

Proiseact Spéird: Understanding influences on fuel poverty in rural and island Scotland

Research Summary

This research validated and expanded on the findings of a socio-economic analysis of the significant difference in how much households across rural and urban Renfrewshire spend on fuel. The results confirm this finding whilst both supporting and questioning those of other studies, and highlighting the underlying complexity of the problem. Recommendations include the need for policies to treat rural and island fuel poverty distinctly from urban fuel poverty, using approaches that are sensitive to that inherent complexity.

Background

To date, very few UK studies have been conducted that analyse socio-economic influences directly against actual records of household energy consumption and / or expenditure on fuel. In the UK, as far as we are aware, there have been seven such studies [1], of which the Renfrewshire study is the seventh, and the first to be conducted across the urban-rural divide. Spéird now becomes the eighth, and the first to have a specific focus on rural and island areas.

The key strength of these studies is that they use real data on household energy consumption, as opposed to modelled or estimated data, which is obtained variously from central and local government, energy suppliers, housing associations, or other data managers. This is matched with data on the dwellings and households held by those organisations, and may be further verified through cross-checking with other sources and / or surveying. The resulting datasets are empirically robust and are able to produce statistically significant evidence on energy consumption within and between communities. As such they represent a useful balance between using abstracted or modelled data

across large populations and the costs of studies based on intensive monitoring.

Aims and Objectives

The aims of the Spéird Project were:

1. To validate, or otherwise, the evidence from a previous study carried out in Renfrewshire which found an 'energy gap' to exist between the real costs of the energy used by urban and rural households.
2. To identify and understand the influences on energy consumption and spend specific to rural households that explain why this gap has been observed, and to provide evidence for their consideration in future statistical reporting (e.g. the Scottish House Condition Survey) and local and national fuel poverty programmes.



The objectives of the Spéird Project were:

1. To replicate and expand the Renfrewshire study, using data that is available to local and national government with no or minimal need for additional surveying, and verify that the findings apply across Scotland.
2. To describe the heterogeneity of fuel poverty and identify geographic, socio-economic and socio-geographic distribution patterns for low actual fuel spend.
3. To conduct an additional study to identify and understand the factors specifically influencing rural fuel poverty which have yet to be sufficiently addressed by previous research and government policy.

Methodology

In order to collect data from across Scotland the Glasgow Caledonian University team partnered with ALIenergy (Lochaber and Argyll and Bute), Lochalsh and Skye Housing Association, Orkney Isles Council, and Scarf (Aberdeenshire). Highland Council also joined the partnership to facilitate conducting a pilot study on energy behaviours in rural households. All partners also provided access to frontline staff for interviews to follow up on any specific questions / issues arising from the analyses.

Data was surveyed and collated in a number of ways, intended to maximize the size of the datasets at minimal cost, whilst also validating the content through combining new surveying with data from existing sources. Orkney Islands Council were able to expand on a previous survey on fuel and ask respondents' for written permission to access their energy data. The revised survey was adapted by LSHA, ALIenergy, and Scarf and used for both further surveying and as a framework for collating existing data. As a minimum, all

partners were required to collect at least fifty detailed records, and aim for substantially more.

Highland Council, which has a specific interest in the second aim of the study, designed and facilitated a focus group / community event on fuel poverty and energy behaviour in the community of Sutherland. A full report on this event, which was also intended to explore potential barriers to further studies but unfortunately fell victim to one of them, is available separately.

The resulting datasets all comfortably exceeded the collection target and were sufficient to conduct meaningful statistical analyses within each sample, and (by combining with the Renfrewshire data) to construct a combined dataset heating expenditure for households in urban, peri-urban, rural and island areas.

Key Findings

- We found significant new evidence to question the common assumption that there is a linear relationship between household income and expenditure on energy for those on the highest and lowest incomes - i.e. those on the highest incomes are spending disproportionately more and those on lowest incomes are spending disproportionately less.
- In concordance with this, we found further evidence to suggest that the 'real' distributions of household fuel are heavily skewed towards lower expenditures, particularly in rural and island areas, with long 'tails' towards very high expenditures. This means reporting median averages for fuel poverty statistics may be misleading, particularly to politicians and the general public.

- Although not conclusive, we found new evidence to suggest that, for rural and island households, expenditure on non-electric heating (only) does not necessarily increase, and may actually decrease, at higher incomes. Conversely, we found strong evidence that household expenditure on all energy needs increases disproportionately with income for those using electric heating. However, this is also consistent with other research that shows this is likely to be mainly due to other (non-heating) energy use.
- Whilst the average heating costs of households increases with the number of occupants, so does the variation in those costs. So it is not safe to assume that larger households necessarily spend more on heating.
- Occupant behaviour appears to explain a significant amount of this variation, and the energy behaviours of rural and island households do appear to be more complex and multi-faceted. We also found evidence to confirm the existence of rural householders self-limiting their expenditure on heating.
- The influence of employment is difficult to disentangle due to the number of possible combinations of employment types for any individual household however, there we did find statistically strong evidence of households where all occupants are full-time employed spending more on all their energy needs than those where all occupants were retired.
- We found conflicting evidence on the influences of, and between, the number of occupants, the number of bedrooms, and other 'known' influences on energy consumption, which both supports and

questions the findings of previous studies and further demonstrates the complexity of the problem of identifying fuel poor households.

- Finally, we were able to confirm that key finding of the Renfrewshire study, that a statistically significant difference exists between the heating fuel spend of households in urban areas and those in rural and island areas of Scotland. In addition, we found the difference to be more significant for the rural households than for island households. However, this latter finding may reflect known socio-economic differences between the rural and island populations that were sampled for the study.

Recommendations

These findings add significant weight to previous evidence that fuel poverty is more complex and multi-faceted in rural and island areas, and to our wider assertion that this complexity cannot sufficiently be addressed by traditional social science-led quantitative approaches to policy making. This leads us to a number of recommendations:

- The results serve to demonstrate how the nature and distribution of household expenditure on energy is the result of a wide and complex range of inter-related influences, including occupant behaviour, and this complexity is significantly greater amongst the fuel poor and households in rural and island areas. What is needed is a risk-based approach that focusses on delivering maximum benefits to those most in need whilst addressing the additional complexities of tackling the problem in rural and island areas.
- The use of the income domain of the Scottish Indices of Multiple Deprivation is

valid as a proxy measure for targeting energy profligate households on higher incomes however, its value for targeting fuel poor households on the lowest incomes is highly questionable.

- Conventional social science-based approaches to policy making, which attempt to group households into small numbers of categories and assign solutions to those categories rather than to individual householders, are inadequate for addressing fuel poverty, particularly in rural and island Scotland.
- If we are to really address fuel poverty amongst the most vulnerable and isolated communities we need policies that treat fuel poverty as primarily a welfare problem, and which treat householders as individuals, not statistics.

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References

- [1] Jones, R.V., & Lomas, K.J., 2015. Determinants of high electrical energy demand in UK homes: Socio-economic and dwelling characteristics. *Energy and Buildings*, Vol. 101, 15 August, pp. 24-34.
- [2] Mould, R., Baker, K.J., & Emmanuel, R., 2014. Behind the Definition of Fuel Poverty: Understanding differences between the Fuel Spend of Rural and Urban Homes. *Queen's Political Review*, Vol. II, 2014, Issue 2, pp. 7-24.

Project information

The full final report and a mini-report on the Highland study can be found at:

<http://www.eagacharitabletrust.org/the-speird-project/>

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