

How homes are heated in Shropshire

March 2023

Key Points

- The 2021 Census ⁽¹⁾ revealed that 90,426 households in Shropshire used mains gas or electric only fuel to heat their homes, indicating 64.8% of households obtain all their fuel via the national gas grid. This is consistent with the Department for Business Energy and Industrial Strategy ⁽³⁾ (DBEIS) estimates in 2021, of 33% of domestic properties in Shropshire not being connected to the gas grid, compared to only 15% nationally.
- A third of households in Shropshire, use other sources of fuel to heat their homes, the most popular being oil fuelled central heating (15% of households). This reflects Shropshire's very dispersed rural population who are remote from the national grid. Nationally, only 3.2 % of households rely on oil fuelled heating.
- The percentage of homes with no central heating in Shropshire has continued to fall, from 21.4% of households in 1991 to only 1.4% in 2021. This can be attributed to modern heating standards in new build properties, modernisation of existing housing stock and a wider range of heating options available.
- The 2021 Census showed 2,918 households or 2.1% of all households in Shropshire were using renewable sources of energy to heat their homes. These households were most prevalent in rural areas, with 12.3% of households (74) in Cleobury Mortimer, using renewable energy.

Type of Central Heating

The sharply rising costs of home energy during 2022, have made heating homes increasingly expensive. Combined with significant rises in other necessary household expenses, increasingly more households are struggling to afford their living costs. As evidenced from the ONS Opinions and Lifestyle Survey ⁽⁴⁾ (March 2023), where 49% of adults said, 'they were finding it very or somewhat difficult to pay energy bills.'

The DBEIS ⁽⁵⁾ estimated that 16.5% of households (23,045) in Shropshire were fuel poor in 2020 (published in April 2022), compared to 13.2% nationally. This suggests the proportion of fuel poor households in Shropshire will be significantly increasing. How a household heats their home impacts on their energy costs and on the financial support available to them. The 2021 Census results provide useful insights into how organisations can best support fuel poor households during the present cost of living difficulties.

When further details are available from the 2021 Census, it will be possible to gain more insight into the character of households and tenure / dwelling type by type of central heating being use.



Table 1 compares change during 2011-2021, in terms of how households heat their homes in Shropshire, England and the West Midlands. This shows the percentage of households choosing to use other forms of central heating in Shropshire has risen by 30.4%, from 35,765 in 2011 to 46,641 in 2021. This growth is significantly below national (54.9%) and regionally (50.5%) levels. However, due to the higher proportion of Shropshire households living remote from the national grid, over twice the percentage of households use other forms of central heating, when compared with England and the West Midlands. This has encouraged innovation in the use of renewable energy and households using two or more sources of energy to heat their homes, particularly in the rural areas of Shropshire.

Table 1: Shropshire Comparison with England and the West Midlands: Change 2011-2021 ⁽²⁾

Area		No Central Heating (Households)		Mains Gas and Electric Only (Households)		Other Forms of Central Heating (Households)	
		No.	%	No.	%	No.	%
Shropshire	Census 2021	1,982	1.4	90,426	64.8	46,641	33.4
	<i>Census 2011</i>	<i>4,128</i>	<i>3.2</i>	<i>89,781</i>	<i>69.2</i>	<i>35,765</i>	<i>27.6</i>
	Change Number	-2,146	1.8	645	4.4	10,876	5.8
	Percentage Change	-52.0		0.7		30.4	
West Midlands	Census 2021	36,897	1.5	2,017,203	83.0	350,730	14.4
	<i>Census 2011</i>	<i>67,167</i>	<i>2.9</i>	<i>1,994,758</i>	<i>86.9</i>	<i>232,984</i>	<i>10.2</i>
	Change Number	-30,270	-1	22,445	-3.9	117,746	4.2
	Percentage Change	-45.1		1.1		50.5	
England	Census 2021	351,635	1.5	19,376,029	82.7	3,490,878	14.9
	<i>Census 2011</i>	<i>594,561</i>	<i>2.7</i>	<i>19,215,402</i>	<i>87.1</i>	<i>2,253,405</i>	<i>10.2</i>
	Change Number	-242,926	-1.2	160,627	-4.4	1,237,473	4.7
	Percentage Change	-40.9		0.8		54.9	

Please note: 'Other forms' includes tank or bottled gas, oil, wood, solid fuel, renewable energy, communal heat networks, households using two of more types of central heating and 'other'.

