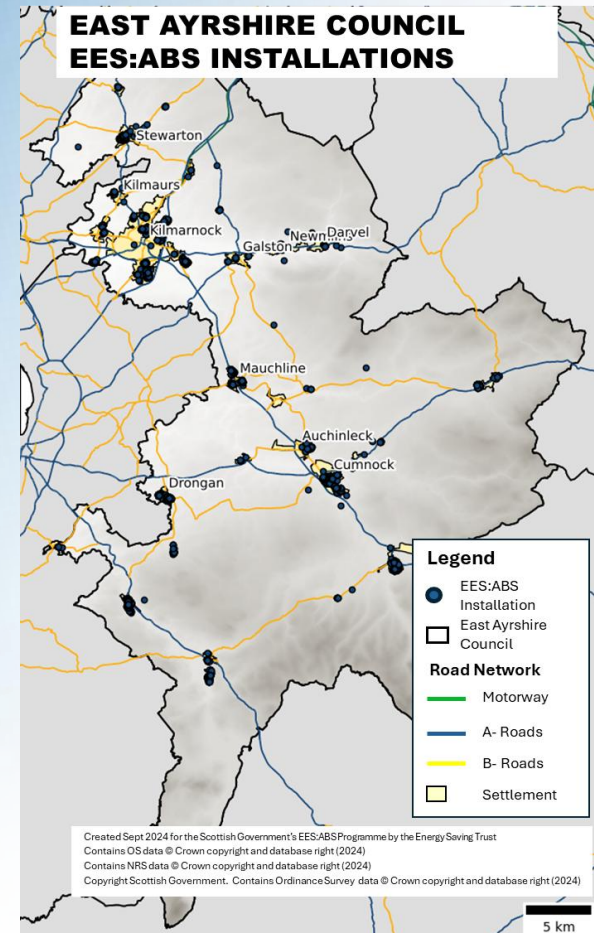


# East Ayrshire Council EES: ABS Case Study

Energy Saving Trust  
September 2024

energy  
saving  
trust



# 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 reported East Ayrshire Council EES: ABS activity to date (Sept 2024).\*\*

# East Ayrshire Council EES: ABS dataset

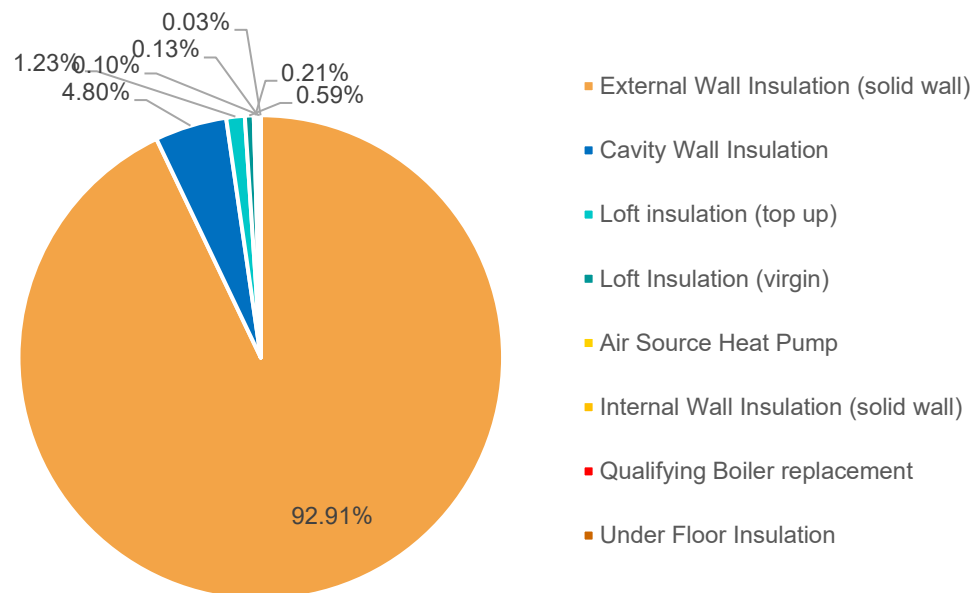
Financial Year	Number of records*	% of records
2013/14	474	11.63
2014/15	467	11.46
2015/16	620	15.22
2016/17	537	13.18
2017/18	386	9.47
2018/19	490	12.03
2019/20	344	8.44
2020/21	270	6.63
2021/22	183	4.49
2022/23	220	5.40
2023/24 <sup>1</sup>	83	2.04
<b>Total Installs</b>	<b>4,074</b>	<b>100.00</b>

Reference numbers	Number of records <sup>1</sup>	% of records
With pre-installation EPC	2710	70%
With post-installation EPC	2879	74%
With pre and post-installation EPC	1714	44%
With GDAR	187	5%
With measure reference number	151	4%

The East Ayrshire Council has contributed 3.18% of the total EES: ABS installs across Scotland reported to date (Sept 2024).

# Installed Measures

Installed EES: ABS measures



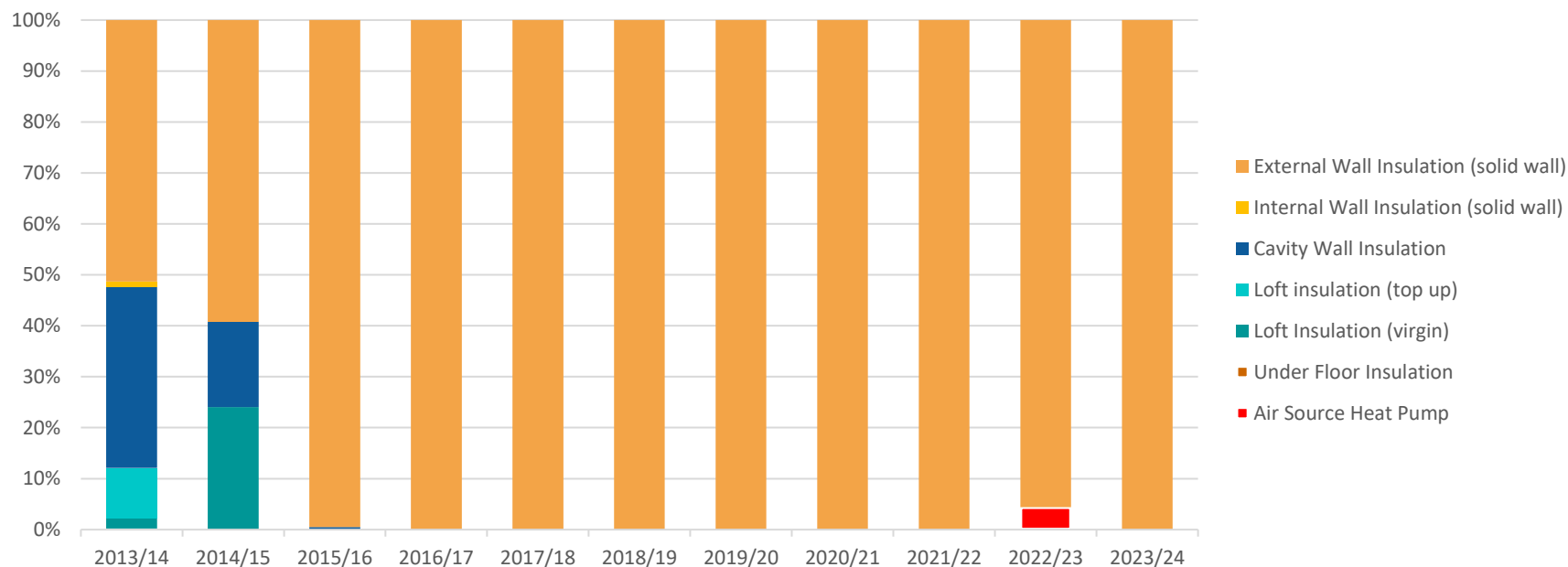
East Ayrshire Council has offered a variety of measures as part of their EES: ABS programme. Nearly 98% of all measures have been for wall insulation including external wall insulation for solid wall, hard to treat cavity wall solution, standard cavity wall and internal wall insulation for solid wall.

# Installed Measures

Measure Name	Number of records*	% of records
External Wall Insulation (solid wall)	3,619	92.91
Cavity Wall Insulation	187	4.80
Loft insulation (top up)	48	1.23
Loft Insulation (virgin)	23	0.59
Air Source Heat Pump	8	0.21
Internal Wall Insulation (solid wall)	5	0.13
Qualifying Boiler replacement	4	0.10
Under Floor Insulation	1	0.03
<b>Total Installs</b>	<b>3,895</b>	<b>100.00</b>

# Installed Measures by Financial year

Installed EES: ABS measures by financial year

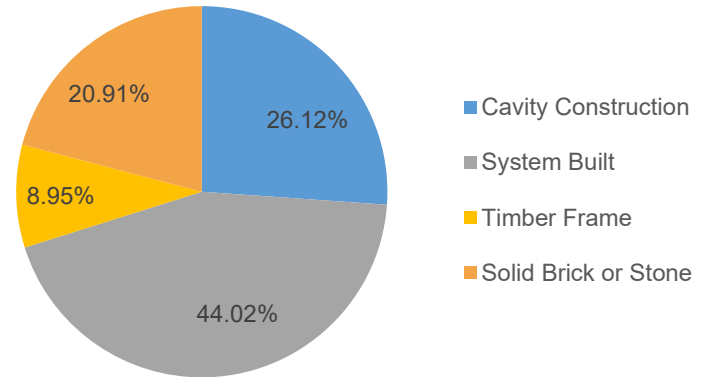


A wide variety of measures have been offered throughout the programme with major focus on wall insulation. A total of 97.84% of all measures have been for wall insulation including hard to treat cavity wall treatment, external wall insulation for solid wall, standard cavity wall and internal wall insulation for solid wall. Other measures are for loft insulation (1.81%), heat pump installation (0.21%), boiler replacement (0.10%) and under floor insulation for one property.

