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Fuel Poverty: 2014 update

1 Introduction

In early 2013, ACE Research and the Energy Bill Revolution published a fact-file on families and fuel poverty¹. This briefing serves to update last year's headline figures for the number of households, people, families, and children in fuel poverty to 2014. It does so for the UK, as well as for the devolved nations where appropriate.

There are now two high-level fuel poverty definitions in use in the UK. The original definition, that of a household having to spend over 10% of its disposable income to pay for adequate energy services, has (with minor variations) been retained in Northern Ireland, Scotland and Wales. Although the Department of Energy and Climate Change still report fuel poverty in England against this definition, it has now formally adopted a new definition of fuel poverty in England, based on the recommendations of the Hills Review into the measurement of fuel poverty.

This briefing provides estimates for the level of fuel poverty (under the original definition) at the start of 2014 for the UK and its nations. In addition, it provides an estimate for fuel poverty under the new definition in England. The following factors make a 2014 update on last year's estimates pertinent:

- Energy suppliers announced significant price rises at the end of 2013. Some of these price rises have been claimed by suppliers to be smaller than they otherwise would have been, as they have pre-empted Government reductions to 'green levies'. Government proposals for reducing levies were made subsequent to the price rises at the end of 2013²;
- The rate at which energy bill-reducing measures are being delivered slowed down considerably in 2013 compared to previous years;
- And average real earnings have remained largely flat

¹ (Guertler and Royston 2013)

² A formal Government consultation on this is expected in February. The main proposals are to reduce the size of the Energy Company Obligation's 'Carbon Obligation' (which principally delivers insulation), and to move the Warm Homes Discount on to public expenditure.

Energy prices, energy performance of housing and incomes are the three factors that together determine the level, depth, and nature of fuel poverty, whichever definition is used. The estimates on the next pages compare the state of fuel poverty now to that of 12 months ago.

2 Methodology note

We have produced a very detailed updated estimate of fuel poverty in England under the original and new definitions of fuel poverty (using the English Housing Survey 2011) for 2014 – by adjusting for changes to incomes, energy prices and home energy efficiency improvements that have taken place during 2013. At the same time, we have remodelled and revised our original estimate for 2013 using the English Housing Survey 2011³. Our UK-wide estimate of how many households, people, families and children are in fuel poverty today is simply extrapolated based on:

- 1) The relationship between English and UK-wide fuel poverty in 2011 (the latest year for which official UK-wide fuel poverty statistics are available⁴), and
- 2) The relationship between this and Devolved Nation data at different points in time⁵.

Only to a limited extent can our 2014 UK estimate take account of variations in the incidence of fuel poverty *between* Northern Ireland, Scotland and Wales, and of the variation in the number of children per family between all four nations.

The factors that cause our 2014 estimates to differ from 2013 are:

- **Energy improvements:** we have, using ACE Research's Housing Stock Optimisation Tool (HSOT), modelled improvements to the housing stock that affect its energy consumption. Measures delivered in 2013 under the Energy Company Obligation (ECO), Green Deal finance, and Green Deal cash-back have been taken into account, based on DECC's Green Deal and ECO statistics. At time of writing, measures installed under the ECO have only been reported up to the end of November. We have assumed the number of measures installed in December 2013 to equal the average of the 11 preceding months⁶. In addition, the market churn of boiler replacements and the installation of double-glazed windows has been taken into account and 'deployed' in HSOT.
- **Energy prices:** we have used the average increase in gas and electricity prices from the large energy retailers over the last 12 months, adjusted for inflation, as the basis for energy prices at the start of 2014⁷. As stated in the introduction, proposed changes to 'green levies' are implicit in some of the price increases. HSOT takes account of regional variations in unit energy prices, standing charges and method of payment. We use the average real terms increase in energy prices uniformly whilst holding regional variations constant.
- **Household incomes:** we have assumed these to change in line with average real earnings over the last 12 months. HSOT models changes to after housing cost incomes by income decile, based on historic data on income change by decile from the Department of Work and Pensions.

³ Our original 2013 estimate (Guertler and Royston 2013) used the previous year's English Housing Survey (EHS 2010), then the latest available. In using the latest EHS 2011 along with the latest energy price and income data for the start of 2013, our revised 2013 estimate of fuel poverty in England is higher than in last year's briefing.

