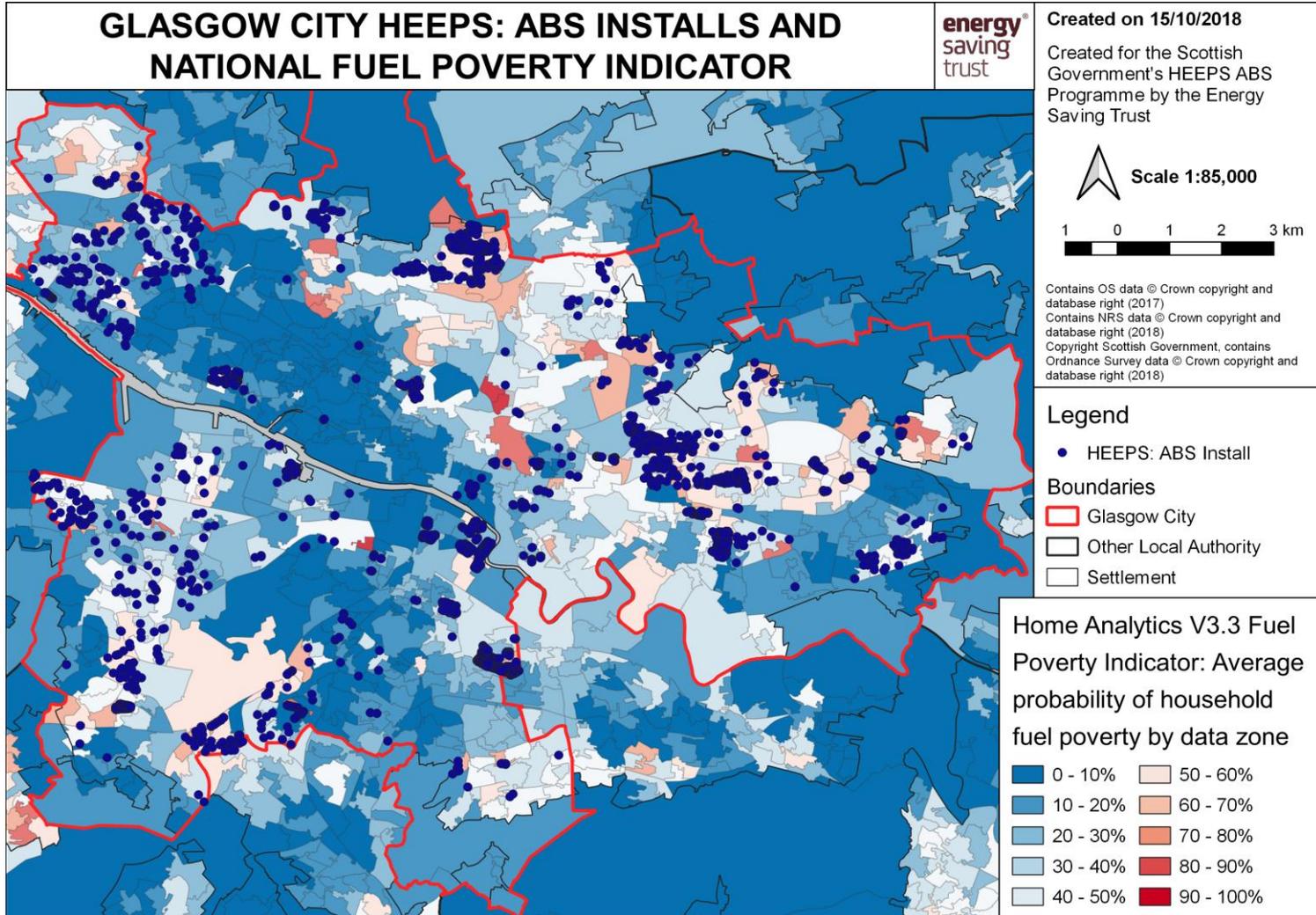


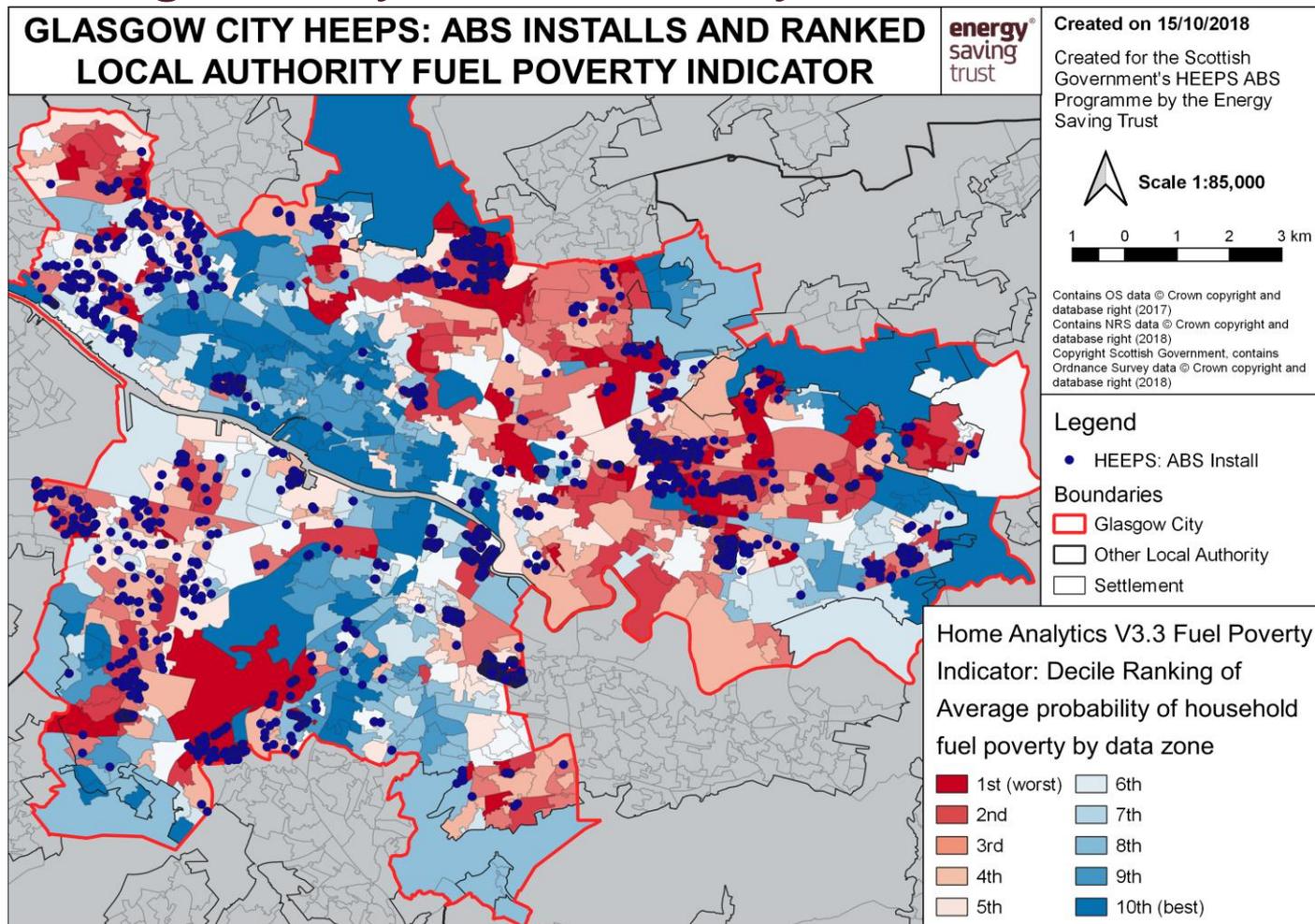
National Scottish Fuel Poverty Indicator

According to the Scottish Housing Condition Survey (SHCS) the average fuel poverty rate in Glasgow City is approximately 27% of all homes. This is 4 percent lower than the national Scottish average of 31%. This difference is likely due to a combination of factors including



the high prevalence of mains gas connections in urban areas and the average or better EPC SAP ratings for the many small flats in the area, especially amongst the newer builds. Both of these will help contribute to lower overall average fuel bills.

