

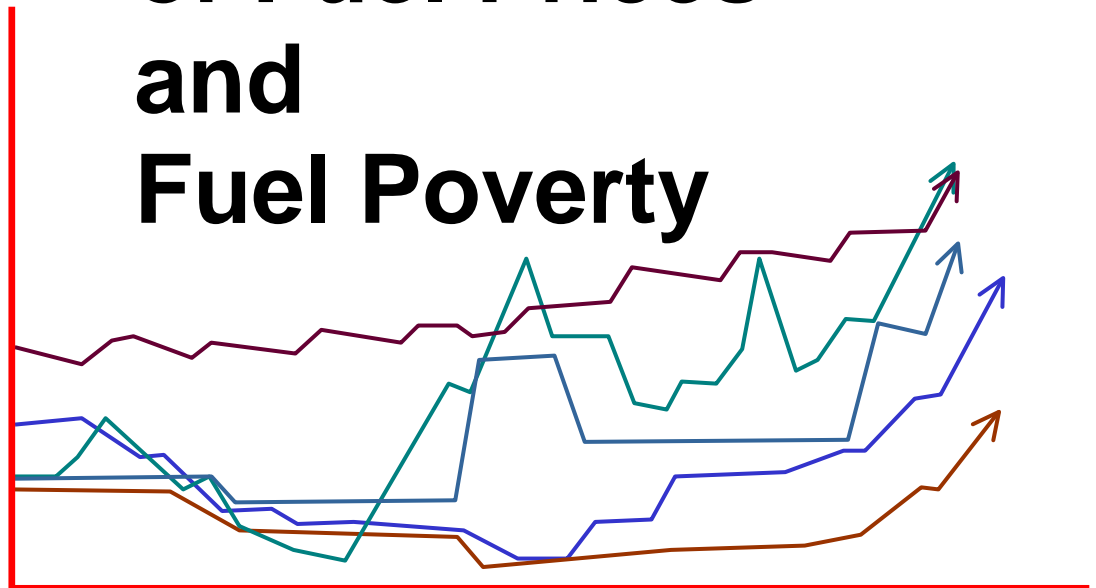


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# The Fall and Rise of Fuel Prices and Fuel Poverty



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## **The Fall and Rise of Fuel Prices and Fuel Poverty**

### **The Fuel Poverty Commitment**

The Warm Homes and Energy Conservation Act 2000 committed the Government to ending fuel poverty<sup>1</sup> within a fifteen-year period. The UK Fuel Poverty Strategy 2001 reinforced this commitment with a priority to eliminate fuel poverty for vulnerable<sup>2</sup> households by 2010 and for all households by 2016.

### **Progress in fuel poverty reduction**

There has been significant progress in reducing fuel poverty. The English House Condition Survey indicates that by 2001 the incidence of fuel poverty in England had fallen by 60% compared with the situation in 1996 – from 4.3 million households to 1.7 million households. Whilst the Warm Homes and Energy Conservation Act emphasises the role of energy efficiency in resolving fuel poverty, much of the progress to date results from a combination of rising household incomes and falling fuel prices.

### **Falling energy prices and fuel poverty**

The competitive energy market and effective regulation brought lower gas and electricity prices and this was supplemented by a reduced rate of VAT on domestic fuel. Electricity prices also reduced as a result of the phasing out of the Fossil Fuel Levy. Between 1996 and 2001 domestic gas prices fell by 18% in real terms whilst the fall in electricity prices was even greater at 23%.

### **Household incomes and fuel poverty**

Government measures to increase welfare benefits for older householders and families with children also contributed to the decline in the number of fuel-poor households. Additional policies such as the Government's Winter Fuel Payments scheme for pensioners contribute further to progress in fuel poverty reduction. A strong economy with high levels of economic activity and initiatives such as the minimum wage have also played a part in reducing fuel poverty.

### **A brake on progress**

However, since 2001, the trend of falling energy prices has been halted and reversed. In the past two years domestic fuel prices have increased significantly and seem unlikely to fall in the short term. Between 2003-2005 electricity prices increased by 11% in real terms and gas by 16%. In fact the major concern now is that high and increasing domestic energy prices may be a permanent, rather than a temporary, condition.

### **Implications for the UK Fuel Poverty Strategy**

*The Fall and Rise of Fuel Prices and Fuel Poverty* examines the effect of recent price increases on the extent of fuel poverty in England; it also considers prospects for the future if energy prices continue to rise and the implications of such a development for the Government's Fuel Poverty Strategy. Finally it considers briefly the current and future role of energy efficiency programmes in securing affordable warmth in a context of rising fuel prices.

### **Modelling fuel poverty data**

The English House Condition Survey is the primary source of data on fuel poverty. However, because the survey was conducted on a five-yearly basis, annual progress could only be measured by introducing an element of modelling which could then be applied to actual data. The model would incorporate information on price movements, changes to household incomes and improvements to the energy efficiency of the housing stock to create a reliable estimate of trends in fuel poverty in England.

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<sup>1</sup> A fuel-poor household is defined as one that would need to spend more than 10% of its income to maintain warm and healthy conditions within the home.