⁴ See (DECC 2013a) and (DECC 2013b).

⁵ The Devolved Nation datasets used here are the Northern Ireland House Condition Survey 2011; The Scottish House Condition Survey 2010; and the Living in Wales Survey 2008.

⁶ See also Appendix I.

⁷ Using data compiled by Citizens Advice and reported by *The Guardian* (Sedghi 2013). See also Appendix I.

3 Fuel poverty in the UK and its nations – original definition

Across the **UK** at the start of 2014, we estimate that **6.59 million households are in fuel poverty** as originally defined⁸, almost exactly one in four UK households, and **up from 5.86 million** at the start of 2013. This is an increase of 0.73 million households, up 13%. Compared to the **latest official estimate of fuel poverty (which is for 2011)**, fuel poverty is up by 49%.

In **England**, under the original definition of fuel poverty, 4.82m households are in fuel poverty now compared to 4.28 million a year ago, an increase of 540,000 (up 13%). Compared to 2011, fuel poverty in England is up by 51%. Table 1 also shows the corresponding totals for **Northern Ireland, Scotland and Wales**. In Northern Ireland fuel poverty has increased from 380,000 to 425,000 households (up 12% on 2013). In Scotland it has increased from 795,000 to 890,000 households (up 12%) and in Wales it has increased from 400,000 to 450,000 households (up 13% on 2013). Across the Devolved Administrations, fuel poverty has increased by 43% since 2011, the year for which the last complete set of estimates are available.

Table 1: Number of households, families and children in fuel poverty (original definition), in UK, England and Devolved Nations

Number in fuel poverty	UK	England	Northern Ireland	Scotland	Wales	
All households	2014	6,590,000	4,820,000	425,000	890,000	450,000
	2013	5,855,000	4,280,000	380,000	795,000	400,000
	2011	4,435,000	3,200,000	290,000	580,000	365,000
Families with dependent children	2014	1,440,000	1,070,000	135,000	140,000	95,000
	2013	1,230,000	915,000	115,000	120,000	80,000
	2011	-	590,000	-	-	-
Of which families with under-16s	2014	-	961,000	-	-	-
	2013	-	830,000	-	-	-
	2011	-	530,000	-	-	-
Of which families with under-5s	2014	-	456,000	-	-	-
	2013	-	390,000	-	-	-
	2011	-	245,000	-	-	-
Dependent children	2014	2,570,000	1,940,000	230,000	240,000	160,000
	2013	2,195,000	1,660,000	195,000	205,000	135,000
	2011	-	1,050,000	-	-	-

In the whole of the **UK** the number of children in fuel poverty has increased by 375,000 (up 17%) since the start of 2013, up from 2.2 million to 2.57 million at the start of 2014. The number of families in fuel poverty has increased by 290,000 (also up 17%) from 1.23m at the start of 2013 to 1.44 million families at the start 2014.

In **England**, the number of children in fuel poverty under the original definition has increased from 1.66 million in 2013 to 1.94 million at the start of 2014. The number of families with dependent children in fuel poverty has increased from 915,000 to 1.07 million. That is an increase of 280,000 children and 155,000 families, both up 17% on last year. 961,000 of these 1.07 million families have children under the age of 16, and 456,000 have children under the age of 5. The number of children in fuel poverty in

⁸ i.e. having to spend more than 10% of income to maintain an adequate level of energy service in the home.

England today stands 85% higher than it did in the year for which the latest official estimates are available.

The increase in the number of children and families in fuel poverty has been sharp, especially when compared to the increase in the total number of households in fuel poverty. The main contributory factor to this has been the increase in energy prices over the last year, which has far outstripped incomes. Families are disproportionately affected in this situation because they are modelled to need more energy than smaller households to maintain an adequate level of heating, lighting, cooking and appliance energy use. As a result, an increase in energy unit prices will drive families over the 10% spending threshold more swiftly than other households⁹. In addition, the rate of energy efficiency improvements has slowed down significantly over the course of 2013 compared to 2012, which has meant that energy efficiency has been able to achieve less than previously in ameliorating the effects of rising energy prices. For example, the deployment of cavity wall insulation in 2013 was down by three quarters compared to 2012, and solid wall insulation was down by two thirds.

