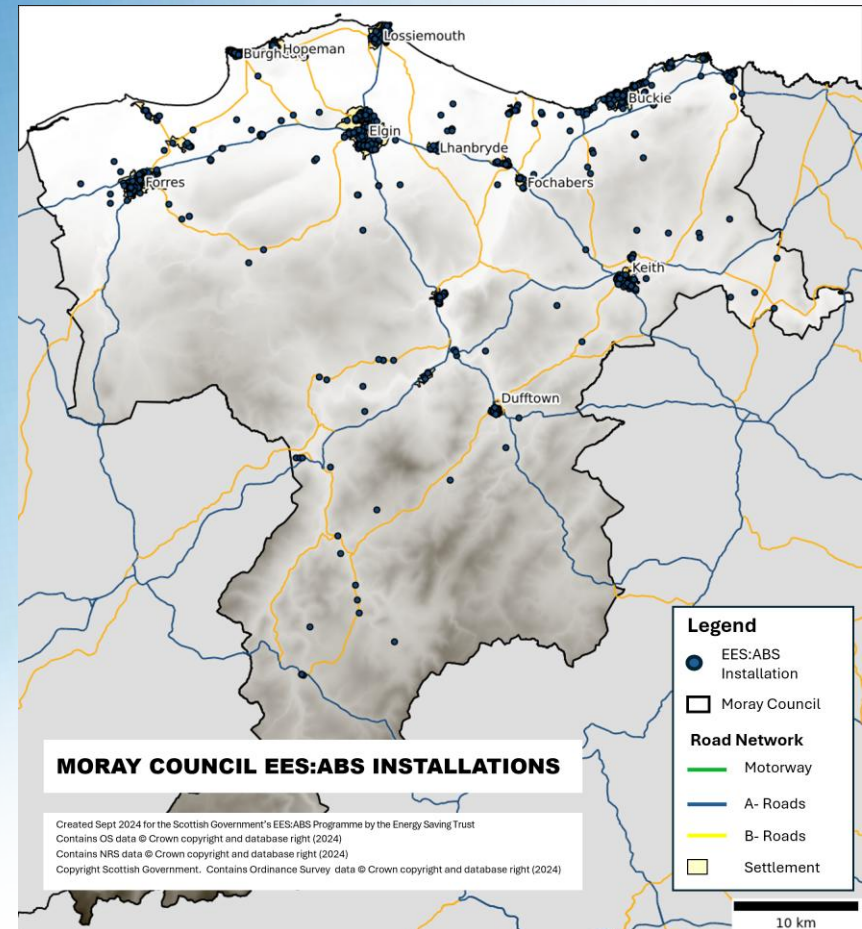


Moray Council

EES: ABS Case Study

Energy Saving Trust
September 2024



Overview

The Scottish Government's EES: ABS* team requested the case studies to compare the available EES: ABS install data, alongside other energy efficiency related characteristics, with three goals in mind:

- To provide a more detailed breakdown of the installed measures data to date.
- To allow greater comparison between the different local authorities as well as across the duration of the EES: ABS programme.
- To provide a series of illustrations that the Scottish Government or local authorities can use to promote the work achieved under the EES: ABS programme.

This presentation contains the case study and illustration set for Moray Council EES: ABS activity reported to date (Sept 2024).**

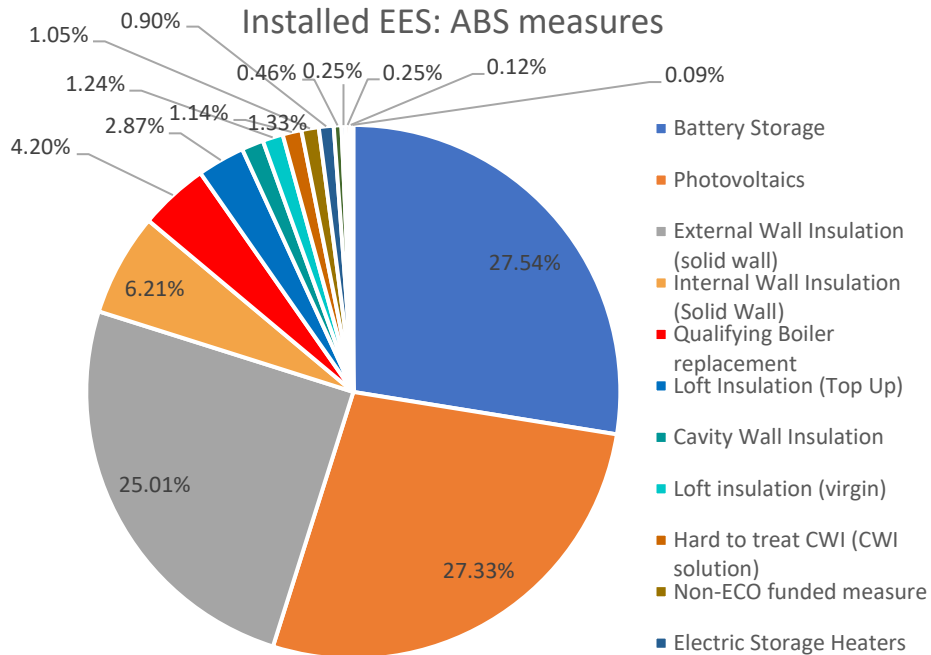
Moray Council EES: ABS dataset

Financial Year	Number of records*	% of records
2013/14	296	8.76
2014/15	245	7.25
2015/16	182	5.39
2016/17	192	5.68
2017/18	118	3.49
2018/19	61	1.80
2019/20	188	5.56
2020/21	104	3.08
2021/22	0	0
2022/23	416	12.32
2023/24 ¹	1,574	46.62
Total Installs	3,376	100.00

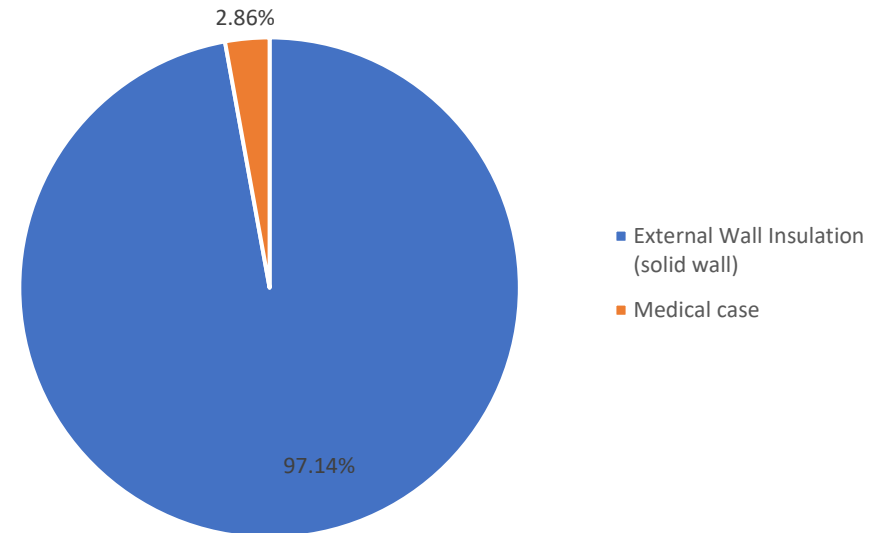
Reference numbers	Number of records	% of records
With pre-installation EPC	1,585	83.03
With post-installation EPC	680	35.62
With pre and post-installation EPC	671	35.15
With GDAR	0	0.00
With measure reference number	260	13.62

The Moray Council has contributed 2.67% of the total EES: ABS installs across Scotland reported to date (Sept 2024).

Installed Measures I



Non-ECO Funded Measures



Moray Council has offered a variety of measures as part of their EES: ABS programme. More than half (54.9%) of all the measures have been for combined Photovoltaics and Battery storage installation while 33.8% have been for wall insulation including external wall insulation for solid wall, hard to treat cavity wall solution, standard cavity wall and internal wall insulation for solid wall. The graph on the right shows the distribution of the Non-ECO funded measures during the programme.

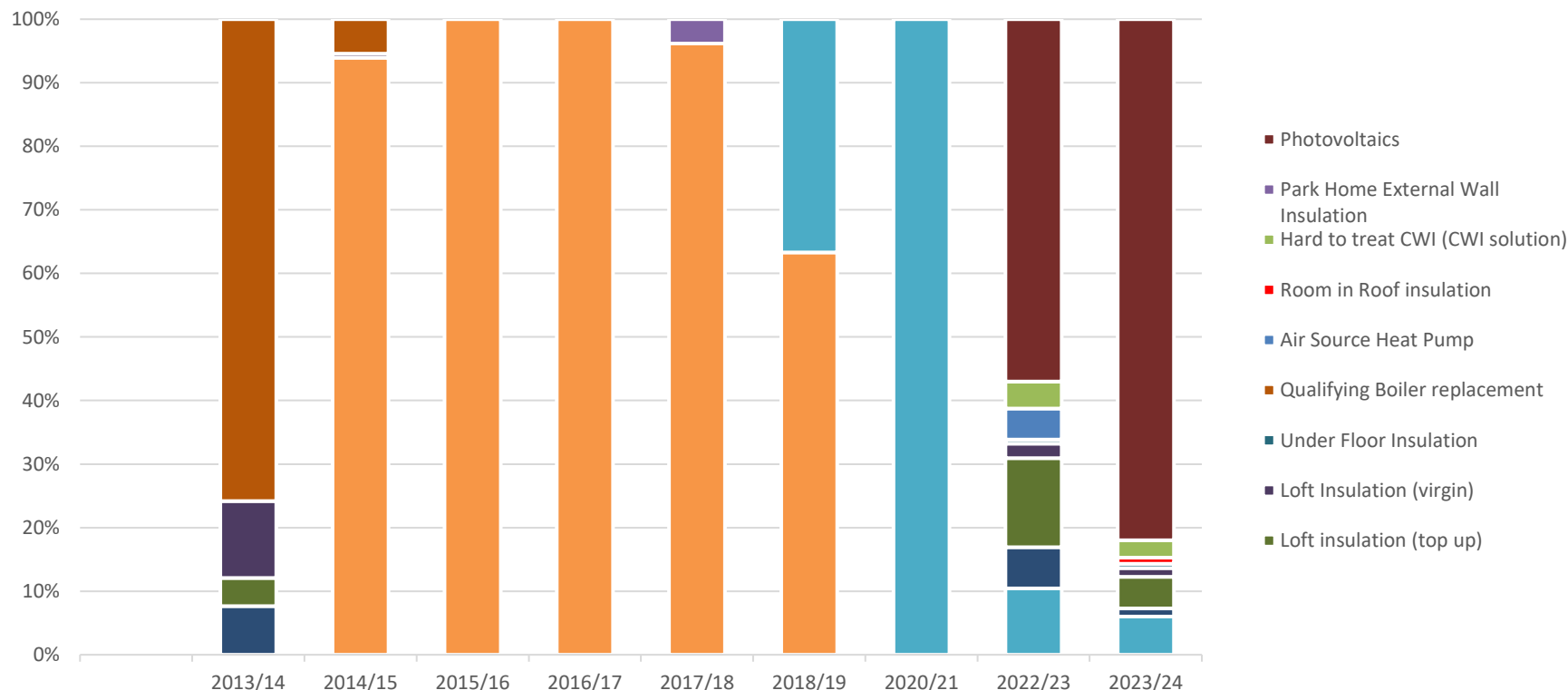
Installed Measures II

Measure Name	Number of records*	% of records
Air Source Heat Pump	15	0.46
Battery Storage	891	27.54
Cavity Wall Insulation	43	1.33
Electric Storage Heaters	29	0.90
External Wall Insulation (solid wall)	809	25.01
Hard to treat CWI (CWI solution)	37	1.14
Internal Wall Insulation (Solid Wall)	201	6.21
Internal Wall Insulation for Cavity Walls	3	0.09
Loft Insulation (Top Up)	93	2.87
Loft insulation (virgin)	40	1.24
Non-ECO funded measure	34	1.05
Park Home External Wall Insulation	4	0.12
Photovoltaics	884	27.33
Qualifying Boiler replacement	136	4.20
Room in Roof insulation	8	0.25
Under Floor Insulation	8	0.25
Total Installs	3,235	100.00