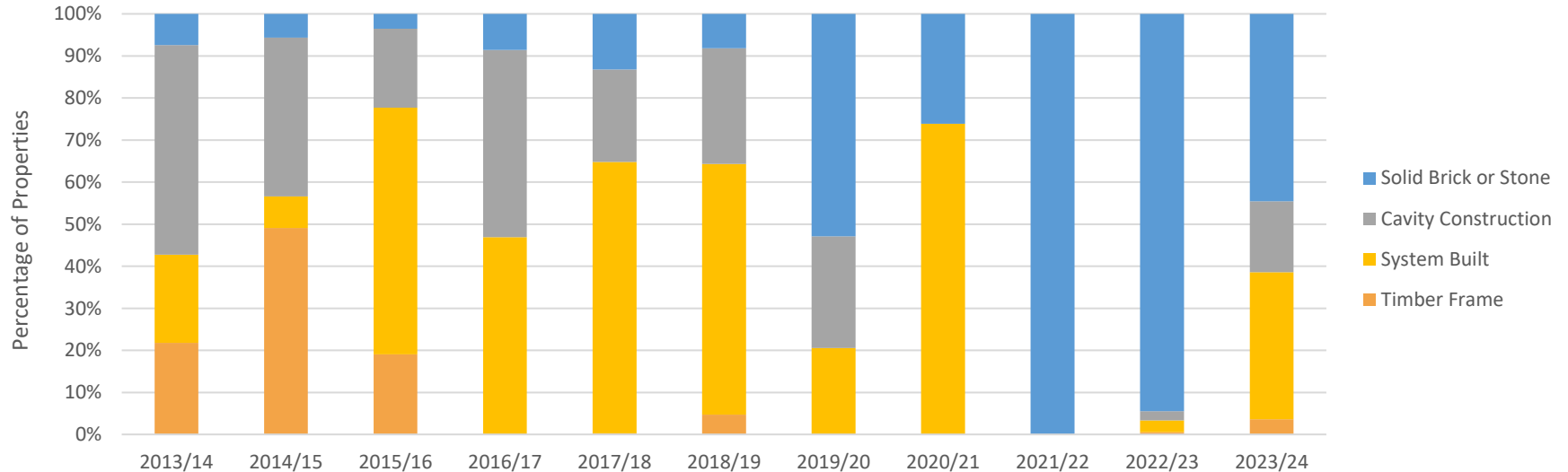
# Wall Type

EES: ABS Properties by 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.

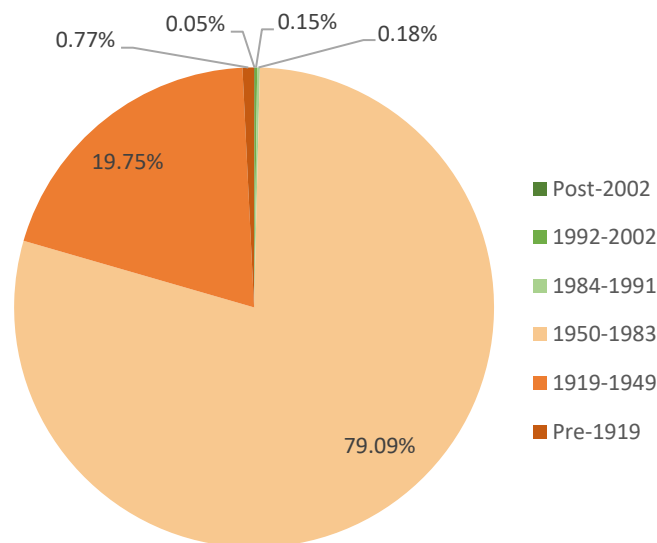


EES: ABS properties and construction type by financial year

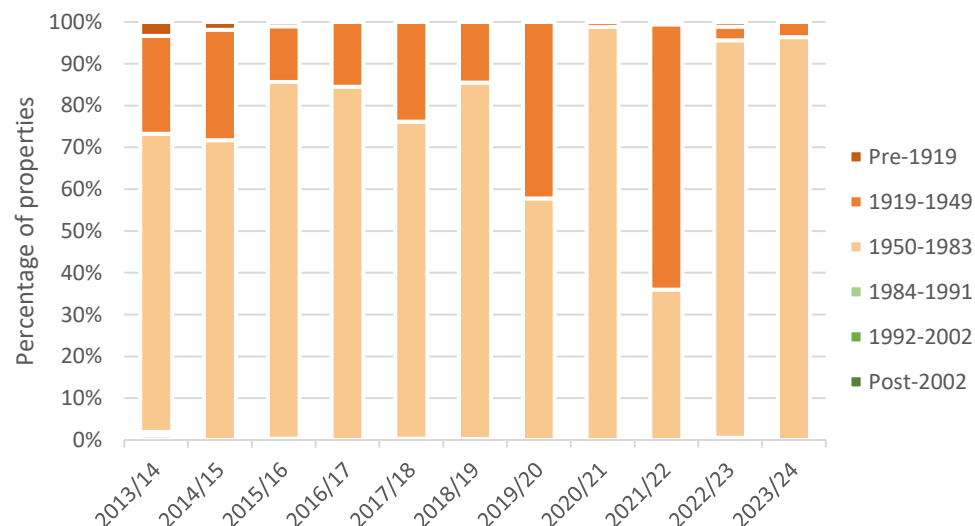


# Construction Age

EES: ABS properties by construction age



EES: ABS Properties and Construction Age by Financial Year

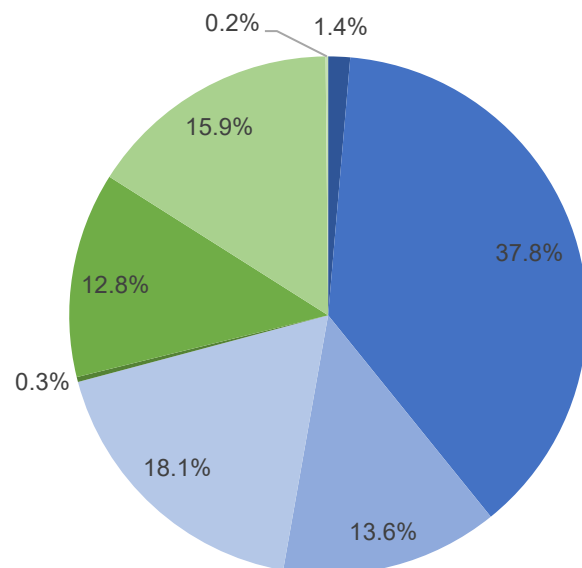


Most of the participating properties were constructed between 1950 and 1983 (79.09%) and this has been the East Ayrshire Council's approach for the majority of the programme. 19.75% of all properties were constructed between 1919 and 1949 or pre-1919. The older pre-1919 properties are mostly traditional solid brick or stone built properties (96.67%) including one cavity construction.

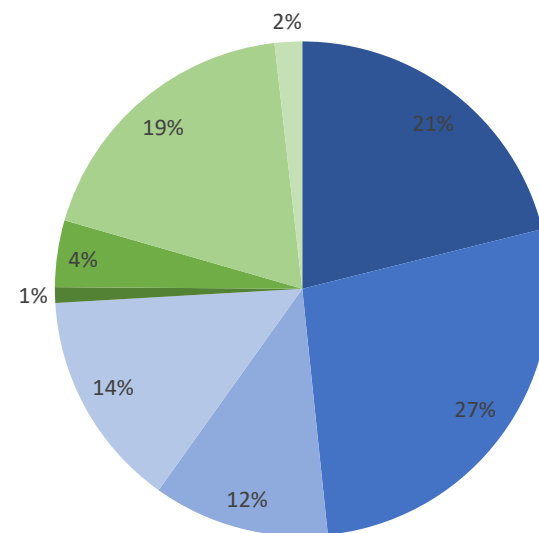


# Dwelling Type

EES: ABS properties by dwelling type



East Ayrshire properties by dwelling type

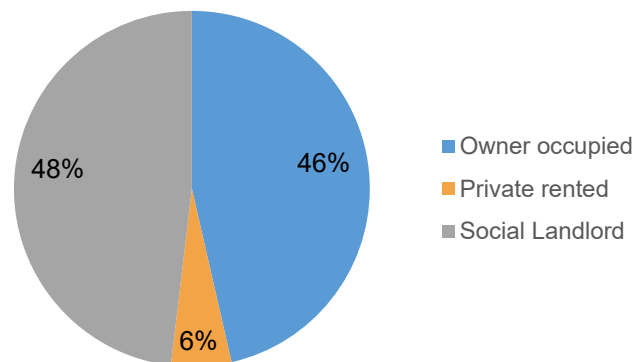


- Detached house
- Semi-detached house
- End-terraced house
- Mid-terraced house
- Large block of flats
- Block of flats
- Small block of flats/dwelling converted in to flats
- Flat in mixed use building

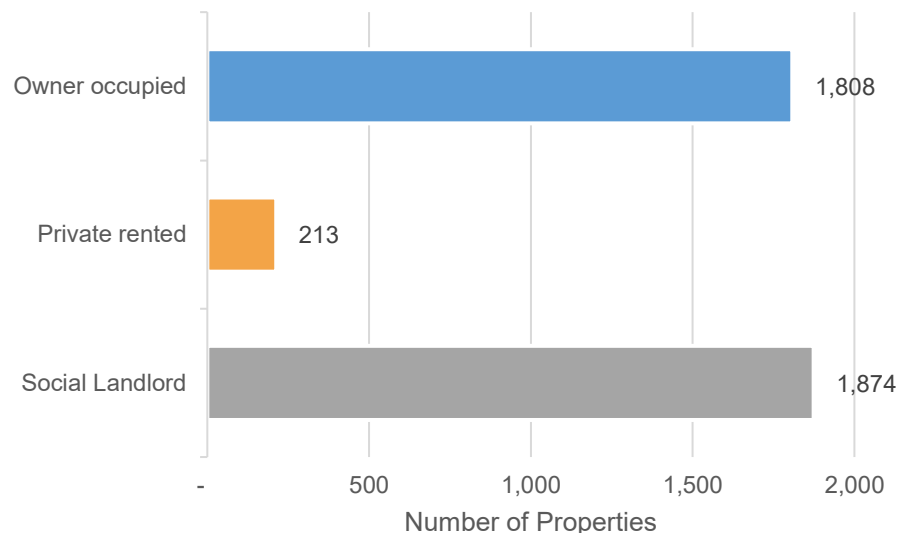
The East Ayrshire Council has targeted a mixture of houses (70.9%) and flats (29.1%). As a whole, 74.1% of the dwelling types within East Ayrshire Council consists of houses and 25.9% of flats.

