Fuel poverty modelled estimates for Wales: as at October 2021[1]

1. Introduction

This article follows the Fuel poverty modelled estimates for Wales (headline results): as at October 2021 published in April 2022 and provides a more detailed analysis of the fuel poverty estimates for 2021. This article presents modelled estimates of fuel poverty calculated for Wales, using the Welsh Housing Conditions Survey 2017-18 as a base. This article has been jointly written by the Building Research Establishment (BRE) and Welsh Government statisticians.

In the headline results published in April, the potential impact of the April 2022 fuel price increase was presented. The release stated that taking the 2021 modelled estimates of fuel poverty, revising them using fuel prices (electricity, mains gas, and heating oil) from 1 April 2022, and assuming all households are on the price cap, up to 45% (614,000) of households could be in fuel poverty following the price cap increase of April 2022. It is accepted that this approach overestimates the numbers predicted to be in fuel poverty as it assumes all households are on the price cap. As this prediction is not as robust as the October 2021 modelled estimates, this article will not be providing further breakdowns of the potential impact of the 2022 fuel price increase. This article will therefore focus on providing further breakdowns and analysis for fuel poverty as at October 2021.

The article presents fuel poverty modelled estimates for 2021 in sections 2 to 8 by household characteristics and dwelling characteristics. The following sections look in detail on the impact of some changes in the methodology between estimates for 2018 and for 2021 (section 9), the drivers of changes in fuel poverty (section 10) and the impact of COVID-19 and changes to home working patterns on fuel poverty estimates (section 11). The final sections consider fuel poverty across the UK, taking into account different definitions used in the four UK nations (section 12) and presents the results of using Wales data to calculate alternative measures of fuel poverty as used in each of the UK countries (section 13) thus providing an indication of the how these country's fuel poverty estimates compare with Wales if measured on the same basis.

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1. Notes on the use of statistical articles can be found at the end of this document.

2. Main points

In Wales as at October 2021:

- 14% of all households (196,000 households) and vulnerable households (169,000 households) were living in fuel poverty.
- 3% of all households (38,000) were living in severe fuel poverty and 11% (153,000) were at risk of fuel poverty.
- Households living in the private rented sector were more likely to be fuel poor with 23% of these households living in fuel poverty compared with 13% of owner occupiers or those in social housing.
- 22% of single person households without children were fuel poor, whilst 4% of households with two adults and children were in fuel poverty.
- Households where the respondent is unemployed or on means tested benefits are more likely to be in fuel poverty than those who are not, with 7 in 10 of the households with the lowest 10 percent of incomes being in fuel poverty.
- Households living in older properties were more likely to be fuel poor with 22% of households living in pre-1919 dwellings in fuel poverty.
- Households in dwellings with solid walls were more likely to be fuel poor (21%) than those in dwellings with cavity walls. However, whether cavity walls were insulated (11%) or not (12%) had no significant impact on fuel poverty status.
- Half of households living in dwellings without central heating (50%) were fuel poor compared with 12% of those that had central heating (12%).
- As the EPC rating of the dwelling decreased the likelihood of being fuel poor increased, with households living in dwellings rated bands A to C (8%) the least likely to be fuel poor compared with those in bands F or G (54%).

3. Background information

The Welsh Government committed to undertake a periodic biennial review of the plan to tackle fuel poverty 2021 to 2035. The plan was published in March 2021, with the first review to be published in March 2023. The 2021 modelled estimates of fuel poverty were commissioned from the Building Research Establishment (BRE) to inform the first review and to assist in the preparation of interim targets to be added into the plan.

4. Definitions

A household is regarded as being in fuel poverty if they are unable to keep their home warm at a reasonable cost. In Wales, this is measured as any household that would have to spend more than 10% of their income on maintaining a satisfactory heating regime. Any household having to spend more than 20% is defined as being in severe fuel poverty. A household needing to spend between 8 and 10% is

classed as being at risk of fuel poverty (i.e. they are susceptible to relatively small changes in income or energy costs).

Whether a household is in fuel poverty is, therefore, determined by the amount of income the household receives and the amount of that which is required to maintain a satisfactory heating regime in the dwelling they occupy. The fuel expenditure needed is itself influenced by various factors such as the energy efficiency of the home, the price of the fuel used and whether the home is under-occupied.

The 2021 figures have been calculated under the full income definition, using the most up-to-date energy model and using the definition of a 'Satisfactory heating regime' set out in Tackling fuel poverty 2021 to 2035. Previous published figures from 2008 and 2018 used a different definition of satisfactory heating regime.

Full income fuel poverty definition - A household is in fuel poverty if, in order to maintain a satisfactory heating regime, it would be required to spend more than 10% of its income (including housing related benefits and net of council tax) on all household fuel use. This definition is the primary indicator of fuel poverty and is used for monitoring progress.

As defined in Tackling fuel poverty 2021 to 2035, a 'Satisfactory heating regime' is 23°C in the living room and 18°C in other rooms, required for 16 hours in a 24-hour period in households with older (a person aged 60 and over) or disabled (a person living with a long-term limiting illness or who is disabled) people. For all other households, 21°C in the living room and 18°C in other rooms is required for nine hours in every 24-hour period on weekdays, and 16 hours in a 24-hour period on weekends.

Vulnerable households are defined as those with a person aged 60 years or over, a dependent child or children under the age of 16 years, a single person household aged under 25 and/or a person living with a long term illness or who is disabled.

A lower income household is defined as one whose income is less than 60% of the median household income in the UK before housing costs as published annually in the HBAI report.[2]

5. Outline of the methodology

There are three main components used in the calculations of fuel poverty. These are:

- Annual household incomes
- Household fuel prices
- Annual required household energy use.

Fuel poverty estimates for Wales have been re-calculated by Building Research Establishment (BRE) to the October 2021 position, using the Welsh Housing Conditions Survey 2017-18 base data and modelling changes to household incomes and fuel prices between 2017 and October 2021. October 2021 was chosen as the reference point, as this is the mid-point of a typical survey year. Energy efficiency improvements to homes have been applied in line with the measures likely to have been

2. Households below average income (HBAI) statistics (UK Government). A household is said to be in relative low income if their net equivalised household income is below a threshold set at 60% of the average (median) UK household income.

installed in the housing stock during that time[3], while the impact of coronavirus (COVID-19) has been investigated by adjusting the heating regime of households with adults who were allocated a 'working from home' status. The 2021 figures have been calculated under the full income definition and household energy requirements were modelled using the Building Research Establishment Domestic Energy Model (BREDEM 2012 version 1.1).

Statistical analysis was used to measure the significance of findings presented and was conducted on weighted data, incorporating a design effect factor to account for the complex survey design. The weighting factor has been uniformly adjusted to uplift the total number of households from 2017-18 (~1,341,624) to 2021 (~1,379,377). All frequencies and percentages reported in the text have been rounded, with percentages rounded to the nearest percent. Annual consumption figures have been rounded to the nearest 100 kWh/year, incomes to the nearest £100, and fuel costs rounded to the nearest £10.

The 2018 fuel poverty figures (calculated using the 2017-18 WHCS) and the 2008 fuel poverty figures were calculated using a heating regime as recommended by the World Health Organisation (WHO), where temperatures of 21°C in the living room and 18°C in other rooms was required. Households were assigned a full heating regime (16 hours in a 24-hour period) when someone was at home during the day, else, households were assigned a standard heating regime (nine hours in a 24-hour period on weekdays, and 16 hours in a 24-hour period on weekends). The difference between the previous definition and current definition of satisfactory heating regime is the inclusion of different criteria for households containing older or disabled people (i.e. 23°C in the living room and 18°C in other rooms, required for 16 hours in a 24-hour period). Due to differences in the modelling of the energy requirements under the satisfactory heating regime, fuel poverty estimates from 2021 cannot be directly compared with fuel poverty estimates from 2008 and 2018. For analysis comparing fuel poverty estimates from 2018 and 2021, see section 9.

5.1 Welsh Housing Conditions Survey 2017-18 methodology

The 2017-18 Welsh Housing Conditions Survey (WHCS) was carried out by BRE on behalf of the Welsh Government. Non-invasive inspections were carried out by qualified surveyors in 2,549 properties across Wales between August 2017 and April 2018. Data from the WHCS inspections are used to establish the energy efficiency of the home and, therefore, how much energy is required to heat it. To estimate household fuel costs, BRE takes the required energy consumption of the household and combines this with the known fuel price for the method of payment used by the household and the location of that household in Wales.

The sample for the WHCS was taken from eligible households taking part in the 2017-18 National Survey of Wales, which, if the respondent was the Household Reference Person (HRP)[4], or their

3. Based on trends from previous Welsh Housing Condition Surveys, data from the English Housing Survey, solar PV deployment data, and information on UK Government schemes such as ECO and the Renewable Heat Incentive.

4. The Household Reference Person is the person in whose name the property is owned or rented. If jointly owned or rented it is the person who earns the most. If incomes are equal, it is the eldest.

spouse/partner, included a detailed set of income and housing cost questions to enable the calculation of annual household incomes for WHCS cases.

Further high level information on the methodology used to produce these estimates can be found in Appendix A.

Before the WHCS 2017-18, fuel poverty levels in Wales were produced using the Living in Wales Property Survey 2008 data. Those estimates used the same definitions of fuel poverty, vulnerable households and satisfactory heating regime as the WHCS 2017-18. Therefore, broad comparisons can be made between the 2008 and 2018 figures. However, there was a change in the SAP methodology between 2008 and 2018 (see Key Quality Information).

6. Headline fuel poverty statistics

This section includes the headline statistics for fuel poverty in Wales as at October 2021, measured using the 10% indicator under the full income definition. Also included are estimates for households at risk of fuel poverty (8-10% indicator) and households in severe fuel poverty (20% indicator). Analysis of the fuel poverty indicators is also provided for vulnerable and lower income households.

6.1 All households

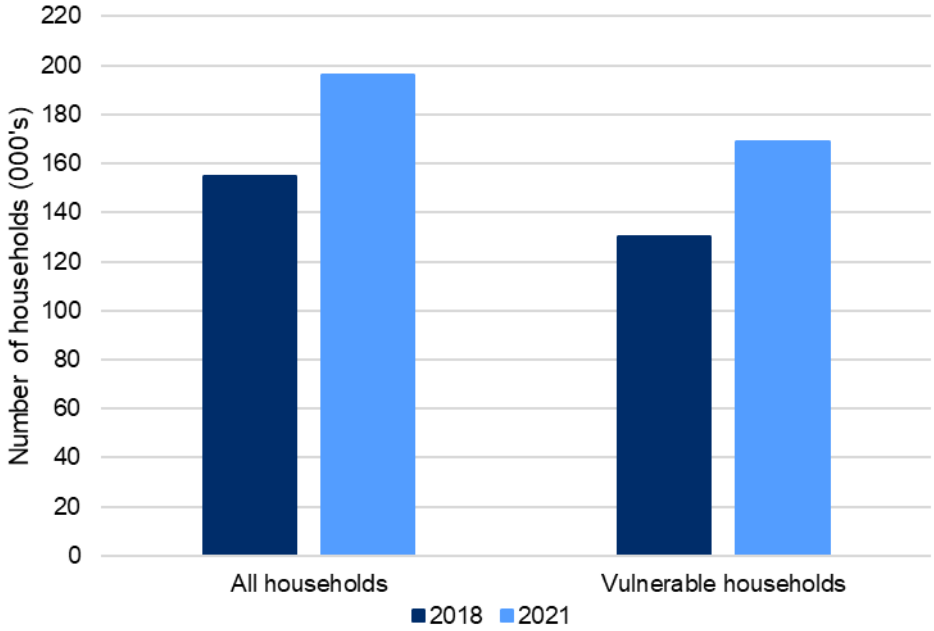
Under the full income definition, 196,000 households in Wales were estimated to be living in fuel poverty in 2021, this is equivalent to 14% of all households in Wales. This was 12% (155,000 households) in 2018 and 26% (332,000 households) in 2008. Although the figures quoted here are not directly comparable due to differences in methodology between 2018 and 2021, the level of fuel poverty did increase between 2018 and 2021. Please see section 9 for further details.