Non-ECO funded measures	Number of records	% of records
External Wall Insulation (solid wall)	34	97.14
Medical case	1	2.86
Total Installs	35	100.00

Installed Measures by Financial year

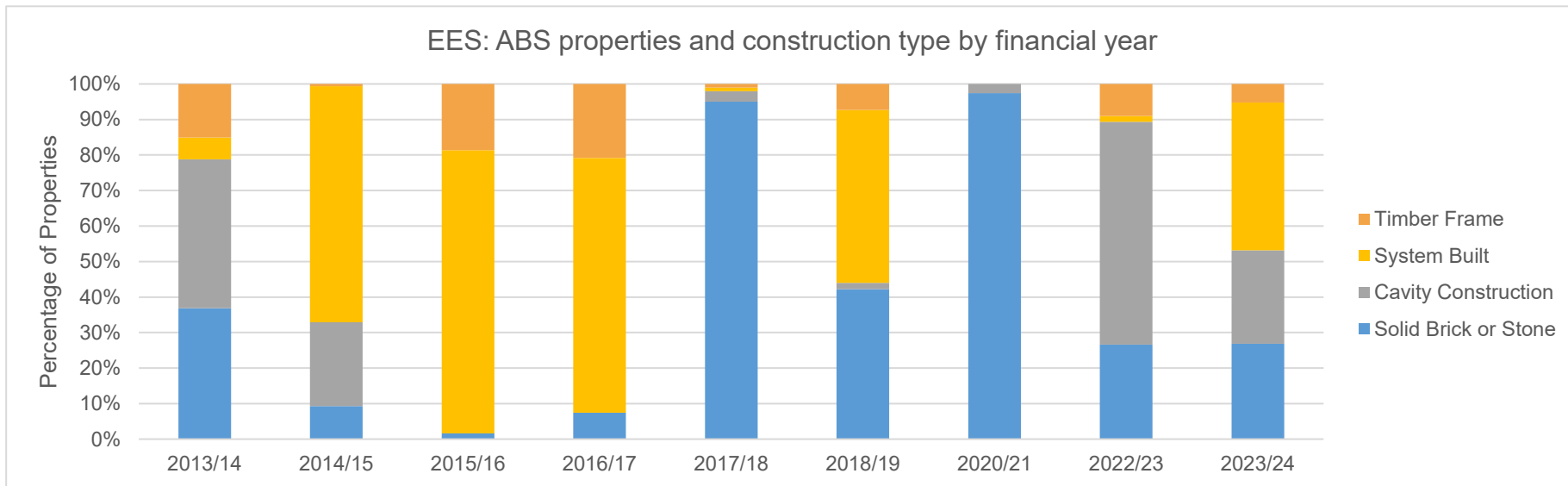
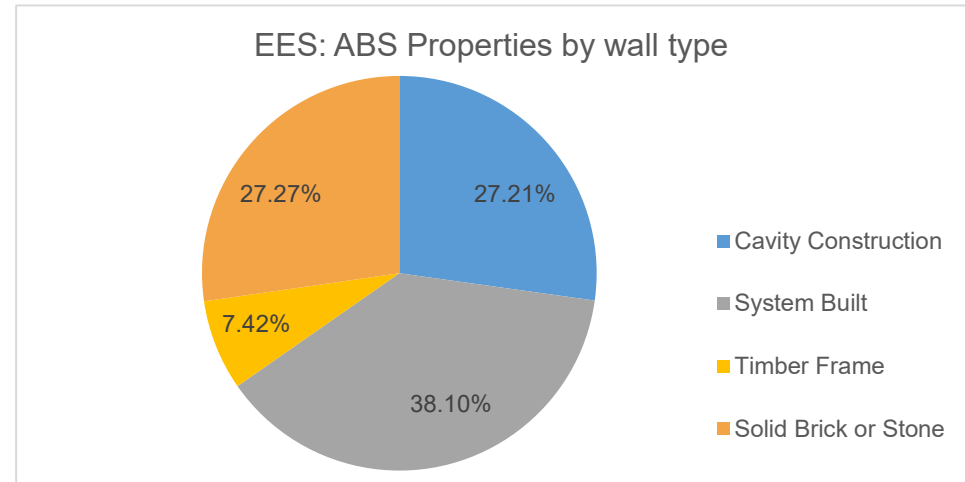
Installed EES: ABS measures by financial year



The first year of the programme had a variety of measures included. While the last 2 years have focused more on alternative energy source (Photovoltaics/Battery Storage) installation.

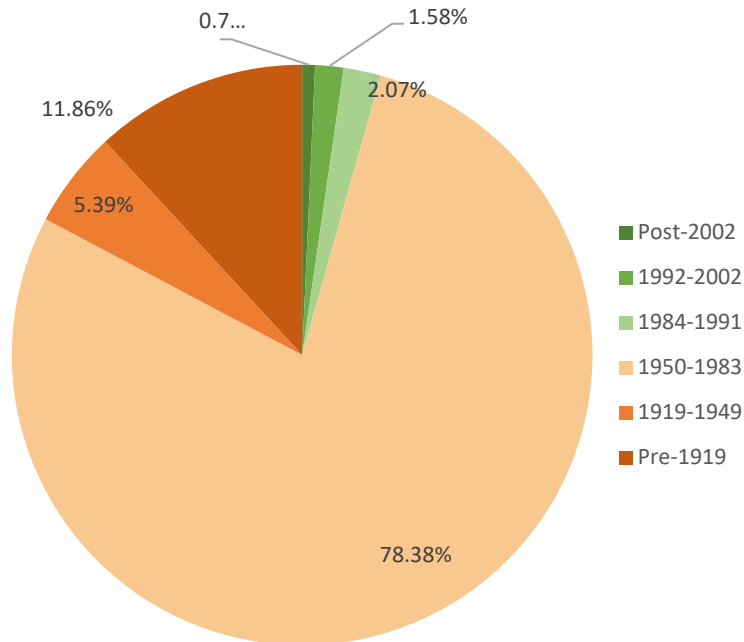
Wall Type

The chart on the right shows the distribution of different wall types within the programme. Below you can see the division of these wall types throughout the years.

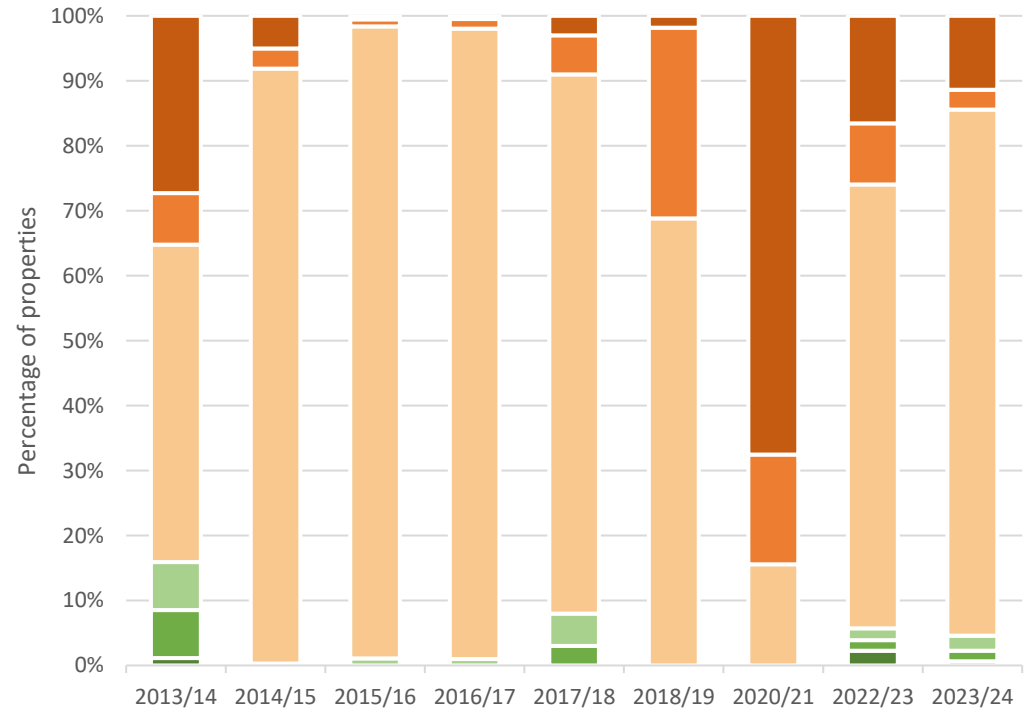


Construction Age

EES: ABS properties by construction age



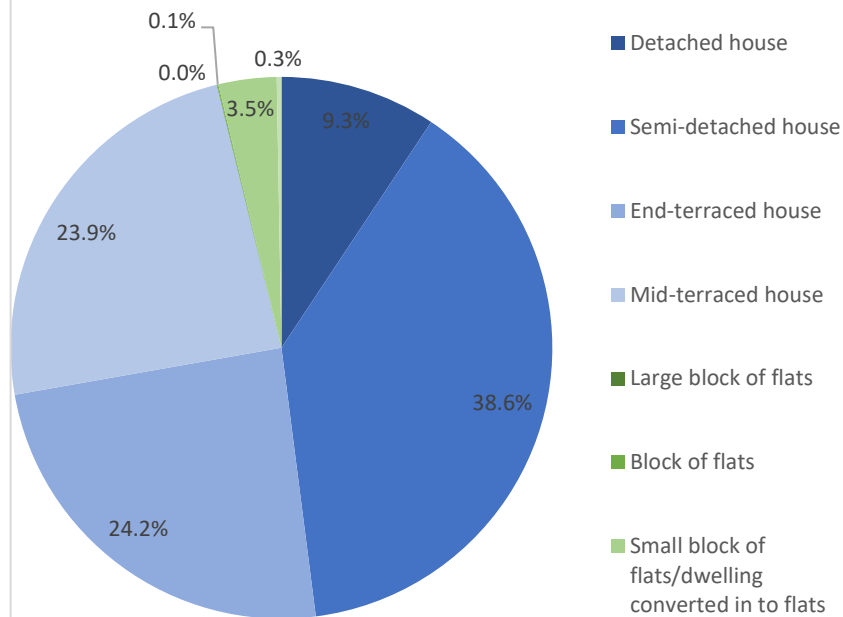
EES: ABS Properties and Construction Age by Financial Year



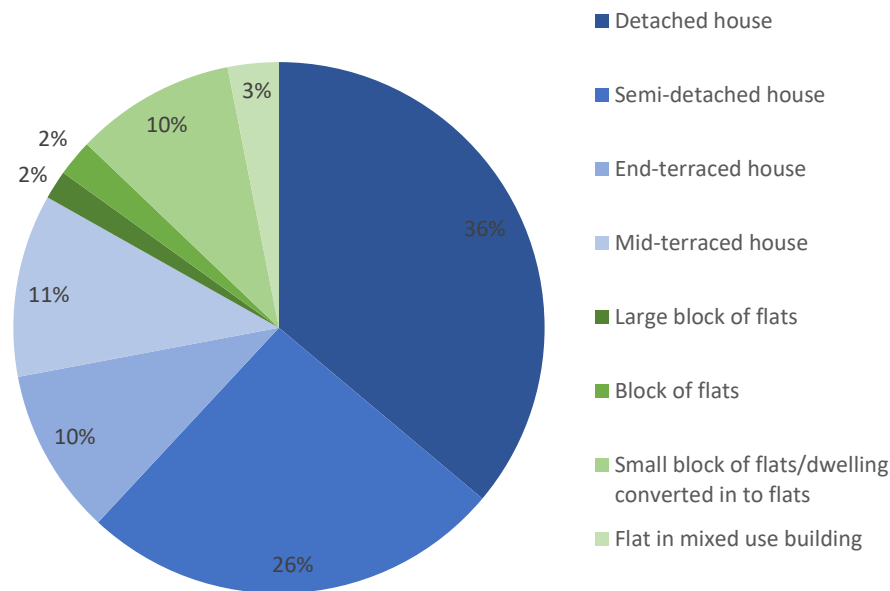
Most participating properties were constructed between 1950 and 1983 (78.38%). 11.16% of all properties were constructed between 1919 and 1949 or pre-1919.