Figure 1: Number and Percentage of Household Using Other Forms of Heating in Shropshire

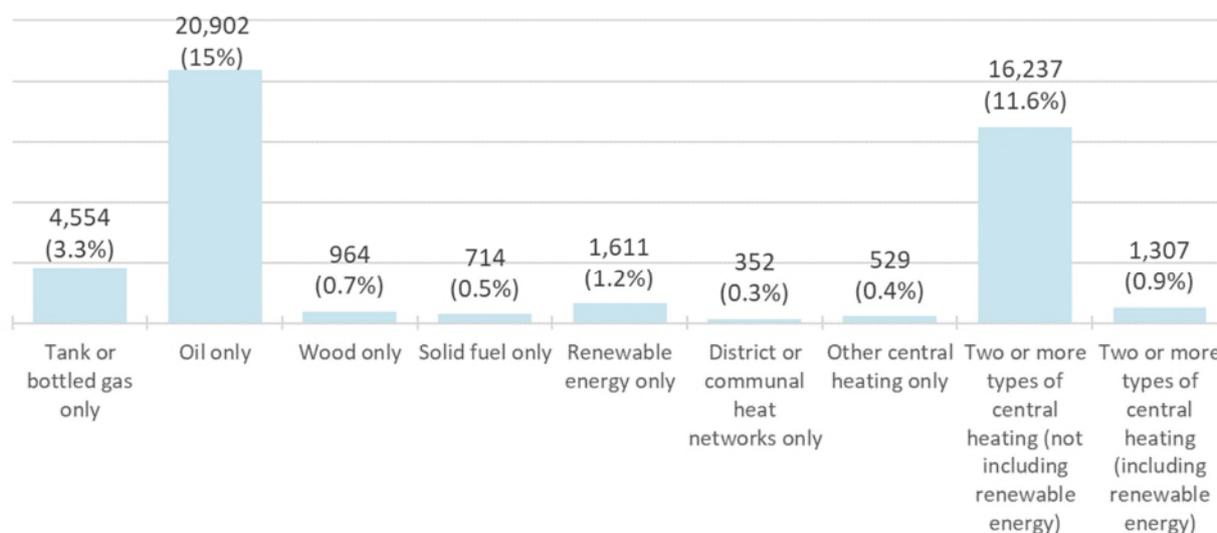


Table 2: Shropshire Comparison with England and the West Midlands – Other Forms of Central Heating

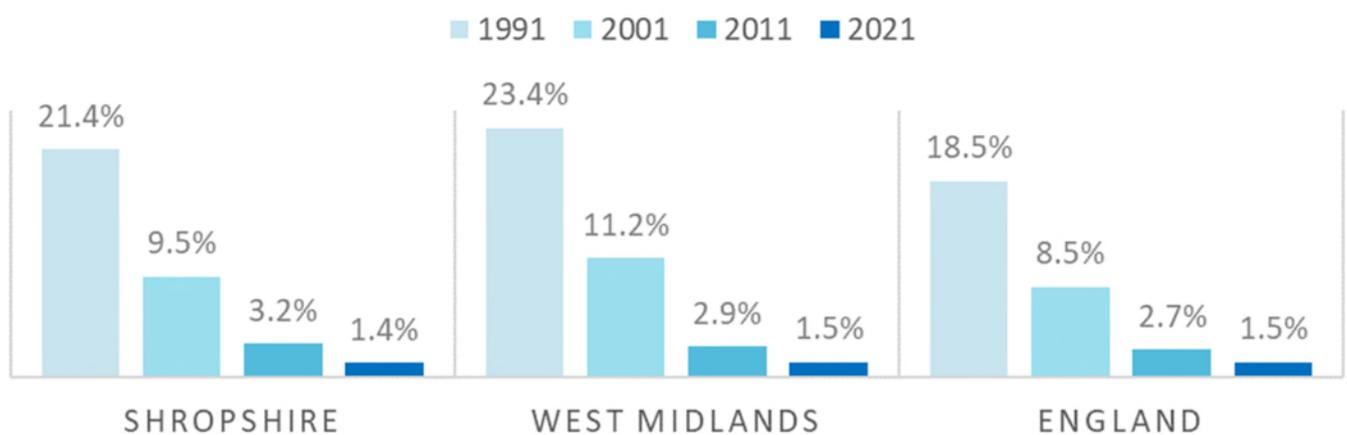
Area	Tank or bottled gas only	Oil only	Wood only	Solid fuel only	Renewable energy only	District or communal heat networks only	Other central heating	Two or more types of CH (not incl. renewable energy)	Two or more types of CH (not incl. renewable energy)
Shropshire	3.3	15.0	0.7	0.5	1.2	0.3	0.4	11.6	0.9
West Midlands	1.2	3.0	0.2	0.2	0.3	0.4	1.0	8.7	0.4
England	1.0	3.2	0.1	0.2	0.4	0.9	0.9	8.5	0.5