# Property Tenure

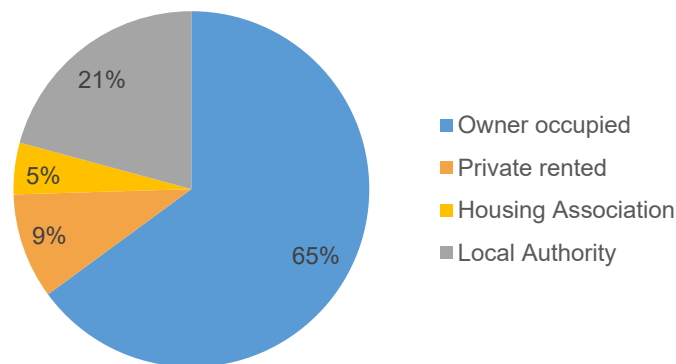
EES: ABS properties by tenure



EES: ABS properties by tenure



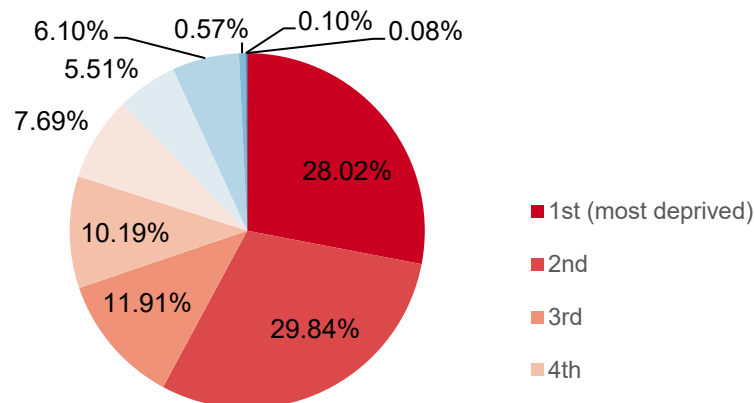
East Ayrshire properties by tenure



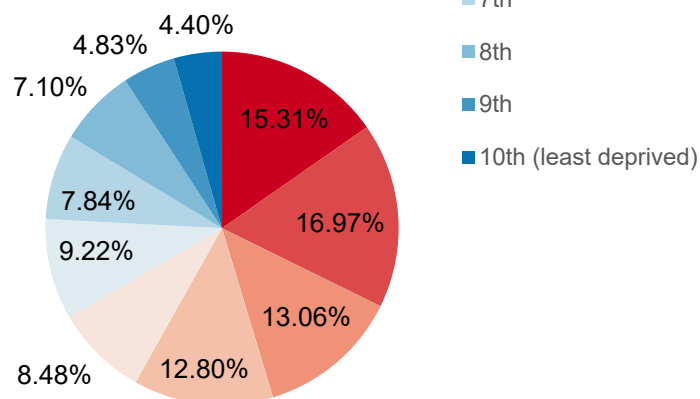
East Ayrshire Council has targeted mixed tenure types within the allocated area. Many ex-council right-to-buy properties have been included in the owner-occupied tenure.

# Scottish Index of Multiple Deprivation (SIMD) I

EES: ABS properties by overall  
SIMD decile ranking



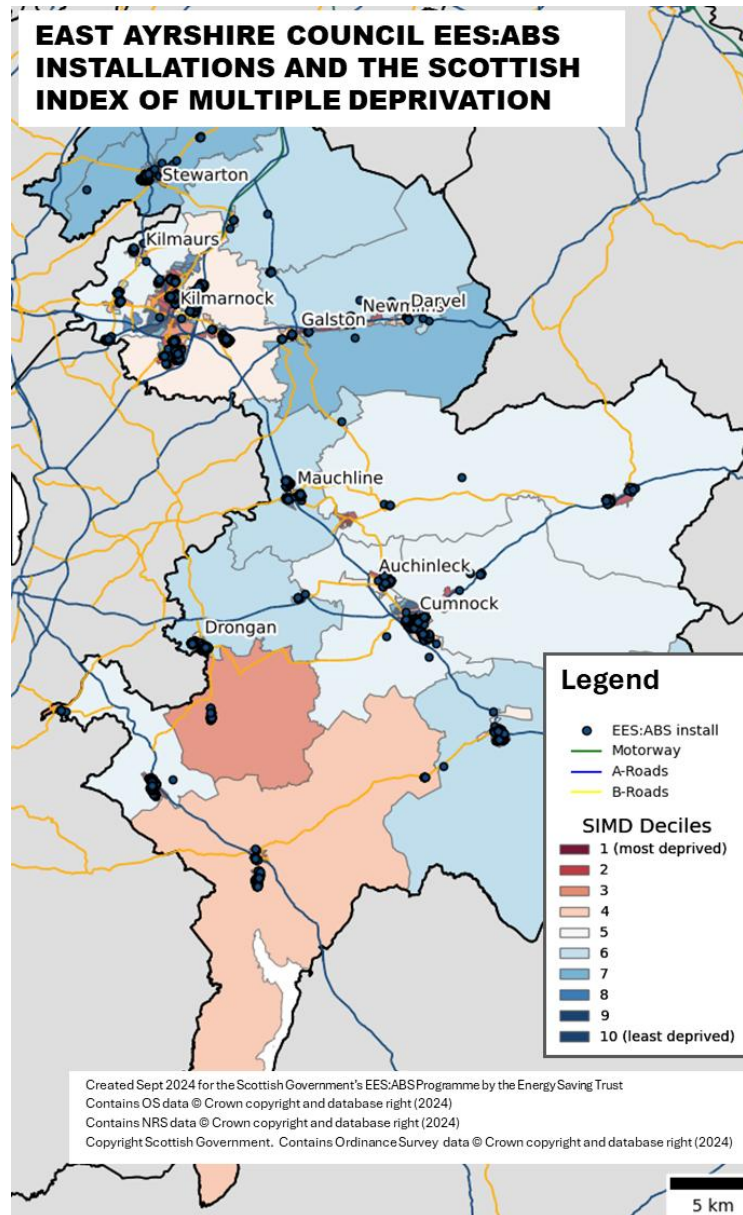
East Ayrshire properties by overall  
SIMD decile ranking



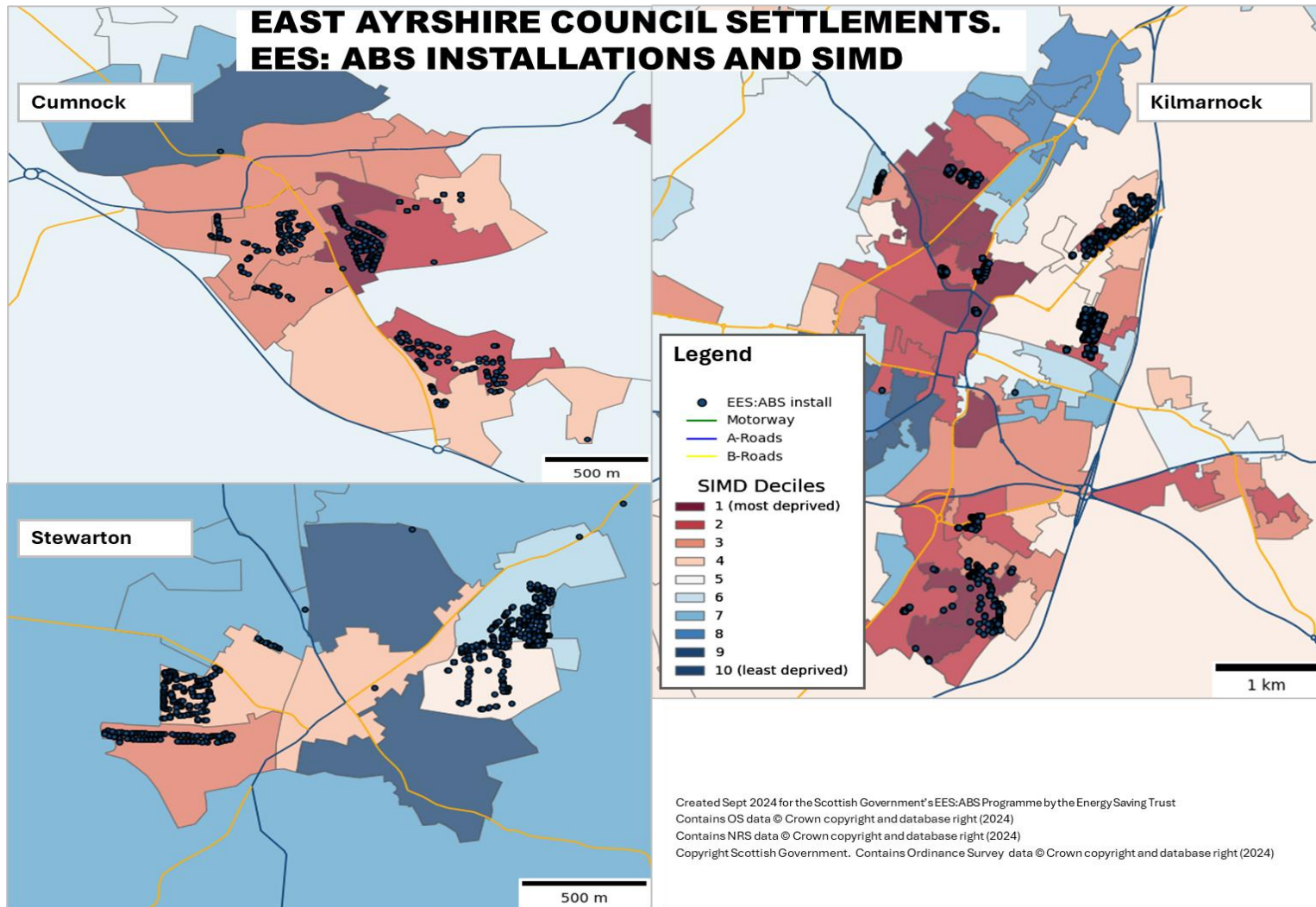
Comparison of these two illustrations shows the correlation between the overall SIMD ranking of East Ayrshire Council properties and of those targeted in the EES: ABS programme. A total of 93.16% of all participating properties are in the most deprived areas of the council and can be found within the six lowest SIMD ranks as seen in the top chart.

