



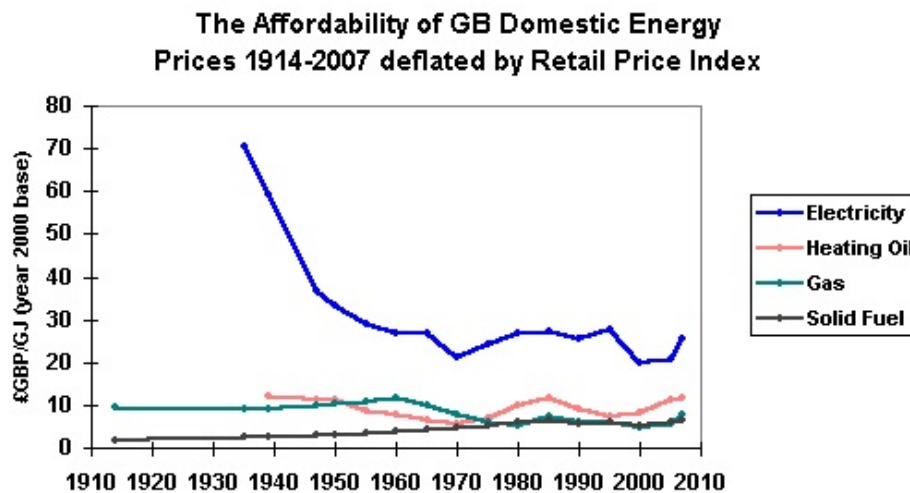
## A Little History of the Affordability of Domestic Energy in Great Britain

Posted by [Euan Mearns](#) on June 12, 2008 - 9:55am in [The Oil Drum: Europe](#)

Topic: [Economics/Finance](#)

Tags: [coal](#), [domestic fuel prices](#), [electricity](#), [gas](#), [oil](#), [rpi](#), [town gas](#) [list all tags]

*This is a **Guest Post** by [Bob Everett](#). Bob is Lecturer in Renewable Energy at the [Open University](#) in Milton Keynes, UK.*



Domestic energy is getting expensive, but what does that mean compared to the situation in our parents' or grandparents' days? Should we grumble?

The chart above shows domestic fuel prices for Great Britain from 1914 to 2007. The data up to 1985 was compiled by [Horace Herring](#) and Rodney Evans and been updated with more recent figures from UK government statistics. It is expressed in UK pounds for the year 2000, adjusted by the retail price index (i.e the price of energy related to other 'real' goods such as food).

At the beginning of the 20th century, Britain's fuel situation was dominated by cheap coal. In RPI terms domestic coal was a third of the price that it is today and the domestic sector consumed vast amounts of it. Town gas made from coal was about five times the price of coal. It was locked in a battle with electricity for the lighting market. This gas/coal price ratio decreased and was down to about 3:1 by the middle of the 20th century due to economies of scale and improved production techniques.

Electricity was initially staggeringly expensive. When Brighton Corporation first started producing it in 1885 they sold it at a shilling (5p) a kWh. Translated in RPI terms that is about £900/GJ in today's money, i.e. way off the top of the chart. Indeed it only gets below £80/GJ in the 1930s, around the time that the National Grid was being created. Yet it was such a desirable commodity that it sold into ordinary working class homes for lighting and appliances.

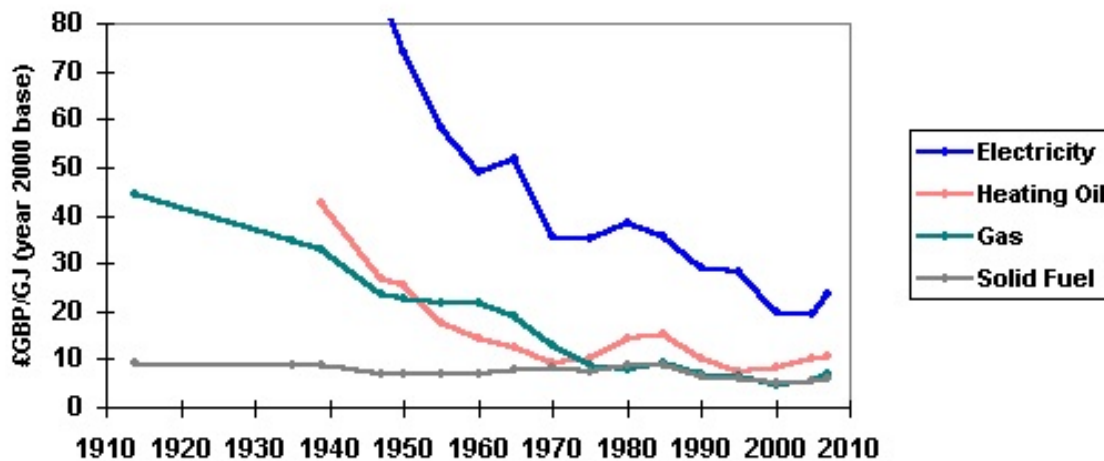
Oil for heating was not widely available before World War 2 and so doesn't enter the GB statistics.

After the war it became available in larger amounts at progressively lower and lower prices and ate into the town gas heating market. However this fought back with a process to produce town gas from imported naphtha rather than coal.

In RPI terms electricity prices bottomed out in the 1960s when it became cheap enough for 'all electric homes' to be considered. The bulk of electricity was generated from coal plus some nuclear power.

The oil price rises of 1973 and 1979 put paid to most of the gains of heating oil in the 1960s. North Sea natural gas came to the rescue. The whole country was converted from town gas and it was priced to be competitive with coal. Effectively it wiped out the oil and coal heating markets and much of the rising electric heating market. Britain became a nation of homes with gas-fired central heating. In the 1990s even the power stations started to burn gas rather than coal.

### The Affordability of GB Domestic Energy - Prices 1914-2007 Deflated by Average Earnings



We can also look at this price history through 'earnings deflated' prices (above). As per capita GDP and earnings have increased so an 'average wage' has been able to purchase more and more energy. This has the effect of 'tilting' the whole price curve making energy look even cheaper today than it has been in the past. So although the price of electricity in 1960 was not that much different to today's price in 'real' terms (i.e. in the equivalent number of loaves of bread or eggs), the average wage can afford to buy over twice as much electricity.

It is also noticeable that the 'earnings deflated' price of coal is amazingly flat over the whole of the 20th century. I suspect that this is because the price was mainly determined by the wages of the miners.

But now things are going awry. In RPI terms all of the fuel prices have risen since 2000. GDP and earnings are still going up, but apparently not fast enough to deflate away the fuel price rises. Domestic energy is now set to consume an increasing proportion of the household budget. In 2000 'fuel and power' made up 3.3% of the UK household expenditure. However, this is a long way short of the peak of over 6% in the mid-1960s. If you go back a really long way a budget study of a 1760s Berkshire family estimated that it took 1% of their income just to buy two candles a day.

I'm not sure where the road forward (to the [Olduvai Gorge?](#)) will take us. But surely if we're all so much richer than we were in the past (through the magic of economic growth) we should be able to afford decent insulated homes and a genuinely sustainable energy system.

Further reading: [Olduvai Revisited 2008](#)



This work is licensed under a [Creative Commons Attribution-Share Alike 3.0 United States License](#).