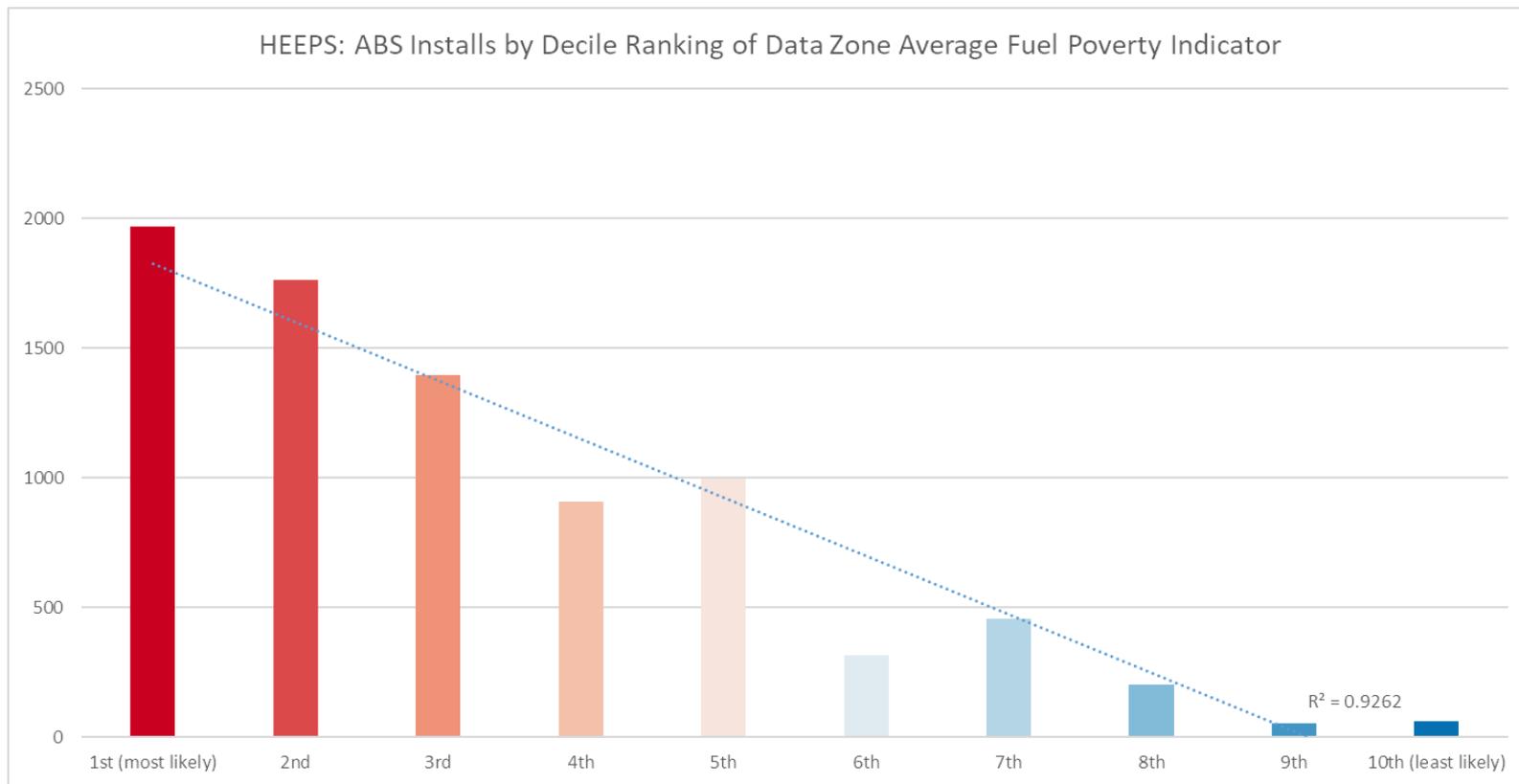
Glasgow City Fuel Poverty Indicator



However, the picture of fuel poverty is not consistent across the local authority. This map shows the decile ranking (similar to the SIMD) of the probability of fuel poverty by data zone on a scale specific to Glasgow City. The contrast between the East and West ends is now much more pronounced and areas of deprivation are more evident.

