

Energy bills: The untold story

How cutting waste is continuing to bring down British energy bills

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EXECUTIVE SUMMARY

With the Government's cap on energy bills set to be in place by December, many of the largest companies regularly hitting the headlines for increasing the cost of gas and electricity, and the continuing debate around the cheapest way to decarbonise our energy system, energy bills are rarely out of the news.

But one piece of news that often escapes notice is that Britons' energy bills are actually falling. Last year a report from the Committee on Climate Change (CCC) showed that since the introduction of the Climate Change Act in 2008, the average annual energy bill had fallen by more than £100. This was largely driven by a decline in the amount of gas and electricity we use in our homes, which, in turn is largely the result of energy efficiency measures, some funded from levies on bills. These policies reduce the amount of heat that is wasted and cut the power needed to run appliances and lighting.

This report brings the CCC's analysis up to date. Using the latest Government data, we show that the average standard dual fuel bill fell by £16 from 2016 to 2017. On a national basis, this fall continues to more than offset the litany of tariff increases implemented by the Big Six energy suppliers. Since 2008, expenditure on electricity and gas across all British homes has fallen by nearly £4 billion.

If you were unaware that energy bills are falling, you are not on your own. We commissioned YouGov to ask MPs what they believed was happening to energy demand and energy bills. Just 1% - roughly equivalent to six MPs across the entire House of Commons - were aware that both demand and the average bill were falling. Nearly two-thirds thought that the opposite was true.

One cause of the confusion is probably the way that Whitehall, regulators, and indeed most of the energy industry report bills. BEIS, for example, reports trends as though usage remained the same over multiple years - their figures are based on this assumption rather than real-world bills. In a situation where usage is falling, this can lead to the misperception that average bills are higher than they are, and that they are rising.

While the average energy bill is falling, some Britons are missing out on the dividend. Millions of homes suffer from fuel poverty; many of these are disengaged from the energy market and on retailers' most expensive tariffs. The government's price cap should bring them some relief.

Although energy efficiency improvements continue to drive bills down, their rollout has stalled since cancellation of the Green Deal in 2015. Deployment of home insulation last year was at just 5% of its 2012 level.

This is something that MPs, it seems, would like to change. The YouGov survey also shows that many potential energy efficiency measures are popular within the House of Commons. Nearly three in four (73%) MPs support using financial support from Government to cut energy waste in homes, with seven times more MPs favouring this than opposing it. More than half (55%) of MPs would like all new homes built to 'zero carbon' standards, suggesting that the zero carbon homes policy scrapped in 2015 retains political support, by a ratio of three to one among lawmakers. A proposal to make cheaper mortgages available to more efficient homes was also favoured by 2.5 times more MPs than opposed it.

While measures that support the most vulnerable people and stimulate investment in some renewable technologies will continue to exert upward pressure on bills, efficiency gains clearly have a central role in reducing demand. Promoting new energy efficiency measures – or rekindling cancelled schemes such as Zero Carbon Homes – would help to continue the downward pressure on energy bills seen in recent years, in addition to cutting reliance on imported fuels and reducing greenhouse gas emissions.

INTRODUCTION

Political interest in energy bills has been consistently high in recent years. Debates around the incoming price cap on domestic bills, the cost of the low-carbon transition, and the ongoing revolution towards a smarter and more flexible energy system ensure that this important topic receives regular attention in both politics and in the media.

The Government's price cap is expected to come into force before the end of 2018, providing an upper limit for the annual cost of heating and powering the average UK home.¹ It is generally unpopular within the energy industry, prompting warnings of threats to investment and unnecessary 'meddling' in the market.² However, in the face of ongoing concerns about fuel poverty and the unwillingness of the Big Six to address the plight of households on standard variable tariffs, the government is proceeding. All of the Big Six aroused ire by raising energy bills for households on SVTs (and sometimes other tariffs too) during the second quarter of 2018.

Despite claims to the contrary,³ public concern surrounding energy bills has generally fallen over the past five years, with nearly seven in ten respondents to regular government surveys describing themselves as 'not worried' about energy bills.⁴ This, however, should not detract from the fact that energy bills can make up a notable proportion of expenditure for below-average income households, with the proportion of the population affected by fuel poverty largely static in recent years.

This report replicates and extends analysis published last year by the UK's Committee on Climate Change (CCC), using Government figures to determine what is happening to household energy bills when changing usage patterns are taken into account. It also contains new YouGov polling of MPs from across the House of Commons – showing how well UK lawmakers understand what is happening to energy bills, and revealing levels of support for different policies that could curb energy waste and reduce expenditure on energy still further.

