

SGN

Mapping the region
to target the help available
November 2018

Classification: Public



SGN

Your gas. Our network.

Vulnerable customers in our regions

Fuel poverty
Language needs
Excess of winter
mortality

SGN commissioned the Energy Saving trust to construct a predictive model using relevant datasets

- We can use it to focus efforts to help reduce fuel poverty
- Support customers in vulnerable circumstances
- Support with incidents
- Free tool for our partners to evaluate the fuel poverty level of residents across their area
- Compliant with GDPR

Targeting

SGN commissioned the Energy Saving Trust to construct a predictive model using relevant datasets to predict the likelihood that an **off-gas property in the SGN service area is in fuel poverty** and therefore, eligible for enrolment in the Help-to-Heat scheme.

- EST began with a market scoping exercise to identify properties that were likely to be high cost and therefore, worth procuring income data for

Data Source	Use in Market Scoping
Xoserve	<ul style="list-style-type: none">• Meter point data matched to Royal Mail's Postal Address File (PAF) to filter out properties already connected to the gas grid
EPC	<ul style="list-style-type: none">• Main fuel type data used as secondary filter to exclude any other mains gas properties• SAP band used to filter out A-C properties (unlikely to be in fuel poverty)
SGN	<ul style="list-style-type: none">• Shapefile of SGN postcodes used to define catchment area• Shapefile of SGN grid used to create 23m and 40m buffers• Off-gas properties mapped using OS x- and y-coordinates and overlaid on buffers to determine their approximate distance to the grid
Historic England	<ul style="list-style-type: none">• Register of listed buildings used to exclude properties with any listed status which could require additional approvals for a gas connection



Modelling

- EST then used additional datasets to construct the FP model, segment the results and provide supplemental targeting information

Dataset	Use in Modelling and Segmentation
Property attributes	<ul style="list-style-type: none">• Property type, tenure, age, number of habitable rooms and floor area used as predictors in FP model• Property type and tenure also used to segment the results to identify areas that could pose potential challenges and opportunities (e.g. large blocks of flats)
Energy efficiency characteristics	<ul style="list-style-type: none">• Wall and loft insulation, glazing, SAP band and fuel bill used as predictors in FP model• Adjusted SAP fuel bill used to model the 'high cost' condition of FP
Income	<ul style="list-style-type: none">• IMD decile and Experian household income used as inputs into the FP model to capture the 'low income' condition of FP
Health deprivation	<ul style="list-style-type: none">• Excess winter deaths and excess winter mortality index identifies high priority areas• IMD Health Deprivation and Disability domain scores identify more granular hotspots• Links to each council's Public Health England Health Profile included for context
ECO eligibility	<ul style="list-style-type: none">• ECO HHCRO social eligibility derived from property tenure (social) and SAP band (E-G)• Links to each council's ECO Flex statement of intent included (where available)
Accessibility	<ul style="list-style-type: none">• Proficiency in English taken from the Census used to identify areas that might require additional resources to participate in the scheme

Finding priority areas

NEA – “The UK experiences, on average, **32,000 deaths** in each December to March period that are in excess of mortality rates across the rest of the year”

“Of these, **9,700 deaths** are attributable to the avoidable circumstances of **living in a cold home**. The majority of the 9,700 deaths, **6,900, are linked to the coldest 25% of homes in the UK**”

In terms of total **excess winter deaths (EWDs)**:

Top 3 in SGN catchment area

Wiltshire	200
Brighton and Hove	130
Milton Keynes	130

SGN footprint – High level view

Assuming every council that intersects the SGN footprint (even just slightly) is included in this calculation, the BEIS figures indicate there are **550,134 homes in fuel poverty**.

Top 3 Councils in SGN catchment area by total number:

Council	FP Homes	FP Rate (%)
Wiltshire	18,426	9.0
Croydon	16,265	10.7
Brighton & Hove	14,593	11.4

Top 3 Councils in SGN catchment area by rate (%):

Council	FP Homes	FP Rate (%)
Portsmouth	11,052	12.3
Bournemouth	10,556	12.2
Oxford	6,983	11.9

Refining the figures

Modelling to find those areas we can offer the most assistance to

- We identified **165k properties** that are off the gas grid, in a **SAP Band DEFG**, within **40m of the grid** and not a listed building.
- We used data on **tenure** and **SAP band** to determine eligibility for the **ECO HHCRO** social stream.
- We procured **income data** for **145k (87%)** of the households
- Our LIHC FP model predicts that **17,043 are in FP (11.8%)**.