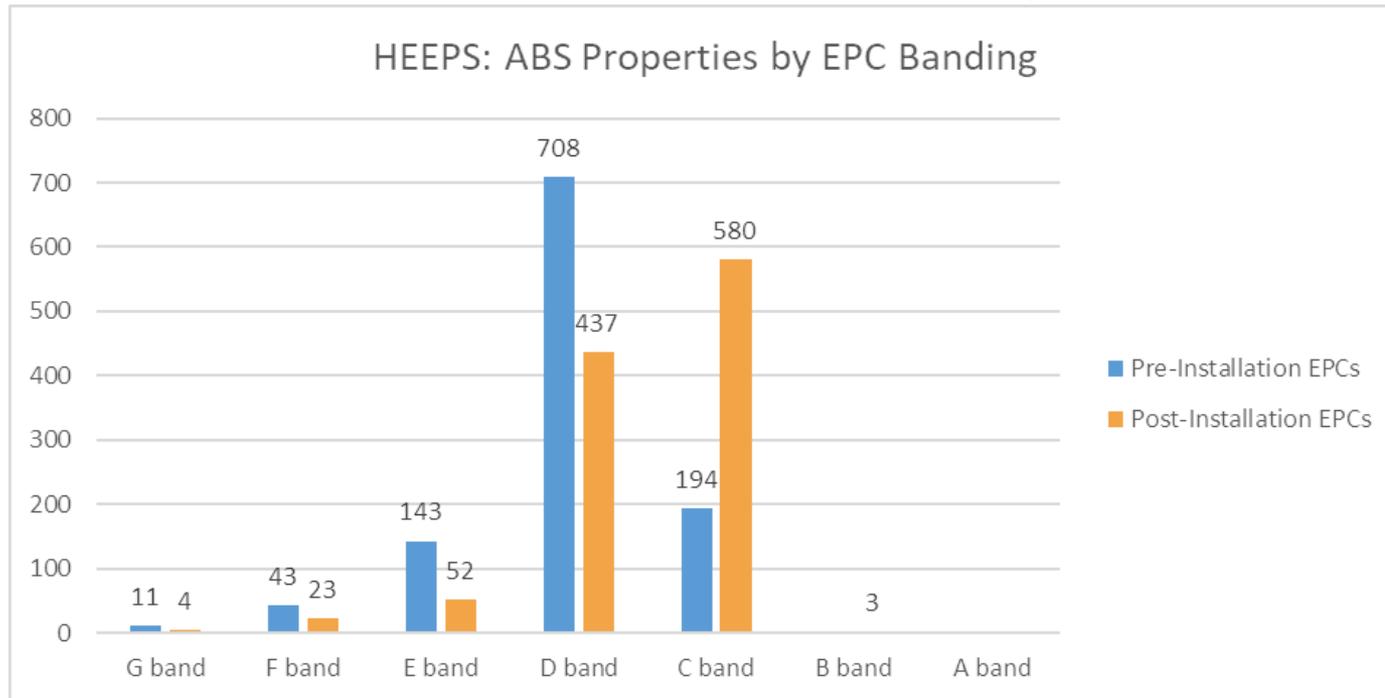
Note that the fuel poverty indicator used here is a snap shot of the current situation (2018) and so in some cases the work of energy efficiency programmes, including HEEPS: ABS, will have already helped lessen the extent and severity of fuel poverty in the region.

Glasgow City Fuel Poverty Indicator II



Despite the Home Analytics' fuel poverty indicator being a snapshot of the current situation there is still a clear trend between the distribution of HEEPS: ABS installs and the most fuel poor areas in Glasgow City. 63% of installs occur within the 3 most fuel poor ranked data zones and 87% within the 5 most fuel poor ranked data zones.