6.2 Vulnerable households

Living in a cold, damp environment is believed to exacerbate health problems such as asthma and heart conditions therefore it is of specific policy interest to consider the level of fuel poverty among households containing members who are considered particularly at risk of harm from cold conditions in the home. Vulnerable households are defined (for these purposes) as those with a person aged 60 years or over, a child or young person under the age of 16 years, a single person household aged under 25 and/or a person who is disabled or has a long term limiting condition.

In 2021, there were 169,000 vulnerable households in Wales estimated to be in fuel poverty under the full income definition, which is equivalent to 14% of all vulnerable households. Although not directly comparable, this was 11% in 2018 (130,000 households) and 29% (285,000 households) in 2008.

Chart 6.2: Number of households in fuel poverty – all households and vulnerable households, Wales (a)



Source: Building Research Establishment Domestic Energy Model (BREDEM) and WHCS 2017-18

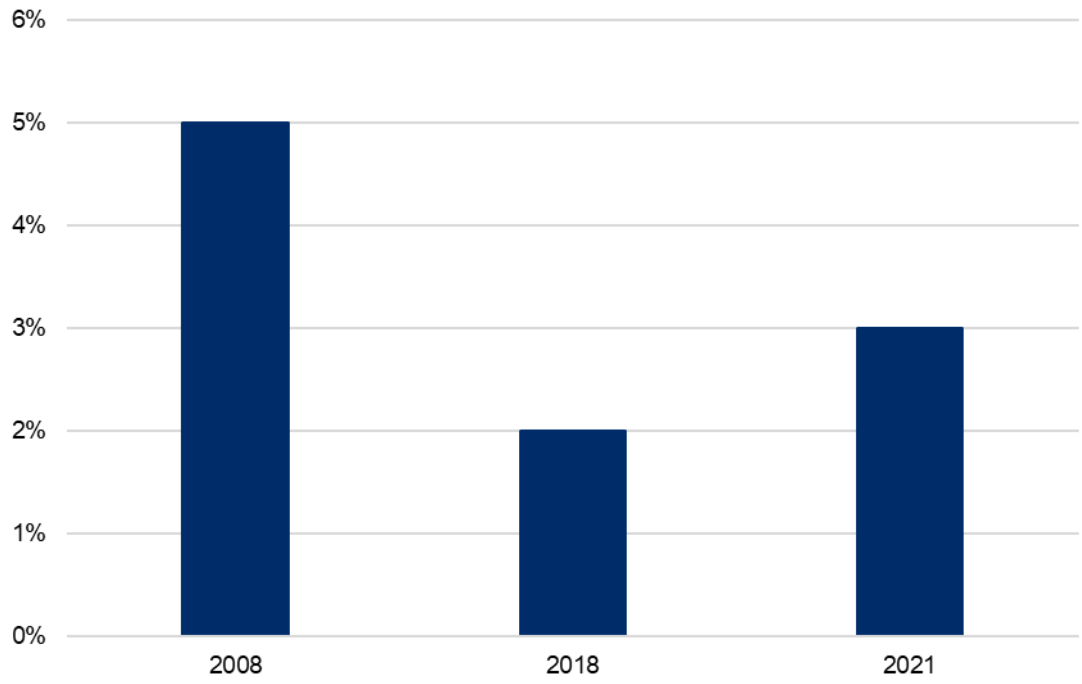
(a) Please note that definition of satisfactory heating regimes changed between the 2018 and 2021 estimates and therefore comparisons should be treated with caution and have not been statistically tested.

6.3 Severe fuel poverty

A household is defined as being in severe fuel poverty if they would have to spend more than 20 per cent of their income to maintain a satisfactory heating regime.

In 2021, 38,000 households (3% of all households) were estimated to be living in severe fuel poverty. Although not directly comparable, this was 2% (32,000 households) in 2018 and 5% (60,000 households) in 2008. In total, 26,000 (2%) vulnerable households were estimated to be living in severe fuel poverty in 2021.

Chart 6.3a: Percentage of households in severe fuel poverty, Wales (a)



Source: Living in Wales Property Survey 2008, WHCS 2017-18, Building Research Establishment Domestic Energy Model (BREDEM) and WHCS 2017-18

(a) Please note that definition of satisfactory heating regimes changed between the 2018 and 2021 estimates and therefore comparisons should be treated with caution and have not been statistically tested.

6.4 Households at risk of fuel poverty

A household needing to spend between 8 and 10% of their income to maintain a satisfactory heating regime is classed as being at risk of fuel poverty (i.e. they are susceptible to relatively small changes in income or energy costs).

In total, 153,000 households (11%) and 141,000 (12%) vulnerable households were estimated to be at risk of fuel poverty in 2021.

6.5 Lower income households

A lower income household is defined as one whose income is less than 60% of the median household income in the UK before housing costs.

130,000 lower income households were estimated to be in fuel poverty in 2021, equivalent to 59% of all lower income households whilst 34,000 lower income households (16%) were estimated to be in severe fuel poverty.

7. Household characteristics

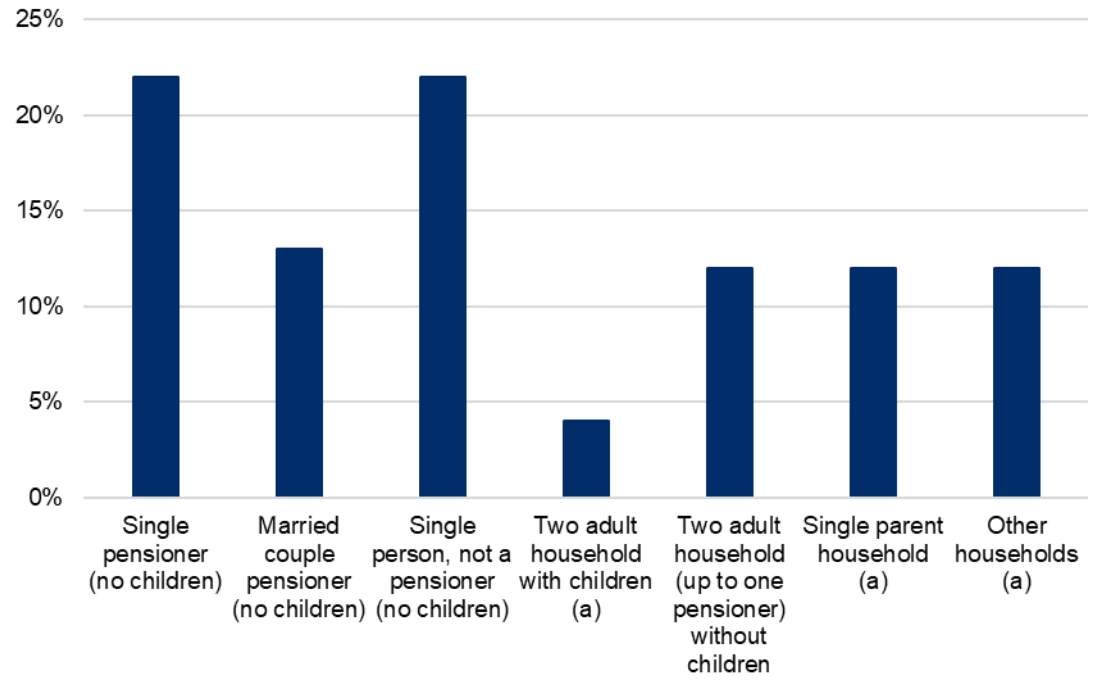
The majority of this section focusses on results under the 10% fuel poverty definition, when analysed by different household characteristics. Severe fuel poverty has been analysed by income and vulnerability of households.

7.1 Household Type and Age of Household Reference person (HRP)

Households in fuel poverty in 2021 were dominated by single person households. The single pensioner (without children) group was the most common household type among all fuel poor households (28%), followed by the single person (not a pensioner, no children) group (21%). The least prevalent household type among households in fuel poverty was the two-adult household with children (5%) and single parent households (6%). Single person households (without children) made up 59% of the fuel poor population.

Different household types are not evenly distributed across the population, for example there are over two and a half times as many single pensioner households as there are single parent households. The chart below shows what percentage of different types of households are estimated to be in fuel poverty. 22% of single pensioner households and single non-pensioner households were fuel poor in 2021. The household group with the lowest percentage of households in fuel poverty was two person households with children, with 4% of households in this group living in fuel poverty.

Chart 7.1a: Percentage of households living in fuel poverty by household type, Wales, 2021



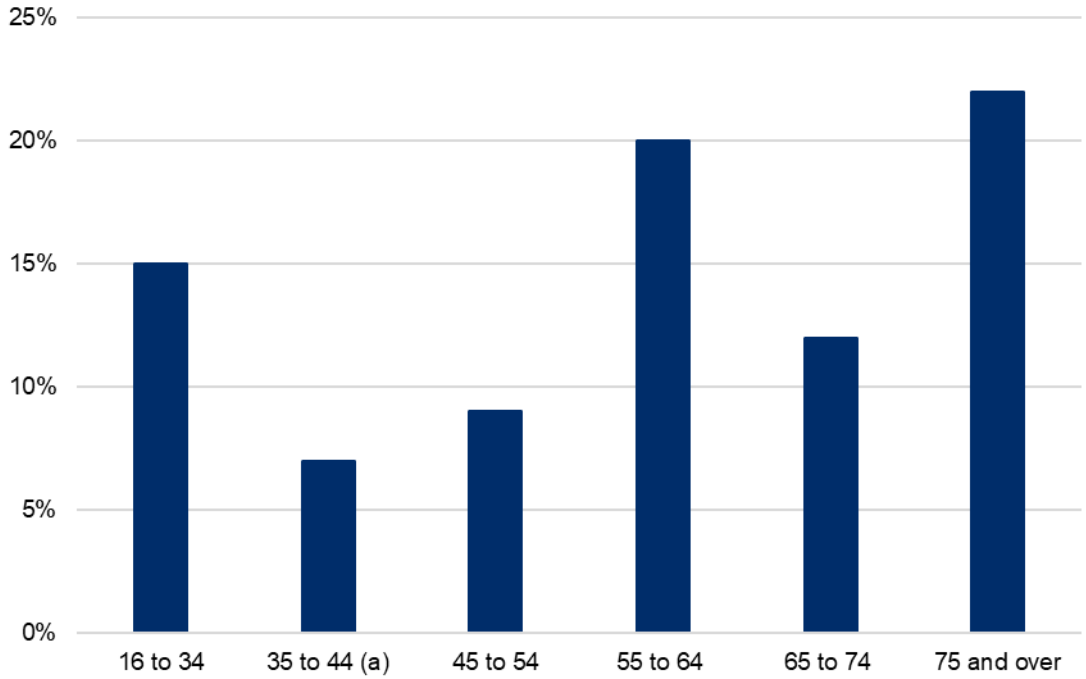
Source: Building Research Establishment Domestic Energy Model (BREDEM) and WHCS 2017-18

(a) Please note that estimates for the following categories are based on small numbers (less than 30 respondents) and should therefore be treated with caution: Two adult household with children, Single parent household, Other households.

Households in fuel poverty are generally older. Of all fuel poor households, 24% contained a Household Reference Person (HRP) aged over 75 and 41% contained an HRP aged 65 or over.

Although households with a HRP aged 75 years and over (22%) had the highest levels of fuel poverty, with 35 to 44 years (7%) having the lowest, these were not significantly different from other groups. However, when considering all occupants, households with an adult aged over 60 (17%) were more likely to be fuel poor compared with younger households (11%). Also, households that contain a child aged under 16 (7%) were less likely to be fuel poor compared with 17% of households who do not have children.