Dwelling Type

EES: ABS properties by dwelling type



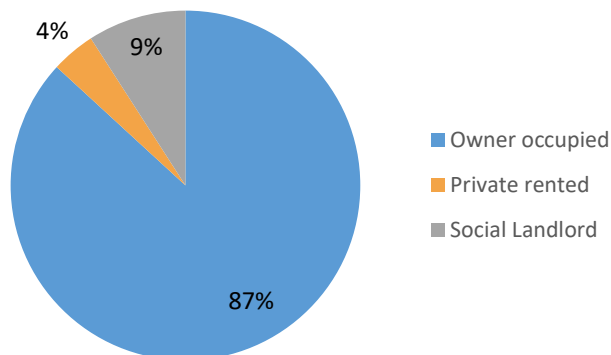
Moray properties by dwelling type



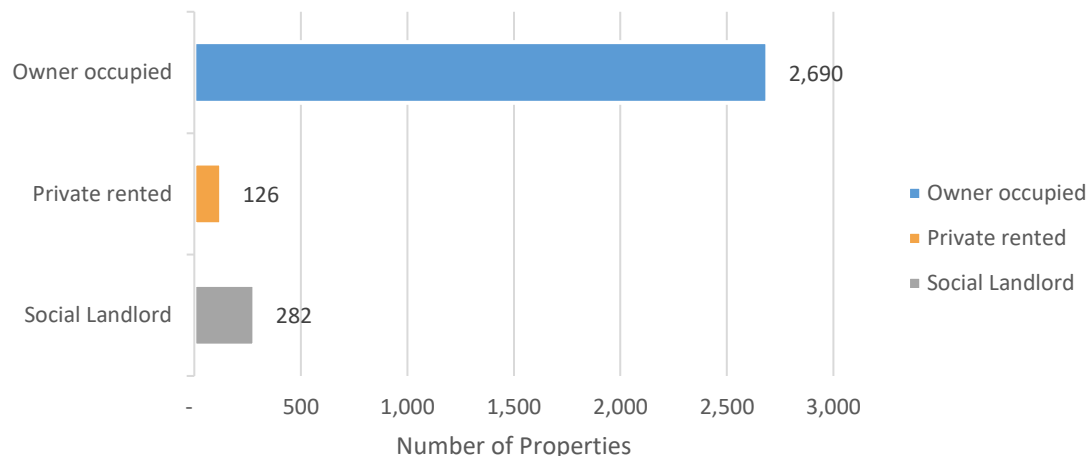
Throughout the programme the most consistent focus has been treating houses (96.16%). This is line with the general housing stock of Moray Council where a total of 75.62% consists of different types of houses and the rest of flats.

Property Tenure

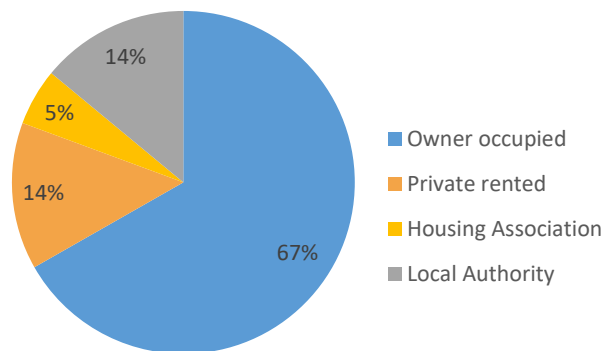
EES: ABS properties by tenure



EES: ABS properties by tenure



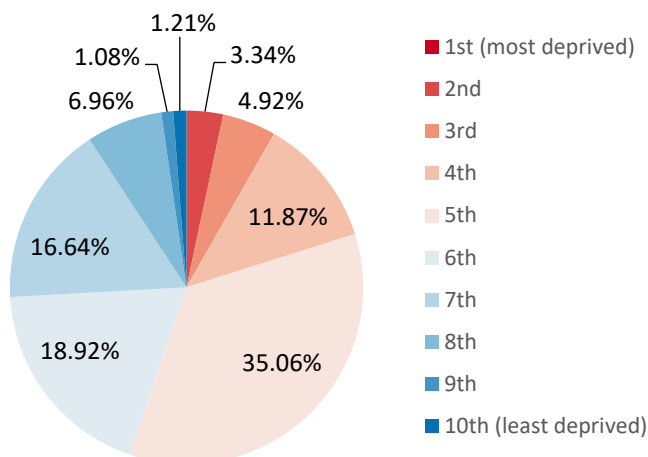
Moray properties by tenure



Moray Council has targeted mixed tenure types within the allocated area. Many ex-council right-to-buy properties have been included in the owner-occupied tenure.

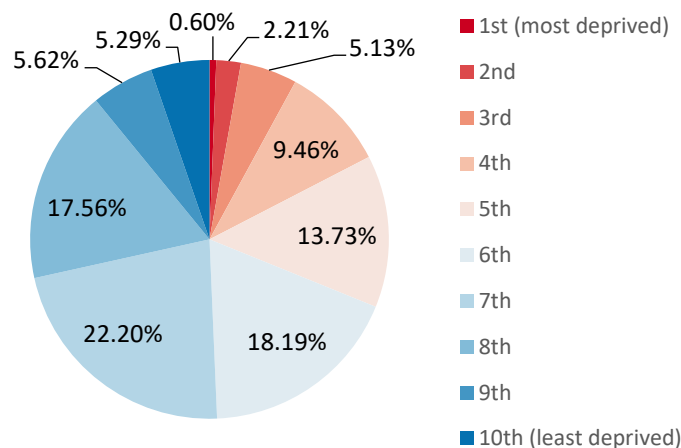
Scottish Index of Multiple Deprivation (SIMD) I

EES: ABS properties by overall SIMD decile ranking



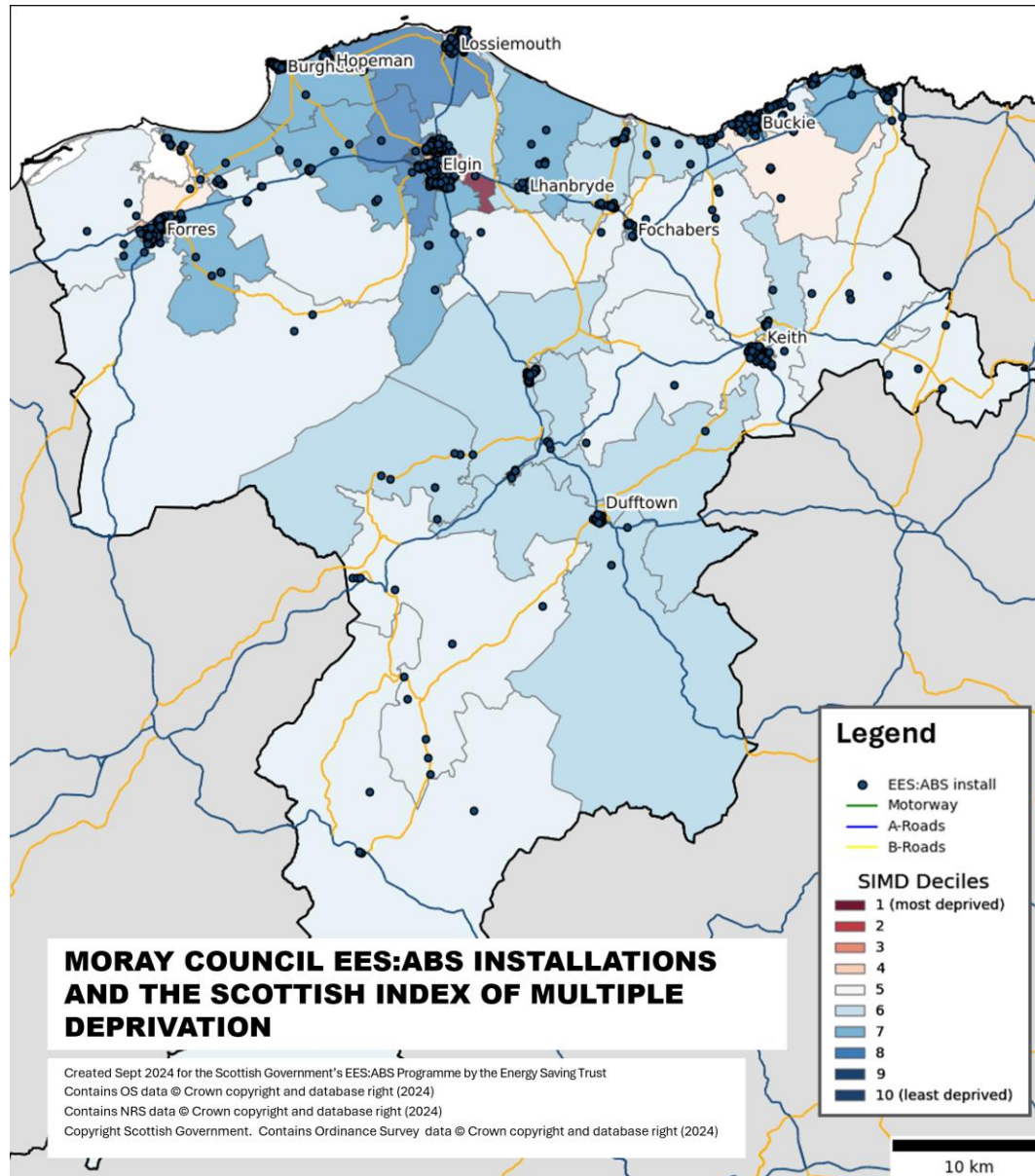
Comparison of these two illustrations shows the correlation between the overall SIMD ranking of Moray Council properties and of those targeted in the EES: ABS programme. A total of 77.15% of all participating properties are in the most deprived areas of the council and can be found within the six lowest SIMD ranks as seen in the top chart.

