

Why do comparable households use such different amounts of energy?

Home energy use study

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The UK plans to reduce energy use in homes

- Homes use over 40% of energy and emit 25% of CO₂.
- Our Carbon Plan is for emissions from buildings to be zero by 2050. This means maximising energy efficiency this decade.
- 75% of energy at home is used for space heating and hot water.
- 85% of homes have gas central heating.

Households vary hugely in how much gas they use.

- 40% of this variation can be explained by the size, age and type of property as well as household income and tenure

Objectives



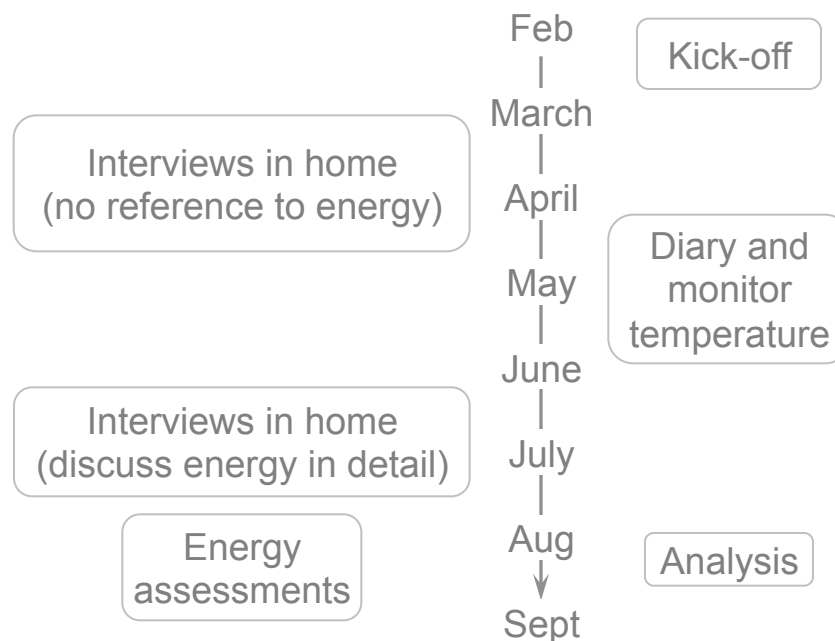
Why do households use different amounts of energy (gas)?

- Build a rich ‘people-centred’ picture of how and why households use energy in the ways that they do.
- Reveal what households know about their energy use.
- Understand attitudes towards energy efficiency.
- Combine detailed qualitative research with some monitoring to compare what people say with what they do.

Methodology

Build a rich, ‘people-centred’ view of energy use

- Sample: 70 **households**
 - All: owner-occupied 3-bed semis with gas central heating
 - High/low gas pairs matched: same income, property age, household type
- Method and timetable:



Findings: overview

Home energy use

Electricity

Gas

Property

Thermal
properties

People

Occupants

Meanings

Energy use



How did people use gas?



Cleanliness

- One household reported having 30 baths a week
- Twelve households had none
- Some reported having very quick showers
- One reported taking 20 that lasted over 10 minutes in a week

Comfort

- Very few understood their heating systems
- Some tinkered, others rarely touched
- All were able to get comfortable
- Thermostats set within ranges not to specific temperatures