Chart 7.1b: Percentage of households living in fuel poverty by age of HRP, Wales, 2021



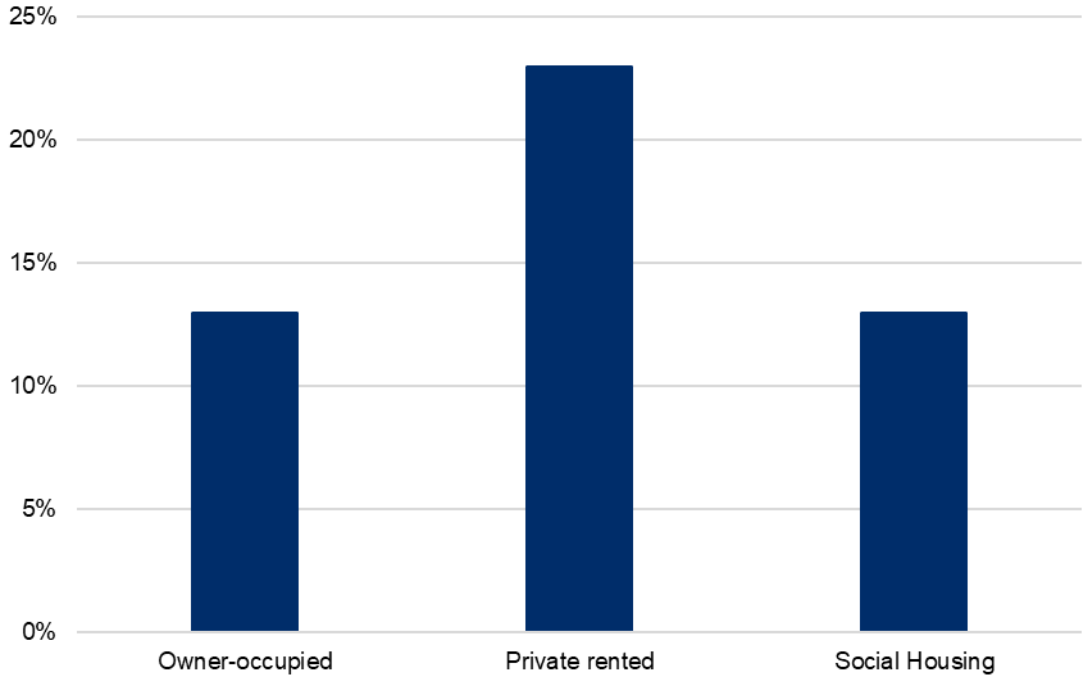
Source: Building Research Establishment Domestic Energy Model (BREDEM) and WHCS 2017-18

(a) Please note that estimates for the 35 to 44 category are based on small numbers (less than 30 respondents) and should therefore be treated with caution.

7.2 Tenure

In 2021, the owner occupied tenure made up the majority of fuel poor households (62% of fuel poor households), due to the fact that this is the most prevalent tenure type within the Welsh housing stock. It was, however, households in the private rented sector with the highest proportion of households in fuel poverty (23%). 13% of the other tenures were fuel poor.

Chart 7.2: Percentage of households living in fuel poverty by tenure, Wales, 2021



Source: Building Research Establishment Domestic Energy Model (BREDEM) and WHCS 2017-18

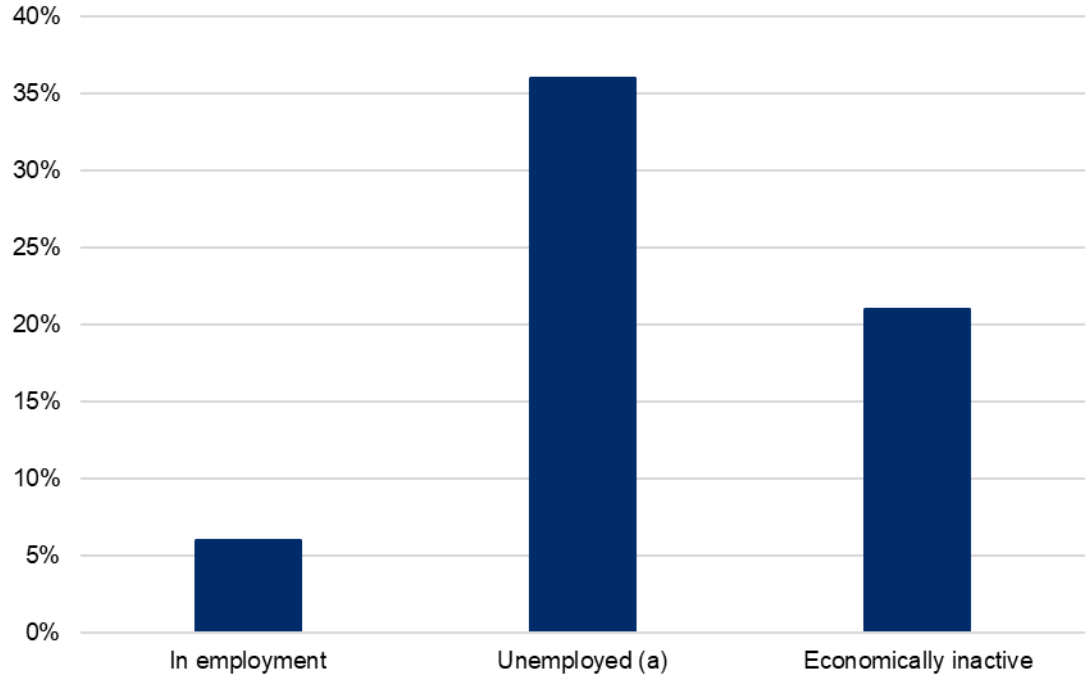
7.3 Employment status

Income is one of the three key components of fuel poverty, with one of the key determinants of income being employment status.

Households with an unemployed respondent were the most likely to be fuel poor, whilst households with an employed respondent were the least likely to be fuel poor. 36% of households with an unemployed respondent, 21% of households with an economically inactive[5] respondent and 6% of households with an employed respondent were living in fuel poverty.

5. Economically inactive includes those that are Full-time student (including on holiday), Unable to work because of long-term sickness or disability, Retired, Looking after home or family and Doing something else.

Chart 7.3: Percentage of households living in fuel poverty by employment status of respondent, Wales, 2021



Source: Building Research Establishment Domestic Energy Model (BREDEM) and WHCS 2017-18

(a) Please note that estimates for the unemployed category are based on small numbers (less than 30 respondents) and should therefore be treated with caution.

7.4 Income

Fuel poverty is predominantly experienced by households with low incomes. Section 6.5 above defines a lower income household as one whose income is less than 60% of the median household income in the UK before housing costs.

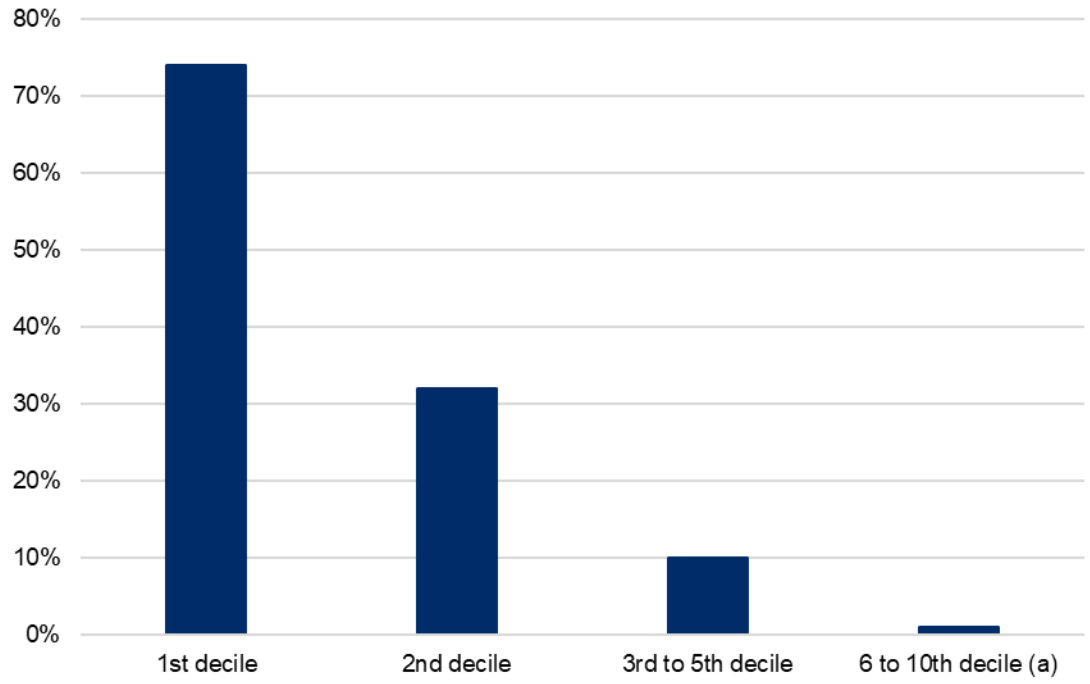
130,000 lower income households were estimated to be in fuel poverty in 2021, equivalent to 59% of all lower income households, whilst 6% of households who do not fall into this lower income category are estimated be fuel poor.

This section considers which households are most likely to be in fuel poverty according to income deciles.

Households with a lower income were more likely to be fuel poor compared to those on a higher income. Households in the first income decile (on the lowest 10% of incomes) were most likely to be fuel poor with 74% of these households estimated to be fuel poor. This compares to 1% of households in the sixth to tenth income deciles.

Households in the lowest income decile (24%) were more likely to be in severe fuel poverty compared with households in higher income deciles (<1%).

Chart 7.4: Percentage of households living in fuel poverty by income decile, Wales, 2021



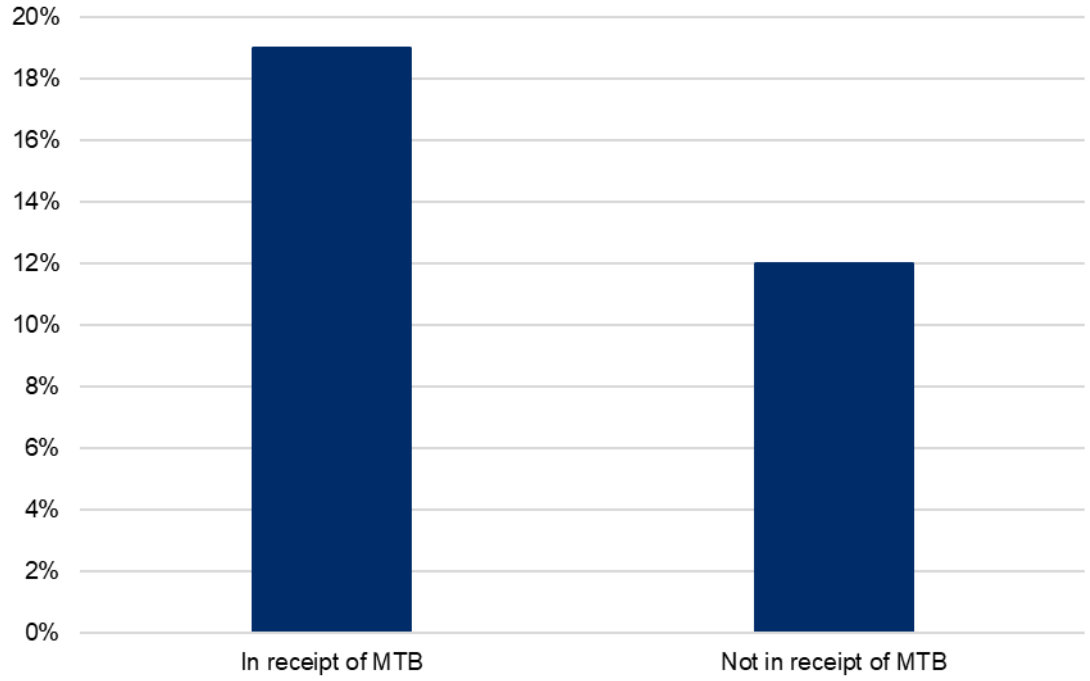
Source: Building Research Establishment Domestic Energy Model (BREDEM) and WHCS 2017-18

(a) Please note that estimates for the 6 to 10th decile category are based on small numbers (less than 30 respondents) and should therefore be treated with caution.

7.5 Means tested benefits

In 2021, 40% of households in fuel poverty received means tested benefits (MTB), including housing related benefits. Of all households on these benefits, 19% were fuel poor compared with 12% of those households who were not on these means-tested benefits.

Chart 7.5: Percentage of households living in fuel poverty by receipt of means tested benefits (MTB), Wales, 2021 (a)



Source: Building Research Establishment Domestic Energy Model (BREDEM) and WHCS 2017-18

(a) These benefits include housing benefit, income support, income based employment support allowance (ESA), income based jobseekers' allowance (JSA), pension credit, council tax support, universal credit, child tax credit, and working tax credit. Households in receipt of either Working Tax Credit, or Child Tax Credit, are only included in this means tested benefit flag if the HRP and any partner has a relevant gross income of less than the first income threshold to Child Tax Credit. This limit is irrelevant if they receive other eligible benefits.

