

Examining the relationship between electricity flexibility tenders and deprivation



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Background and Motivation

Social Investment Business (SIB) support community organisations in areas of higher deprivation. SIB is exploring whether electricity flexibility tenders¹ might provide ongoing revenue streams. This piece of research was designed to give them insight into how equitably spread tenders are.

Data and Methods

Each of the six electricity network operators provide datasets, about the tenders they are making available for consumers to bid into. This data was linked with government data on indices of multiple deprivation, and fuel poverty, as well rural-urban classification. The indices of multiple deprivation rank each of 33,750 areas in England.

The analysis counted the rate of each decile of deprivation covered by a flexibility tender area, and compared it to that which would be expected given a random distribution of tender areas. The results were considered England wide, as well as within each network operator area. The data was re-analysed considering fuel poverty as the primary deprivation marker, and identifying rural-urban patterns.

Key Findings

Electricity flexibility tenders cover every decile of deprivation. However the statistically significant pattern is a deviation from a random distribution. Both the highest and lowest deciles of deprivation are under-represented in the flexibility data. This pattern is driven by the one network operator (NGED) that has over 70% of the flexibility tenders. When examining the other network operators different patterns emerge, and this shows there could be value from a targeted approach. In addition, there are rural areas of higher fuel poverty which are disproportionately represented in the flexibility tender data, which could provide a good opportunity for impact.



Figure 1: rate of each decile of deprivation covered by current flexibility tenders, by network operator.

Value of the research

This research paints a picture of where there are areas of opportunity for a future scheme targeting community organisations in areas of deprivation. Further work would be needed to identify individual community buildings.

Flexibility tender datasets only cover current or most recent tenders. Further work would be needed to assess the likelihood of ongoing need for flexibility. Moveable assets might mitigate the risk of sunk assets, and build on SIB's strength as a coordinator.

The research identifies patterns rather than reasons. We do not know the patterns are deliberate, perhaps based on their experience of where flexibility response has been seen in the past. It may be necessary for SIB to engage with network operators to maximise the potential of the scheme.

¹ Electricity Flexibility Tenders are a way of managing congestion in the electricity network. Those who sign up to provide flexibility will reduce their consumption at the required time, perhaps through use of a solar/battery installation, or in a reduction of high energy processes.