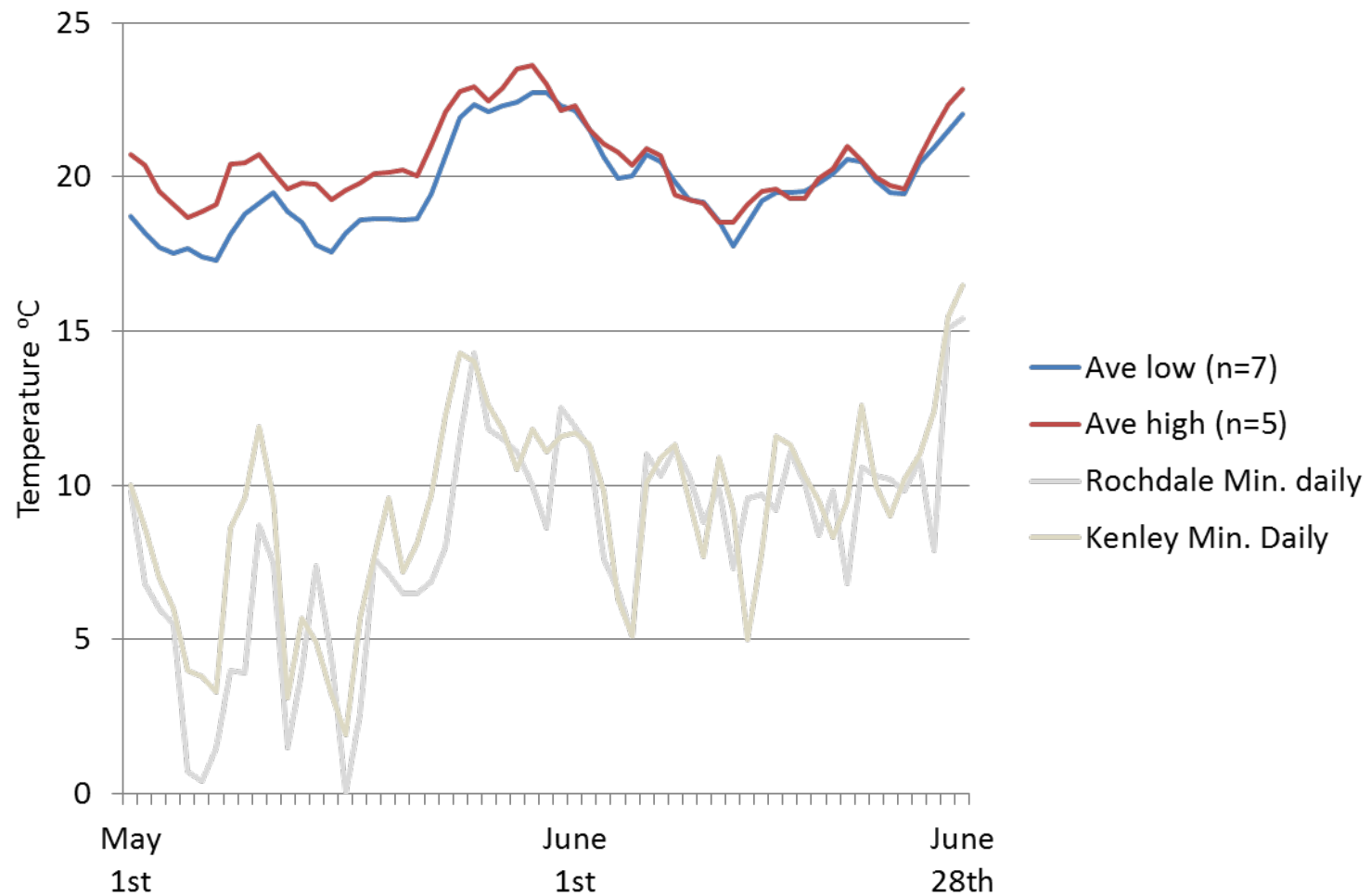
Why did households vary?



A combination of (ordinary) reasons for exceptional use

- When people were in
- What felt comfortable to them
- What else people did at home
- The property they lived in

Temperature data



Energy efficiency



Space heating is underestimated as a use of energy

- Participants did not know how much gas they used
- None appeared to think heating dominated

Energy efficiency a great idea

- Save energy to save money
- Focused on electricity not gas
- Heating not a problem
- Prepared to pay to be comfortable

Summary



Two thirds of variation is due to behavioural factors

There are many ways to be a high or low user

There is potential to save energy in homes

People like the idea of energy efficiency but don't connect it with gas usage

Thanks

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Research study by Brook Lyndhurst