7.6 Long-term limiting illness and vulnerable households

Households with someone who has a long-term limiting illness (16%) were more likely to be fuel poor than households without (12%).

The vulnerable status was not found to have a significant impact on the fuel poverty status of households. However, in contrast to the results under the 10% indicator, vulnerable households (2%) were less likely to be in severe fuel poverty than their counterparts (6%).

8. Dwelling characteristics

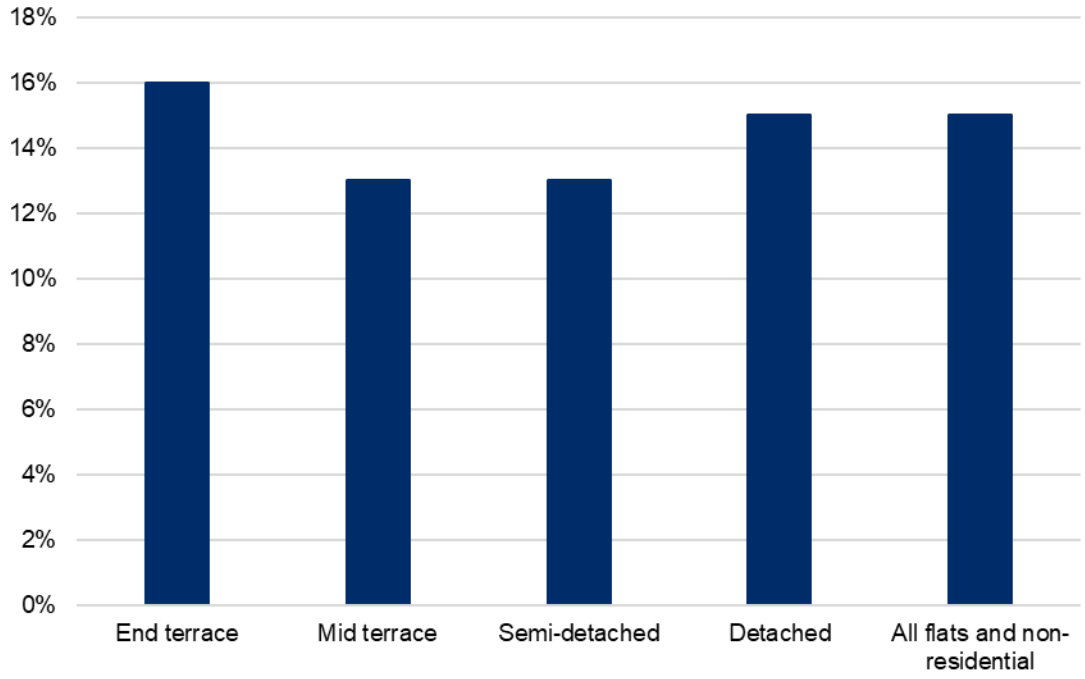
This section includes analysis of the types of dwellings that households in fuel poverty were living in.

8.1 Dwelling type

Dwelling type and floor area did not have a significant impact on the fuel poverty status of households. Across all types of dwelling, the percentage of households in fuel poverty was broadly similar, ranging

from 13% of those living in semi-detached and mid terrace to 16% of those living in end of terrace being fuel poor.

Chart 8.1: Percentage of households living in fuel poverty by dwelling type, Wales, 2021



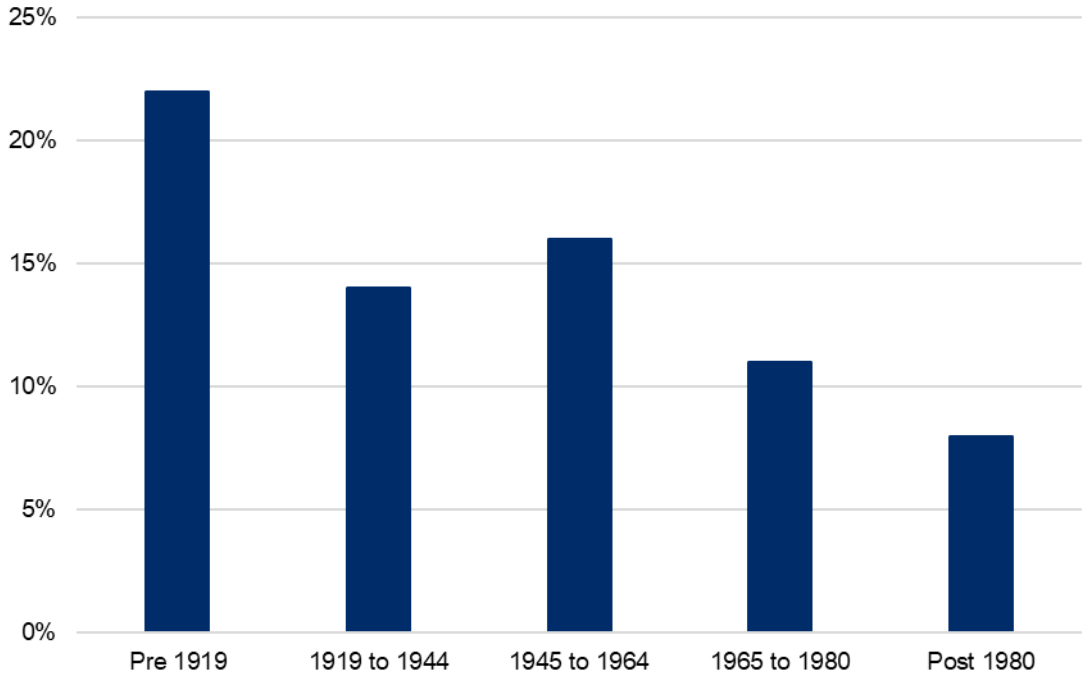
Source: Building Research Establishment Domestic Energy Model (BREDEM) and WHCS 2017-18

8.2 Dwelling age

Of those households living in older properties (pre-1919) 22% were fuel poor compared to 8% of those living in more modern properties (post 1980).

This is likely to be due in part to the thermal properties of their structure. For example, the most common wall type for pre-1919 properties is solid wall. Solid walls are less efficient at retaining heat, therefore increasing the energy needed to heat a property.

Chart 8.2: Percentage of households living in fuel poverty by dwelling age, Wales, 2021



Source: Building Research Establishment Domestic Energy Model (BREDEM) and WHCS 2017-18

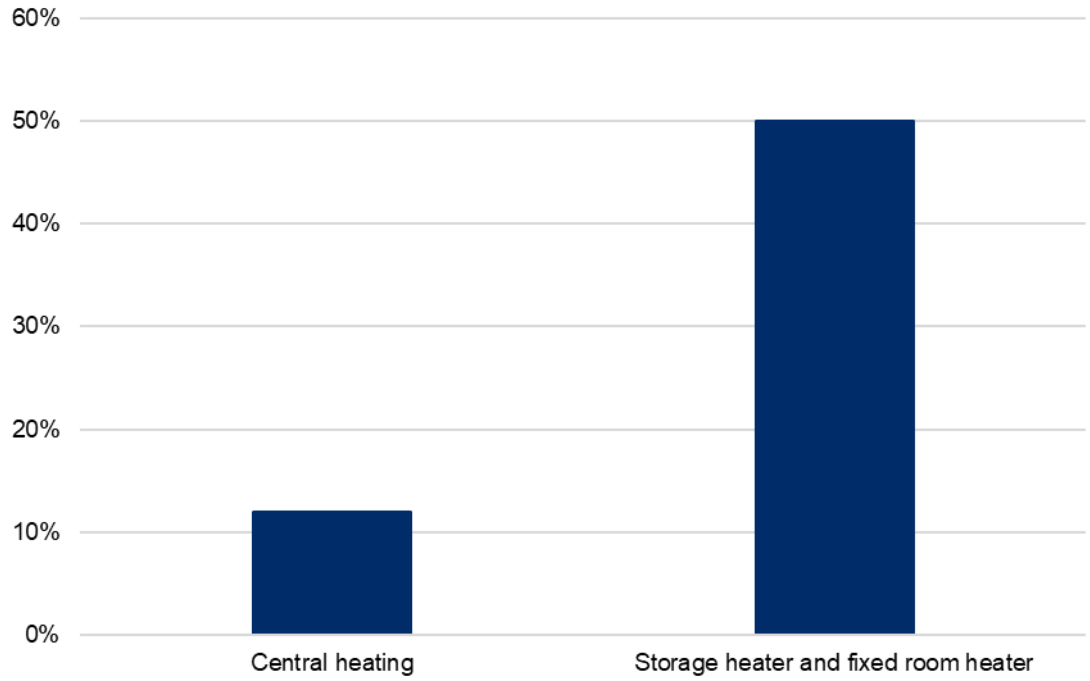
8.3 Main heating system and fuel type

One way to protect a household from fuel poverty is to ensure that there is a cost-effective means of heating the dwelling. Central heating, and in particular mains-gas central heating, is considered one of the most cost-efficient heating systems currently in mainstream use in the Welsh housing stock.

Central heating systems include: boiler systems with radiators, warm air and ‘other’ systems such as underfloor heating, and communal systems. Households which do not have central heating systems have higher average fuel costs per year than those that have central heating systems.

Households living in dwellings without central heating present were more likely to be fuel poor compared with those that had central heating. 50% of households without central heating were living in fuel poverty, compared to 12% of those with central heating. Rates of fuel poverty among those with central heating is close to the typical level for the population as a whole.

Chart 8.3: Percentage of households living in fuel poverty by main heating type, Wales, 2021



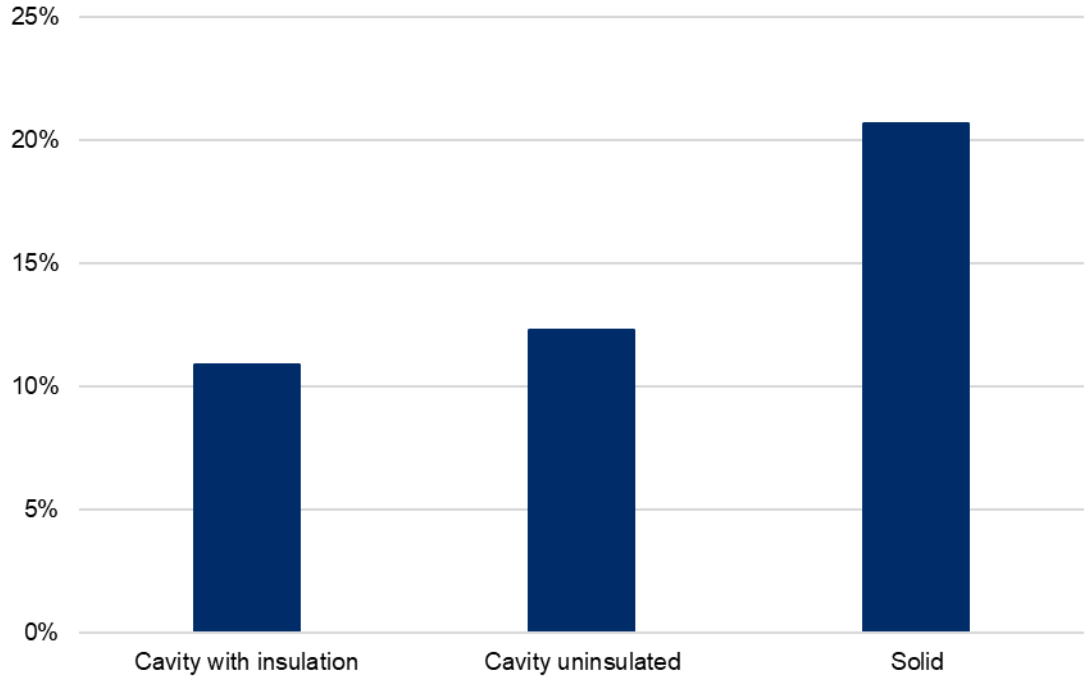
Source: Building Research Establishment Domestic Energy Model (BREDEM) and WHCS 2017-18

Households who heat their home using electricity were more likely to be fuel poor (45%) than those using other fuels (23%), with households heating their home by mains gas (11%) being the least likely.

8.4 Wall type and insulation

Households in dwellings with solid walls were more likely to be fuel poor (21%) than those who lived in dwellings with cavity walls. However, whether cavity walls were insulated (11%) or not (12%) had no significant impact on fuel poverty status.