<sup>2</sup> Vulnerable households comprise those with older occupants, families with children or where a householder is disabled or suffers a long-term illness.

The model devised for this study sought to build on, and improve, that used by the Government in its own assessment of fuel poverty.

### **How the English House Condition Survey 2001 underestimates fuel poverty**

Since the 2001 English House Condition Survey data provide the statistical base for any modelling work it is worth considering the accuracy and soundness of these core data. Between the surveys of 1996 and 2001 several significant changes were made to the way fuel poverty was assessed; for example the 1996 survey used actual household tariffs whereas the 2001 survey used average tariffs for each payment method and, similarly, the earlier survey calculated non-heating fuel use based on the actual number of occupants whilst the later survey made assumptions about household occupancy on the basis of the size of the property.

The effect of these particular changes can be significant. The use of average fuel prices does not take account of the fact that low-income households pay more for their fuel – their charges per unit of gas and electricity are higher than the average assumed in the fuel poverty model used by the Department for Trade and Industry.

Once these higher prices are utilised in the model it is seen that this significantly affects the total number of households in fuel poverty. Correcting for fuel prices increases the number of fuel-poor households in England in 2001 from 1.7 million to 2.5 million with more than half of the increase being vulnerable households. Even allowing for the overestimate of non-heating fuel costs resulting from mistaken assumptions about occupancy levels the increase in the incidence of fuel poverty is still some 500,000 households of whom 370,000 are vulnerable.

### **Gas and electricity prices**

Work on the English House Condition Survey 2001 coincided with a ten-year low in domestic energy prices for metered fuels. The factors that led to this circumstance were mainly one-off occurrences and will not be replicated:

- Price regulation on distribution charges
- Phasing out of the Fossil Fuel Levy
- Reduced VAT on domestic fuel
- Competition within the gas and electricity industries following liberalisation

### **Non-metered fuels**

In the case of non-metered fuels – coal and smokeless fuels, heating oil and Liquid Petroleum Gas (LPG) - prices in the run up to the 2001 House Condition Survey were reasonably stable although post-2001 coal and smokeless fuel have increased above the rate of inflation with heating oil and LPG prices increasing after 2004. The price of non-metered fuels is highly relevant to fuel poverty because a substantial proportion of fuel-poor households (around 25%) and those on the margins of fuel poverty (20%) were reliant on these fuels for main space heating, water heating or secondary heating in 2001.

Since the Government's monitoring of fuel poverty numbers assumes no real change in prices of non-metered fuels recent increases in these fuels will result in a serious underestimation of the extent of fuel poverty.

### **Energy efficiency**

Until data from the 2003 English House Condition Survey is made available, improvements in the energy efficiency of the housing stock have had to be modelled using progress between 1996-2001. The longitudinal sample of the 1996 and 2001 surveys was analysed to determine what properties demonstrated significant energy efficiency improvement over that five-year period.

Assuming similar improvement rates and measures across the housing stock between 2001-2005, it can reasonably be inferred that some 5.4% of the stock will have been improved in each year during this period with the greatest degree of improvement occurring in the worst of the stock. It is then possible to calculate the reduction in heating costs resulting from these energy efficiency improvements. On average, heating costs will reduce by around 26% as a result of these energy efficiency improvements.

## **Household incomes and the fuel poverty formula**

Discussion of household income is complicated by the different ways in which this can be defined for the purpose of assessing fuel poverty. The Government employs two definitions of household income in the fuel poverty formula: Full income (includes housing subsidies in the form of Housing Benefit and Income Support for Mortgage Interest) and Basic income (excludes housing subsidies from the assessment of income) although the former is the Government's preferred definition and is the one used for target setting.

Fuel poverty campaigners consider both definitions irrational since fuel poverty is specific to a household's existing dwelling and, since there is no discretion in how housing costs can be used, no resources are available for additional fuel expenditure. They put forward an alternative definition of 'residual' household income (after housing costs) as the most rational approach in defining income. This matter is of considerable importance since treatment of income has a major bearing on the number and distribution of households in fuel poverty.

Using the full income definition, fuel poverty is proportionately highest amongst private sector tenants and lowest amongst owner-occupiers; after deduction of housing costs the lowest incidence (but still the highest number) of fuel-poor households occurs amongst owner occupiers but local authority tenants appear as the group with the highest rate of fuel poverty.

## **Trends in household incomes post-2001**

Even within categories of household considered vulnerable there has been significant variation in income trends. Incomes of pensioners and pensioner couples have both increased above the average whilst the largest increase has been amongst large families with children, single parent households have seen their incomes rise no more than the average of all households.

## **Trends in fuel poverty 2001 to 2005**

Using Government figures on the extent of fuel poverty in 2001 as the basis it can be seen that subsequent price increases would have added well over a million households to the total resulting in around 3 million fuel-poor households by the end of 2004. However, once energy efficiency improvements and rising household incomes have been factored in, the problem is somewhat modified. Energy efficiency improvements are estimated to have reduced fuel poverty from the 3 million figure to under 2.6 million whilst rising incomes has had an even greater effect reducing the total number of fuel-poor households to around 1.9 million by 2005. The conclusion is that fuel poverty has increased by some 200,000 households since 2001, both in total and for vulnerable households. This latter category has seen fuel poverty increase from 1.4 million in 2001 to 1.6 million by the end of 2004.

