Lancashire County Council

Hot Lofts

Drivers

- Identify and quantify problem
- Accurate and consistent way of measuring heat loss from buildings.
- Establish baseline position
- Better Targeting of resources
- Public communication

Background

Thermal imaging of buildings gives a very accurate and consistent way of measuring heat loss from buildings

Survey conducted using the latest thermal cameras mounted on a specially modified survey aircraft

Aerial survey operation is carbon neutral

Hot areas show up in red and orange and cool areas in green and blue

Carbon emissions could be calculated with additional building data

FACT: A 2^{o}C reduction in building temperature equals a **15%** reduction in CO2 emissions

Survey criteria

Lancashire County Council

Flying season November to March (inclusive)
Flying between Monday and Friday (inclusive).
Survey times between sunset +30 minutes and 23:30 local time and 05:30 local time and sunrise - 30 minutes.
Maximum wind speed during survey, 10 knots/sec.
Maximum measured ambient temperature prior to survey less than 5.0 degrees (inclusive).
No rain, mist or fog during the survey time
No rain or snow 24 hours before survey.

Survey period

- Estimate that between 100 and 200 sqkm per night can be flown.
- Actual time for Lancashire is 9 days flying
- 4 hours of aerial survey can cover the same area as a ground survey team would cover in a one month; so saving more energy!

Risks

- Snap shot in time
- Very little difference between levels
- Colouring for a property represents average readings for that building
- Managing expectations
- Different levels of knowledge / ability
- Lines of communication

What happened?

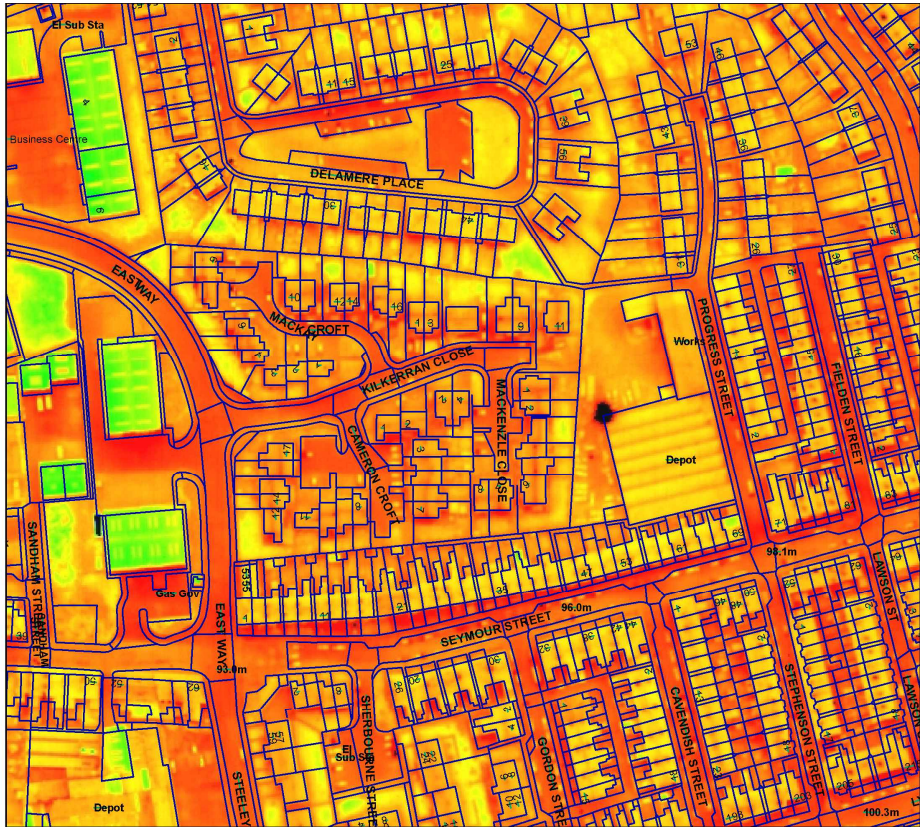
- LCC added information
- LCC to produce and manage public version
- Districts using to target work

What are we adding?

- Producing information at a District level
- Identifying clusters of high heat emitters
- Overlaying fuel poverty data
- Overlaying Mosaic data to identify:
  - » Environmental tendencies
  - » Media information

What it looks like

Thermal Imaging Survey - Colourised raster image



What it looks like

Lancashire County Council

Thermal Imaging Survey

Thermal imaging result

- Class 1
- Class 2
- Class 3
- Class 4
- Class 5

Best → Worst

Fuel Poverty

- Up to 5 h/holds
- 5 to 10 h/holds
- 10 to 15 h/holds
- More than 15 h/holds

What it looks like

Thermal Imaging Survey

MOSAIC types

- D: Close-knit, inner city and manufacturing town communities
- G: Low income families living in estate based social housing
- H: Upwardly mobile families living in homes bought from social landlords