

Measuring fuel poverty

Claire Summers, Jack Hulme and Busola Siyanbola





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Energy E

Very energy efficient - low

(92 to 100)

A

(81 to 91)

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Executive summary

BRE has measured fuel poverty on behalf of the UK government since the 1990s. This publication discusses current and historical definitions of fuel poverty and shows how fuel poverty has been measured at national and local levels.

The concept of fuel poverty attempts to identify households that are unable to afford the cost of the energy needed to run their homes. It recognises that these households may be placing themselves at risk by not heating their homes to sufficient temperatures, or to a sufficient extent, to prevent ill health. To assist these households, it is first necessary to identify them as fuel poor. Creating a definition also allows the number of fuel-poor households to be quantified, and progress in assisting these households to be monitored.

The two main measures of fuel poverty in use today are the 10% definition and the Hills low income high costs (LIHC) definition. The first of these identifies fuel-poor households as those that would be required to spend more than 10% of their household income on fuel in order to meet a specified heating regime. The Hills LIHC definition identifies fuel-poor households as those that have relatively low income (below the official poverty line) coupled with higher-than-average fuel costs (in order to meet a specific heating regime).

All definitions are based around a notional requirement for fuel, rather than actual consumption. This recognises that households in fuel poverty may not be heating their homes adequately, and that actual consumption may not be sufficient. In order to calculate fuel poverty under both definitions, details of the occupants are needed. This requires extensive information on their income and household circumstances, which is then combined with comprehensive information on the nature of the dwelling that they occupy, and in particular its energy efficiency characteristics. Detailed information on fuel prices is also required. Finally, calculations using all of these components need to be made in order to identify fuel requirements, fuel cost and income (as defined by the methodology used) for each household.

The levels of fuel poverty have been monitored using National House Condition Survey data in each of the countries of the UK. At present the Hills LIHC definition is used to measure fuel poverty in England, with the 10% definition used in Scotland, Wales and Northern Ireland.



1 Introduction

1.1 Background

A safe and warm place to live is a basic human requirement. The concept of fuel poverty recognises that some households may not be able to meet this requirement because the fuel necessary to run the home proves unaffordable. These households are therefore at risk of reduced health and other problems associated with living in a cold home.

To assist in targeting the households most at risk from fuel poverty, we need to define exactly what we mean by a fuel-poor household. The number of people unable to afford to keep their homes warm can then be quantified and analysed and the scale of the problem understood. In the UK there have been, since the 1990s, regular measurements that allow the assessment and tracking of the scale of the problem and the effect of various policies.

BRE has been working with the UK government to measure the level of fuel poverty across the UK since the original development of the concept in the 1970s and 1980s. This report collates and sets out the current and historical approaches and discusses the rationale behind them.

A number of reference materials on the methodological development of fuel poverty can be found online and in published academic and other literature, many of which have been used by the authors of this report to tell the story of the development of fuel poverty. Key works are referenced at the end of this report and readers are advised to refer to these documents for more information on specific areas of interest.

1.2 What is fuel poverty?

The Warm Homes and Energy Conservation Act 2000^[1] gives the following definition of the term 'fuel poverty':

A person is to be regarded as living 'in fuel poverty' if he is a member of a household living on a lower income in a home which cannot be kept warm at reasonable cost.

The possible consequences of a household being in fuel poverty include restricted heating levels (leading to cold and damp homes), utility bill debts and reductions or restrictions in other areas of household spending. Additionally, fuel poverty may be associated with a number of physical and mental health illnesses and connected to excess winter deaths (see Section 1.3).

The causes of fuel poverty are complex and multifaceted, encompassing a wide range of environmental, economic, personal and social issues. Many of these issues are somewhat subjective, and dependent on the individual in the household. To allow for consistent measurement of fuel poverty at a national level, however, an objective measure of fuel poverty relating to income and fuel costs is required in order to measure changes over time.



1.3 A timeline of the development of fuel poverty

The concept of fuel poverty first developed, to any great extent, in the 1970s. It was recognised that some low-income and vulnerable (particularly elderly) households were placing themselves at risk of ill health, and early death, through not heating their homes to a sufficient level of warmth. This was attributed to the unaffordability of fuel for these households, and it was speculated that this problem may be a major contributor to the phenomenon of excess winter deaths in the UK – a measure of how many more people die in the winter months compared with the rest of the year. As higher levels of winter deaths were not seen in other nations with colder climates, this particular phenomenon was associated with the particular problem of cold, inefficient homes in the UK. The concept of 'affordable warmth' was developed, which recognised that warmth at home should be affordable to all. This concept would later become refined as 'fuel poverty'.

Various studies described relationships between low home temperatures and household circumstances, including *Old and cold: hypothermia and social policy*^[2] by (the later Labour Energy Minister) Malcolm Wicks, who described evidence that 'those who were living in colder conditions were more likely to find their heating expensive'. The English House Condition Survey 1986^[3] drew a link between low incomes and cold homes, noting that the 'the proportion of households living in cold homes progressively decreased with [increasing] income'.

Among the first attempts to define fuel poverty in a formal way was in a Department of Health and Social Security report by Isherwood and Hancock in 1979^[4], which identified those spending more than twice the median level on fuel as being 'households with high fuel expenditure'. In 1991, Brenda Boardman published the book *Fuel poverty*^[5], based on her original PhD thesis. This work was central to the formation of a formal definition of fuel poverty and became the basis of the 10% definition described in Section 2.2.1, whereby a household

Measuring fuel poverty

BRE has measured fuel poverty on behalf of the UK government since the 1990s. This publication sets out the origins and development of the concept and measurement of fuel poverty in the UK as a method for targeting those households most at risk of being unable to heat their homes due to low income and/or high fuel costs. The development and definitions of fuel poverty methodology are discussed at national and local levels, along with a summary of fuel poverty trends in the UK over time, a definition of who the fuel poor are, and reasons for changing levels of fuel poverty. It aims to give a background to the concept of fuel poverty for housing associations and providers, energy suppliers, policy makers, energy consultants and academics.



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