It is good to note that 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



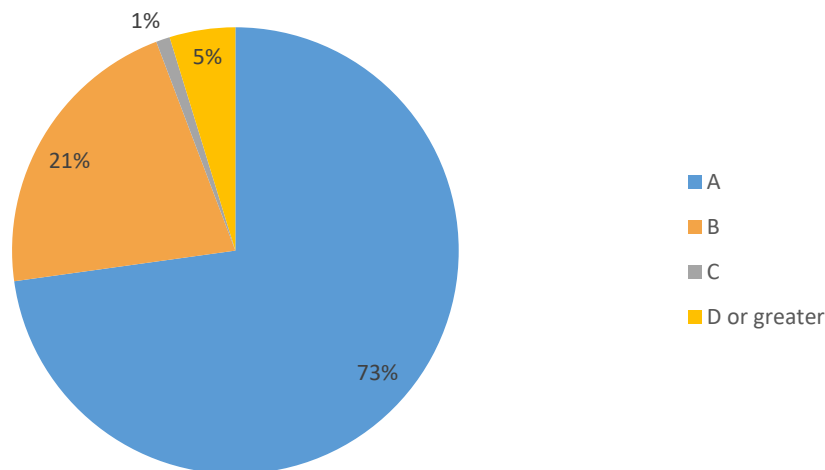
# Scottish Index of Multiple Deprivation (SIMD) III



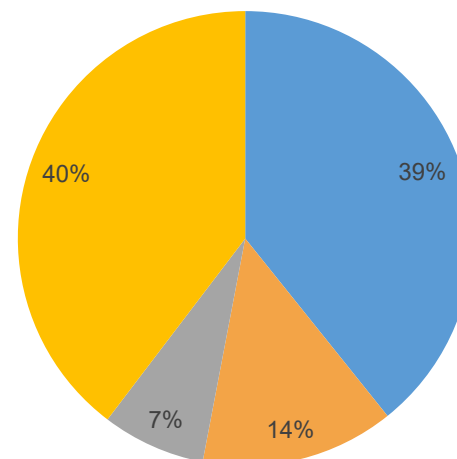
Created Sept 2024 for the Scottish Government's EES:ABS Programme by the Energy Saving Trust  
Contains OS data © Crown copyright and database right (2024)  
Contains NRS data © Crown copyright and database right (2024)  
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# EES: ABS Installs by Council Tax Band

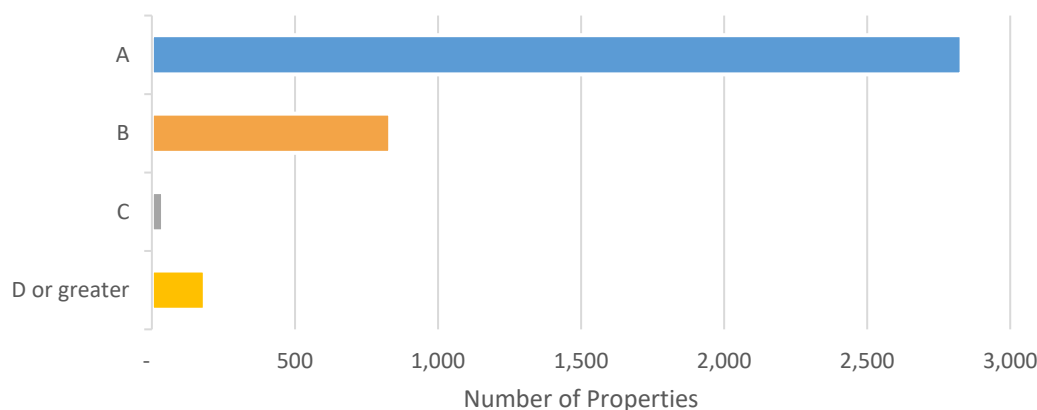
EES: ABS properties by council tax band



East Ayrshire properties by council tax band



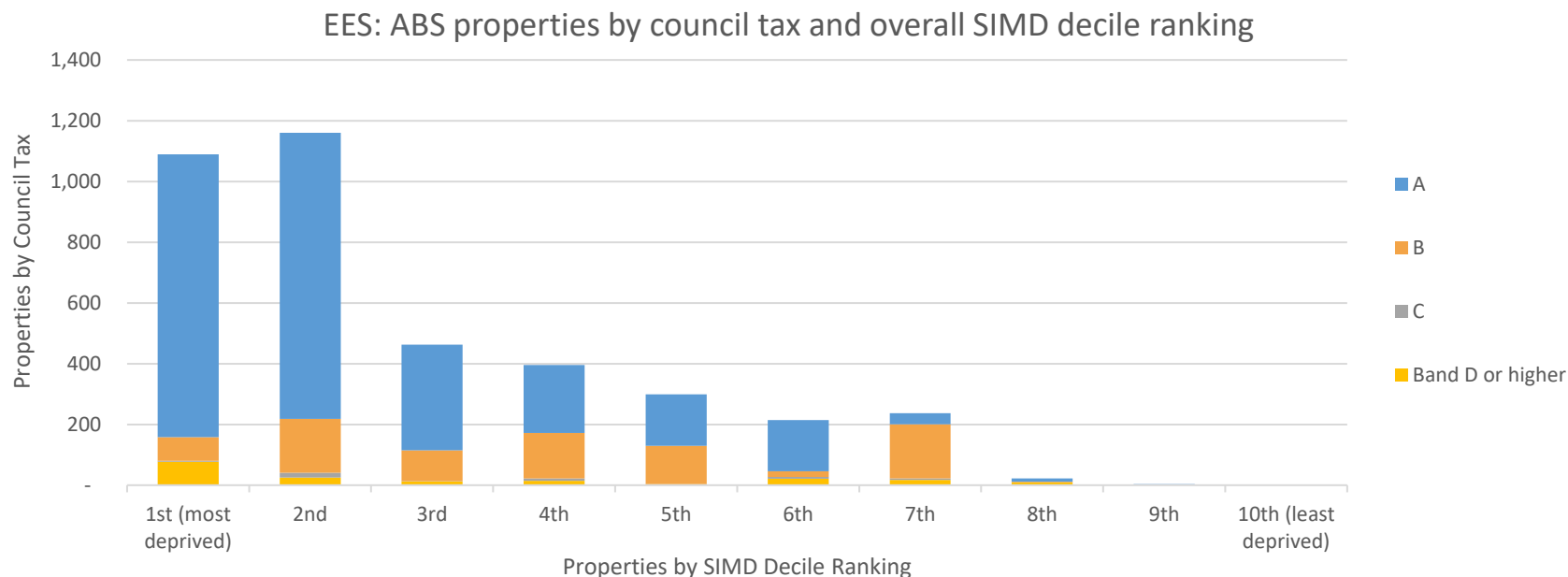
EES: ABS properties by council tax band



Over 95% of properties receiving measures fall into council tax bands A, B and C. This further shows that East Ayrshire Council has specifically targeted bands A-C for the EES: ABS work.

# EES: ABS Installs by Council Tax Band and SIMD

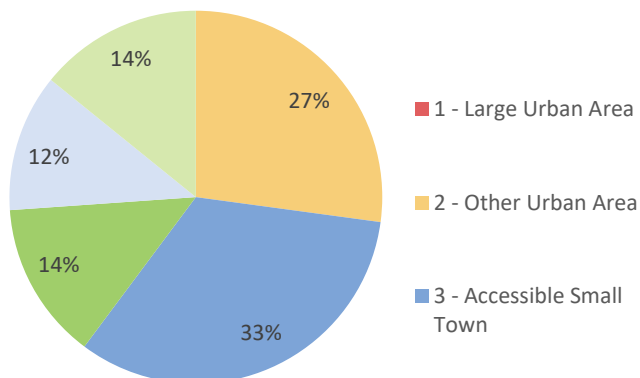
Council tax banding can often be seen as an indicator for income and this illustration examines the property council tax bands against the income SIMD ranking of the areas involved. 88.5% of the installations treating A, B and C council tax banded properties are located within the five most SIMD deprived areas when ranked by income as seen below.



