

Researching Household Energy Use

The North East Scotland Energy Monitoring Project

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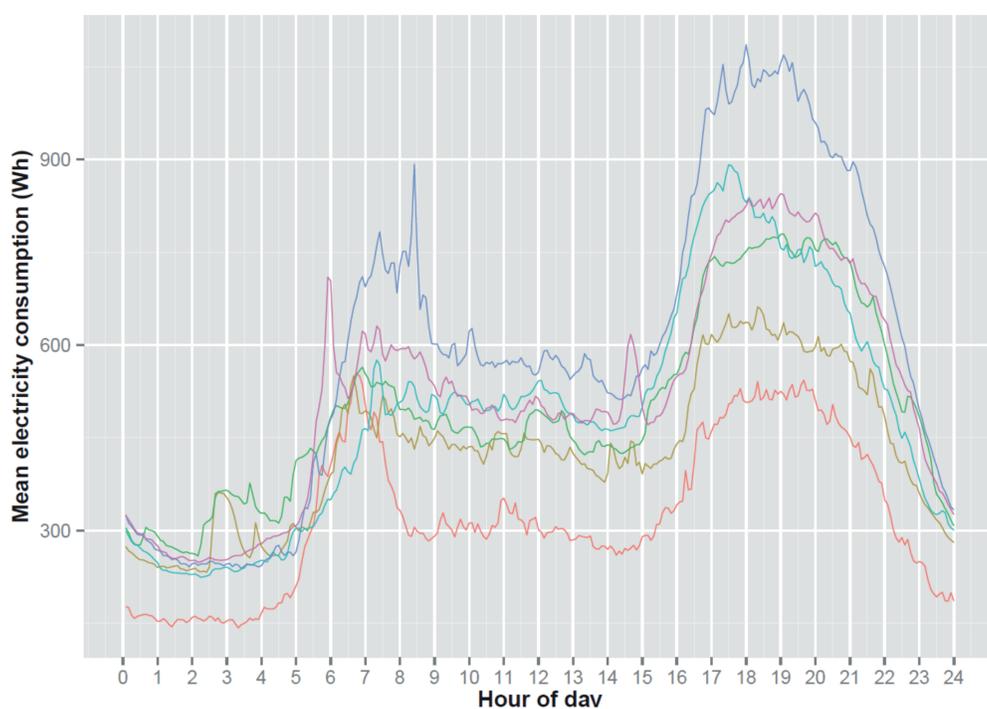
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Introduction

The UK-wide rollout of smart meters is predicated on a number of key assumptions. Amongst these is the idea that improved visibility of electricity and gas consumption will lead to a reduction in domestic energy consumption compared to quarterly billing. One of the problems in studying the effectiveness of such a policy is that it is difficult to link observed changes in energy usage to the action taken. The evidence base for smart meters being effective is inconclusive, ranging from studies finding increases in consumption following feedback interventions to claims of a 5% to 15% reduction for direct feedback. However, patterns of domestic electricity consumption are more complicated than assumed from the headline figures. Studies have demonstrated that the energy-use pattern of a house is inextricably linked to the activity pattern of a household, and that these patterns are relatively stable over time.

Highlights

- Assumptions of carbon footprint tool validated by measured electricity consumption.
- Appliance footprint estimate particularly important predictor of electricity use.
- Rural carbon footprint estimates higher than urban, but appliance use is similar.
- Relationship between household type and electricity consumption patterns.



group

- 1 bedroom, 1 occupant
- 2 bedroom, 2 occupants
- 3 bedrooms, 2 occupants
- 3 bedrooms, 3 occupants
- 3 bedrooms, 4 occupants
- 4 bedrooms, 2 occupants

Household demographics, CO₂ footprints and electricity consumption