Oil fuelled central heating (used by 15% of Shropshire households) is generally more expensive than mains fuelled central heating. The Shropshire Star has recently reported that “there are concerns the cost-of-living crisis has led to the increase in heating oil theft from rural homes.”⁽⁶⁾

Households with no central heating

A question about central heating was first included in the national census in 1991. This means the long-term trend in households with no central heating can be illustrated in figure 2, for Shropshire, England and the West Midlands. In 1991, 22,158 households in Shropshire (21.4%) had no central heating. This has fallen by -91.1% to 1,982 in 2021. England and the West Midlands have followed a similar trend, -89.8% nationally and -92.1% regionally. This can be attributed to modern heating standards in new build properties, modernisation of existing housing stock and a wider range of heating options available.

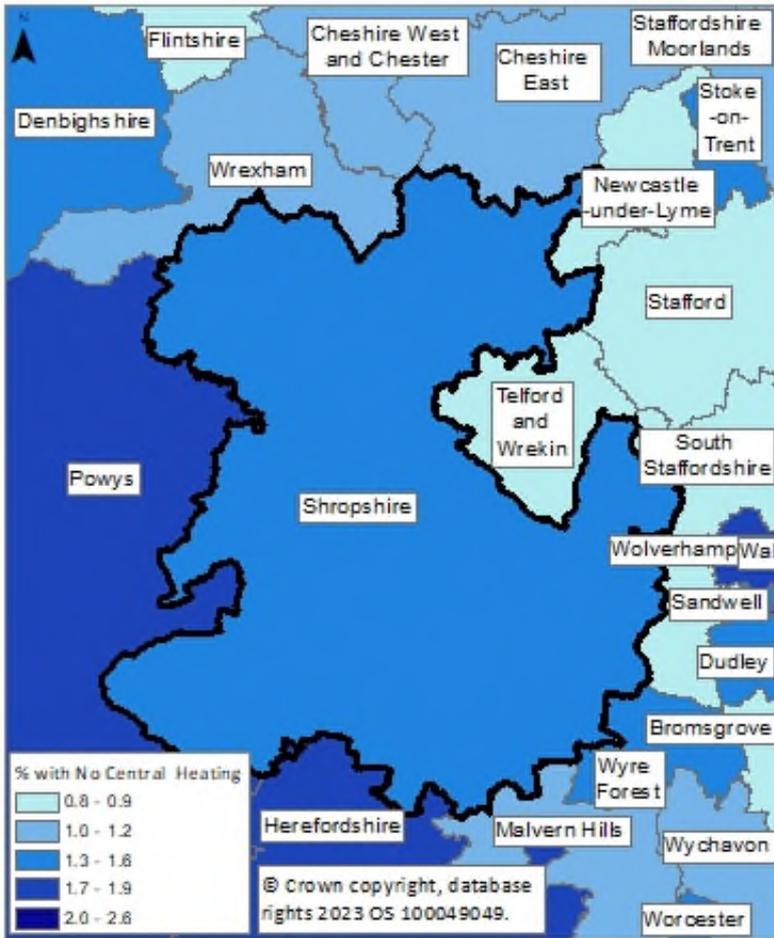
Figure 2: National and Regional Comparison: Long-term Change in the Percentage of Households with No Central Heating



Illustrated in map 2, the rural LSOAs in the south of Shropshire show the highest proportion of households with no central heating. Of note, is that six of the LSOAs fall within the South Shropshire Hills Area of Outstanding Natural Beauty and are remote from the mains gas national grid. The housing stock is also older and perhaps less adaptable.



Map 1: Shropshire compared with neighbouring local authorities



Map 1 compares Shropshire to neighbouring local authorities, in terms of the percentage of households with no central heating. The sparsely populated local authorities of Herefordshire, Powys and Malvern and the industrialised city of Wolverhampton have the highest proportion of homes with no central heating.