Moray properties by overall SIMD decile ranking

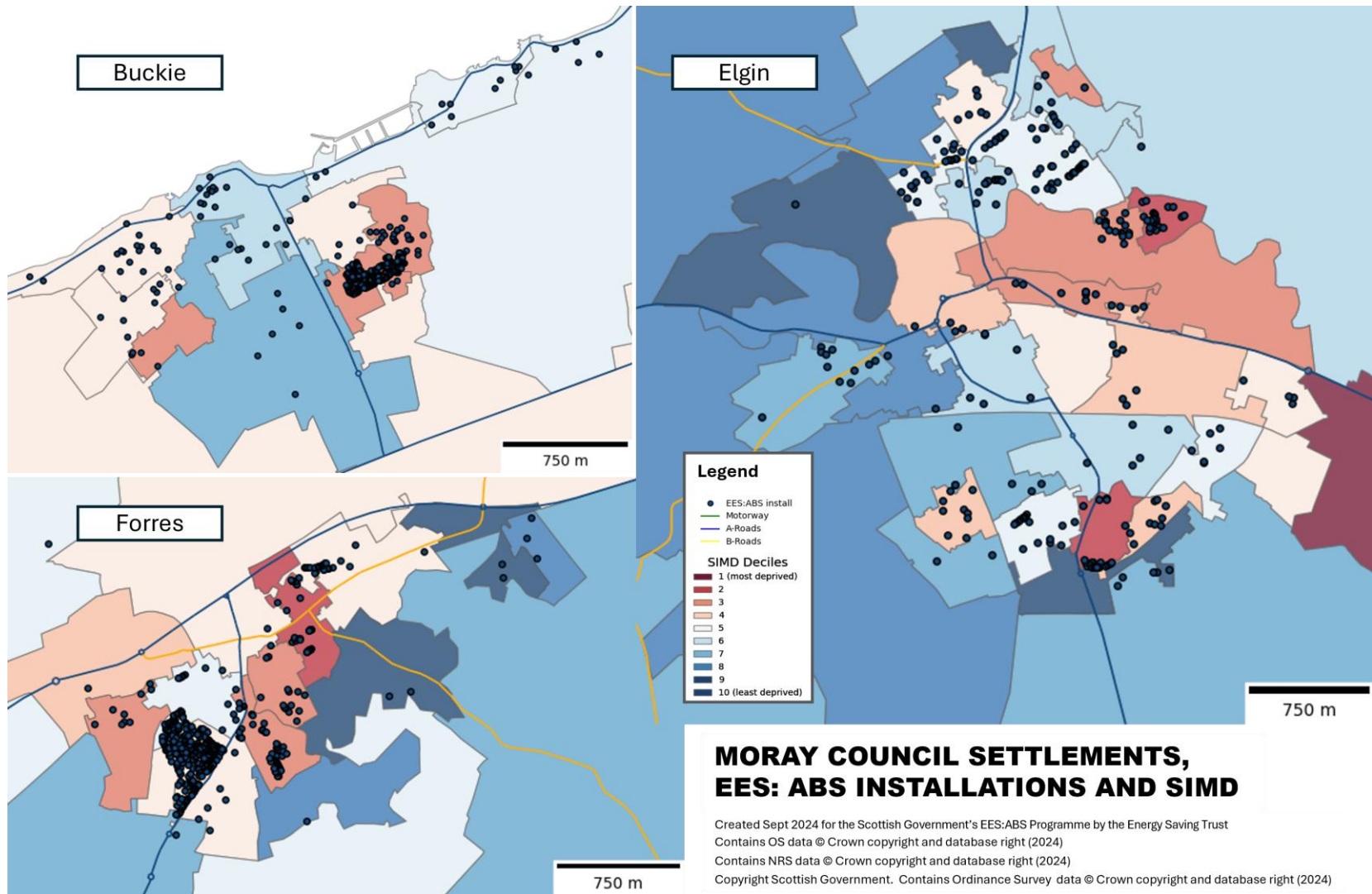


Nonetheless, the SIMD can be a slightly problematic indicator for rural settings as each data zone contains between 500 and 1000 properties. Rural populations are very dispersed so this means that very large catchments are created in order to reach the required range. Larger areas are more likely to group deprived and non-deprived households together and this results in rural SIMD rankings shifting towards the median. Whilst the programme is most likely helping deprived areas, the SIMD ranking can be a slightly inaccurate method to fully test this hypothesis.

Scottish Index of Multiple Deprivation (SIMD) II

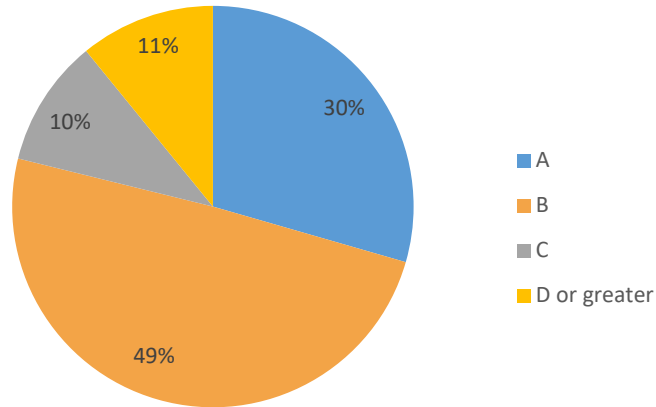


Scottish Index of Multiple Deprivation (SIMD) III

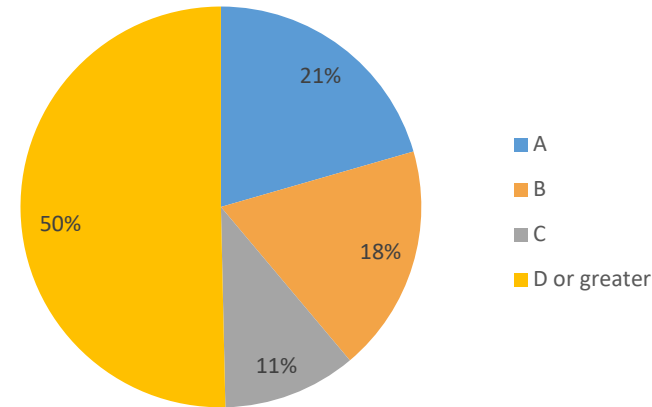


EES: ABS Installs by Council Tax Band

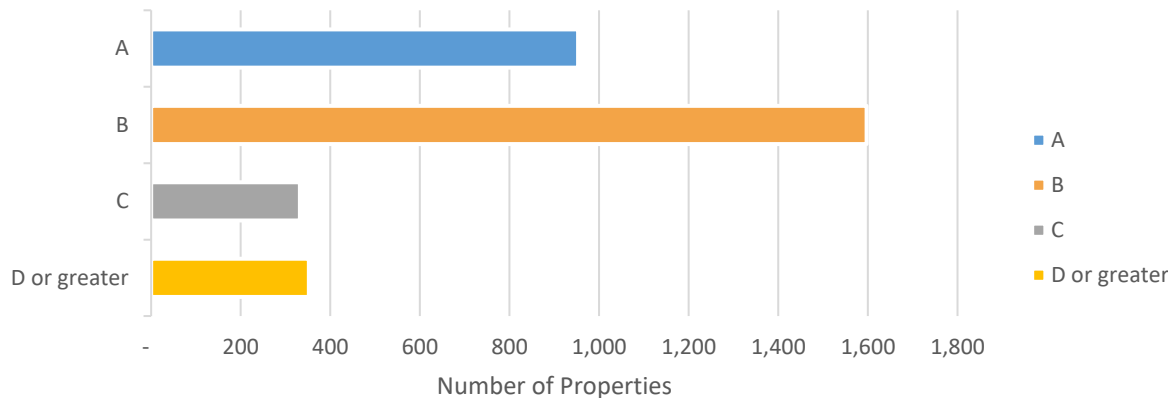
EES: ABS properties by council tax band



Moray properties by council tax band



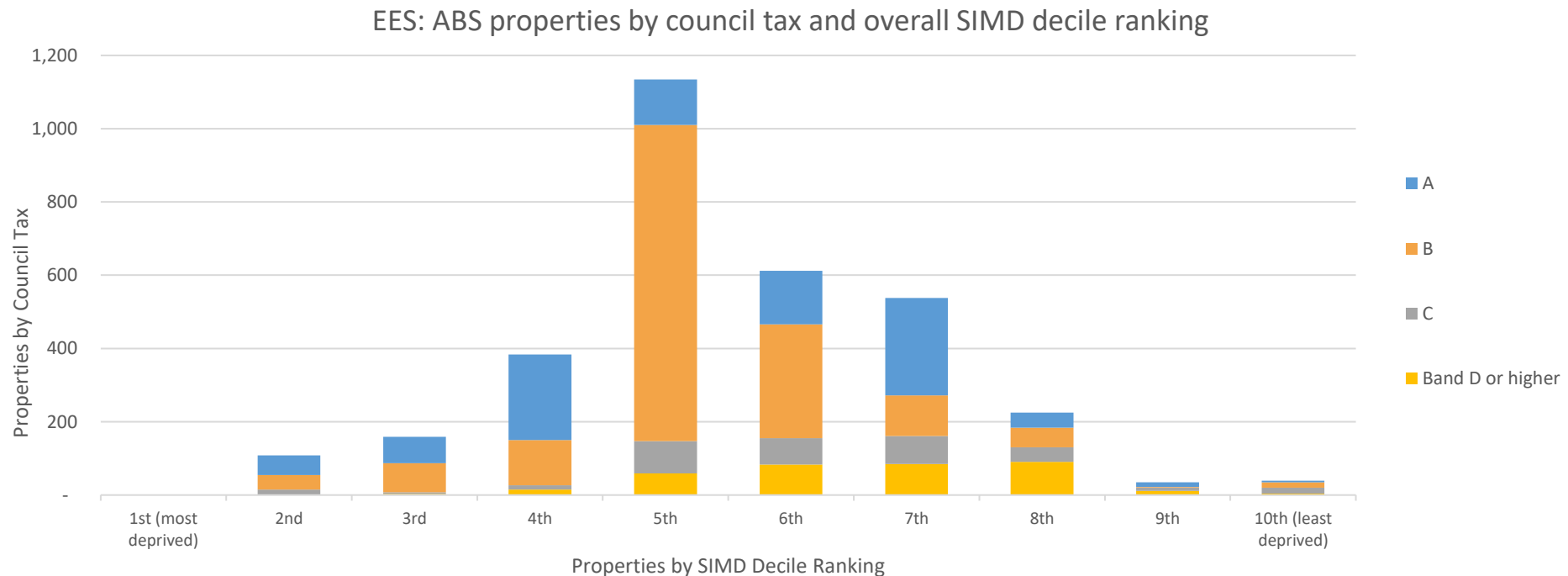
EES: ABS properties by council tax band



89.% of properties receiving measures fall into council tax bands A, B and C. The chart on the right side represents council tax band for all properties in Moray Council and this further shows that the council has specifically targeted bands A-C for the EES: ABS work.

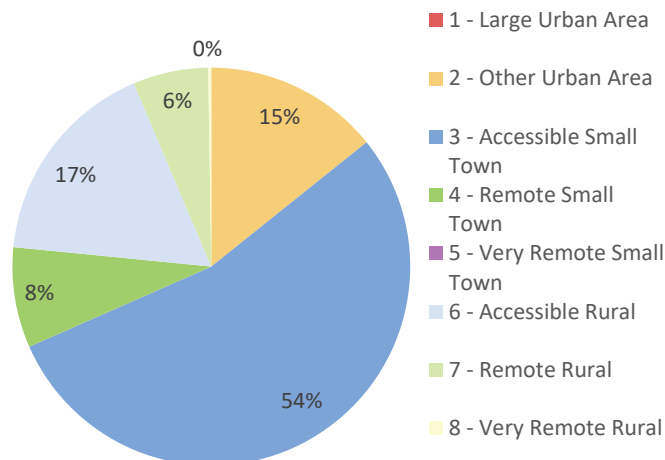
EES: ABS Installs by Council Tax Band and SIMD

Council tax banding can often be seen as an indicator for income and this illustration examines the property council tax bands against the overall SIMD ranking of the areas involved. 74.12% of the installations treating A, B and C council tax banded properties are located within the 6 most SIMD deprived areas as seen below.