## **The current extent of fuel poverty**

Fuel price increases have done much harm to the Government's fuel poverty targets. Increased gas and electricity prices would have added 1.3 million households to the fuel poverty total and even with these increases being somewhat mitigated by rising incomes and improved energy efficiency the fuel poverty balance is still in considerable deficit.

Regardless of how household income is measured the increase in fuel poverty remains fairly constant at around 200,000 households. However, depending on how household income is assessed the number of households in fuel poverty in 2005 ranges from 1.9 million on the most optimistic assessment to 3.3 million when residual income is used in the formula.

## **Prices, incomes and energy efficiency post-2005**

A number of future energy price and household income scenarios were considered in order to produce informed projections for the incidence of fuel poverty over the period 2005-2009. This is the period during which the Government will be striving to meet the first of its fuel poverty commitments – to end fuel poverty for vulnerable households by 2010. The high, medium and low scenarios for gas and fossil fuel assumed increases of 30%, 20% and 10% respectively; for electricity the assumptions were 20%, 15% and 10%; and incomes were assumed to rise by 20%, 15% and 10%.

Between the English House Condition Survey 2001 and the first quarter of 2005 domestic gas and electricity prices increased by 33% and 16% respectively; in contrast average incomes had increased by around 17%. Energy efficiency improvements to the housing stock over this period were again modelled using data from previous surveys as the basis for future projections. This procedure resulted in average SAP ratings across the whole housing stock rising to 56.7. The higher than average improvement in the worst housing stock - properties occupied by fuel-poor households - may produce reductions in heating costs of around 30%.

### Fuel poverty in 2009

The prices and incomes elements of the scenarios were used to estimate the incidence of fuel poverty in England. Energy efficiency programmes were assumed to be equivalent to those currently in place. The three prices and incomes scenarios were then applied on the best, worst and intermediate base to obtain projected figures for the extent of fuel poverty in 2009. The definition of income used was that of 'full' income i.e. that favoured by the Government and which serves to produce the lowest estimate of fuel poverty.

The first table below sets out the anticipated scale of fuel poverty in 2009 assuming high energy prices and incomes that remain fairly static in real terms (gas +30%, electricity +20% and incomes + 10%).

<b>Fuel poverty in 2009 by prices and incomes scenarios (worst case - full income)</b>						
	Not fuel poor		Fuel poor		All households	
	number	%	number	%	number	%
Not vulnerable	5.9 million	94.3%	0.4 million	5.7%	6.2 million	100%
Vulnerable	12.5 million	87.5%	1.8 million	12.5%	14.3 million	100%
<b>Total households</b>	18.4 million	89.6%	2.1 million	10.4%	20.5 million	100%

The second table examines the most optimistic case – one in which energy price increases are modest and household incomes comparatively high (gas +10%, electricity +10% and incomes +20%).

<b>Fuel poverty in 2009 by prices and incomes scenarios (best case - full income)</b>						
	Not fuel poor		Fuel poor		All households	
	number	%	number	%	number	%
Not vulnerable	6.0 million	96.8%	0.2 million	3.2%	6.2 million	100%
Vulnerable	13.4 million	93.9%	0.9 million	6.1%	14.3 million	100%
<b>Total households</b>	19.4 million	94.8%	1.1 million	5.2%	20.5 million	100%

The final table illustrates the effect on fuel poverty of intermediate assumptions on all three elements – gas prices, electricity prices and household incomes. In this scenario gas prices increase by 20%, electricity prices by 15% and incomes by 15%.

<b>Fuel poverty in 2009 by prices and incomes scenarios (intermediate case - full income)</b>						
	Not fuel poor		Fuel poor		All households	
	number	%	number	%	number	%
Not vulnerable	5.9 million	95.5%	0.3 million	4.5%	6.2 million	100%
Vulnerable	13.0 million	91.1%	1.3 million	8.9%	14.3 million	100%
<b>Total households</b>	18.9 million	92.4%	1.6 million	7.6%	20.5 million	100%

### Conclusion

Rising energy prices seem likely to frustrate the Government's ambitions to end fuel poverty for vulnerable households by 2010. On the most optimistic assumptions about future energy prices it appears that more than 1 million households will be in fuel poverty in 2009 with almost 90% of these being vulnerable households.

Higher energy prices are already scheduled and further pressure will be exerted on Government targets. Pessimistic assumptions put fuel poverty at some 2.1 million households by 2009 – a 50% increase over the scale of fuel poverty in 2001.

The only relevant factor not addressed in this paper is the role of greatly enhanced energy efficiency programmes in addressing fuel poverty. All assumptions are based on continuation of current energy efficiency programmes although it seems clear that such an approach will not contribute enough to meet Government targets. Energy efficiency programmes that improve between 5% and 7% of the housing stock are insufficient for the eradication of fuel poverty. Significantly greater resources are necessary and it is also essential to address the issue of the least energy efficient properties through a programme of demolition and new build to the most rigorous heating and insulation standards.