This could be influenced by more households living in rural areas remote from the national grid, perhaps older housing stock in need of modernisation or due to household preference. Shropshire similarly compares with rural Denbighshire and the industrialised local authorities of Dudley, Sandwell, Wyre Forest and Stoke-on-Trent. In contrast, the Staffordshire local authorities and Telford and Wrekin has below 1% of households with no central heating.

Renewable Energy Sources

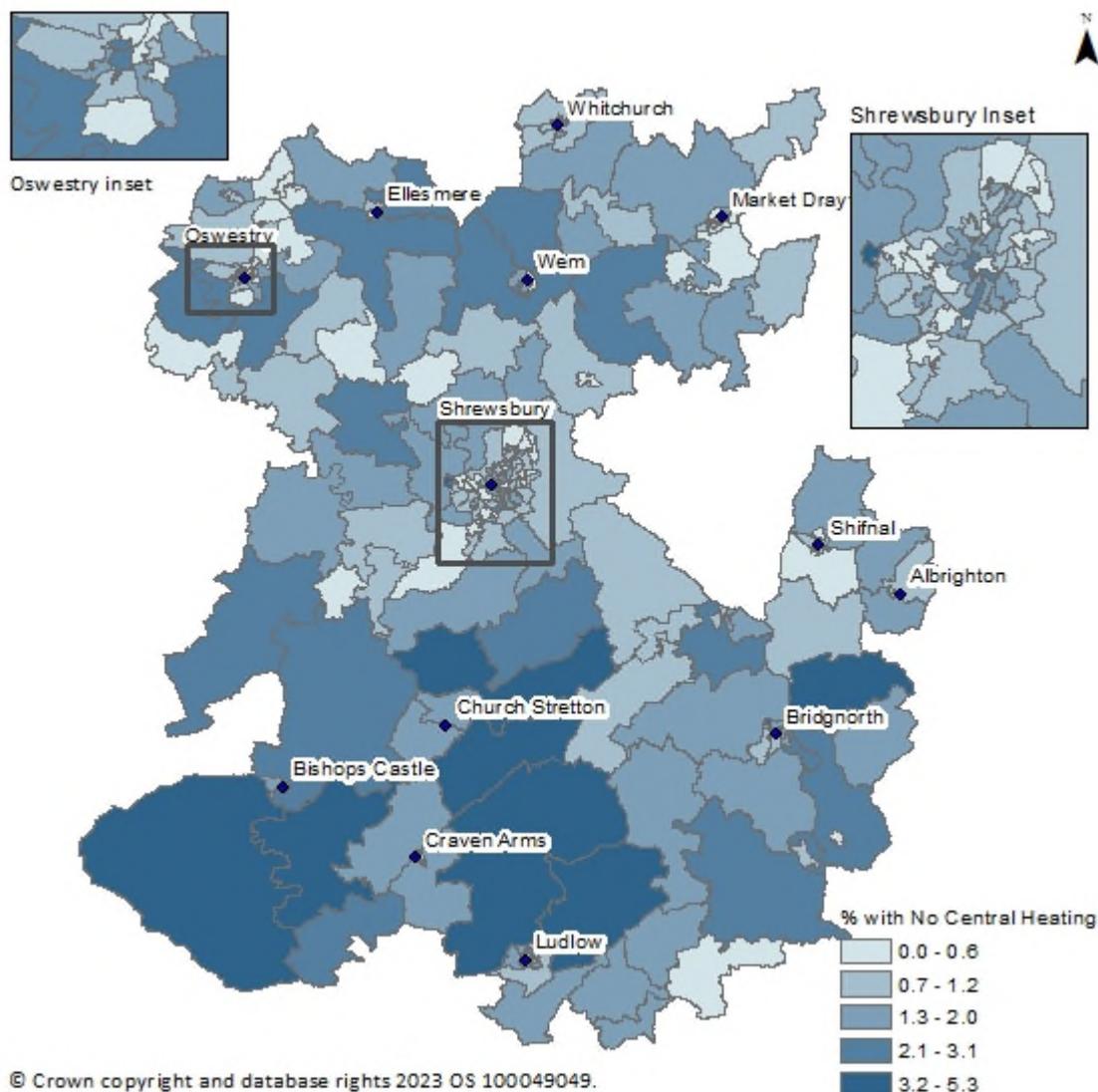
The 2021 Census revealed that 1,611 households in Shropshire are using renewable energy only to heat their homes and 1,307 households are using two or more types of central heating including renewable energy. This means 2.1% of households are using some form of renewable energy to heat their home in Shropshire, compared to only 0.9% nationally and 0.7% regionally.