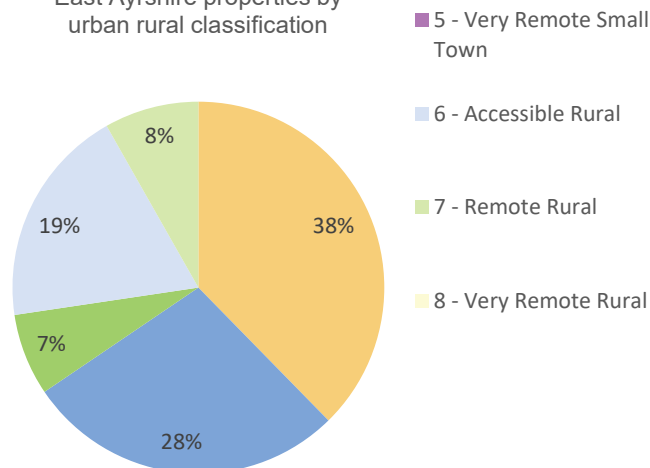


# Urban Rural Classification I

EES: ABS properties by urban rural classification

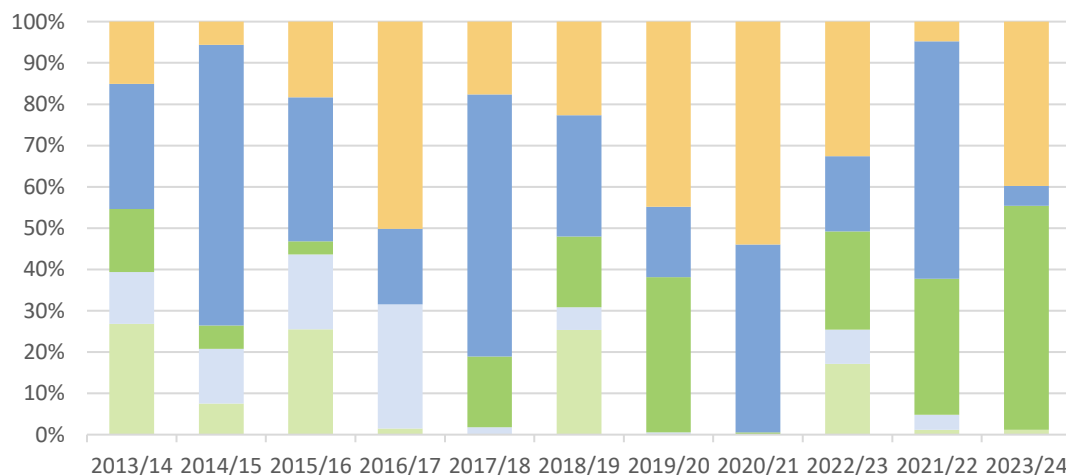


East Ayrshire properties by urban rural classification



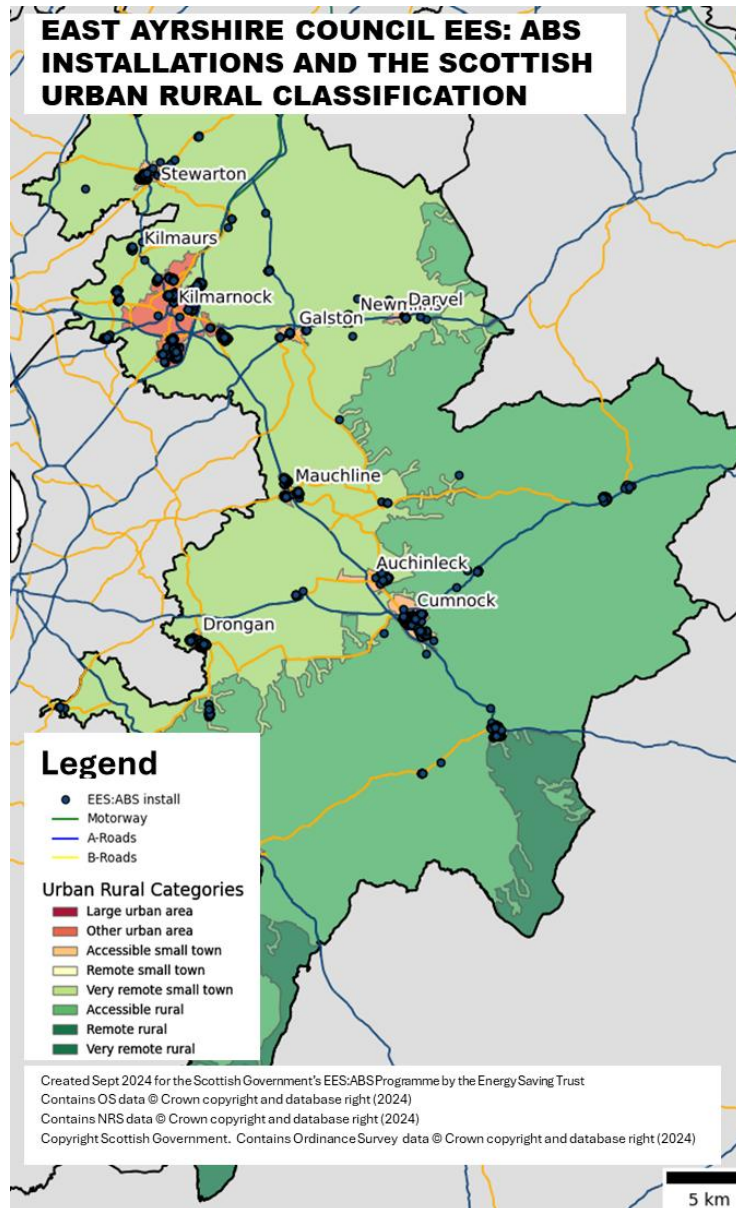
The East Ayrshire Council area consists of five different urban rural classifications: Other Urban Area, Accessible Small Town, Remote Small Town, Accessible Rural, Remote Rural and Very Remote Rural areas. All of these areas have been represented in the programme the distribution of work broadly follows the division of classifications in the East Ayrshire area as a whole. The bottom chart demonstrates the distribution of work across the years.

EES: ABS properties by urban rural classification



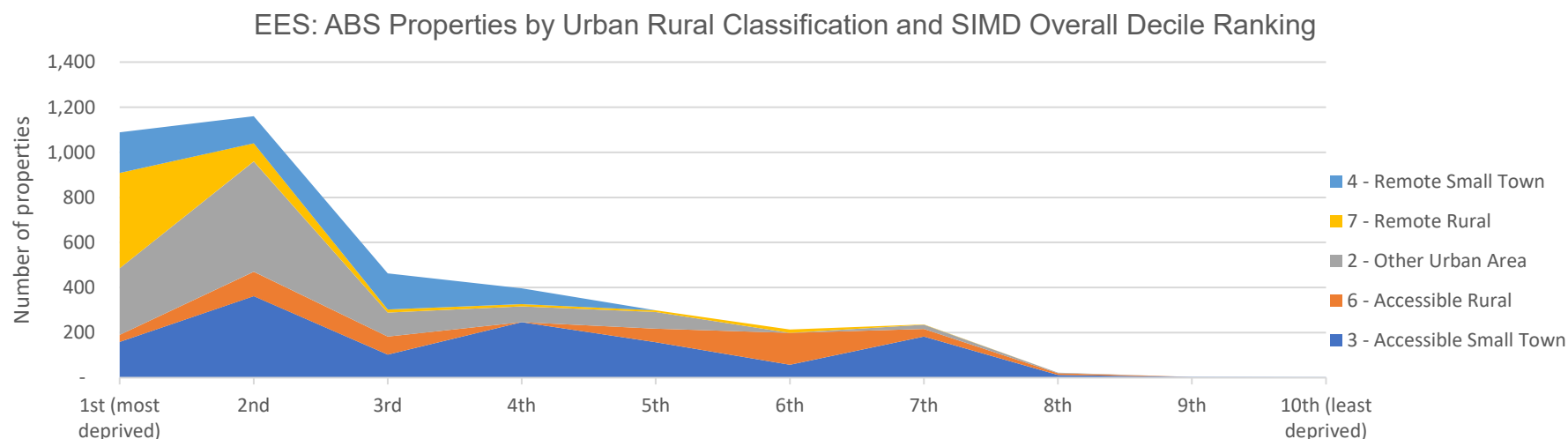


# Urban Rural Classification II

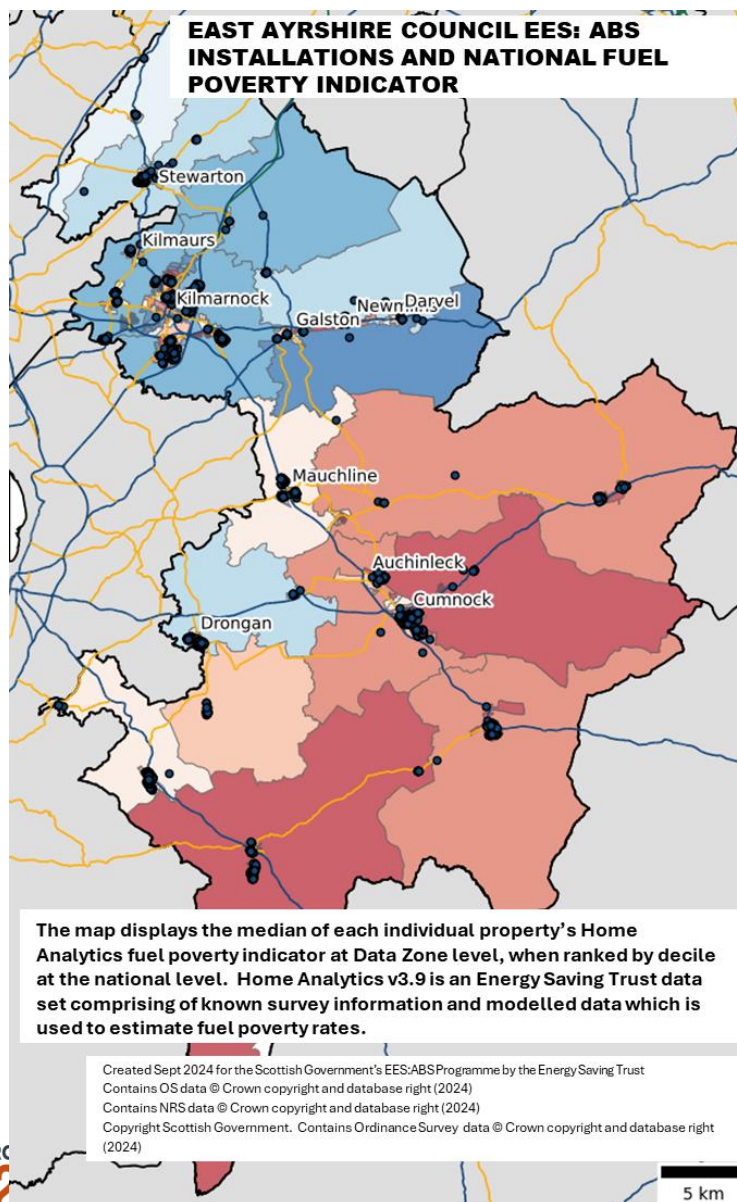


# Urban Rural Classification and SIMD

This illustration demonstrates how 93.16% of the work that was completed within the six most deprived SIMD ranks fall within other urban areas, accessible small towns, accessible rural and remote rural areas. According to the East Ayrshire Council, urban rural classification alone is not one of the key factors for participating properties, as elements such as construction, fuel poverty indicators, SIMD ranking and the overall condition of the properties have been taken into consideration. Furthermore, it is worth noting that in addition to rural data zones tending to lean towards the average SIMD ranks, not all deprived households are to be found within highly deprived areas.