HEEPS: ABS SAP Band Analysis

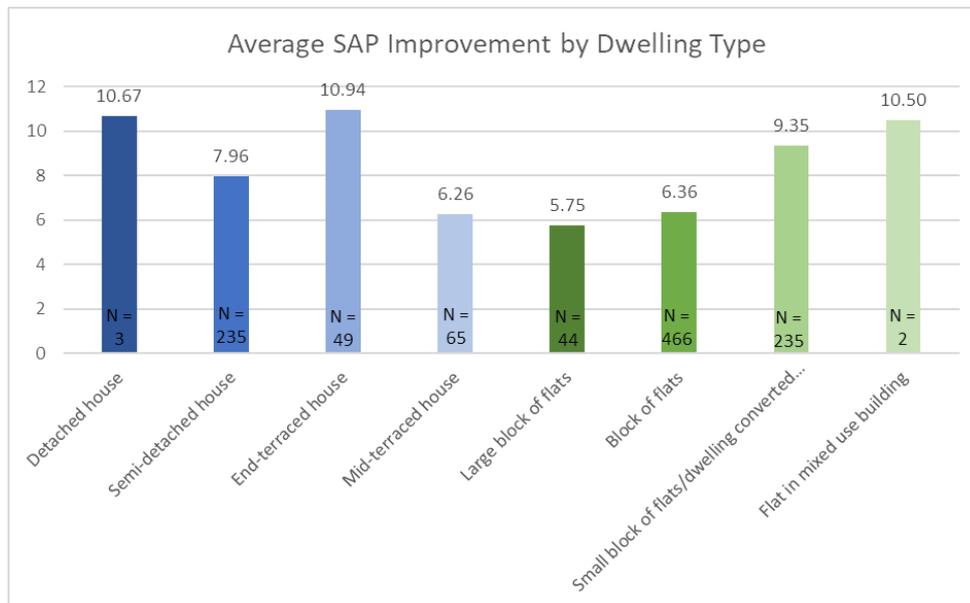


Out of all the properties targeted under HEEPS: ABS a total of 1,099 had valid pre and post-installation EPCs for SAP analysis.

The majority of properties treated had a starting SAP band of D (64.4%) with the remainder split between the above average C band (17.7%) and the below average bands of E, F or G (17.9%).

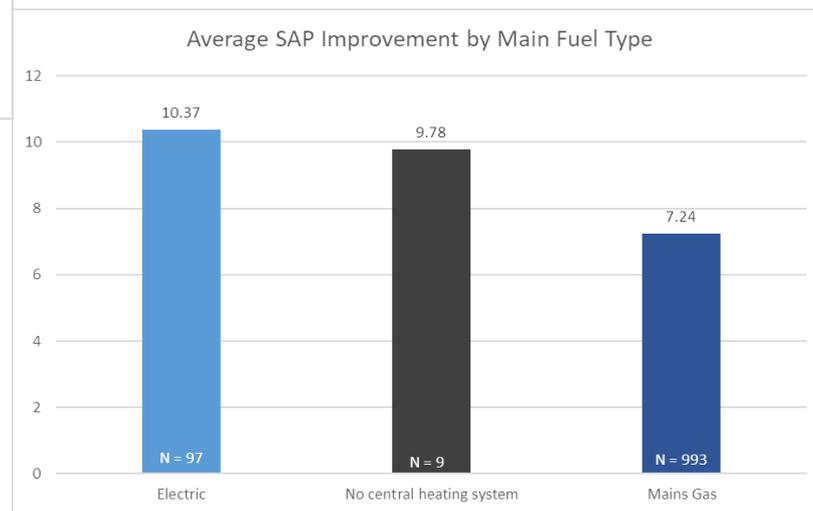
Following the HEEPS: ABS programme the majority of properties (52.8%) are now within band C and 39.8% reached or remained a band D. Around 7.2% have a post-install EPC band of E, F or G despite the impact of the HEEPS: ABS work.