Table 3: National and regional comparison to Shropshire household using renewable energy sources

Area	Renewable energy only		Two or more types of central heating (including renewable energy)		Total Households utilising renewable energy sources	
	Number	%	Number	%	Number	%
Shropshire	1,611	1.2	1,307	0.9	2,918	2.1
England	92,396	0.4	126,692	0.5	219,088	0.9
West Midlands	7,490	0.3	10,659	0.4	18,149	0.7



Map 2: Percentage of Households with no central heating by Lower Super Output Areas (LSOAs)



Renewable Energy – sub-county level

Looking more closely at a sub-county level, twelve rural LSOAs had 50 and over households using renewable energy to heat their home in Shropshire, and only seven LSOAs had no households using renewable energy. These fell in urban parts of Shropshire (three in Oswestry, two in Shrewsbury and one in Bridgnorth and Shifnal.) LSOAs covering the key centres of Bishop’s Castle and Cleobury Mortimer ranked the highest in terms of the percentage of households using renewable energy.

Bishop’s Castle is not on the gas grid and so households are reliant on mainly oil and LPG. There is a strong commitment to tackling climate change and developing alternative (zero emission) renewable energy sources within the Bishop’s Castle rural community. A Shareenergy proposed Heat and Wind Project (supported by Lightfoot and Bishop’s Castle Town Council) is currently at pre-planning application stage.⁽⁷⁾

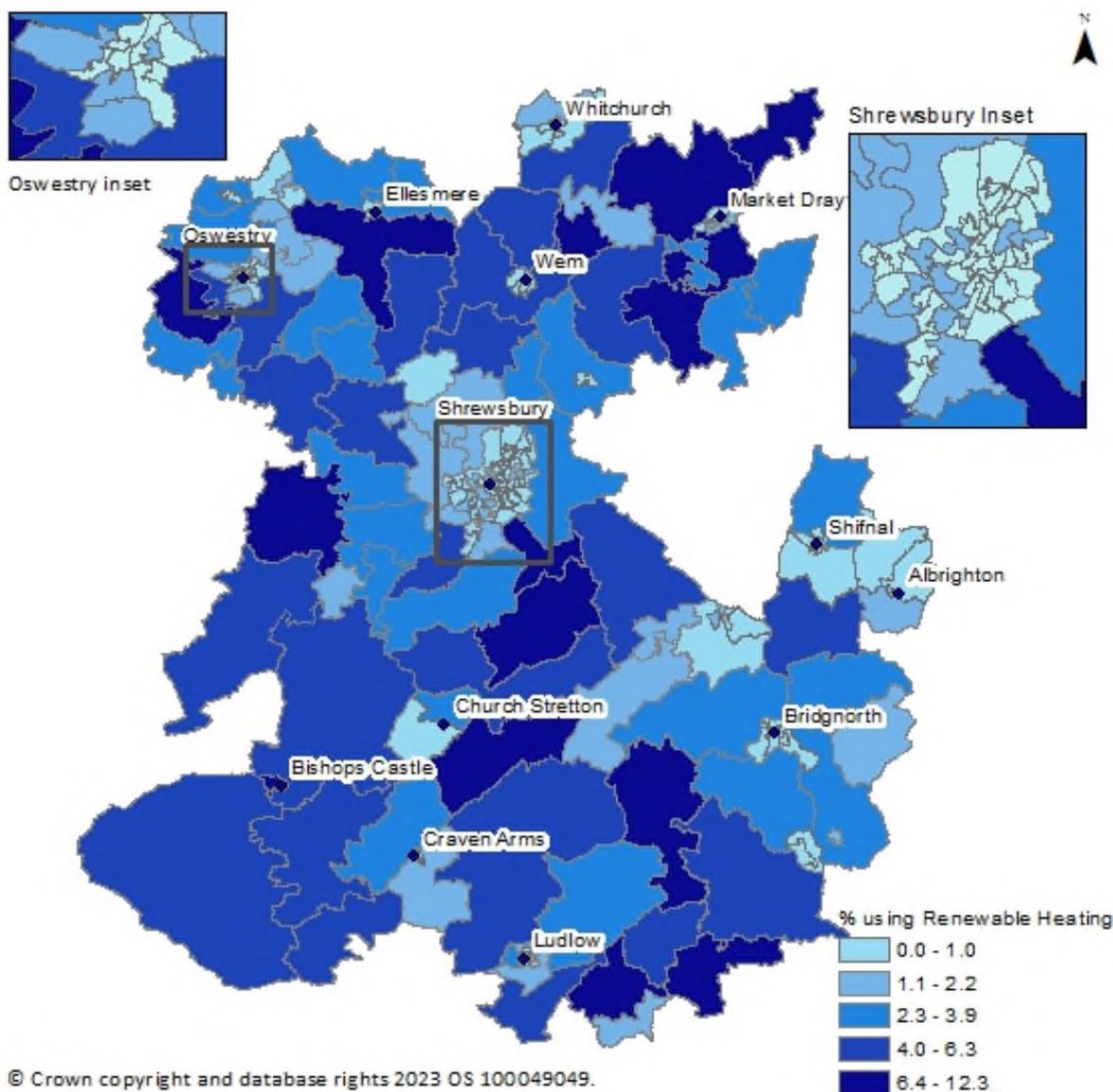
Usage in Cleobury Mortimer may be influenced by Neen Sollars Community Hydro scheme⁽⁸⁾ and the presence of a commercial provider of renewable energy sources based in Cleobury Mortimer. Some social housing providers are also installing heat pumps in rural communities.