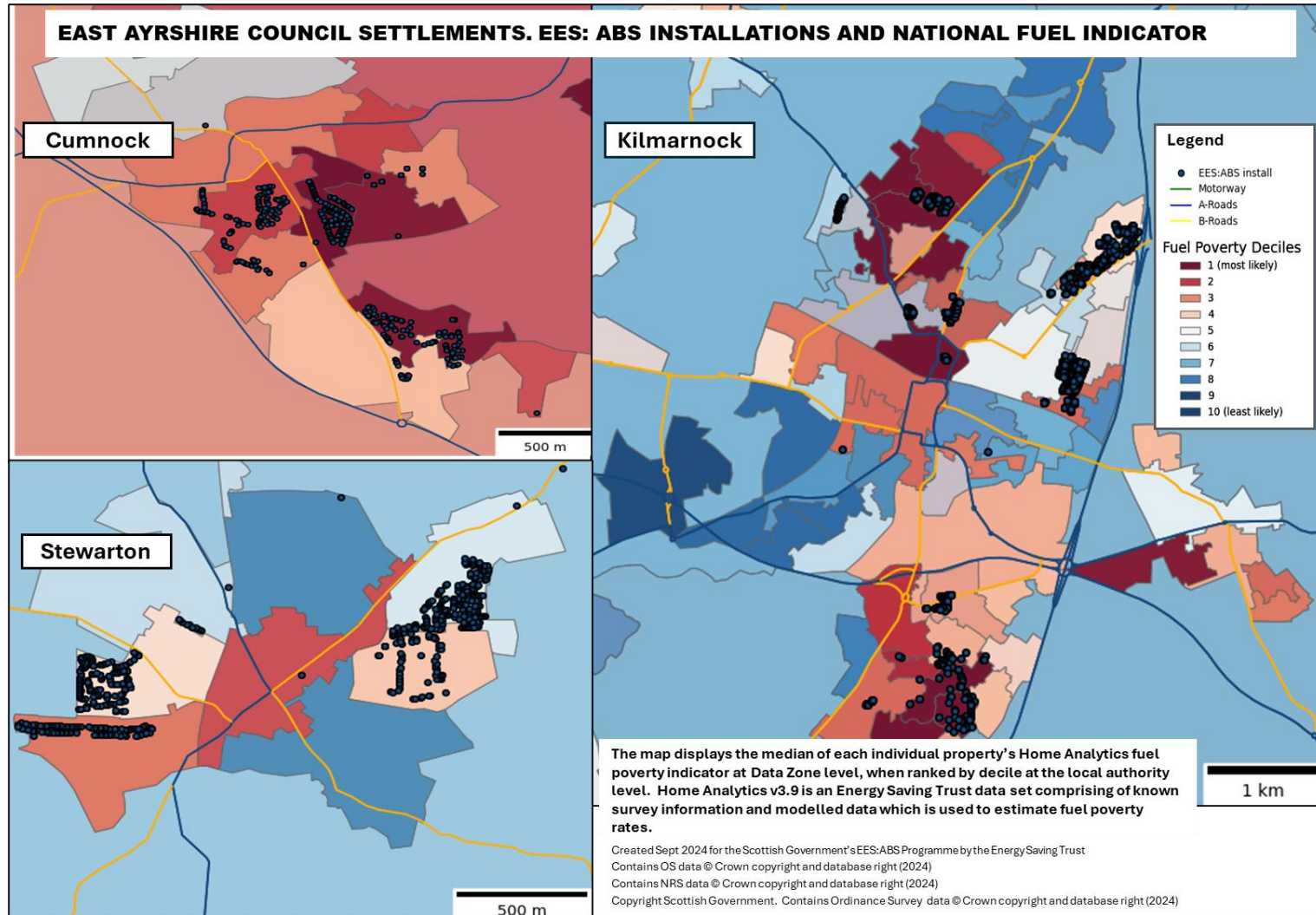
# National Scottish Fuel Poverty Indicator I



Here we can see the state of fuel poverty in East Ayrshire Council compared 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.

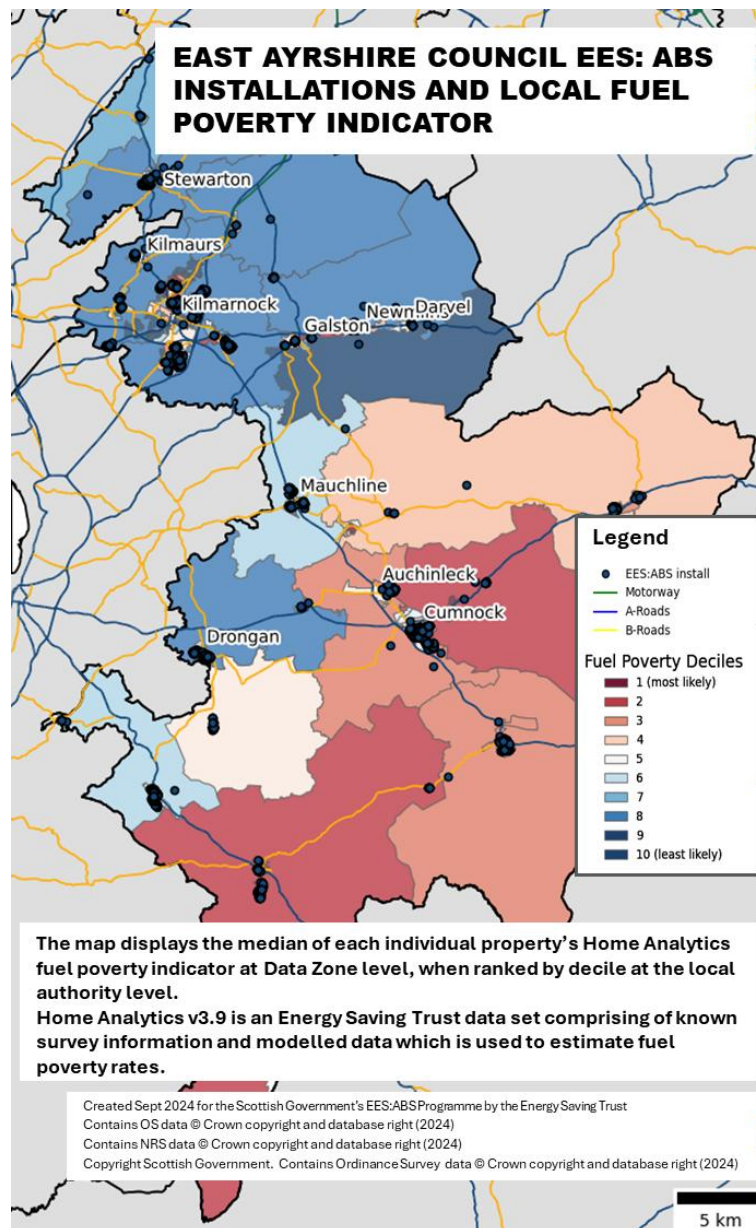
According to the Scottish Housing Condition Survey (SHCS), the average fuel poverty rate in the East Ayrshire Council area is around 27% of all homes. This is three percent higher than the Scottish national average (24%) and places the East Ayrshire Council as 20<sup>th</sup> of all 32 local authorities in the country.

# National Scottish Fuel Poverty Indicator II



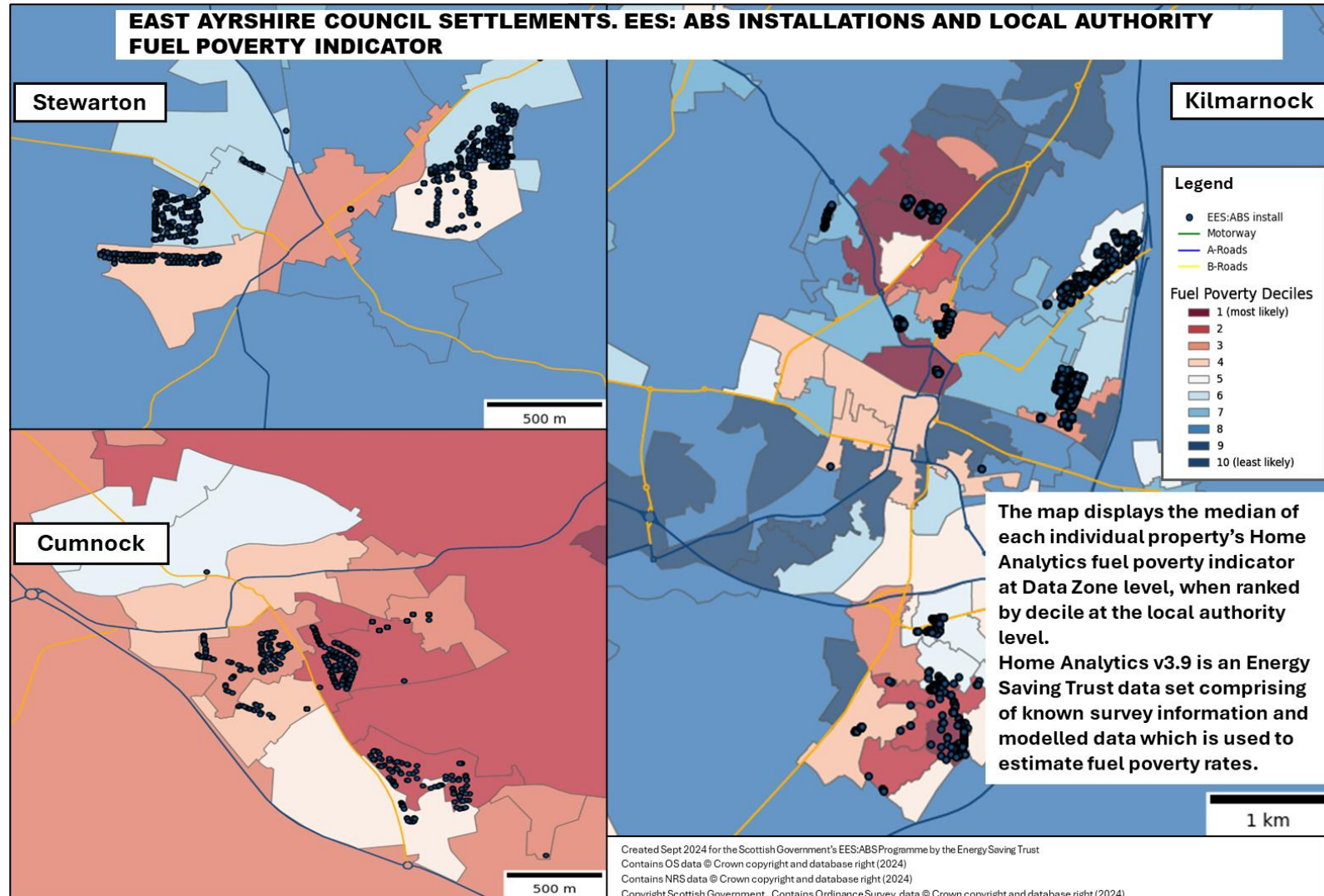


# East Ayrshire Fuel Poverty Indicator I



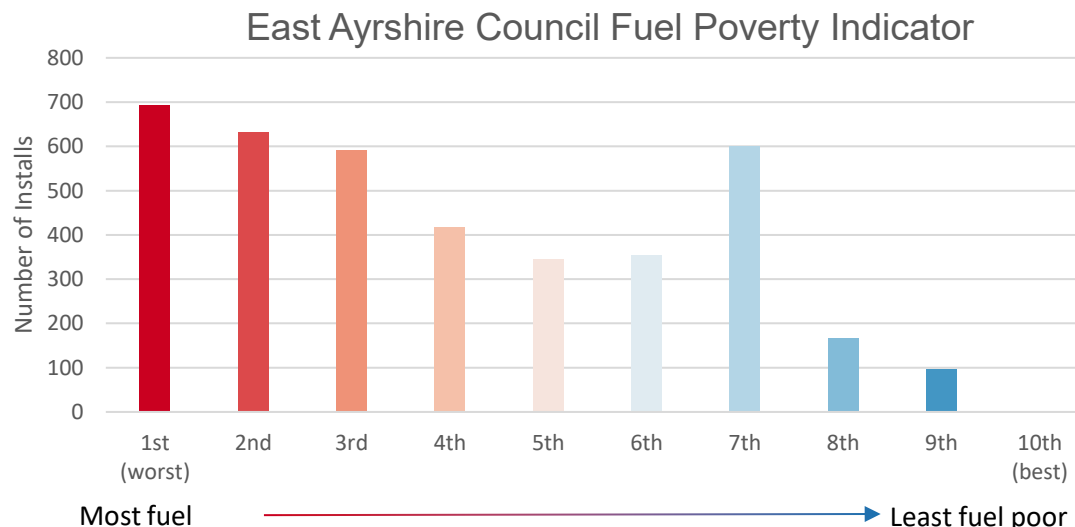
This map demonstrates the probability of fuel poverty by data zone ranked on a local authority level for the East Ayrshire Council only. The highest fuel poverty areas within the council are shown here in red. It is worth noting that the fuel poverty indicator used here is a snapshot of the situation. Thereby, 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.