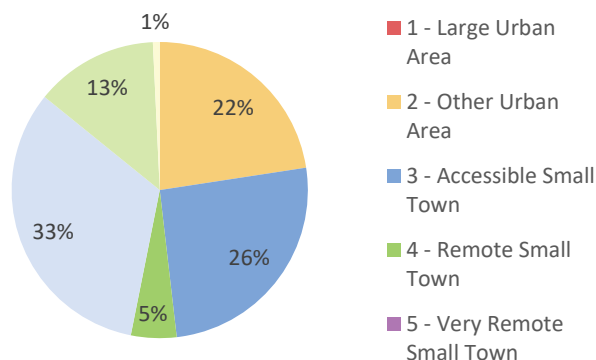
Urban Rural Classification I

EES: ABS properties by urban rural classification

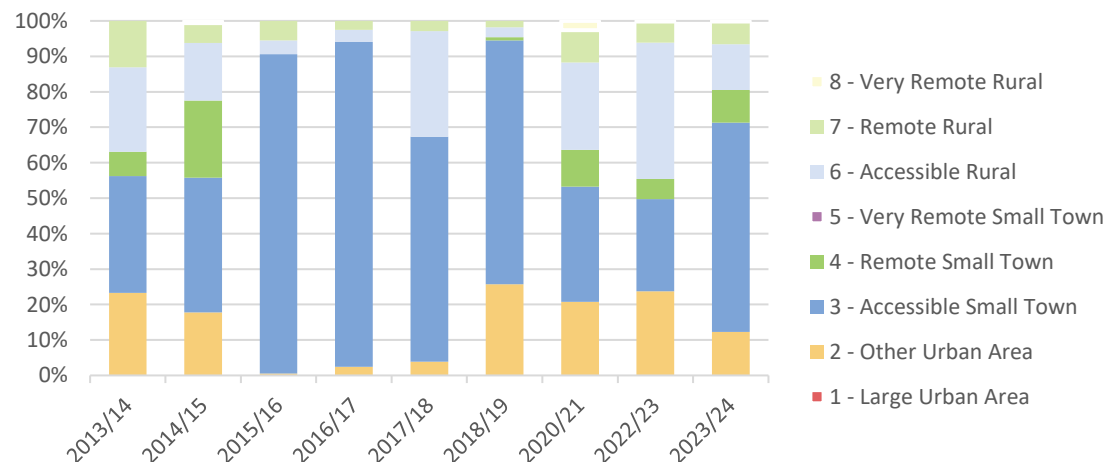


The Moray Council area consists of six different urban rural classifications. Other urban area, accessible small town, remote small town, accessible rural, remote rural and very remote rural are all represented in the programme. All the six areas have been represented in the programme and the distribution of work has mostly(54.14%) focused in accessible small towns. Five of these areas have been represented in the programme. The bottom right chart demonstrates the measures distribution by financial year

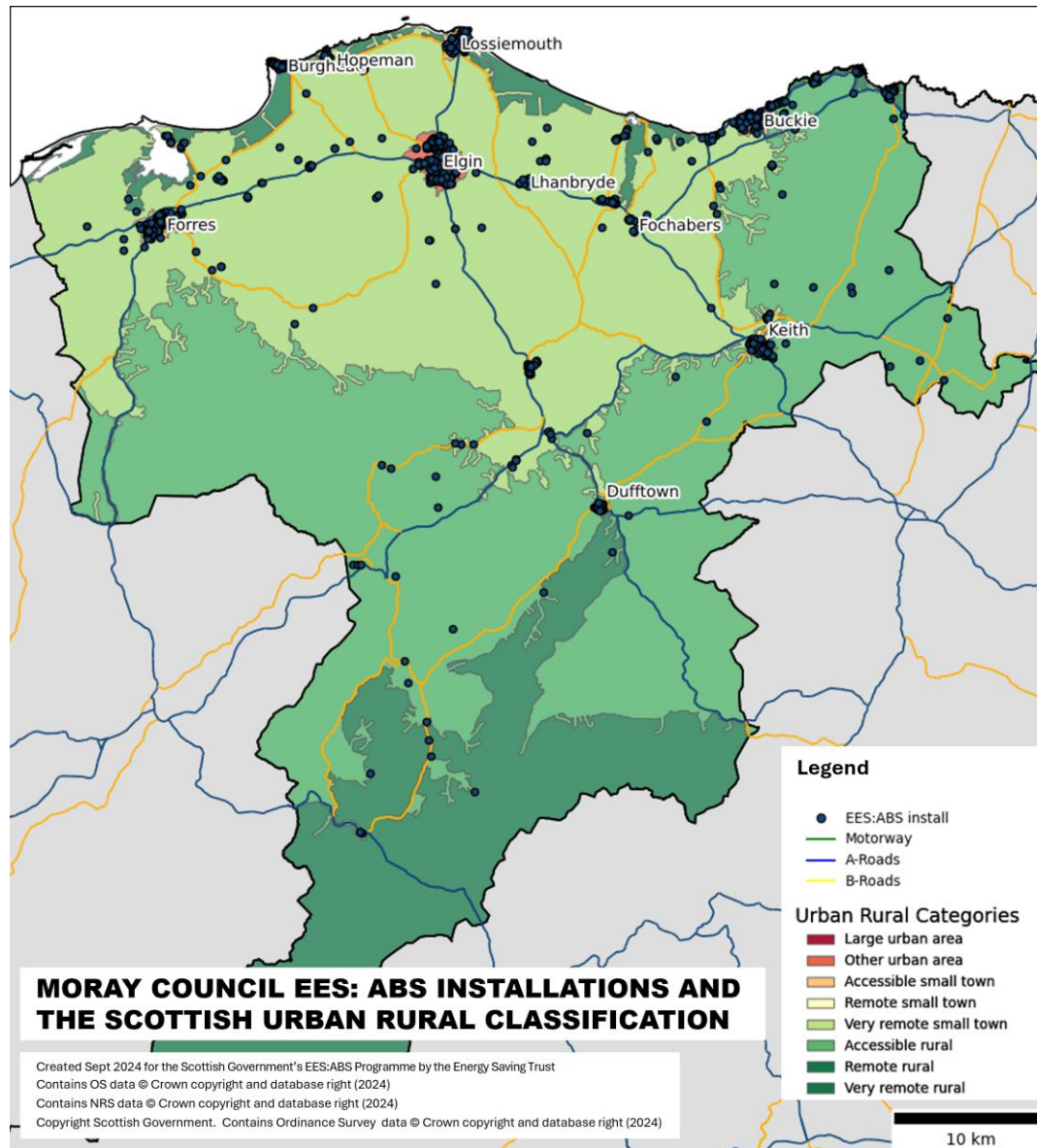
Moray properties by urban rural classification



EES: ABS properties by urban rural classification



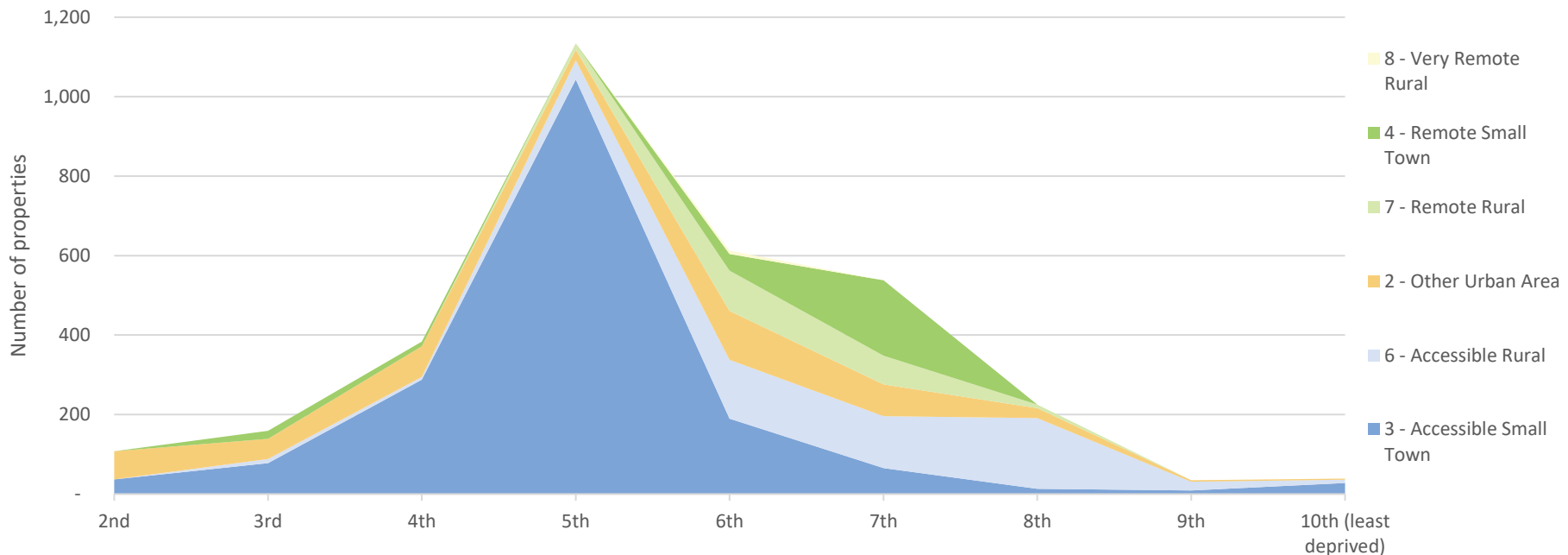
Urban Rural Classification II



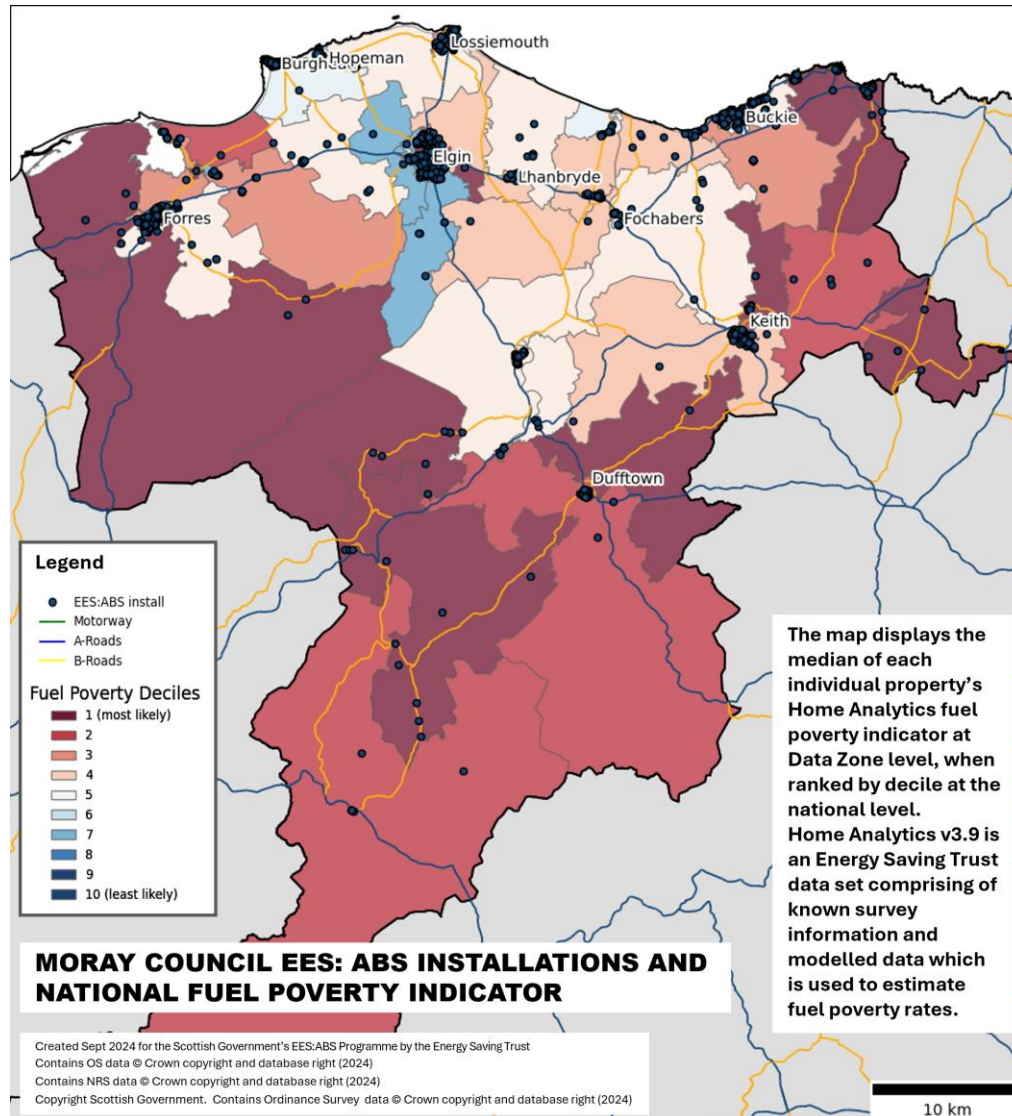
Urban Rural Classification and SIMD

This illustration demonstrates how 74.12% of the work that was completed within the six most deprived SIMD ranks fall mostly within accessible small towns and a few in the other urban area and remote small town.