Chart 8.4: Percentage of households living in fuel poverty by wall type and insulation, Wales, 2021



Source: Building Research Establishment Domestic Energy Model (BREDEM) and WHCS 2017-18

8.5 Energy efficiency: SAP ratings & EPC band

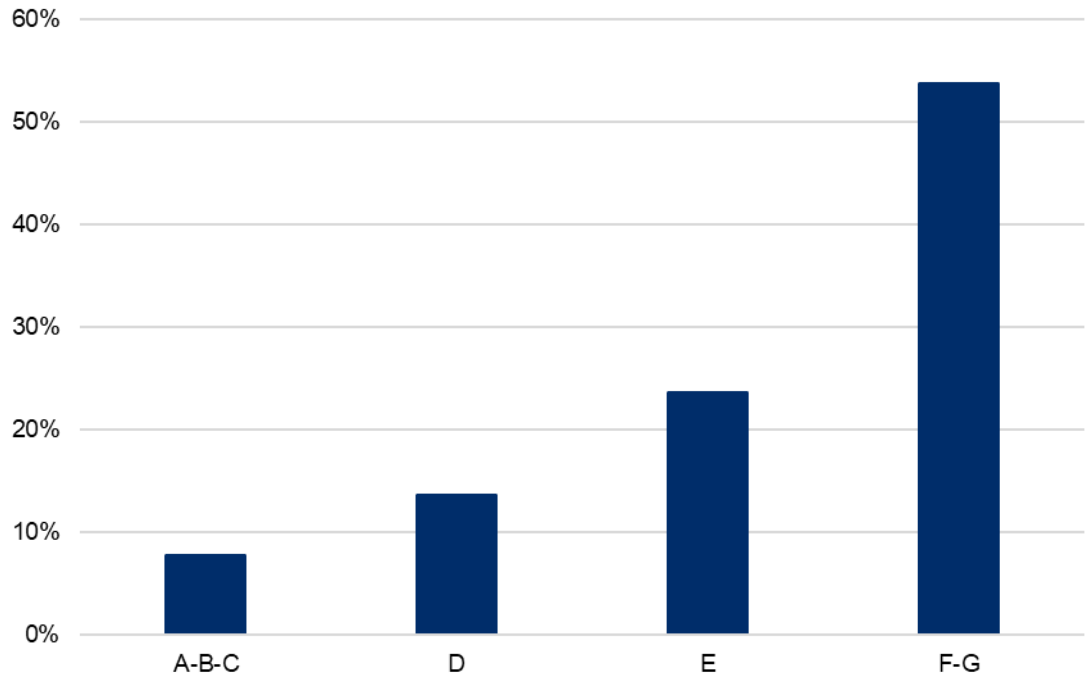
The Standard Assessment Procedure (SAP) is the methodology used by the Government to assess and compare the energy and environmental performance of dwellings.

SAP works by assessing how much energy a dwelling will consume, when delivering a defined level of comfort and service provision. The assessment is based on standardised assumptions for occupancy and behaviour. This enables a like-for-like comparison of dwelling performance. The ratings are expressed on a scale between 1 and 100, where 100 represents no energy cost.

SAP ratings are divided into bands from A to G. These are the bands used for Energy Performance Certificates (EPC). The highest values (i.e. the highest levels of energy efficiency) are assigned to band A and the lowest values are assigned to band G.

As the EPC rating of the dwelling decreased the likelihood of being fuel poor increased, with households living in dwellings rated bands A to C the least likely to be fuel poor (8%) compared with those in bands F or G (54%). In total, 19% of households in dwellings with an EPC rating of F or G were in severe fuel poverty, compared with less than 4% of households in dwellings with a higher energy efficiency rating.

Chart 8.5: Percentage of households living in fuel poverty by Energy Performance Certificate (EPC) band, Wales, 2021



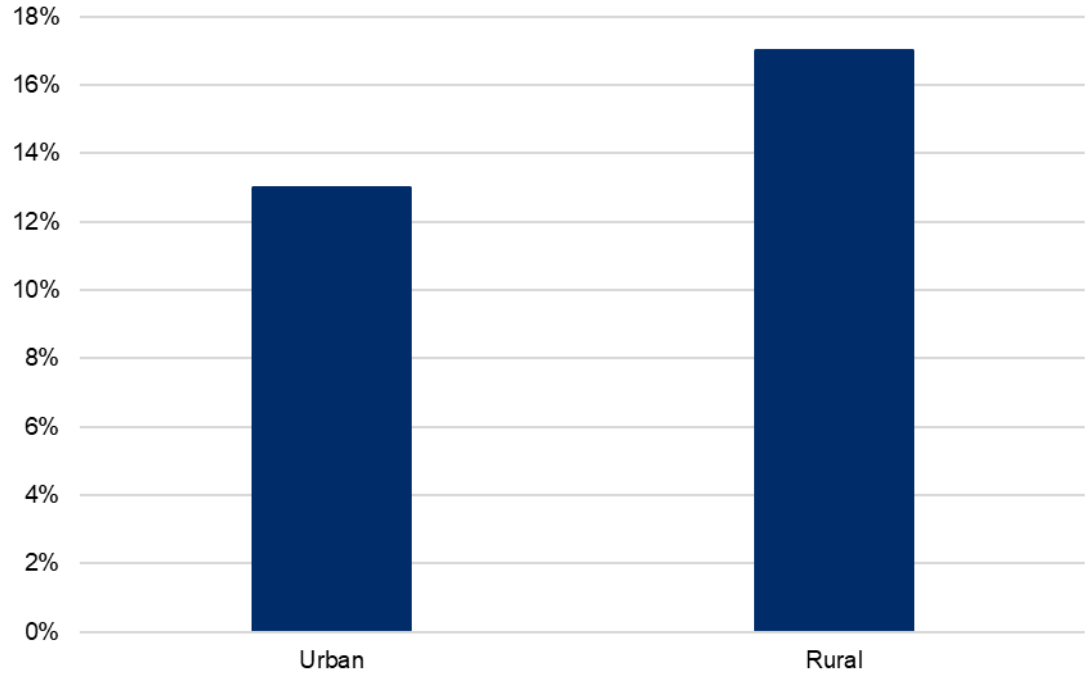
Source: Building Research Establishment Domestic Energy Model (BREDEM) and WHCS 2017-18

8.6 Location – Urban/Rural classification[6]

Households living in rural areas were more likely to be living in fuel poverty. Of all households in rural locations, 17% were fuel poor, compared with 13% of households living in urban areas. In part, this may reflect a greater proportion of households in rural areas not having central heating.

6. The Office for National Statistics 2011 Rural - Urban classification of areas is used. A classification is allocated to small Census output areas. Output Areas are treated as 'urban' if they are part of a built up area which contains 10,000 people or more. Rural areas include town and fringes, villages, and hamlets and isolated areas.

Chart 8.6: Percentage of households living in fuel poverty by rural / urban classification, Wales, 2021



Source: Building Research Establishment Domestic Energy Model (BREDEM) and WHCS 2017-18

9. Trend analysis

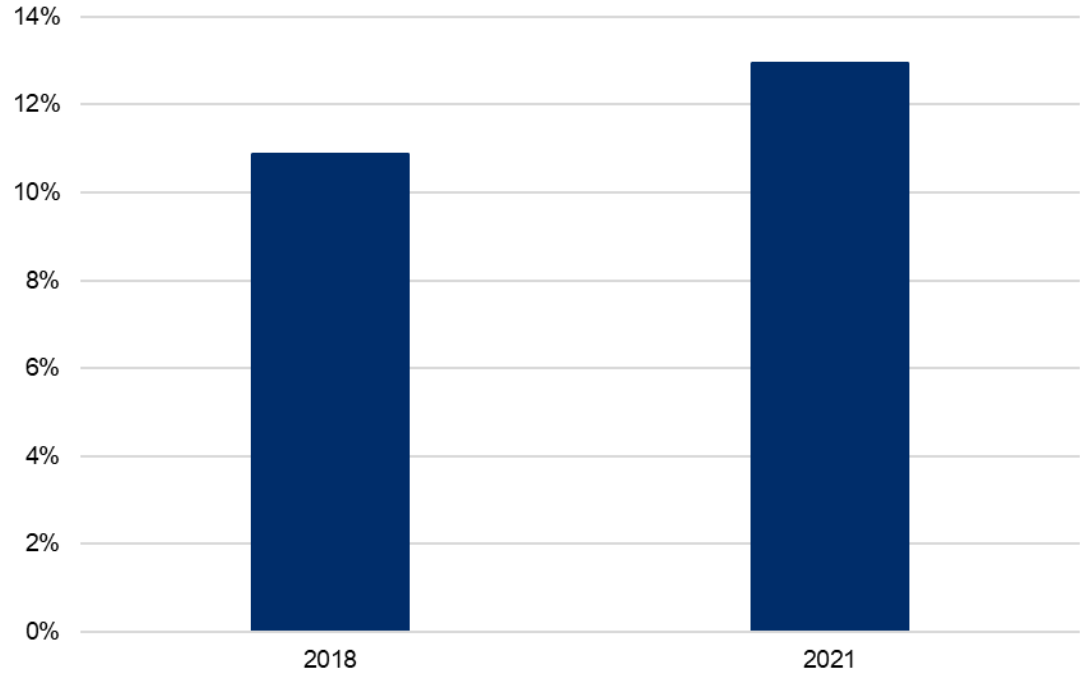
Due to differences in the modelling of the energy requirements for the 2021 fuel poverty calculation, the main headline figures for fuel poverty in 2021 are not directly comparable with the 2018 or 2008 published fuel poverty figures. This section details the estimated number of households in fuel poverty in 2018 and 2021, using a consistent methodology.

Firstly, improvements to the energy model have led to a slight reduction in the estimated number of households in fuel poverty in 2018, with 11% of households in fuel poverty (146,000 households), under the 2018 heating regime.

Following updates to each of the fuel poverty components (incomes, fuel prices and energy consumption) to 2021, there were estimated to be 13% of households in fuel poverty (179,000 households) in 2021, under the 2018 heating regime.

Therefore, as a direct result of income and energy cost changes, fuel poverty increased by 2% between 2018 and 2021, using the 2018 definition of satisfactory heating regime.

Chart 9: Percentage of households in fuel poverty (alternative definition of satisfactory heating regime used in 2018), Wales, 2018 and 2021



Source: Building Research Establishment Domestic Energy Model (BREDEM) and WHCS 2017-18

10. Drivers of fuel poverty

This section looks at how the components of fuel poverty have changed between 2017-18 WHCS (used to calculate the 2018 fuel poverty estimates) and 2021 and explores how these impact fuel poverty levels in 2021.

The median annual household income increased by 10% between 2017-18 and 2021, from £23,600 in 2017-18 to £25,900 in 2021.

The median annual household fuel costs to maintain a satisfactory heating regime also increased between 2017-18 and 2021, but by 17%, from £1,230 in 2017-18 to £1,440 in 2021.

The change in fuel costs between 2017-18 and 2021 reflect a combination of factors: energy model updates, fuel price changes, the application of energy efficiency improvements, and modelling of fuel poverty using the 2021 satisfactory heating regime definition.

The impact of each component individually on fuel poverty levels, has been determined when modelled with the heating regime used in the calculation of the 2018 fuel poverty statistics, using a new baseline from 2017-18. Individually: the change in fuel prices caused fuel poverty to increase by seven percentage points; the change in incomes caused fuel poverty to decrease by two percentage points; and the addition of energy efficiency improvements caused fuel poverty to decrease by one percentage point. As reported in the trend analysis, when the effect of the change in household incomes, fuel prices and energy efficiency upgrades are combined, the effect is to increase estimates of fuel poverty, from 11% in 2018 to 13% in 2021.

When using the ‘satisfactory heating regime’ to model household energy requirements, household energy costs were increased for vulnerable households, which led to levels of fuel poverty in 2021 increased from 13% using the 2018 heating regime, to 14% using the current satisfactory heating regime.

11. Impact of COVID-19 on levels of fuel poverty

This section explores the impact that COVID-19 has had on fuel poverty estimates, using October 2021 as the reference point.