# East Ayrshire Fuel Poverty Indicator II

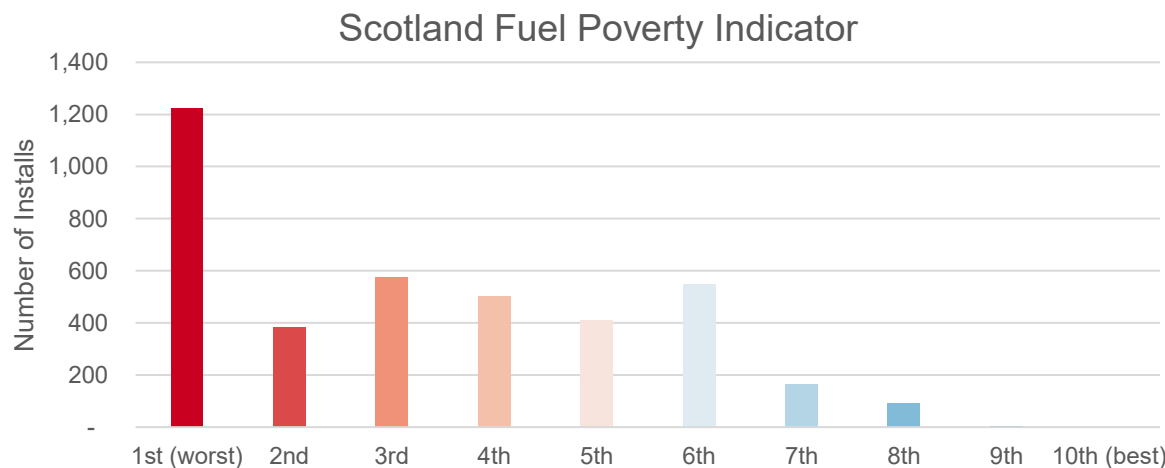


# East Ayrshire Fuel Poverty Indicator III

77.8% of all EES: ABS installs took place within the six 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 East Ayrshire Council.

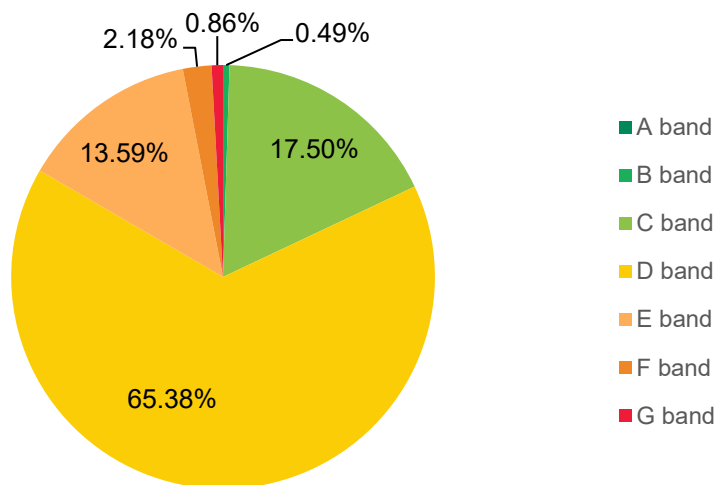


The bottom chart shows the difference when the installs are looked at on a national scale for Scotland 97.6% of the installs are within the six most fuel poor ranks when compared to the national figures.

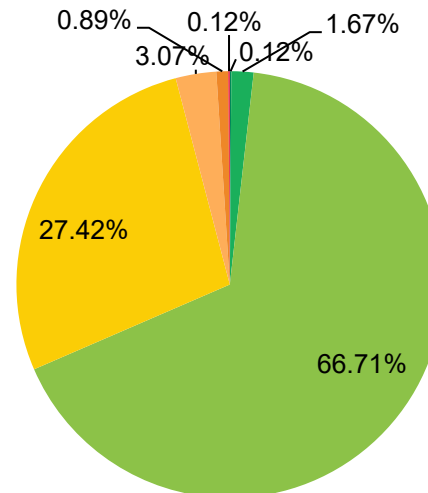


# EES: ABS SAP Band Analysis I

EES: ABS properties by pre-installation EPC banding



EES: ABS properties by post-installation EPC banding



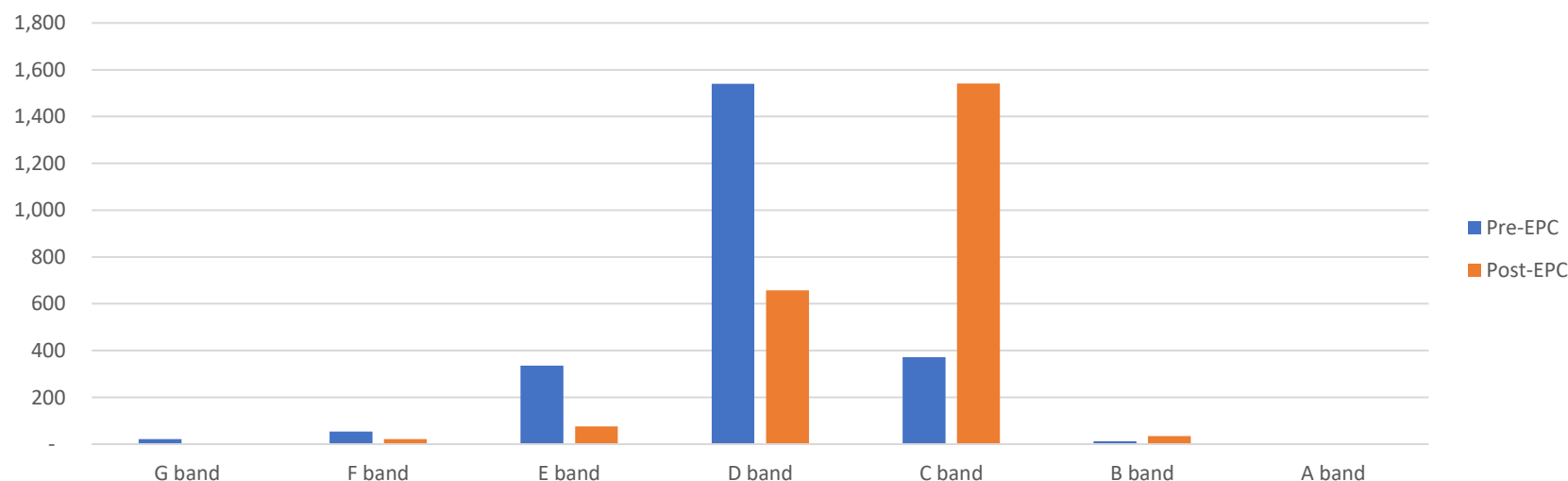
A valid pre-installation EPC was provided for 2,663 properties participating in the programme. 82.01% of these were within the national band D average or lower. A total of 2,571 participants had a valid post-installation EPC regardless of the validity of the pre-EPC. After the completion of the installs, 68.49% of these properties made it to band C or higher.



# EES: ABS SAP Band Analysis II

Out of the 2,663 properties with valid pre-EPCs, a total of 2,336 had a valid pre- and post-installation EPC and can be used for further analysis. 83.5% of these 2,336 properties had a starting SAP band of D or lower. The Post-EPC's show that after the completion of installs, 67.6% of the properties have reached band C or higher and 28.1% reached band D. 4.3% of the properties have a post-installation EPC band of E, F or G, despite of the impact of the EES: ABS treatment.