4 Fuel poverty in England – new definition

Last year, DECC formally adopted a new definition of fuel poverty for England, based on the recommendations made by Professor John Hills in his review of fuel poverty measurement. The main distinction between this and the original definition is that the new definition uses a relative measure of fuel poverty. A household is defined as fuel poor if its income is less than 60% of the median equivalised income (after housing costs) plus energy expenditure, and if the amount it needs to spend on fuel to maintain an adequate level of energy service is greater than the median equivalised energy bill in the population. In the simplest terms, **the household needs to be below the poverty line, and be in that half of the population facing the highest energy costs** (i.e. needs to be paying more for its energy than the median energy bill).

As there is always one half of the population paying more than the median bill (and as long as there are households that live below the poverty line), fuel poverty becomes a relative measure under this new definition. In other words, the number of households in fuel poverty does not change much over time, even when fuel prices rise or fall sharply. Table 2 and Table 3 show this: while the number of households in fuel poverty under the original definition went up from 3.2 to 4.82 million in England (up 51%) since the last official statistics, it increased by 3%, from 2.39 to 2.46 million under the new definition over the same period. The change in definition for England has reduced the number of households assessed to be in fuel poverty by 2.36 million.

Table 2: Number of households, people, families and children in fuel poverty in England (original definition)

	Households	Change on 2011	People	Change on 2011	Families	Change on 2011	Children	Change on 2011
2014	4,820,000	+51%	9,350,000	+57%	1,070,000	+81%	1,940,000	+85%
2013	4,280,000	+34%	8,200,000	+38%	915,000	+55%	1,660,000	+58%
2011	3,200,000	-	5,960,000	-	590,000	-	1,050,000	-

⁹ Conversely, when energy prices fall, families emerge out of fuel poverty more swiftly than other households.

Table 3: Number of households, people, families and children in fuel poverty in England (new definition)

	Households	Change on 2011	People	Change on 2011	Families	Change on 2011	Children	Change on 2011
2014	2,460,000	+3%	6,990,000	+6%	1,080,000	+7%	2,230,000	+11%
2013	2,440,000	+2%	6,910,000	+5%	1,075,000	+6%	2,200,000	+10%
2011	2,390,000	-	6,585,000	-	1,010,000	-	2,005,000	-

Number of people in fuel poverty

In England supplementary measures on fuel poverty, recommended by Professor Hills, have also been introduced – **the number of people in fuel poverty and the ‘fuel poverty gap’**. The number of people (as opposed to the number of households) in fuel poverty in England under the new definition increased by 1% from 6.91 million to 6.99 million people in fuel poverty at the start of this year. Compared to 2011, the number of people is up 6%.

The reason this increased by more than the number of households in fuel poverty is down to the fact that larger households, mostly families, are more likely to need to spend more than the median energy bill. Under the new definition the number of families in fuel poverty in England has increased only marginally on last year, to 1.08 million. Under the new definition the number of children in fuel poverty in England has increased by 30,000 from 2.2 million in 2013 to 2.23 million in 2014. Compared to 2011, when energy prices were markedly lower, the number of families and children in fuel poverty has gone up by 7% and 11% respectively.

The number of older people in England (aged 60 or over) living in fuel poverty as newly defined is 1.14 million. In 2013, 1.11 million older people were in fuel poverty under the new definition, so this number has increased by 3%. However, under the original definition, the number of older people in fuel poverty increased from 2.19 million in 2011, to 2.9 million in 2013, to 3.29 million today – an increase on last year of 13%, and of 50% since 2011.

Fuel poverty gap

The fuel poverty gap says how much more than the median bill households are having to pay for their energy. For all households, the average gap has increased by £11 over the last year (and by £7 overall since 2011). For families however, the average fuel poverty gap has increased by £16 (up £29 since 2011). As a result of this, and the increase in the number of families defined as fuel poor, the aggregate fuel poverty gap across all fuel poor families has increased by 4%, from £486 million last year to £506 million now.

