



Case Study

Braintree District Council Targeting Property Heat Loss

Summary

As part of its climate change strategy, Braintree District Council is committed to reducing CO₂ emissions across the district.

In support of these measures, Cities Revealed's **thermal mapping** is helping Braintree DC to accurately target property heat loss as part of its loft insulation scheme.

Background

The domestic sector is responsible for 28% of all CO₂ emissions. Improving standards of insulation and other energy saving measures can help reduce this. Braintree DC actively encourages home energy conservation and was the first authority in the UK to initiate its British Gas partnership scheme for loft and cavity wall insulation.

The Challenge

Past energy reports for the district, commissioned by the Council, raised concern about the number of properties lacking adequate insulation. The most recent House Condition and Energy Efficiency Report undertaken in 2010 further substantiated the need for a thermal survey indicating a potential 16,440 properties having less than 50mm of loft insulation.

Braintree DC required the means to cost-effectively pinpoint all those properties falling short of the recommended insulation level.

The Solution

Using Cities Revealed's colour-coded thermal mapping Braintree DC is able to easily identify properties from the

highest to lowest relative roof heat loss using a five level colour legend.

This information is being used in conjunction with their LLPG address points to effectively target those properties showing the highest relative heat loss with practical advice on grants and to promote better energy conservation.

The relative heat loss was recorded using the latest thermal imaging camera technology to create an image that quantifies thermal variation. The resulting data is being used by Braintree DC in their GIS and also in their MapViewer application giving all staff the ability to view and analyse the data.

"Cities Revealed's thermal mapping has provided us with good value and excellent service from the start of the project. They kept us fully informed of progress and delivered a high quality dataset that has been easy to implement and put into use".

Braintree District Council

The Results

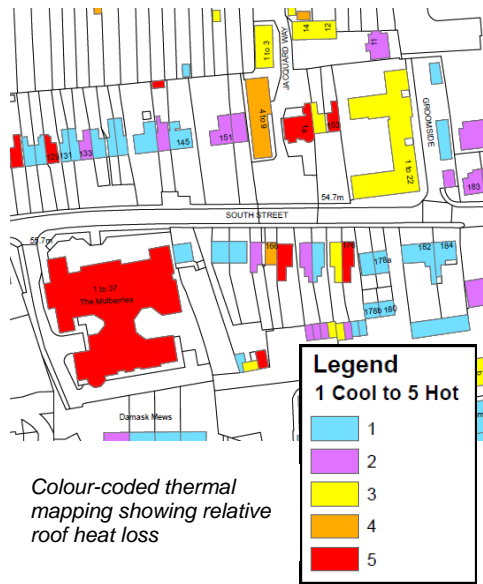
The results, based on the estimated figures in the 2010 Housing Condition and Energy Efficiency Survey Report, found that if every resident topped up their insulation to the current 270mm Building Regulation standards, or put loft insulation in where there was not any before, residents could collectively save between £73,000 and £2,500,000 per annum in heating bills.

In terms of carbon this equates to reducing carbon emissions by between 3,500 tonnes and 13,000 tonnes a year across the district.

Thermal Mapping

Thermal Mapping is a powerful tool for analysing relative energy loss from buildings. Heat loss is recorded using the latest thermal imaging camera technology to create an image that quantifies thermal variation.

Following capture the thermal imagery is interpreted into thermal mapping and is presented in a more easily understood form that can be integrated with your existing building outline database. Each building in the map is assigned a relative heat loss value using a five level classification system.



To ensure the quality and integrity of the data, the imagery is collected under the following conditions:

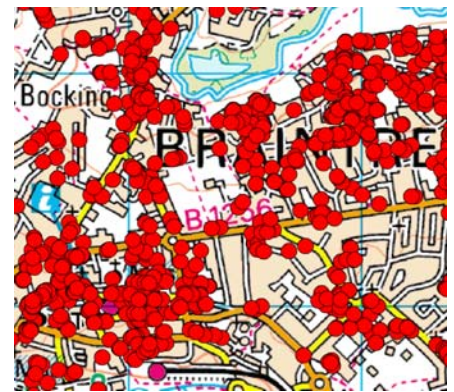
- Winter season (usually between November and March)
- Ambient air temperature below 4°C
- Survey time between 6 / 7 pm & 11pm
- No cloud or rain during the survey

Thermal Clients

- Borough of Poole
- Surrey Heath Borough Council
- Bournemouth Borough Council
- Southampton City Council
- Eastleigh Borough Council
- Bradford MDC
- Newcastle City Council
- Spelthorne Borough Council
- Gloucester City Council
- Wolverhampton City Council

Other Applications

- Fuel poverty calculations
- Energy loss awareness presentations
- Community energy target setting
- Strategic climate change planning
- Building heat loss measurement
- Pipeline heat loss analysis



Map showing highest heat loss properties



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