Table 4: Highest ranking LSOAs in Shropshire, based on the percentage of households using renewable energy sources to heat their home

Area	LSOA	Renewable energy only and Two or more types of central heating (including renewable energy)		
		Number	%	Rank (%)
Cleobury Mortimer and rural surround	E01029002	74	12.3	1
	E01029001	75	8.3	5
Bishop's Castle	E01028992	66	9.1	2
Loton area incl. Westbury	E01028978	57	8.4	4
The Meres area incl. Tetchill, Hordley and Colmere	E01028872	54	9.0	3

Map 3: Percentage of Households using renewable energy to heat their home by LSOA



In 2021, the Government published its Heat and Building Strategy⁽⁹⁾. This signals the end of developers installing gas and oil-fueled boilers in new build properties after 2025 and the phase out of gas and oil-fueled boilers being installed in existing properties after 2035. The 2021 Census will be an important benchmark in monitoring this planned transition to zero emissions heating systems like heat pumps, renewables, hydrogen / biomethane, batteries or heat networks etc.

The deputy Chief Executive of RenewableUK recently explained that *“I think in this census we’ll really get a sense of progression since we took the last snapshot of the UK and for future generations this will be so important because they’ll be able to see the progress that has been made over the last decade or so, and also pinpoint what they expect to see come the next census.”* It *‘will really help us to tell that story of how we are moving towards a carbon neutral future.’*⁽¹⁰⁾

Definitions

Renewable energy is energy that comes from a source that won't run out. They are natural and self-replenishing, and usually have a low- or zero-carbon footprint. Examples of renewable energy sources include wind power, solar power, bioenergy (organic matter burned as a fuel) and hydroelectric, including tidal energy ([National Grid explanation](#)).

The data in this bulletin is sourced from the:

1. [Office for National Statistics \(ONS\) 2021 Census table TS046 – Central Heating](#)
2. [ONS 2011 Census QS415EW – Central Heating](#)
3. [Department for Business Energy and Industrial Strategy \(DBEIS\) Sub-national estimates of properties not connected to the gas network \(2015-2021\)](#)
4. [ONS Opinions and Lifestyle Survey \(December 2022\)](#)
5. [Department for Business Energy and Industrial Strategy \(DBEIS\) Sub-regional fuel poverty data 2022 in 2020 \(published in April 2022\) – Table 2](#)
6. [Shropshire farmers and rural households warned over risk of oil theft – Rural Services Network \(13/02/2023\)](#)
7. [Bishop’s Castle Green Energy Plans – Shropshire Star article Sept 2021 / Lightfoot – Bishop’s Castle Climate Action Group](#)
8. [Neen Sollars Community Hydro scheme](#)
9. [Heat and Buildings Strategy 2021](#)
10. ONS Article - [2021 Census and RenewableUK](#)

For more information please contact: BusinessIntelligence@shropshire.gov.uk

Or refer to ONS website to useful articles:

- 2021 Census and RenewableUK - <https://census.gov.uk/census-stories/renewable-uk>
- 2021 Census article – [“Census 2021: how homes are heated in your area”](#)
- [Low carbon and renewable energy economy, UK: 2021](#)