Table 4: Number of households, people, families and children in fuel poverty in England (new definition)

	Aggregate fuel poverty gap [£m]				Average household fuel poverty gap			
	All FP households	Change on 2011	FP families	Change on 2011	All FP households	Change on 2011	FP families	Change on 2011
2014	£1,092	+4%	£506	+14%	£444	+2%	£468	+7%
2013	£1,056	+1%	£486	+9%	£433	-1%	£452	+3%
2011	£1,047	-	£444	-	£437	-	£439	-

5 Conclusion

This analysis finds that fuel poverty has increased across the UK over the last year, and compared to the 2011 (the year for which the latest official statistics are available) under both definitions. The first column of the table below presents the headline estimates for 2014. The second column shows how this differ from 2013, and the last column compares these to 2011. The upper half of the table concentrates in England and the new definition. The lower half summarises the headline figures under the old definition.

Headline figures in 2014	...compared to 2013...	...compared to 2011, the latest year for which official Government estimates are available...
Headline figures under the <i>new definition</i> of fuel poverty for England		
Under the new definition of fuel poverty for England, the number of households in fuel poverty stands at 2.46 million.	...it has increased by 20,000 (up 1%).	...it has increased by 70,000 (up 3%).
The number of people in fuel poverty in England under the new definition is 6.91 million.	...this has increased by 80,000 (up 1%)	...this is up by 405,000 people (+6%).
The number of families in fuel poverty in England is 1.08 million	...this has remained almost the same.	...this has increased by 70,000 families (up 7%).
There are now 2.23 million children in fuel poverty in England.	...this is 30,000 more (up 1%).	...this has gone up by 225,000 children (+11%).
<i>The above changes compared to 2013 are relatively small, despite stagnating incomes, slowed down energy efficiency and steep gas and electricity price increases. This shows that indicators under the new fuel poverty definition for England are much less sensitive than the under the original definition – which Scotland, Wales and Northern Ireland still use.</i>		
Headline figures under the <i>original definition</i> for the UK and England		
Across the <u>UK</u>, there are 6.59 million households in fuel poverty.	...this has increased by 730,000 (up 13%).	...this has gone up by 2.15 million (up 49%).
1.44 million families in the <u>UK</u> are in fuel poverty.	...up by 210,000 (+17%).	-
2.57 million children are in fuel poverty.	...up by 375,000 (+17%).	-
In <u>England</u>, the number of families in fuel poverty stands at 1.07 million.	...this has increased by 155,000 (+17%).	...this has gone up by 480,000 (up 81%).
And the number of fuel poor children in <u>England</u> now stands at 1.94 million.	...this is an increase on 2013 of 280,000 (also up 17%).	...this is an increase on 2011 of 890,000 children (up 85%).

The Energy Bill Revolution

The Energy Bill Revolution is an alliance of 170 organisations calling for the Government to make home energy efficiency the UK's priority infrastructure investment. It wants energy efficiency measures to be provided for free for people in fuel poverty, and subsidies for energy efficiency for everyone else. It is proposed that this be paid for by recycling revenues from two carbon taxes that are paid by consumers – the European Emissions Trading Scheme and the Carbon Price Floor. Over the next 15 years the Government will raise an average of £4 billion every year in carbon taxes; this is enough revenue to insulate to a high degree an average of 600,000 homes every year. In time, every household could benefit from recycling carbon tax into energy efficiency measures. The Energy Bill Revolution proposes that fuel poor households be prioritised for assistance. Research by Cambridge Econometrics and

Verco¹⁰ shows that, compared to other kinds of public investment and tax breaks, this is the most effective way to promote economic growth and create employment. This is also the only permanent solution to end fuel poverty and bring down energy bills.

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¹⁰ (Cambridge Econometrics and Verco 2012)

Appendix I – main trends affecting 2014 fuel poverty estimates

Energy prices and incomes

Error! Reference source not found. shows how gas and electricity prices, average earnings and the consumer prices index have developed relative to April 2011, the date for which the Government last published official UK-wide estimates. These data were compiled by Citizens Advice Bureau and first reported in the Guardian last November¹¹. Energy prices increases have far outpaced earnings growth over the last two and half years.