EES: ABS Properties by Urban Rural Classification and SIMD Overall Decile Ranking



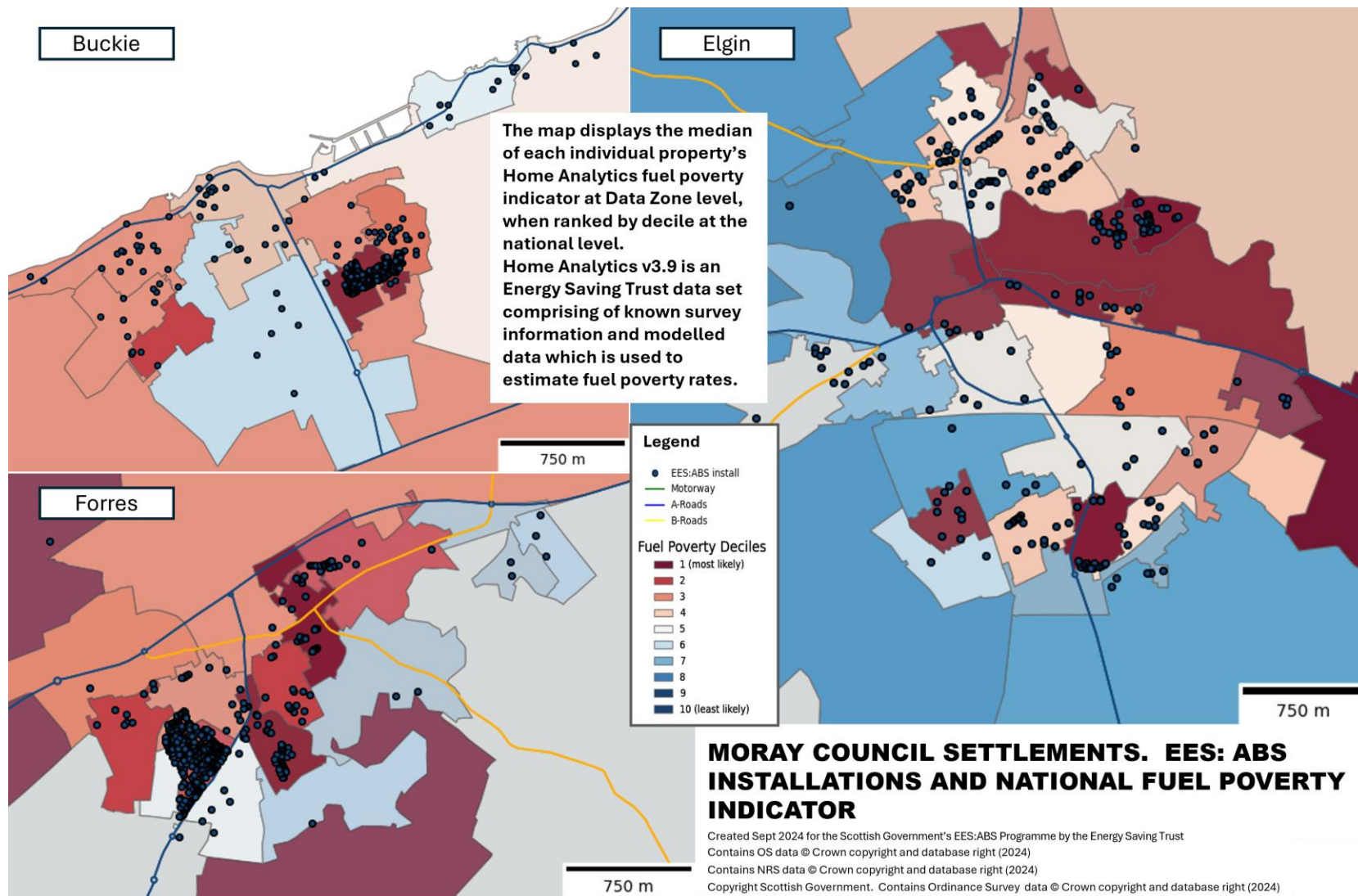
National Scottish Fuel Poverty Indicator I



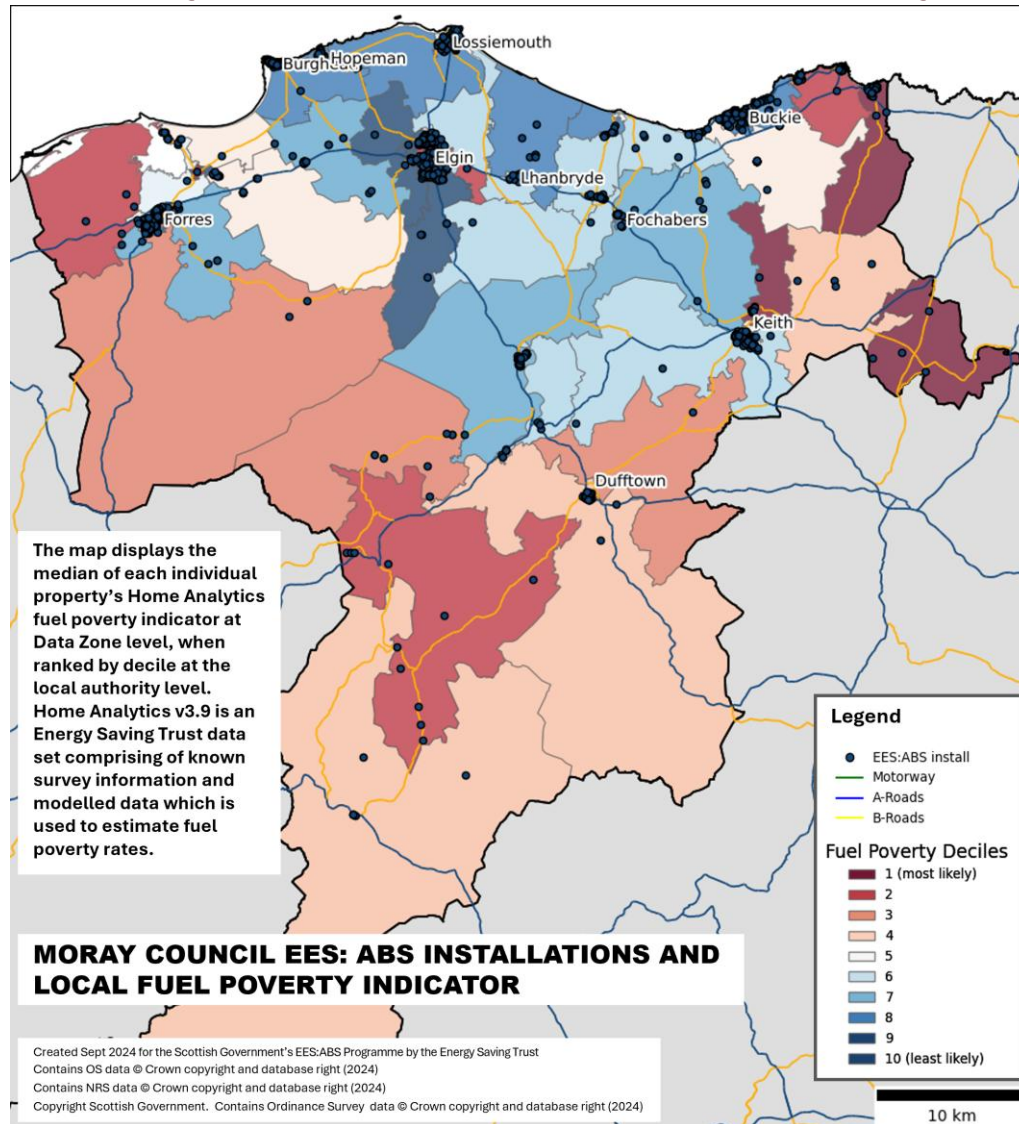
This map compares the rank of Moray Council fuel poverty to the rest of Scotland. The blue areas have the lowest fuel poverty rates on a national scale when fuel poverty by data zone is ranked for all local authorities in the country.

According to the Scottish Housing Condition Survey (SHCS) the average fuel poverty rate in the Moray Council area is around 32% of all homes. This is eight percent higher than the Scottish national average (24%) and places the Moray Council as 29th of all 32 local authorities in the country.

National Scottish Fuel Poverty Indicator II



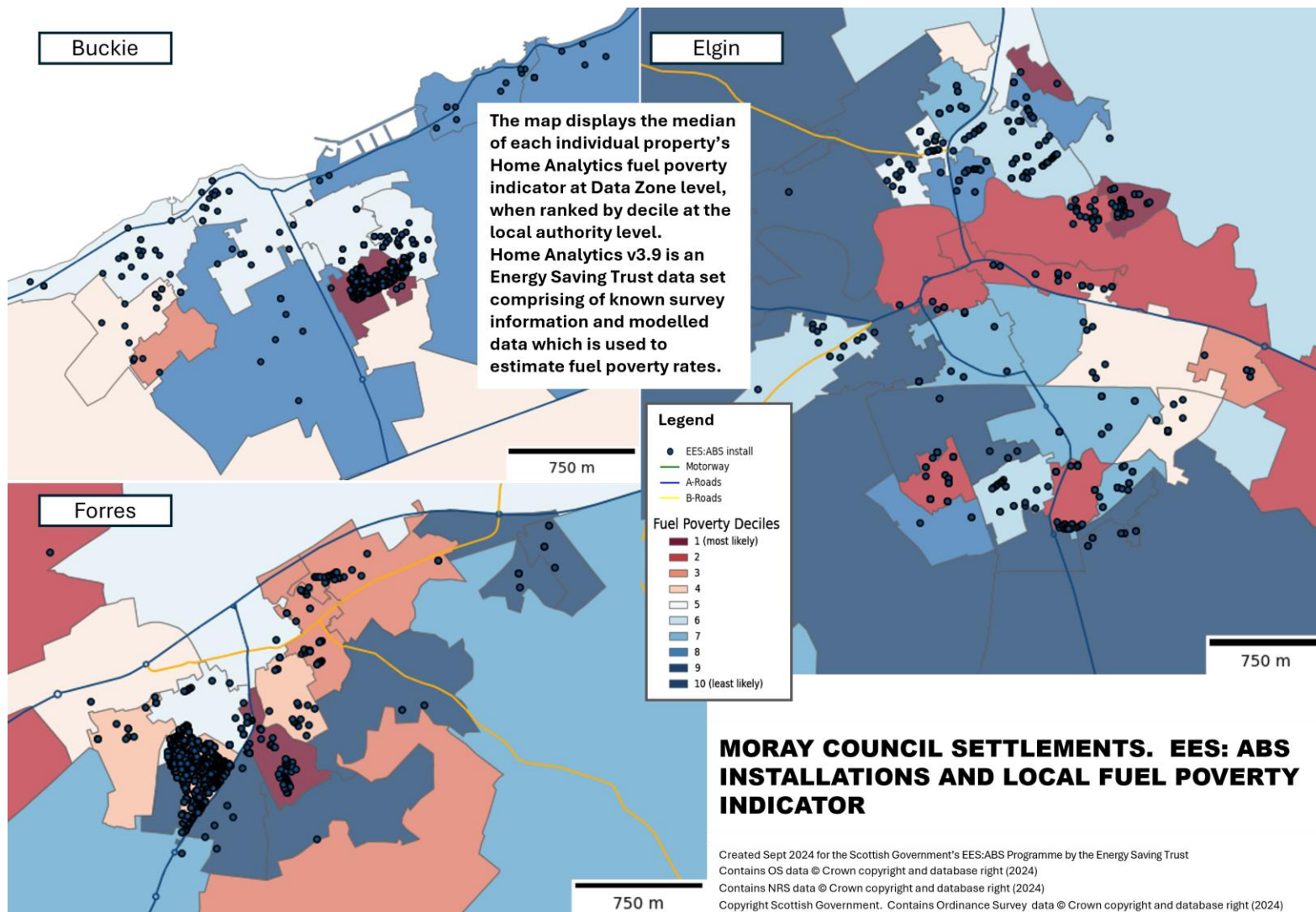
Moray Council Fuel Poverty Indicator I



This map demonstrates the probability of fuel poverty by data zone ranked on a local authority level for Moray Council only.