HEEPS: ABS SAP Score Analysis

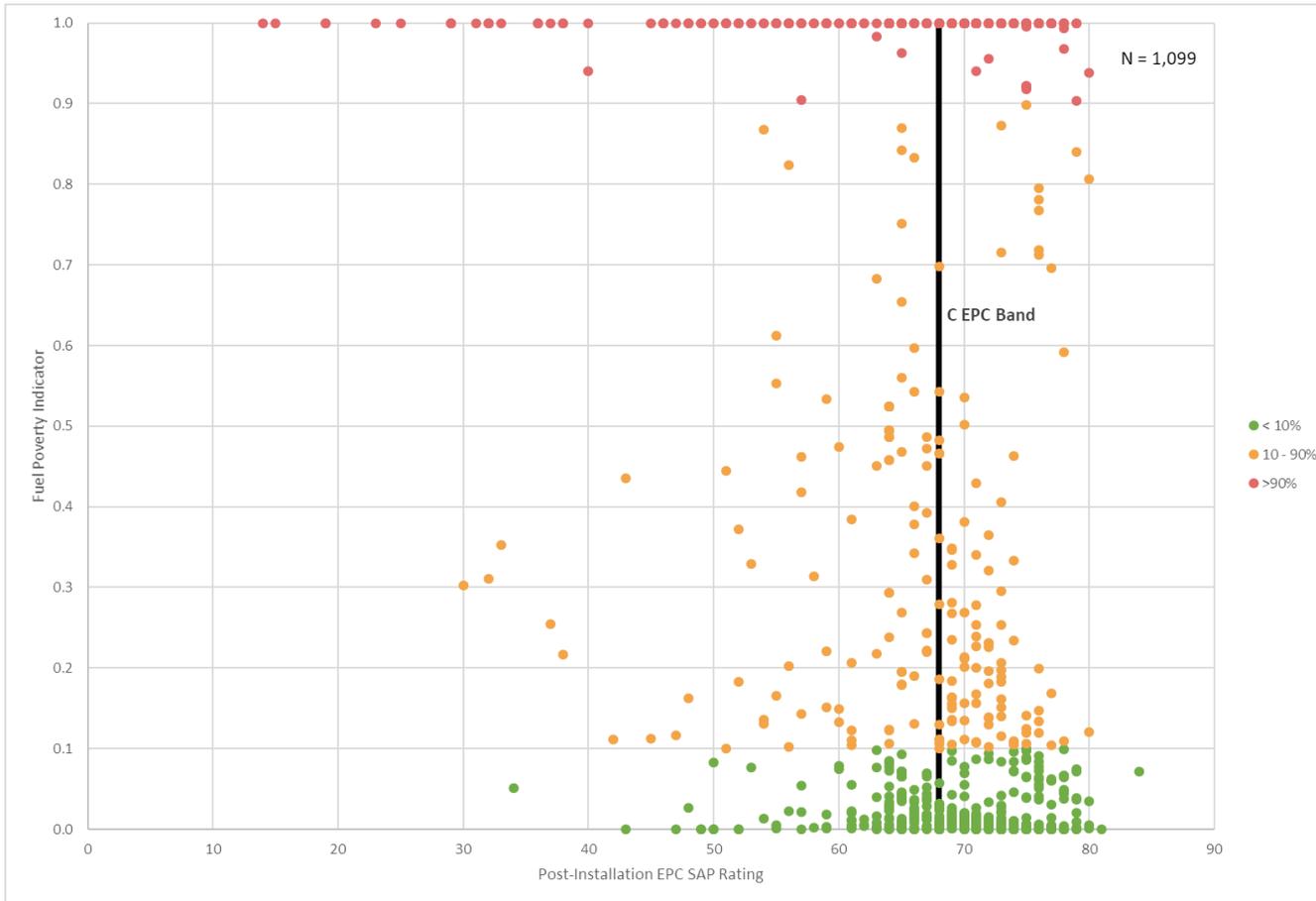


A SAP improvement comparison for the different installed measures is currently not possible because valid pre and post-installation EPCs were only provided for the external wall insulation installations.

We can however see that for EWI the greatest SAP improvements occurred for the larger and more detached dwellings which are more exposed to the elements as well as for those properties not using mains gas.



SAP Score and Fuel Poverty Indicator



This graph compares the post-installation EPC SAP scores for EWI against the Home Analytics fuel poverty indicator for the same properties.