To reflect the increase in home working since the start of the COVID-19 pandemic, a random selection of employed adults in the Welsh Housing Conditions Survey 2017-18 dataset were assigned a ‘working from home’ status to bridge the gap between pre-pandemic home working levels and home working in October 2021. Data on the number of people working at home was sourced from the Understanding Society study[7]. In total, 19% of employed adults were allocated to be home working, and non-vulnerable households with someone ‘working from home’ were assigned a full heating regime (16 hours of heating in a 24-hour period), with required temperatures of 21°C in the living room and 18°C in other rooms.

Based on this analysis, households with additional people working from home due to the COVID-19 pandemic had higher incomes (median £38,800) compared with households with no additional people working from home (median £23,400). This reflects the difference in household income by employment status. Households where the respondent was employed had higher incomes (median £37,100) compared with households where the respondent was economically inactive or unemployed (median £18,700).

The change in the heating regime, led to an increase in required energy consumption and fuel costs for households with additional home workers; median energy consumption increased by 4% from 18,400 kWh/year to 19,100 kWh/year, while median annual fuel costs increased by £50.

The addition of home workers to account for the COVID-19 pandemic and resultant increase in home working had no impact on the number of households in fuel poverty which remained at 196,000 (14%). Less than 500 households were added to the severe fuel poverty category (2.7% to 2.8%) and there was a slight increase in the number of households at risk of fuel poverty from 151,000 (10.9%) to 153,000 (11.1%).

12. Fuel poverty across the UK

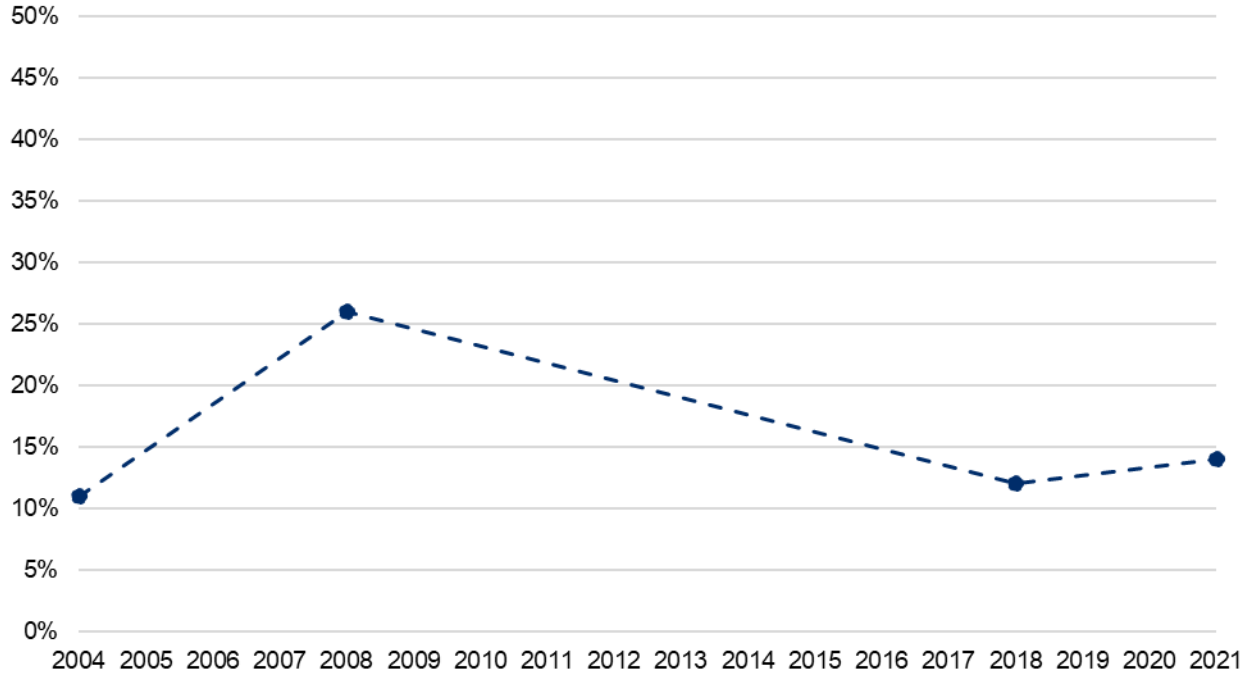
It should be noted that there are methodological differences in the way each UK nation calculates fuel poverty. The data presented in this section has been obtained from results published in the House Condition Survey reports for each nation.

7. Weighted estimates of employee’s who were often or always working at home (variable ‘wah’) were calculated from the baseline pre-COVID point in January/February 2020, and then again in September 2021. COVID-19 (Understanding Society)

12.1 Wales

In Wales the level of fuel poverty has risen from an estimated 11% in 2004, to a high of 26% in 2008. This fell to an estimated 12% in 2018. Before rising to 14% in 2021 (13% when using the same definition of satisfactory heating regime as 2018).

Chart 12.1: Fuel poverty in Wales time series (a)



Source: Living in Wales Property Surveys 2004 & 2008, Welsh Housing Conditions Survey 2017-18 and Building Research Establishment Domestic Energy Model (BREDEM) and WHCS 2017-18

(a) Please note that definition of satisfactory heating regimes changed between the 2018 and 2021 estimates and therefore comparisons should be treated with caution. The 2021 estimate is a modelled estimate.

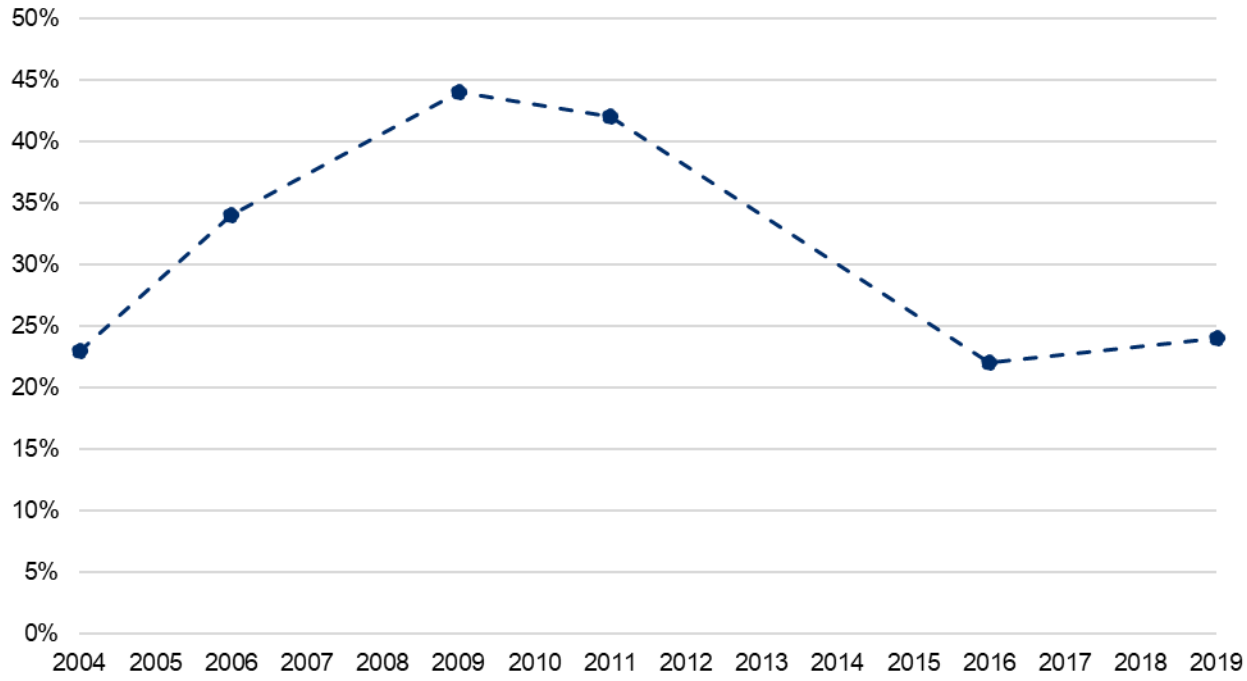
12.2 Northern Ireland

Fuel poverty in Northern Ireland is measured using the 10% indicator, where a household is fuel poor if fuel costs required to maintain a satisfactory heating regime, are greater than 10% of the household income. A full income measure is used in the fuel poverty calculation with income including housing benefit, Winter Fuel Payments and rates rebates minus household rates.

A ‘satisfactory heating regime’ in Northern Ireland is defined as 21°C in the living room and 18°C in other rooms, for 16 hours in a 24-hour period in households for people in during the day. For all other households, 21°C in the living room and 18°C in other rooms is required for nine hours in every 24-hour period on weekdays, and 16 hours in a 24-hour period on weekends. Income is the full net annual income of the household (income from all sources, including benefits and savings and investments), which is the same as the income used in the fuel poverty figures calculated using the headline Wales 10% measure.

The proportion of fuel poor households in Northern Ireland dropped from the peak in 2009 (44%) to 22% in 2016 before rising to 24% in 2019.

Chart 12.2: Fuel poverty in Northern Ireland time series (a)



Source: Northern Ireland House Condition Surveys 2004, 2006, 2009 (interim survey), 2011 and 2016 and Building Research Establishment Domestic Energy Model (BREDEM)

(a) 2019 estimate is a modelled estimate (BRE).

12.3 Scotland

As set out in section 3 of the Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act, a household is in fuel poverty if:

- in order to maintain a satisfactory heating regime, total fuel costs necessary for the home are more than 10% of the household's adjusted (i.e. after housing costs) net income; and
- if, after deducting those fuel costs, benefits received for a care need or disability and childcare costs, the household's remaining adjusted net income is insufficient to maintain an acceptable standard of living.

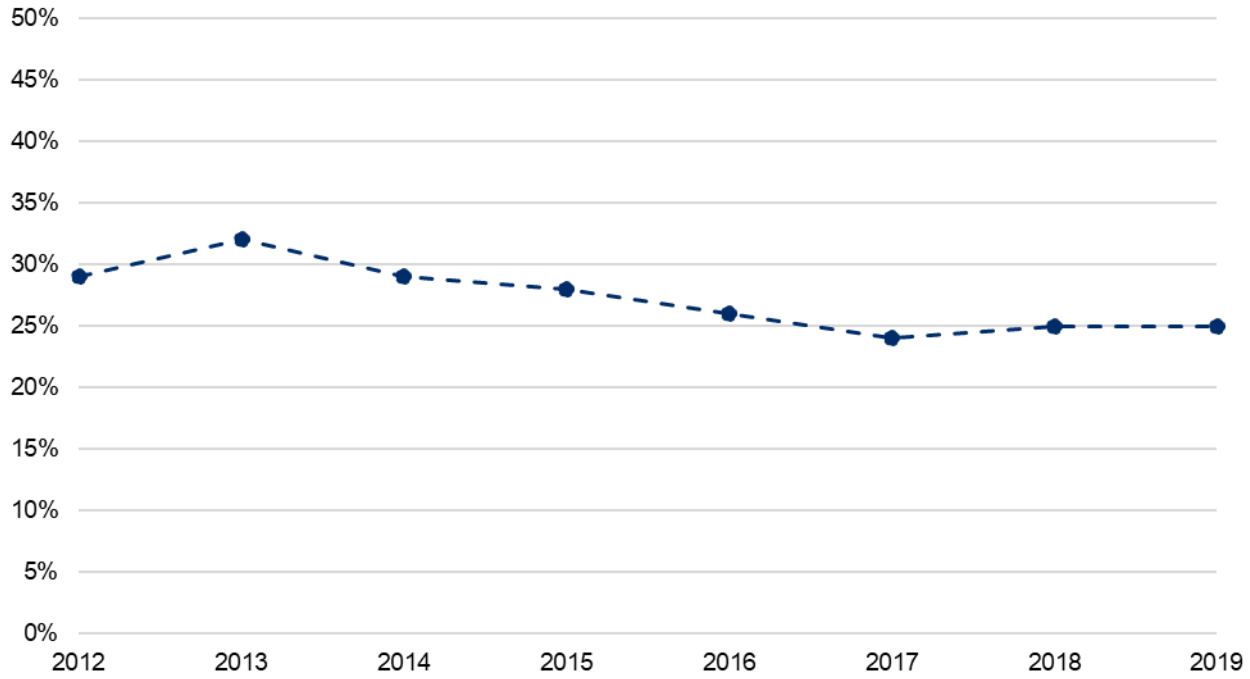
The remaining adjusted net income must be at least 90% of the UK Minimum Income Standard (MIS) to be considered an acceptable standard of living, with an additional amount added for households in remote rural, remote small town and island areas.

