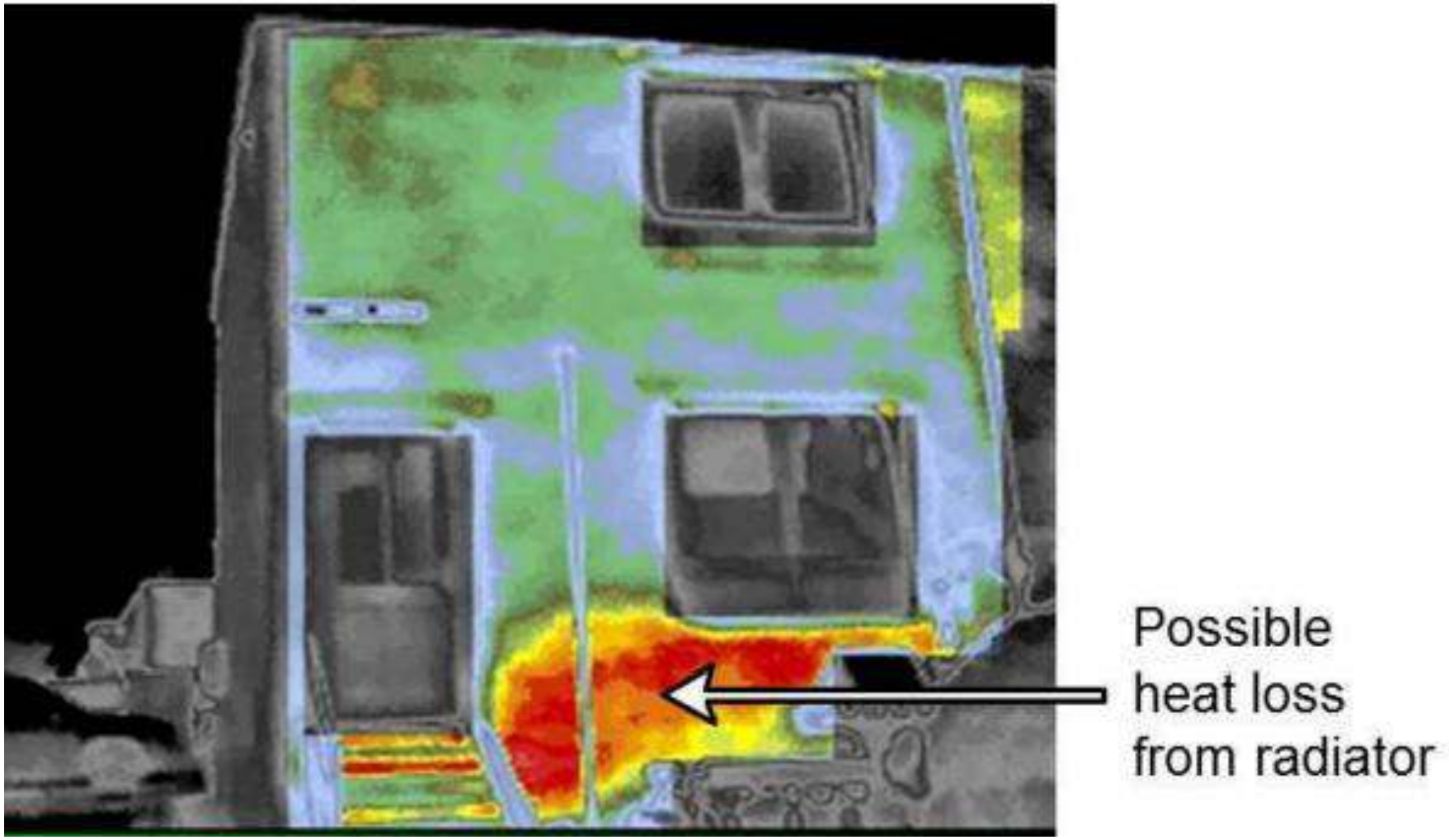


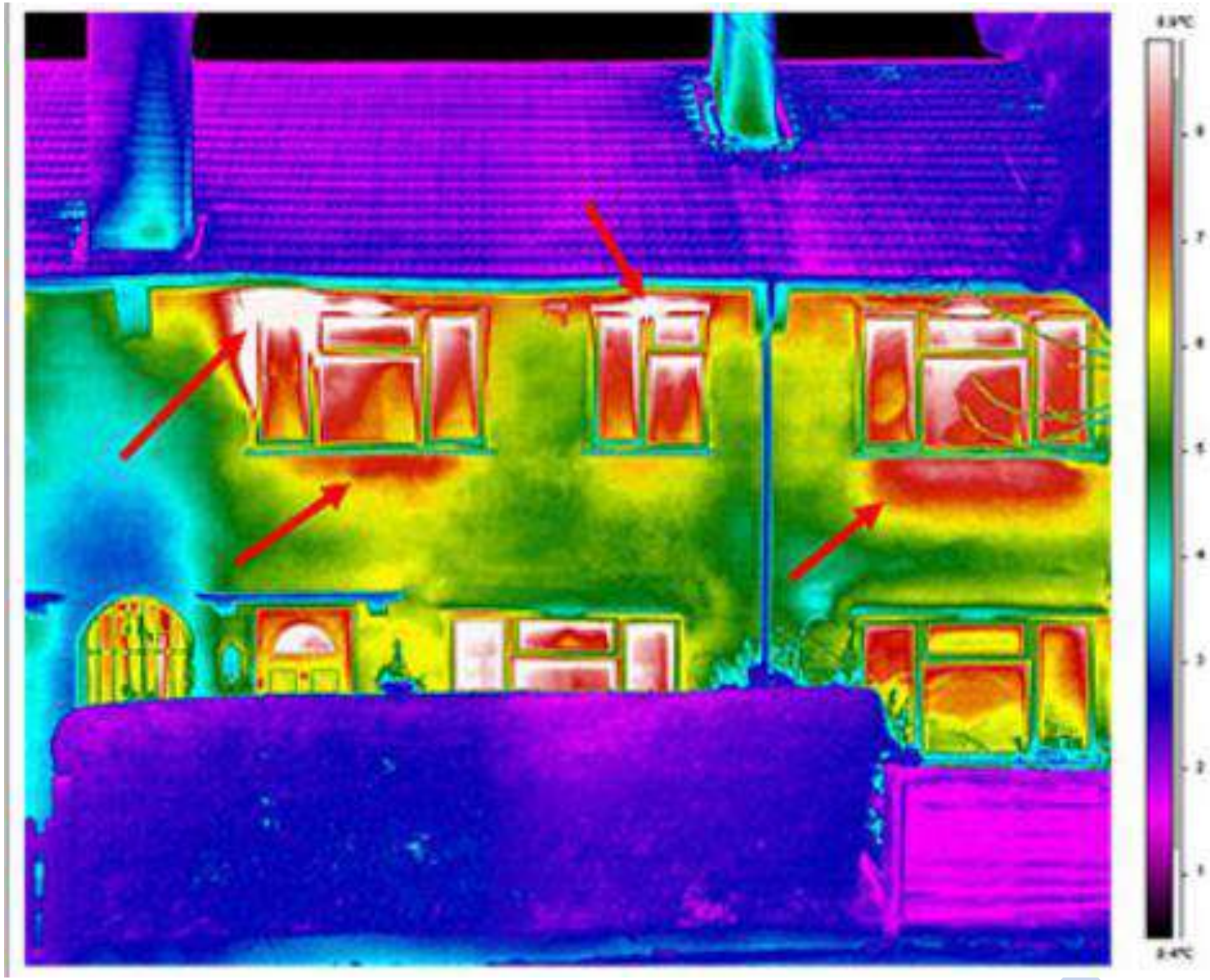
- Insulation has not reached the roof apex

- Insulation not between the ceiling joists creating a bridge

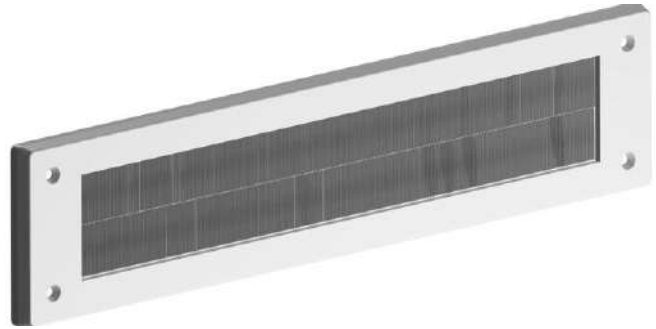
- Heat leaking from where different sections of the building join incorrectly allowing heat to escape




Possible
heat loss
from radiator



# Home Hacks



# Blocks to change

- money (or lack of it
- worried about making big changes to their homes  we understand a conservatory but are less sure about insulation techniques
- Don’t know which surveyors to trust
- Don’t know which installers to trust
- Products have huge delays which puts people off
- Don’t want the upheaval of clearing the loft or rooms for internal insulation
- Some people are renting so do not have full control

# Feedback is as important as the imaging

https://greening-campaign.org/home-thermal-imaging-feedback/

# Health
# & Climate Change

24 degrees is risk

Those outside
Those with existing conditions
Young children
People 65+
Pregnant
Homeless folk
Those exercising in heat

A thermal image showing a street, with houses and the road radiating heat

On a thermal camera it's clear to see the heat radiating from hard surfaces such as brick, steel, concrete and asphalt.

**ALWAYS**

**If in doubt about anything structural or about anything you do not fully understand**

**GET AN EXPERT TO PROVIDE ADVICE**

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Some of the images are with thanks to the Schools Energy Project