EES: ABS properties by EPC banding

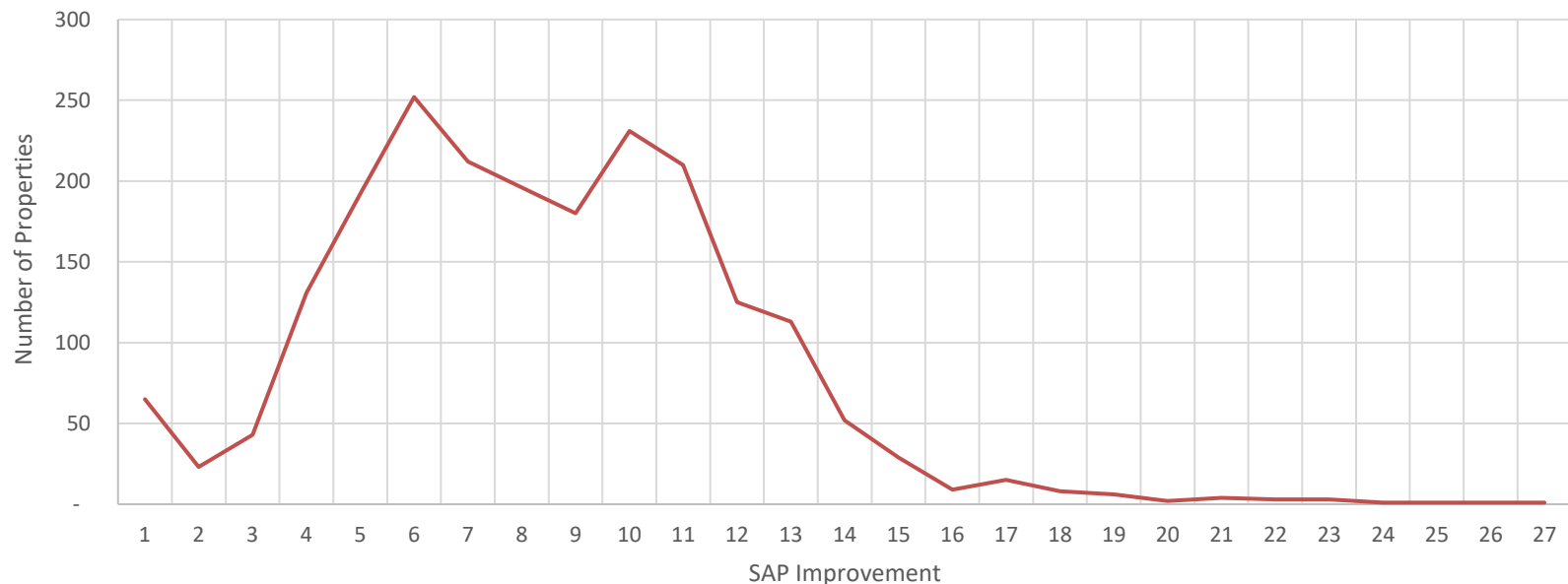


# EES: ABS SAP Band Analysis III

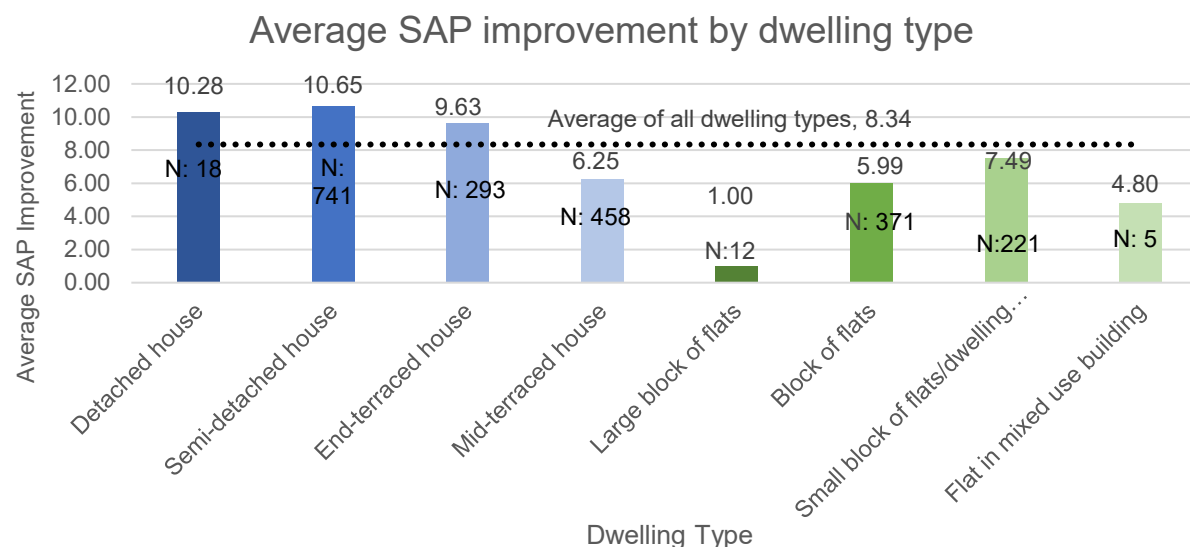
The most common outcome of the EES: ABS programme within the East Ayrshire Council was for a property to increase in SAP score for around 5 to 11 points (68.9% of properties where the EPCs were valid to use for further analysis).

The larger SAP increases (16 to 27 points) included in this case study were due to installation of external wall insulation for solid walls across all dwelling types included in the programme.

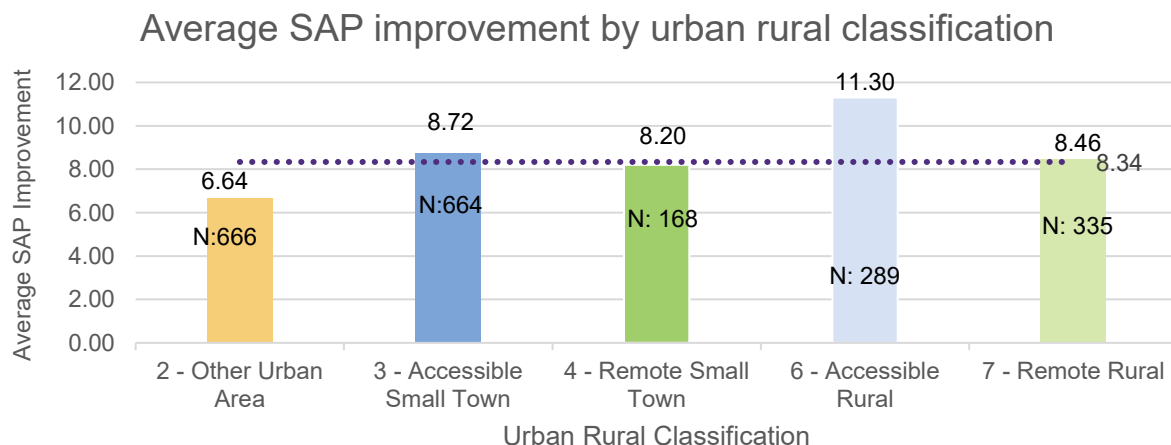
EES: ABS Property Count by SAP Improvement



# EES: ABS SAP Band Analysis IV

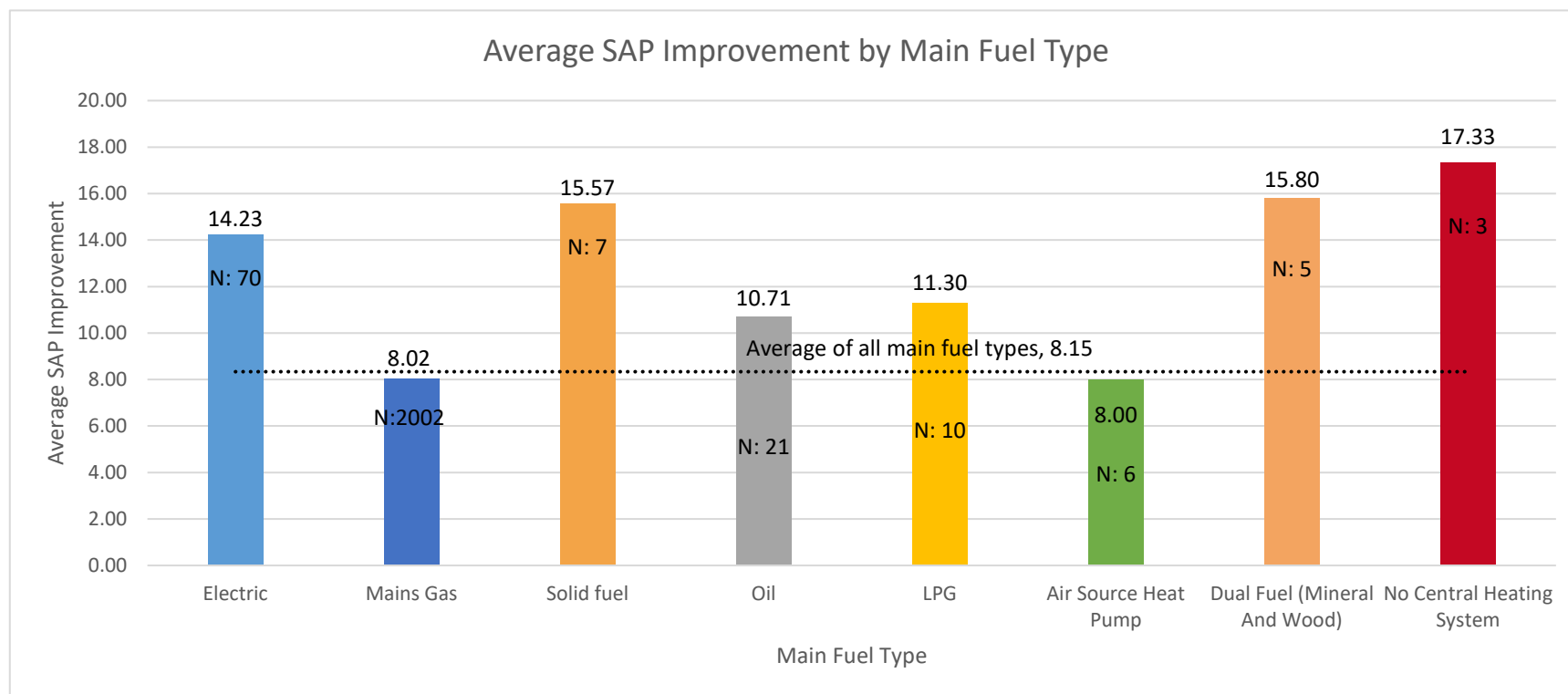


The average SAP improvement for all dwelling types is 8.34. The biggest sample size is for semi-detached houses (N:741) and the average increase for this dwelling type has been 10.65.



The average SAP improvement for all urban classifications where data was available for further analysis, has been 8.34. The biggest sample size is for other urban area (N:666) where the average improvement was 6.64.

# EES: ABS SAP Band and Main Fuel Type



The average SAP improvement for all main fuel types was 8.15. The biggest sample size available was for mains gas properties (N:2,002) here the average improvement was 8.02. Properties with electric heating improved their SAP rating by 14.23 on average, and dual fuel properties by 15.80.

# Conclusions and notes

- A variety of measures have been included in the programme since outset and the last five years have focused majorly (93%) on external wall insulation.
- The typical participating property is a house (70.9%) and constructed between 1950 and 1983 (79.09% of all properties).
- 93.16% 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 (82.01%) and 68.49% of these properties reached band C or higher.
- The programme had a positive impact on the participating properties as a whole and most properties used for this analysis increased their SAP score between 5 to 11 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.

Special thanks to Gary Craig, the Strategic Lead – Housing in the East Ayrshire Council, for providing insight and assistance towards the completion of this case study.

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