The heating regimes in Scotland are set out in the Fuel Poverty (Enhanced Heating) (Scotland) Regulations 2020.

The proportion of fuel poor households in Scotland for the latest two years (2018 and 2019)[8] was 25%[9].

8. Due to restrictions in response to the Covid-19 pandemic, the 2020 Scottish House Condition Survey (SHCS) was not completed. The 2021 SHCS was carried out by an external-only inspection, supplemented with alternative sources of data (e.g. from the Energy Performance Certificate) and the householder providing information to surveyors via telephone. The results of the 2021 SHCS, including estimates of fuel poverty, are

Chart 12.3: Fuel poverty in Scotland time series



Source: The Scottish House Condition Survey 2012 to 2019

The Scottish Government has undertaken scenario modelling[10] to estimate the impact of rising energy prices on fuel poverty in Scotland. With the price cap frozen at £2,500 for the average dual fuel customer under the Energy Price Guarantee and accounting for the other support for households from the UK and Scottish Governments, it is estimated that around 860,000 households (35% of all households) will be in fuel poverty.

12.4 England

Fuel poverty in England is measured using the 'Low Income Low Energy Efficiency' (LILEE) method. A household in England is considered fuel poor if they have a Fuel Poverty Energy Efficiency Rating (FPEER)[11] of band D or below, and if they were to spend their modelled energy costs required to maintain a satisfactory heating regime, they would be left with a residual income below the official poverty line.

A 'satisfactory heating regime' in England is defined as 21°C in the living room and 18°C in other rooms, for 16 hours in a 24-hour period in households for people in during the day. For all other households, 21°C in the living room and 18°C in other rooms is required for nine hours in every 24-hour period on weekdays, and 16 hours in a 24-hour period on weekends. Income is calculated as an annual After Housing Costs equivalised income value for the household, which is the full net annual income of the

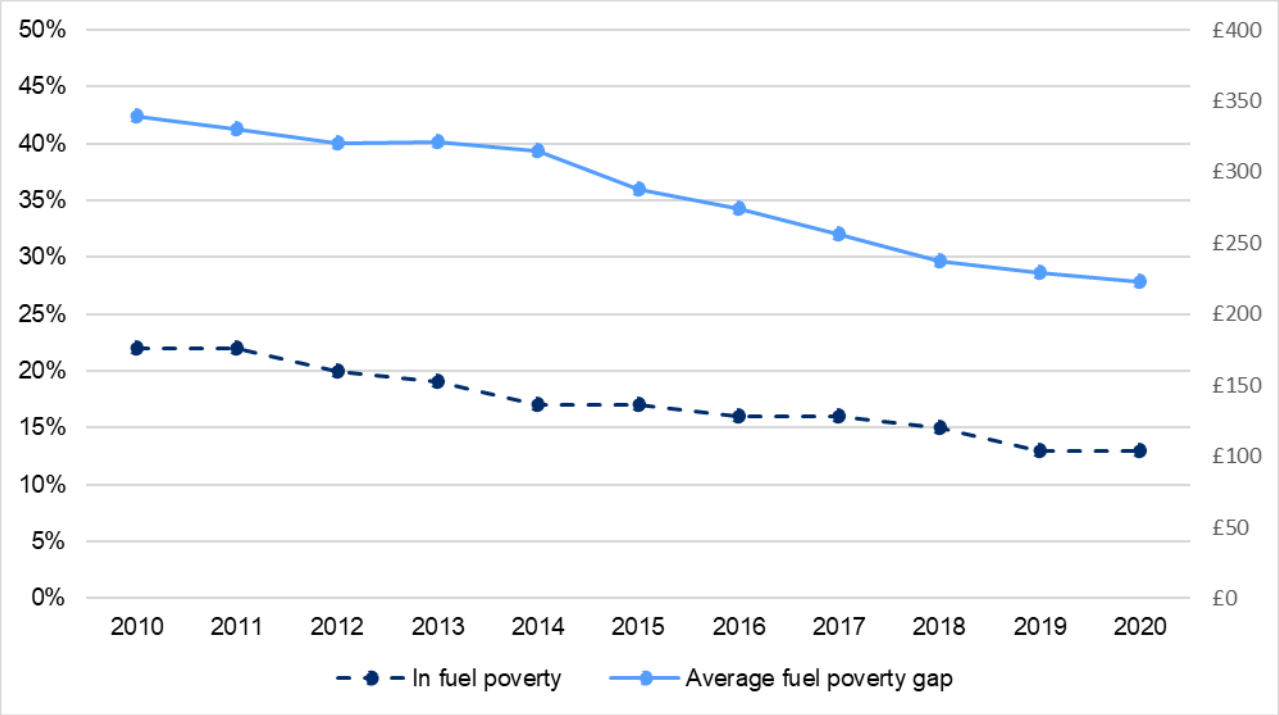
expected to be published in February 2023. Coronavirus (COVID-19): Impact on Scottish Household Survey and Scottish House Condition Survey.

9. These estimates are not based on the heating regimes set out in the Fuel Poverty (Enhanced Heating) (Scotland) Regulations 2020, which came into effect on 25 February 2020. For details of the heating regimes that these estimates are based on see the key findings from the 2019 Scottish House Condition Survey.
10. Cost of Living (Tenant Protection) (Scotland) Bill Policy Memorandum
11. The fuel poverty energy efficiency rating (FPEER), is based on SAP, but accounts for the impact of policies which discount households' energy bills (e.g. the Warm Home Discount). FPEER methodology

household (income from all sources, including benefits and savings and investments), excluding income associated with the main disability benefits and with deductions for housing costs.

Under this metric, the percentage of fuel poor households in England in 2020 is approximately 13%. The proportion of households in fuel poverty under LILEE has been decreasing year on year since 2010 (22%). The LILEE also includes a measure of the depth of fuel poverty, called the average fuel poverty gap which has been decreasing from £339 in 2010 to £223 in 2020.

Chart 12.4: Fuel poverty in England time series



Source: English House Condition Surveys and English Housing Survey 2010 to 2020

13. Alternative measures of fuel poverty

The modelled 2021 figures for Wales have been recalculated using the alternative measures of fuel poverty across the UK. This is provided to give an indication of the impact that using different income and heating regime requirements, as specified for the England, Northern Ireland, and Scotland definitions of fuel poverty might have on the estimates for Wales. These do not represent the official estimates of fuel poverty for Wales. The headline figures of the alternative measures of fuel poverty are presented and analysis of the fuel poverty indicators is provided for vulnerable and lower income households. Also included is information on the household annual fuel costs and incomes, from the four UK methods of calculating fuel poverty.

13.1 Northern Ireland fuel poverty methodology

The fuel poverty figures for Wales, calculated using the Northern Ireland method, are presented below, with a comparison with the most recent published fuel poverty figures for Northern Ireland.

In Wales in 2021, using the Northern Ireland method which uses the 10% indicator and the 2018 Wales definition of ‘satisfactory heating regime’:

- 192,000 households (14%) were estimated to be living in fuel poverty.

- 165,000 vulnerable households (14%) were in fuel poverty.
- 132,000 lower income households (Before Housing Costs definition) were in fuel poverty, equivalent to 60% of all lower income households.

In Northern Ireland, 22% of households were in fuel poverty in 2016 (the most recent estimate of fuel poverty, as published by the Northern Ireland Housing Executive), while 24% of households were projected to be in fuel poverty in 2019.

13.2 Scottish fuel poverty methodology

The fuel poverty figures for Wales, calculated using the Scotland method, are presented below with a comparison with the most recent published fuel poverty figures for Scotland.

In Wales in 2021, using the Scotland method which uses the residual income measure and enhanced heating regimes:

- 311,000 households (23%) were estimated to be living in fuel poverty.
- 269,000 vulnerable households (23%) were in fuel poverty.
- 186,000 lower income households (Before Housing Costs definition) were in fuel poverty in 2021, equivalent to 84% of all lower income households.

In Scotland, 25% of households were estimated to be in fuel poverty in 2019, as published by the Scottish Government.

13.3 English fuel poverty methodology

The fuel poverty figures for Wales, calculated using the LILEE definition, are presented below, including breakdowns of the fuel poverty quadrants, and the average and aggregate fuel poverty gap. In addition, the most recent published fuel poverty figures for England are provided.

In Wales in 2021, using the England method under the LILEE indicator:

- 194,000 households (14%) were estimated to be living in fuel poverty.
- 165,000 households (12%) were ‘Low Income High Energy Efficiency’, 398,000 households (29%) were ‘High Income High Energy Efficiency’ and 623,000 households (45%) were ‘High Income Low Energy Efficiency’.
- 176,000 vulnerable households (15%) were in fuel poverty.
- 108,000 lower income households (Before Housing Costs definition) were in fuel poverty, equivalent to 49% of all lower income households.
- The median fuel poverty gap was £130, and the aggregate fuel poverty gap was estimated to be around £53 million.

In England, 13% of households were in fuel poverty in 2020, and fuel poverty levels were projected to be 13% in 2021[12], as published by the Department for Business, Energy and Industrial Strategy (BEIS).

12. Annual Fuel Poverty Statistics in England, 2022 (2020 data), 24th February 2022, BEIS.

13.4 Fuel poverty components

This section explores the energy efficiency rating, fuel costs, and household incomes in Wales in 2021, as used in the Wales, England, Northern Ireland, and Scotland definitions of fuel poverty.

In total, 41% of households in Wales are in an Fuel Poverty Energy Efficiency Rating (FPEER) band of C or higher, and under the LILEE (England) definition of fuel poverty are classed as 'low energy efficiency'. Most households (45%) are in FPEER band D, while just 4% of households have an FPEER rating of F or G.

Despite the LILEE definition of fuel poverty being based on energy efficiency, fuel costs are still used within the income element of the definition and the fuel poverty gap calculation. The fuel costs used in the England definition are equivalised (takes account of differences in household size and composition), and the median equivalised fuel costs in Wales in 2021 were £1,380.

The fuel costs used in Wales, Scotland, and Northern Ireland, are produced on an un-equivalised basis, and the lowest median fuel costs associated with the three definitions was Northern Ireland (£1,410) and the highest median fuel costs were in Scotland (£1,560), reflecting the difference in energy requirements from the specified heating regimes.

The Wales and Northern Ireland definitions both use the annual full household income in the calculation of fuel poverty under the 10% indicator. The estimated median full household income, for all households in Wales in 2021, was £25,900.

An Equivalised After Housing Cost income is used in the England definition of fuel poverty (median income £23,300), where households are classed as 'low income' if their income minus fuel costs is less than 60% of the median income for all households.

The Scotland definition of fuel poverty uses an adjusted net annual income (median income £22,000). Households are in fuel poverty if their adjusted net annual income does not meet the minimum income standard, and their fuel costs exceed 10% of their income.

14. Appendix A: summary of methodology

Below is a brief summary containing descriptions of the methodology used to calculate the 2018 modelled estimates of fuel poverty figures for Wales under the 10% definition. The method to uplift the 2018 fuel poverty figures to October 2021 is detailed in the associated methodology report.

Definitions

A household is defined as being fuel poor if they spent more than 10% of their income on fuel. This is calculated using the equation below:

$$Fuel\,Poverty = \frac{Fuel\,Costs}{Income}$$

If the ratio from the above equation is greater than 0.1, the household is defined as fuel poor. The total fuel costs for a household are modelled using standard heating regimes that consider how much money

the household would be required to spend on fuel costs in order to reach the established standards for comfort based on a satisfactory heating regime. A 'Satisfactory heating regime' is 23°C in the living room and 18°C in other rooms, required for 16 hours in a 24-hour period in households with older (a person aged 60 and over) or disabled (a person living with a long-term limiting illness or who is disabled) people. For all other households, 21°C in the living room and 18°C in other rooms is required for nine hours in every 24-hour period on weekdays, and 16 hours in a 24-hour period on weekends.

Any household having to spend more than 20% is defined as being in severe fuel poverty.

A household needing to spend between 8 and 10% is classed as being at risk of fuel poverty (i.e. they are susceptible to relatively small changes in income or energy costs).

Calculating the main components of fuel poverty

There are three main components used to calculate fuel poverty: income, energy prices and energy requirements. Below is a summary of how these components are calculated.

Income

Two different definitions of income are required.