Highest fuel poverty areas within the council are shown here in red colour. It is worth noting that the fuel poverty indicator used here is a snapshot of the situation. Therefore, in some cases the past work completed by energy efficiency programmes, such as EES: ABS, will be contributing to the lower fuel poverty rates at present.

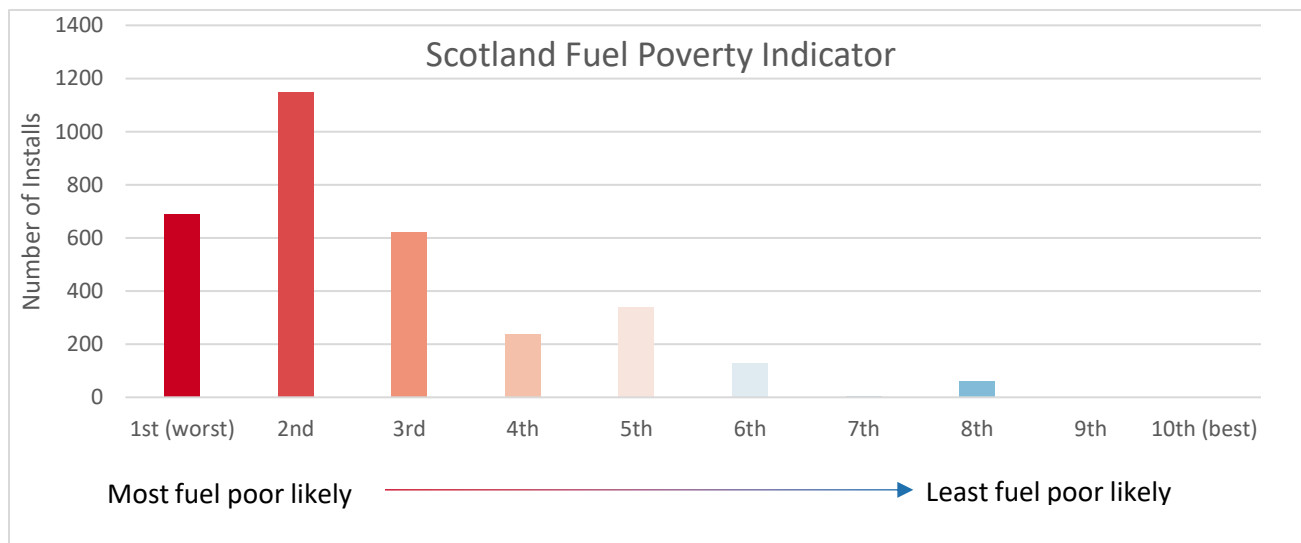
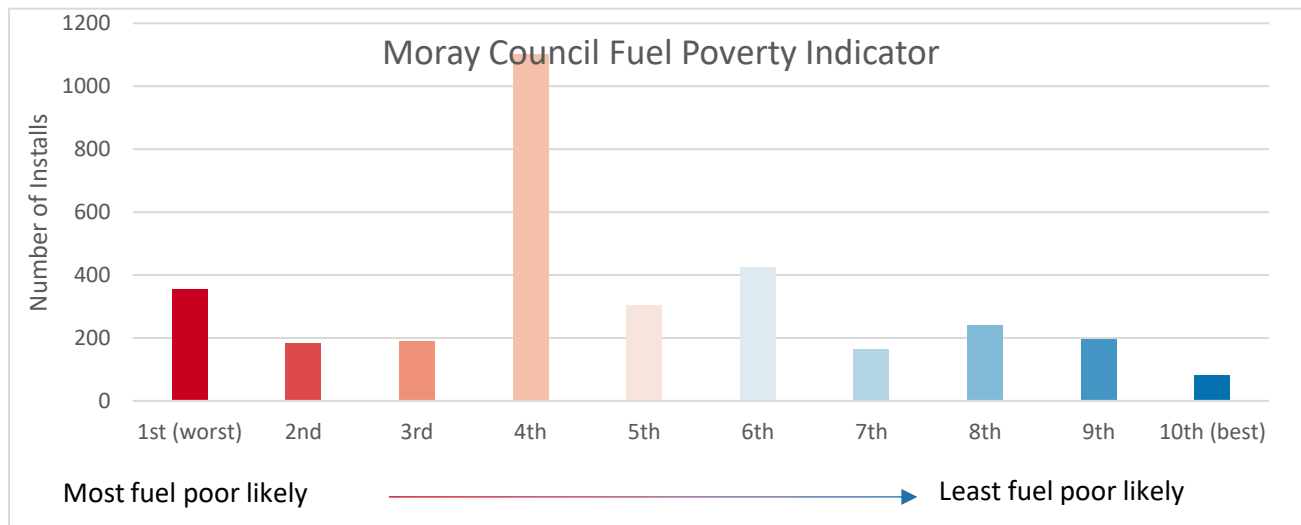
Moray Council Fuel Poverty Indicator II



Moray Fuel Poverty Indicator III

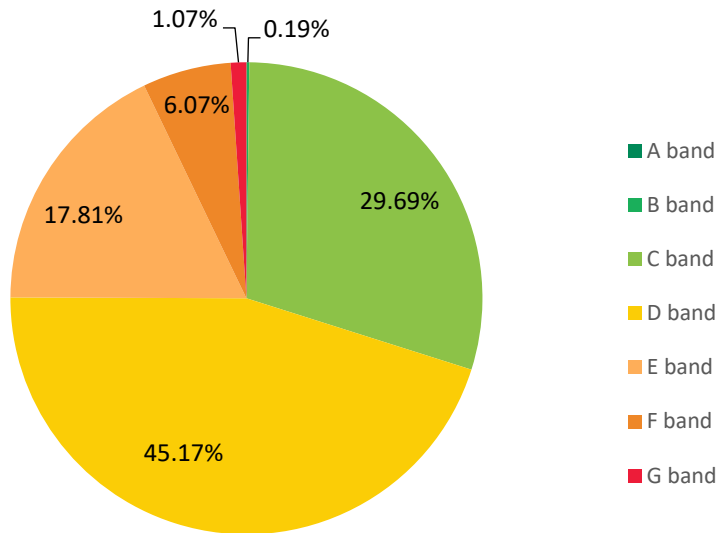
65.8% of all EES: ABS installs took place within the five most fuel poor ranked data zones as seen in the top illustration. This is looking at the local authority specific fuel poverty indicator for the Moray Council.

The bottom chart shows the difference when the installs are looked at on a national scale for Scotland. 93.9% of the installs are within the five most fuel poor ranks when compared to the national figures.

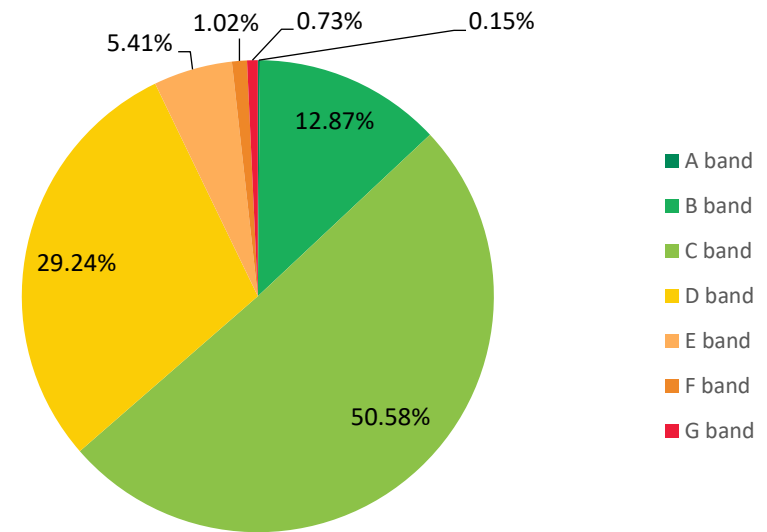


EES: ABS SAP Band Analysis I

EES: ABS properties by pre-installation EPC banding



EES: ABS properties by post-installation EPC banding



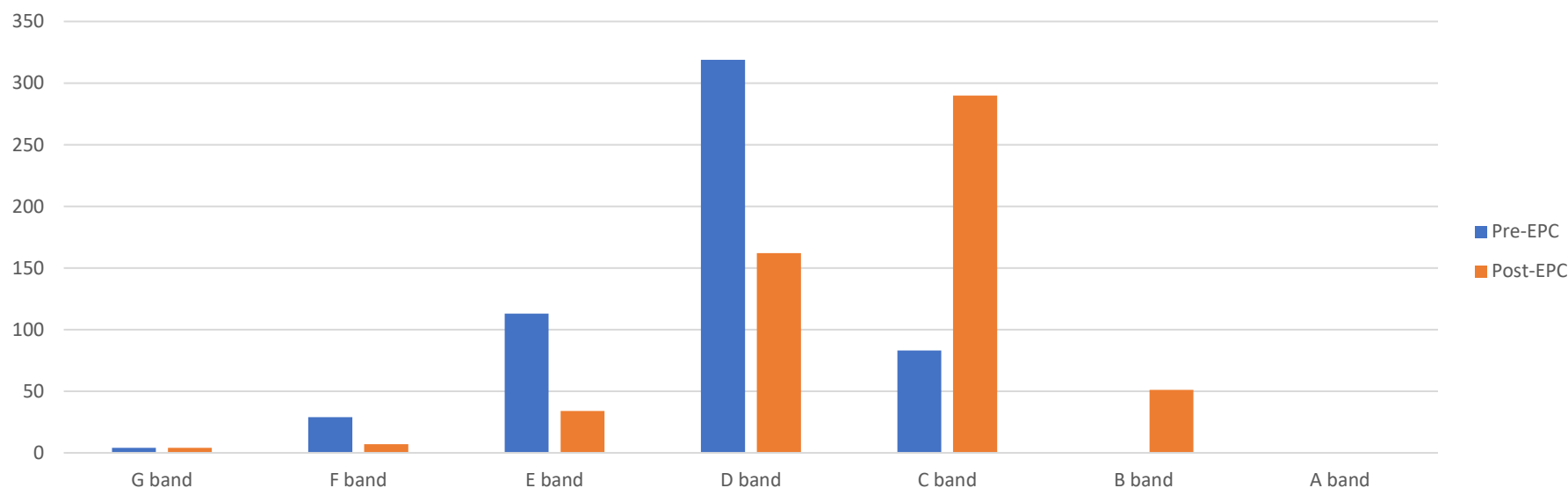
A valid pre-installation EPC was provided for 2,061 properties participating in the programme. 70.1% of these were within the national band D average or lower.

A total of 684 participants had a valid post-installation EPC regardless of the validity of the pre-EPC. After the completion of the installs, 63.6% of these properties made it to band C or higher.