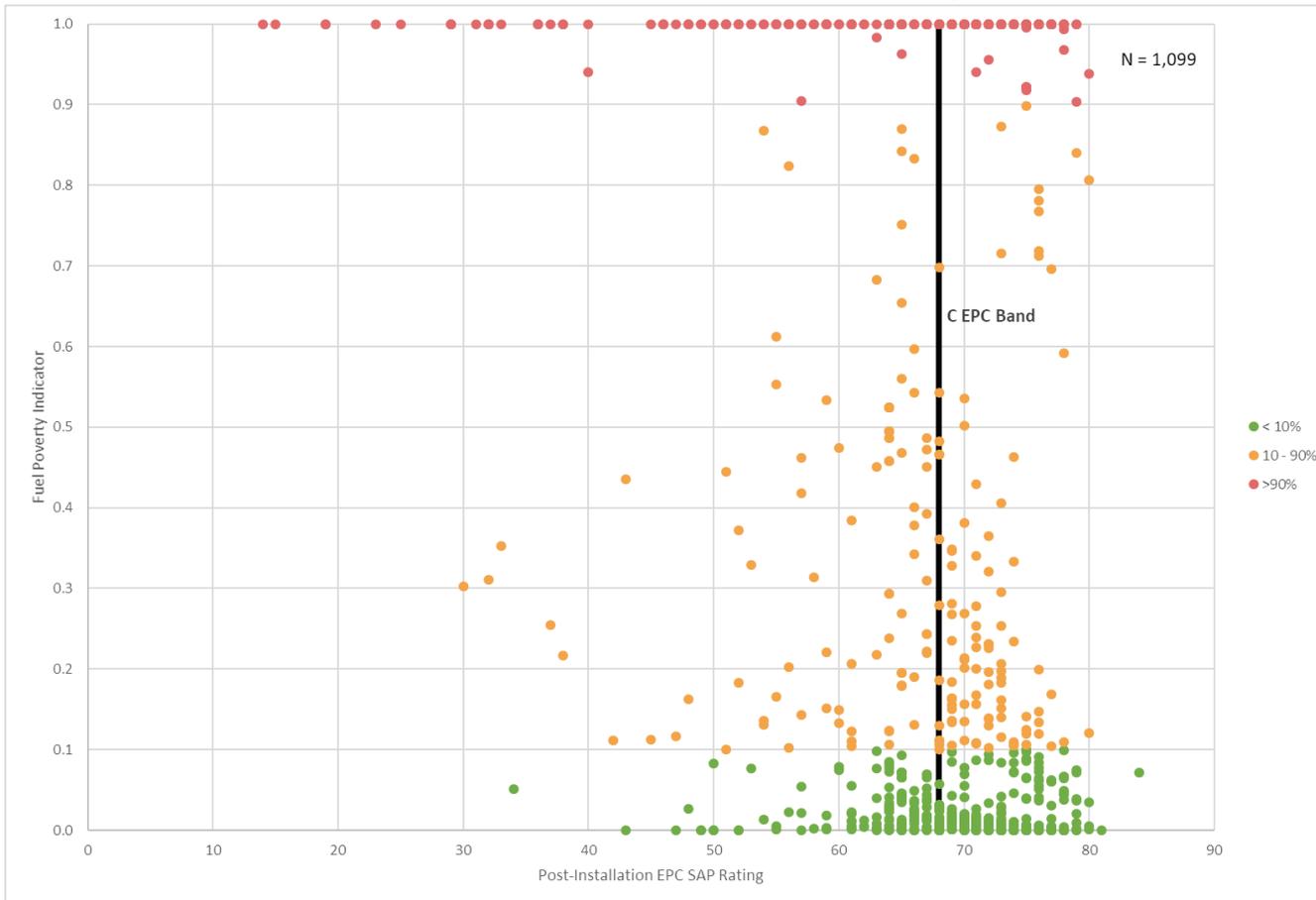
3 distinct householder groups have been identified.

Those in green we have modelled to be very unlikely to be in fuel poverty regardless of ending

SAP score although some of these households may not have been fuel poor to begin with.

Those in amber we have modelled to be somewhat likely at risk of fuel poverty and could potentially benefit further from more retrofit measures.

SAP Score and Fuel Poverty Indicator II



Lastly those in red are very likely to be in fuel poverty regardless of final SAP score. Whilst some of the red group are at risk due to poor energy efficiency, many of these properties have in fact an average EPC banding of D or better. This implies that the determining fuel poverty factor for many in this group is not the home's energy efficiency but may be

a very low income relative to the property's fuel bills. It is worth noting that although the HEEPS: ABS work has in all likelihood not uplifted these households from fuel poverty, there may have been a reduction to fuel bills and/or an increase in thermal comfort.

Note that the lower SAP score threshold for an EPC band C is included to indicate that for properties left of the line more energy efficiency retrofit may be feasible; but for those properties to the right further retrofit may not be possible or cost effective. In the latter case other avenues of support may be required to help tackle the fuel poverty risk.

Conclusions and notes

Overall Glasgow City's HEEPS: ABS programme achieves several feats:

- The vast majority of their installs focus on the most deprived SIMD areas therein. The housing and income domains show that Glasgow City has helped some of the households most vulnerable to fuel poverty.
- The typical property treated is solid walled, built pre or post WWII and can be found in mixed tenure areas.
- Most properties ended the HEEPS: ABS programme with an above average SAP band of C and very few were left in the below average bands of E, F or G.
- The largest SAP improvements can be found in off-gas properties and the larger dwelling types.

Sources

Variable	Source	Notes
HEEPS: ABS Measure, Address and Tenure	Local Authority	Held on behalf of the Scottish Government's HEEPS: ABS programme by EST.
Dwelling Type, Construction Age, Council Tax Band, Fuel Poverty Probability	Home Analytics	Combination of EPC and modelled data created by EST. Typically not for publication.
Main heating fuel type, EPC SAP scores and bands	Scottish EPC register	Obtained by cross referencing EPC Report Reference Numbers provided by the local authority with Scottish EPC register extracts
Scottish Housing Condition Survey	Scottish Government	Available online. SHCS 2014-16 used.
SIMD	Scottish Government	Available online. SIMD (2016) used.

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