



Research Note:

Estimating the number of households in the UK that would not have experienced fuel stress during the winter of 2023-24 had an energy social tariff been in place

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Introduction

This research note explains the assumptions and calculations behind the figures showing how many households in the UK would not have experienced fuel stress during the winter of 2023-24 had our proposed energy social tariff been in place. These figures are also then presented for all UK households, older UK households, and UK households with residents living with a disability and/or long-term health condition.

Our proposed energy social tariff is for households in the UK with one or more residents in receipt of at least one of income related means-tested benefits, disability benefits, carers allowance and/or living below or just above the poverty line to receive a 50% discount on their energy bill. Households experience fuel stress if they spend more than 10% of their household after-tax income on domestic energy.

This note begins by setting out the methodology before presenting the figures. In addition to the figures presented in this note, we calculated these figures by income quintiles (based on equivalised household after-tax income) for UK households, older UK households, and UK households with residents living with a disability and/or long-term health condition. These additional figures are not presented here but some are included in our press release¹.

¹ The press release was published on 2nd February 2024 and can be found at <https://www.ageuk.org.uk/latest-press/>

Methodology

To estimate the number of households in the UK experiencing fuel stress during the winter of 2023-24 we use the Living Costs & Food Survey (LCF). The LCF collects information on household expenditure and income of a representative sample of private households in the United Kingdom; for the purposes of our analysis, we used the LCF 2021-22 which is the latest available published LCF dataset.

The LCF 2021-22 is based on responses between April 2021 and March 2022 from 5,632 households and 12,842 people across the UK. As we are interested in experiences of fuel stress during the winter of 2023-24, we need to reflect changes in energy prices and household after-tax income between 2021-22 and the winter of 2023-24.

Table 1 below shows the assumptions we have used to reflect changes in energy prices. We assume energy prices changed in line with changes to the Office of Gas and Electricity Markets (ofgem) energy price cap and the Government's Energy Price Guarantee.

Table 1: Assumptions on changes in energy prices between 2021-22 and winter of 2023-24

Energy price cap period	Change in price cap at start of period
April to September 2022	+ 54%
October 2022 to March 2023	+ 33%
July to September 2023	- 21%
October to December 2023	- 7%
January to March 2024	+ 5%

Note: figures rounded to nearest whole number

The winter of 2023-24 is either side of the January 2024 energy price cap change and therefore, for each household, the average of the expenditure in October to December 2023 and January to March 2024 is calculated to estimate energy expenditure during the winter of 2023-24.

It is important to note that whilst energy expenditure during the winter of 2023-24 is based on the period October 2023 to end of March 2024, the figures hold for any equal number of months either side of the beginning of January 2024 – i.e. the four month period November 2023 to end of February 2024 or the two month period December 2023 & January 2024.

Our approach to reflecting changes in energy expenditure assumes households maintain the same level of energy usage during the winter of 2023-24 as they did in 2021-22 (i.e. households are assumed not to have changed their behaviour in respect of energy use in response to the considerably higher energy prices). Whilst we expect that some households have reduced

energy usage in the face of higher energy prices, we are not aware of the data required to incorporate this into our model. Furthermore, by assuming that energy use remains as it was prior to price increases our analysis is more likely to be reflecting the energy usage that households desire.

Table 2 below shows the assumptions we have used to reflect changes in household after-tax income. These figures are sourced from the Office for Budget Responsibility (OBR)'s Economic and fiscal outlook (November 2023).

Table 2: Assumptions on changes in household after-tax income between 2021-22 and winter of 2023-24

	Change in household after-tax income
2021 to 2022	+ 7.7%
2022 to 2023	+ 8.1% (forecast)

Once we have energy expenditure and household after-tax income figures for the winter of 2023-24, we use these and the other information in LCF 2021-22 to:

- flag households in the UK as being eligible for our proposed energy social tariff if their have at least one member who is in receipt of at least one of income related means-tested benefits², disability benefits³, carers allowance and/or is living below or just above the poverty line⁴.
- estimate the number of households experiencing fuel stress (i.e. spending more than 10% of their household after-tax income on domestic energy costs).
- estimate the number of households which would have experienced fuel stress if our proposed social tariff were in place, assuming households eligible for an energy social tariff receive a 50% discount on their energy price.