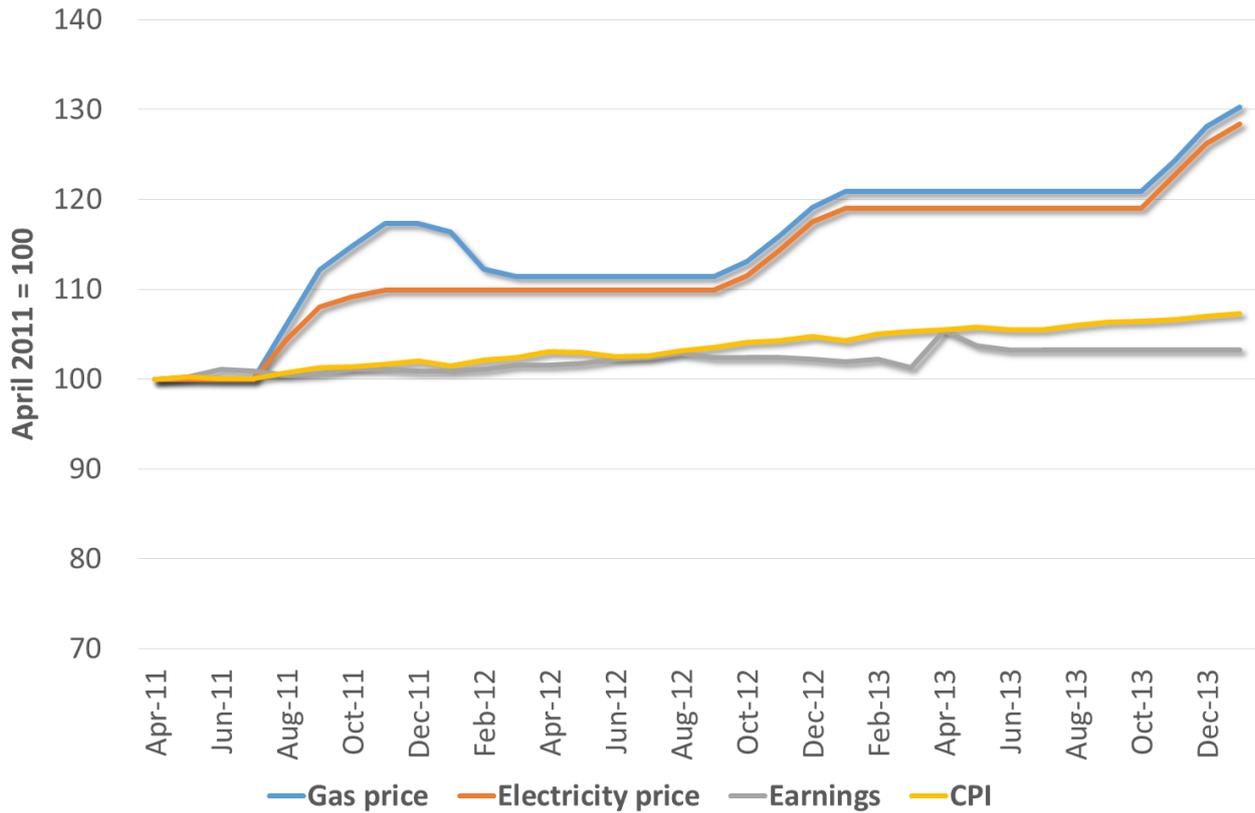


Figure 1: Development of average gas and electricity price, average weekly earnings and CPI relative to April 2011

¹¹ (Sedghi 2013)

Energy improvements

The 2013 slowdown (compared to 2012, highlighted in Table 5) in the deployment of home energy improvements that came with the transition to the new Green Deal and Energy Company Obligation regime, has exacerbated the impact of recent energy price increases combined with income growth below the rate of inflation.

Table 5: Number of insulation measures delivered in Britain under supplier obligations and related programmes, 2012 and 2013

	Cavity wall insulation	Loft insulation	Solid wall insulation
2012 (CERT and CESP)¹²	637,000	1,302,000	77,000
2013 (ECO, Green Deal Finance and Green Deal cash-back)¹³	163,000	132,000	25,000
Change	-74%	-90%	-68%

¹² Data from (Ofgem 2013)

¹³ Data from (DECC 2014); ECO data for December extrapolated, based on first 11 months of 2013 as not yet published.