EES: ABS SAP Band Analysis II

Out of the 2,061 properties with valid pre-EPCs, a total of 548 had a valid pre- and post-installation EPC and can be used for further analysis. 84.9% of these 548 properties had a starting SAP band of D or lower. The Post-EPC's show that after the completion of installs, 62.2% of the properties have reached band C and 29.6% reached band D. 51 properties also moved up to band B. 8.2% of the properties have a post-installation EPC band of E or lower, despite the impact of the EES: ABS treatment.

EES: ABS properties by EPC banding

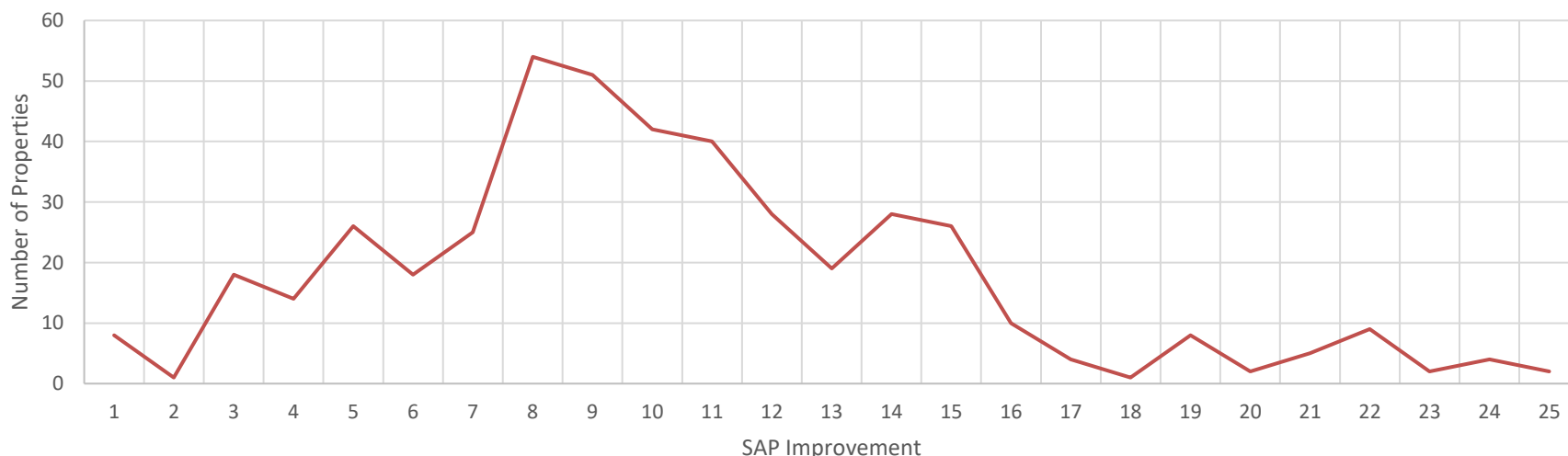


EES: ABS SAP Band Analysis III

The most common outcome of the EES: ABS programme within the Moray Council was for a property to increase in SAP score for around 3 to 13 points (75.3% of properties where the EPC's were valid to use for further analysis).

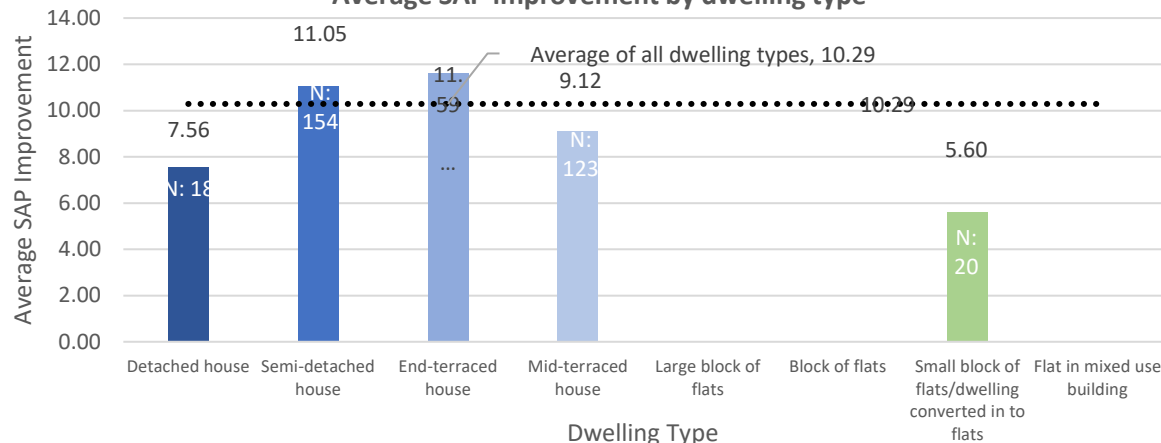
The larger SAP increases (15 to 25 points) included in this case study were due to installation of battery storages, Photovoltaics, external wall insulation for solid walls, standard cavity and hard to treat CWI solution within end-terraced, mid-terraced and semi-detached houses (74 properties altogether).

EES: ABS Property Count by SAP Improvement



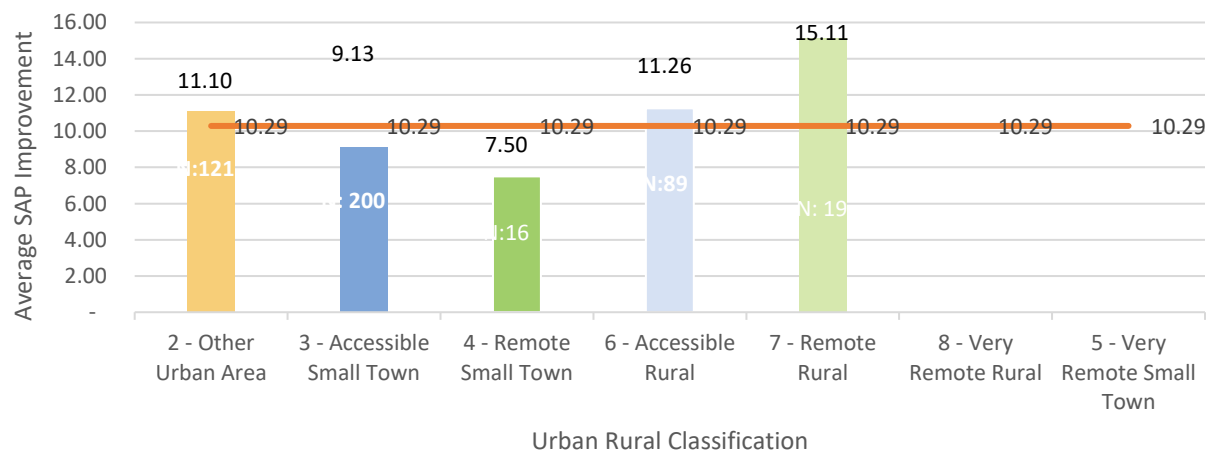
EES: ABS SAP Band Analysis IV

Average SAP improvement by dwelling type



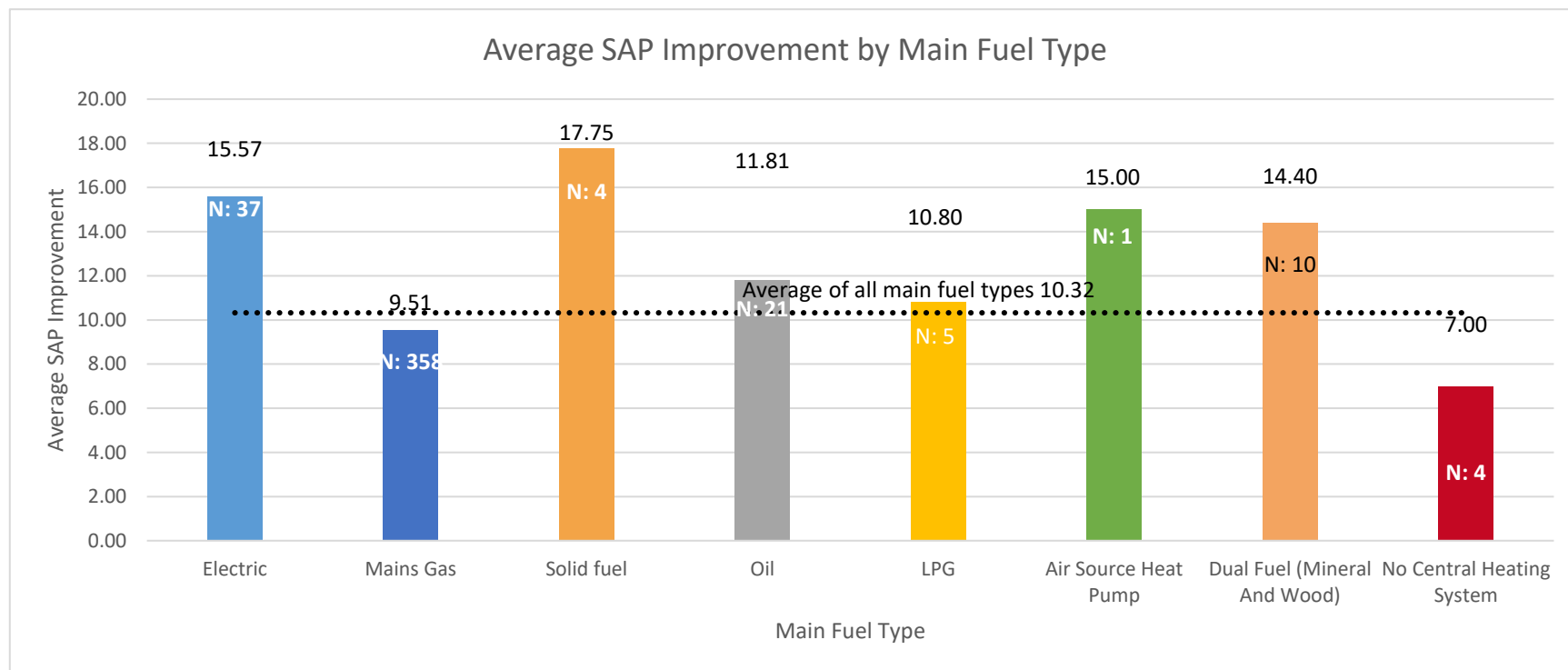
The average SAP improvement for all dwelling types is 10.29. The biggest sample size is for semi-detached houses (N:154) and the average increase for this dwelling type has been 11.05.

Average SAP improvement by urban rural classification



The average SAP improvement for all urban classifications where data was available for further analysis, has been 10.29. The biggest sample size is for accessible small town (N:200) where the average improvement was 9.13.

EES: ABS SAP Band and Main Fuel Type



The average SAP improvement for all main fuel types was 10.32. The biggest sample size available was for mains gas properties where the average improvement was 9.51. Properties with electric heating improved by their SAP rating by 15.57 on average, and dual fuel properties by 14.40.

Conclusions and notes

- A variety of measures have been included in the programme since outset and the last five years have focused on external wall insulation and PV and battery storage.
- The typical participating property is a house (75.62%) and constructed between 1950 and 1983 (78.38% of all properties).
- 74% of the properties included can be found within the six most deprived SIMD areas.
- Most properties had a starting EPC of band D or lower (70%) and 61% of these properties reached band C or higher post installation.
- The programme had a positive impact on the participating properties as a whole and most increased their SAP score by 3 or more points

Sources

Variable	Source	Notes
EES: ABS Measure, Address and Tenure	Local Authority	Held on behalf of the Scottish Government's EES: 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 SAP 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 2017-19 used.
SIMD	Scottish Government	Available online. SIMD 2020 used.
Urban Rural Classification	Scottish Government	Available Online. 8-Fold classification (2020) used.

Contacts

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