Surveys tend to underestimate the number of benefit recipients, with the scale differing depending on the benefit type. This underreporting may be inconsequential because households in receipt of one benefit may be in receipt of or eligible for another benefit, and including those living below or just above the poverty line in the eligibility for the social tariff is likely to capture households in receipt of benefits but not reporting them in responses to surveys.

² Income related means-tested benefits include Income Support, Job Seekers Allowance, Employment and Support Allowance, Working Tax Credit, Child Tax Credit, Housing Benefit, Universal Credit and Pension Credit.

³ Disability benefits include Personal Independence Payment, Disability Living Allowance, Incapacity Benefit and Attendance Allowance

⁴ Households are defined to be living in or just above the poverty line poverty if their equivalised after-tax household income (before housing cost) is below 70% of median income.

Estimated number of households in the UK that would not have been experiencing fuel stress during the winter of 2023-24 had an energy social tariff been in place.

Table 3 below shows that during the winter of 2023-24, around 3.4m (95% C.I. 3.1m to 3.6m) households in the UK have been experiencing fuel stress. This number would have been around 1.2m (95% C.I. 1.0m to 1.3m) households in the UK had our proposed energy social tariff been in place. This suggests our proposed energy social tariff would have prevented around 2.2m (95% C.I. 2.0m to 2.4m) households in the UK from experiencing fuel stress during the winter of 2023-24.

Table 3: number of households in the UK experiencing fuel stress during the winter of 2023-24 with and without an energy social tariff in place

All households	mid-point estimate	95% confidence interval
Without energy social tariff	3.4m	3.1m – 3.6m
With energy social tariff	1.2m	1.0m – 1.3m
Number of households that would have been lifted out of fuel stress by a social tariff	2.2m	2.0m – 2.4

Table 4 below suggests that during the winter of 2023-24, around 1.9m (95% C.I. 1.7m to 2.1m) older households in the UK – where one or more residents is aged 60 or over – have been experiencing fuel stress. This number would have been around 650,000 (95% C.I. 530,000 to 760,000) older households in the UK had our proposed energy social tariff been in place. This suggests our proposed energy social tariff would have prevented around 1.3m (95% C.I. 1.1m to 1.4m) older households in the UK from experiencing fuel stress during the winter of 2023-24.

Table 4: number of older households in the UK experiencing fuel stress during the winter of 2023-24 with and without an energy social tariff in place

Older households	mid-point estimate	95% confidence interval
Without energy social tariff	1.9m	1.7m – 2.1m
With energy social tariff	0.65m	0.53m – 0.76m
Number of households that would have benefited	1.3m	1.1m – 1.4m

Table 5 below shows that during the winter of 2023-24, around 2.1m (95% C.I. 1.9m to 2.3m) households in the UK with at least one resident living with a disability and/or long-term health condition have been experiencing fuel stress. This number would have been around 700,000 (95% C.I. 580,000 to 830,000) such households in the UK had our proposed energy social tariff been in place. This suggests our proposed energy social tariff would have prevented around 1.4m (95% C.I. 1.2m to 1.6m) households in the UK with at least one resident living with a disability and/or long-term health condition from experiencing fuel stress during the winter of 2023-24.

Table 5: number of households in the UK with at least one resident living with a disability and/or long-term health condition experiencing fuel stress during the winter of 2023-24 with and without an energy social tariff in place

Households with residents living with disability / long-term health condition	mid-point estimate	95% confidence interval
Without energy social tariff	2.1m	1.9m – 2.3m
With energy social tariff	0.70m	0.58m – 0.83m
Number of households that would have benefited	1.4m	1.2m – 1.6m

Some households are counted in both older households (table 4) and households with at least one resident living with a disability and/or long-term health condition (table 5). For this reason the number of households in the UK that would not have been experiencing fuel stress in these two household groups during the winter of 2023-24 had an energy social tariff been in place, adds up to more than the total number of households in the UK that would not have been experiencing fuel stress⁵.

⁵ There are some households that will be both older households and households with at least one resident living with a disability and/or long-term health condition. Some of these households will be counted as part of both the 1.3m older households and 1.4m households with a disability and/or long-term health condition that would not have been experiencing fuel stress during the winter of 2023-24 had an energy social tariff had been in place. Adding these two figures together to get 2.7m will be double counting some households as they will be both older households and with at least one resident living with a disability and/or long-term health condition. The 2.2m figure refers to the number of unique households (i.e. avoids double counting) that would not have been experiencing fuel stress during the winter of 2023-24 had an energy social tariff been in place.