Basic income:

This is calculated by totalling the personal incomes of everyone in the household (aged 16 and over), plus any benefit or other income source payments that the household receives (from earned income, state benefits and savings etc.) to provide the Primary Benefit Unit (PBU) income. Income from other benefit units and the Winter Fuel Payment (WFP) if applicable is then added to give the 'basic income'. This is a historic definition and principally retained and reported on for consistency with historic estimates of fuel poverty.

Full income:

This is built upon 'basic income' by the addition of housing related income, including: housing related benefits (HB), Council Tax Benefit (CTB), and the deduction of Council Tax payable. This is the 'Full household income'.

Energy prices

The fuel price element of the fuel poverty calculation produces fuel prices which can readily be combined with household energy requirement outputs to produce fuel costs.

The National Survey for Wales collects information on the method of payments of gas and electricity, but does not collect information on the exact tariff or supplier. Department of Business Energy and Industrial Strategy (BEIS) data sources provides gas and electricity 'average unit price' and 'average fixed costs' (standing charges) for energy supply regions across the UK. The combination of data collected by the National Survey for Wales, and the Quarterly Energy Prices[13] publication provided by BEIS are then combined to calculate a final fuel price figure. Other data for non-metered fuels is provided from

13. The metered fuel price data used in the fuel poverty calculations are derived from the BEIS quarterly energy prices, in tables QEP 2.2.4 and QEP 2.3.4

Consumer Price Index (CPI) data, and for a few rare fuels from the Sutherland Tables publication or using SAP 2012 default values.

Energy requirements

The amount of fuel required to provide the energy needs of each household is one of the components of fuel poverty and, combined with fuel prices, produces the modelled fuel bill.

Under the fuel poverty definition, the energy required to heat and power a home can be grouped into four categories:

1. Space heating: Es (GJ)
2. Water heating: E_W (GJ)
3. Lights and appliances: E_{LA} (GJ)
4. Cooking: E_C (GJ)

The Building Research Establishment Domestic Energy Model (BREDEM) methodology[14] is used to predict the energy requirements of a household where:

Total household energy requirements = $E_S + E_W + E_{LA} + E_C$

Total household energy requirements include space and water heating (to meet defined standards), energy for lights and appliances (including requirements for pumps, fans and electric showers, and energy generated by renewables), and energy for cooking. The amount of energy required to heat a dwelling will depend on the building specification such as insulation levels, heating systems, the geographical location of the dwelling, and construction type. A household's demand for energy will depend on the number of people within the household and the lifestyle and habits of these individuals. Information from the National Survey for Wales and the Welsh Housing Conditions Survey are used to provide details about both dwellings and households. Reduced Data SAP (RdSAP) assumptions are used to deal with missing data and can be found in the SAP procedure document[15]. It should be noted that the figures now incorporate the revised U-values as published in RdSAP v9.93.

Data on the occupancy characteristics, and region, are provided by the National Survey for Wales. The Welsh Housing Conditions Survey then provides information about the physical characteristics of the home, which are used to inform the modelling of household energy use for fuel poverty, including:

- detailed information about the dimensions
- dwelling type and age
- heating and hot water systems
- dwelling fabric and exposure/shading
- energy efficiency measures

14. The BREDEM methodology used is described in Henderson J, Hart J, BREDEM 2012 A technical description of the BRE Domestic Energy Model, v1.1, January 2015.
15. BRE 2017. Appendix S: Reduced Data SAP for existing dwellings, RdSAP 2012 v9.93.

15. Key quality information

This section provides a summary of Welsh Housing Conditions Survey (WHCS) and the National Survey for Wales quality information. Please note that a detailed Quality Report on WHCS statistics has been published on the WHCS website, which measures quality against five dimensions: Relevance, Accuracy and Reliability, Timeliness and Punctuality, Accessibility and Clarity, and Comparability and Coherence. A Summary Quality report for the National Survey is available, containing more detailed information on the quality of the survey as well as a summary of the methods used to compile the results.

Background to the National Survey for Wales 2017-18

The National Survey for Wales is carried out by the Office for National Statistics on behalf of the Welsh Government. For the National Survey for Wales 2017-18, 23,517 addresses were chosen randomly from the Royal Mail's Small User Postcode Address File. Interviewers visited each address and randomly selected one adult (aged 16+) in the household. They then carried out a 45-minute face-to-face interview with them, covering a range of views, behaviours, and characteristics. A total of 11,381 interviews were achieved with a response rate of 54.5%.

The information on income and housing costs used to calculate fuel poverty for 2017-18 are based on interviews completed between 1 July 2017 and 31 March 2018. If the respondent was the HRP, or their spouse/partner, a detailed set of income and housing cost questions were asked. More information on the National survey method is available in the technical report.

Income data from the National Survey 2017-18 along with a variety of other data sources was used as a base to project forward to the October 2021 reference point. Further information on this is available in the associate methodology report.

Background to the Housing Conditions Evidence Programme and WHCS

The last comprehensive collection of data on housing conditions in Wales prior to the WHCS 2017-18 was the Living in Wales Property Survey in 2008. Since 2016 a Housing Conditions Evidence Programme (HCEP) has been managed by Knowledge and Analytical Services (KAS) within the Welsh Government and encompasses two work streams:

The Welsh Housing Conditions Survey (WHCS), and

The Housing Stock Analytical Resource Wales (HSAR): Essentially a repository capturing a range of data on the characteristics, fabric, condition and energy efficiency of the housing stock in Wales. Where possible at individual property level.

The WHCS 2017-18 was carried out by the Building Research Establishment (BRE) on behalf of the Welsh Government. Fieldwork ran from August 2017 to April 2018. Property inspections were carried out by qualified surveyors, who performed a visual assessment of the interior and exterior of the property. The inspections lasted around 40-50 minutes, with around 20 minutes spent inside on a room by room inspection. The surveyor also inspected the plot of the property and made an assessment of the local neighbourhood. For full details of the topics included in the Survey see the Survey Form, available on the WHCS website.

A sample of addresses was drawn from eligible households taking part in the National Survey for Wales 2017-18. A total of 2,549 full WHCS surveys were achieved across the 22 local authorities of Wales which enables national level estimates. A consent rate of 58% was achieved by the National Survey for Wales interviewers, and of those, a conversion rate of 78% was achieved by the BRE surveyors. The overall response rate was 45%.

Detailed information on the methodology used in the WHCS can be found in the survey technical report, available on the WHCS website.

How are Fuel Poverty estimates used?

Fuel Poverty estimates are used by Welsh Government and other organisations to help target resources and measures to improve energy efficiency of homes across Wales. The Welsh Government's Tackling fuel poverty 2021 to 2035 sets out the actions taken to reduce fuel poverty in Wales and the latest estimates will inform the new plan to help target fuel poverty.

Who are the users of Fuel Poverty estimates?

Fuel poverty estimates are used for policy making purposes by the Welsh Government mainly in the areas of housing and environment, but also social policy needs. There are a wide range of other users including: Welsh Government Sponsored Bodies; local authorities across Wales; Public Health Wales; Third Sector Organisations; housing associations, charities; other UK government departments and local government organisations; other public sector organisations; academics; private companies; the media; and members of the public.

Strengths and Limitations

Information on the strengths and limitations of Fuel Poverty Estimates are provided in the associated methodology report which accompanies this article.

Coherence

Whilst each UK nation produces estimates of fuel poverty, it should be noted that each UK nation uses its own definition of fuel poverty, and as such fuel poverty statistics are not comparable across the nations:

English fuel poverty statistics

Scottish Fuel Poverty Statistics

Northern Ireland Fuel Poverty Statistics

Changes to SAP (Standard Assessment Procedure) methodology for energy efficiency performance

The Standard Assessment Procedure (SAP) is the methodology used by the Government to assess and compare the energy of dwellings.

SAP works by assessing how much energy a dwelling will consume, when delivering a defined level of comfort and service provision. The assessment is based on standardised assumptions for occupancy and behaviour. This enables a like-for-like comparison of dwelling performance. The ratings are expressed on a scale between 1 and 100, where 100 represents no energy cost. The SAP methodology

has been through two major updates since the 2005 version used for the Living in Wales Property Survey 2008 modelling, first to SAP 2009 and then SAP 2012. In addition, the Reduced Data SAP (RdSAP) methodology for SAP 2012 was updated in November 2017.

National Statistics status

The United Kingdom Statistics Authority has designated statistics from the Welsh Housing Conditions Survey and the National Survey for Wales as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Statistics.

National Statistics status means that official statistics meet the highest standards of trustworthiness, quality and public value, and it is our responsibility to maintain compliance with these standards.

The designation of the Welsh Housing Conditions Survey statistics as National Statistics was confirmed in December 2018 following a compliance check by the Office for Statistics Regulation:

Statistics from the Welsh Housing Conditions Survey: Confirmation as National Statistics

The designation of the National Survey for Wales statistics as National Statistics was confirmed in May 2013 following a compliance check by the Office for Statistics Regulation. The continued designation of these statistics as National Statistics was confirmed in June 2017.

Statistics from the National Survey for Wales: Confirmation as National Statistics

All official statistics should comply with all aspects of the Code of Practice for Statistics. They are awarded National Statistics status following an assessment by the UK Statistics Authority's regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate.

It is Welsh Government's responsibility to maintain compliance with the standards expected of National Statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss any concerns with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

Well-being of Future Generations Act (WFG)

The Well-being of Future Generations Act 2015 is about improving the social, economic, environmental and cultural wellbeing of Wales. The Act puts in place seven wellbeing goals for Wales. These are for a more equal, prosperous, resilient, healthier and globally responsible Wales, with cohesive communities and a vibrant culture and thriving Welsh language. Under section (10)(1) of the Act, the Welsh Ministers must (a) publish indicators ("national indicators") that must be applied for the purpose of measuring progress towards the achievement of the wellbeing goals, and (b) lay a copy of the national indicators before Senedd Cymru. Under section 10(8) of the Well-being of Future Generations Act, where the Welsh Ministers revise the national indicators, they must as soon as reasonably practicable (a) publish the indicators as revised and (b) lay a copy of them before the Senedd. These national indicators were laid before the Senedd in 2021. The indicators laid on 14 December 2021 replace the set laid on 16 March 2016.

Information on the indicators, along with narratives for each of the well-being goals and associated technical information is available in the Wellbeing of Wales report.

Further information on the Well-being of Future Generations (Wales) Act 2015.

The statistics included in this release could also provide supporting narrative to the national indicators and be used by public services boards in relation to their local well-being assessments and local well-being plans. In particular information on fuel poverty complements the information available for the national indicator on housing affordability "percentage of households spending 30% or more of their income on housing costs". This indicator does not include the cost of domestic energy use.

Next update

This is not a regular report.

We want your feedback

We welcome any feedback on any aspect of these statistics which can be provided by email to stats.housingconditions@gov.wales.

Notes on the use of statistical articles

Statistical articles generally relate to one-off analyses for which there are no updates planned, at least in the short-term, and serve to make such analyses available to a wider audience than might otherwise be the case. They are mainly used to publish analyses that are exploratory in some way, for example:

- introducing a new experimental series of data
- a partial analysis of an issue which provides a useful starting point for further research but that nevertheless is a useful analysis in its own right
- drawing attention to research undertaken by other organisations, either commissioned by the Welsh Government or otherwise, where it is useful to highlight the conclusions, or to build further upon the research
- an analysis where the results may not be of as high quality as those in our routine statistical releases and bulletins, but where meaningful conclusions can still be drawn from the results.

Where quality is an issue, this may arise in one or more of the following ways:

- being unable to accurately specify the timeframe used (as can be the case when using an administrative source)
- the quality of the data source or data used
- other specified reasons.

However, the level of quality will be such that it does not significantly impact upon the conclusions. For example, the exact timeframe may not be central to the conclusions that can be drawn, or it is the order of magnitude of the results, rather than the exact results, that are of interest to the audience.

The analysis presented does not constitute a National Statistic, but may be based on National Statistics outputs and will nevertheless have been subject to careful consideration and detailed checking before

publication. An assessment of the strengths and weaknesses in the analysis will be included in the article, for example comparisons with other sources, along with guidance on how the analysis might be used, and a description of the methodology applied.

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Missing value symbols used in the article follow the standards used in other statistical outputs, as outlined below.

.. The data item is not available

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