Top 3 Councils in the SGN area

Council	HHCRO Social	LIHC FP	Total
Southampton	753	1,165	1,503
Bournemouth	317	927	1,133
Thanet	180	852	980

Detailed outputs

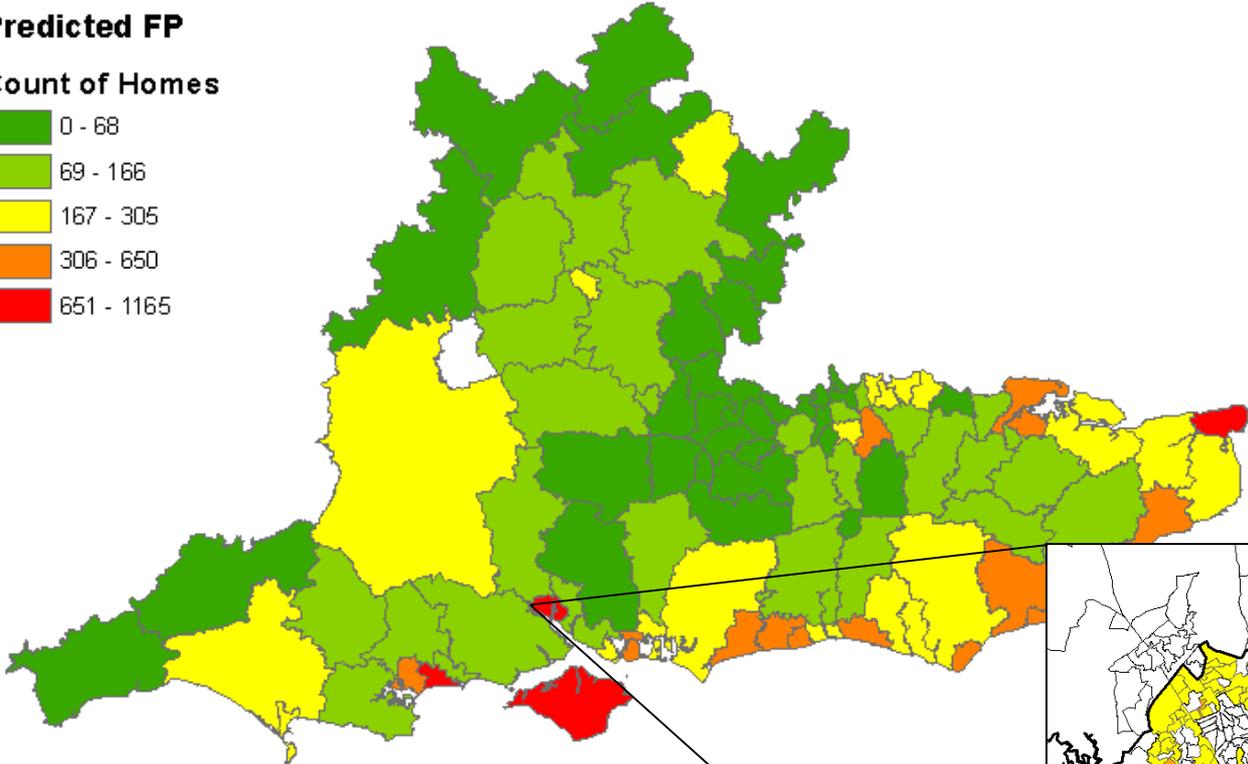
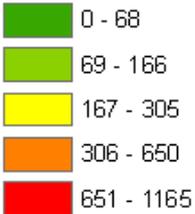
EST is also developing an online geo mapping tool to enable us and our delivery partners to drill down into the data at various scales

- We can visualise the data in a heat map, run queries and extract specific data points in spreadsheets
- We can select or deselect different data layers (e.g. FPNES & HHCRO eligibility, SAP bands, income, property type, tenure, fuel bill)
- We can view the data at different scales (e.g. census output area, postcode sector, council)
- This tool is based on address level data but only shows area level **counts and probabilities** to comply with GDPR

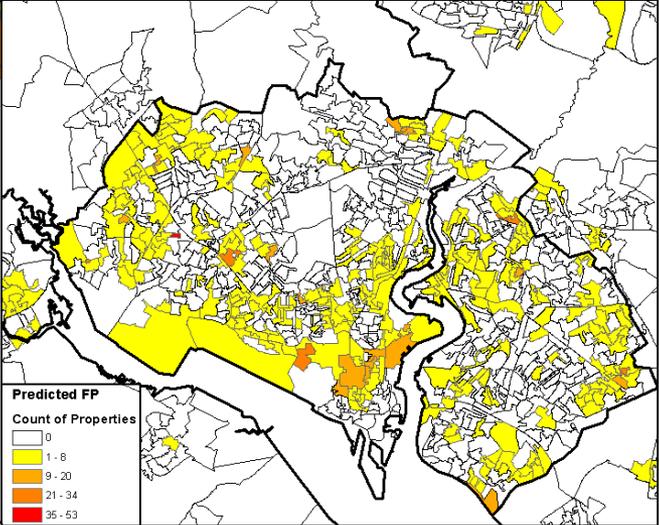
FP Predictions: LA and COA Level

Predicted FP

Count of Homes



Southampton



Overlaying data

Example 1:

Of the 95 councils that intersect SGN's southern footprint, 58 have published their **ECO Flex SOIs** online (as of July 2018).

Overlaying fuel poverty predictions and ECO HHCRO eligibility with councils that have ECO Flex SOIs can help prioritise action and partnership building.

Example 2:

There are areas where communication methods and materials need to be adjusted to suit the needs of residents.

Overlaying English proficiency with fuel poverty enables us to identify areas where different forms of communication are needed.

The benefits

- A data-led and tried/tested approach to identifying Fuel Poverty
- The ability to spot and prioritise our efforts to those most vulnerable
- Enable and empower our partners to develop and deliver successful Fuel Poverty projects
- Follows data protection best practise and complies fully with GDPR

Contact us

Marie Jones
marie.jones@sgn.co.uk



SGN
Your gas. Our network.