¹ <https://utilityweek.co.uk/ofgem-opens-price-cap-consultation/>

² <http://www.cityam.com/264349/heres-people-reacting-conservative-plan-cap-energy-prices>

³ <https://www.moneysavingexpert.com/news/utilities/2012/05/energy-costs-top-worry-for-most-brits>

⁴ <https://www.gov.uk/government/collections/public-attitudes-tracking-survey>

ARE DOMESTIC ENERGY BILLS ACTUALLY INCREASING?

A 2017 report by the CCC found that domestic energy bills fell between 2008 and 2016, as falling electricity and gas consumption more than compensated for higher wholesale energy prices and policy costs.⁵ This ran contrary to popular opinion that bills are increasing – and indeed, contrary to figures released by Government and by energy companies, which do not consider the dependence of overall costs on both unit costs and on demand. The notion that bills are high and rising was given fresh impetus by Professor Dieter Helm's government-commissioned 2017 review of energy costs,⁶ whose list of 'key factors' affecting energy bills did not include falling consumption – a factor that should have been set against its many statements about 'rising prices'.

The CCC report found that combined gas and electricity bills were around £115 lower in real terms than when the Climate Change Act was passed in 2008. Just 9% of the dual fuel bill is due to the cost of shifting to a low-carbon electricity supply and supporting energy efficiency improvements in UK homes. This is significantly less than wholesale costs (38%) and network costs (26%), the two largest contributors to UK energy bills.⁷

The CCC also found that since 2008, the amount of electricity and gas used in the average British home fell by 23% and 17% respectively, as improved product efficiency, better insulation and higher performing gas boilers reduced energy waste. Total national consumption of gas and electricity have also decreased, despite an increase in population and a growing number of homes.

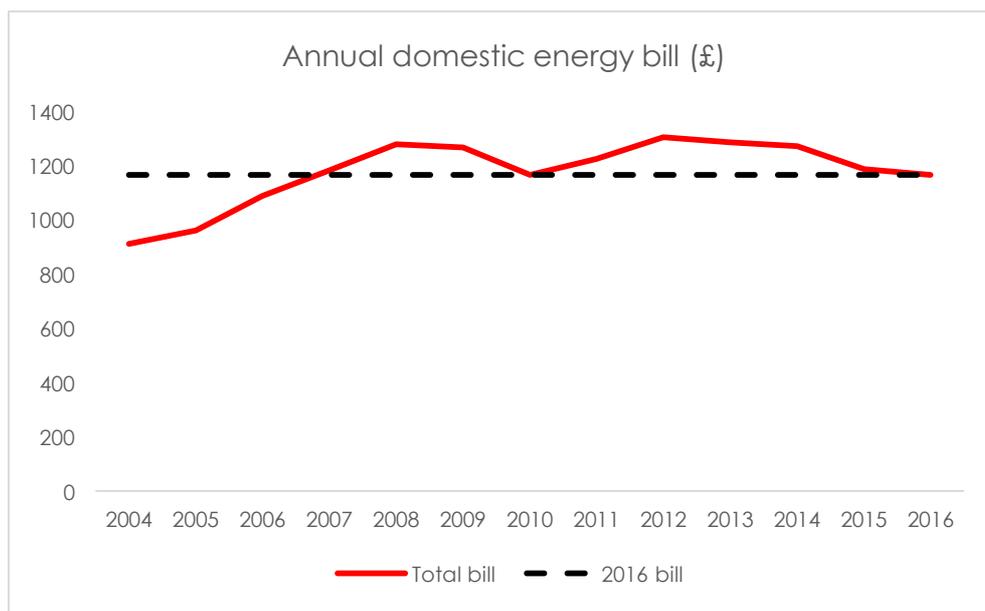


Figure 1: Real household energy bills, accounting for change in unit prices and demand.

Source: CCC.⁸

Extending the analysis carried out by the CCC to make use of the most recent data, shows that between 2016 and 2017, the average UK domestic energy bill fell by a further £16, from £1,184 to £1,168 per household.⁹ Gas consumption per household was more than 5% lower in 2017 than in

⁵ <https://www.theccc.org.uk/publication/energy-prices-and-bills-report-2017/>

⁶ <https://www.gov.uk/government/publications/cost-of-energy-independent-review>

⁷ <https://www.ofgem.gov.uk/data-portal/breakdown-dual-fuel-bill>

⁸ <https://www.theccc.org.uk/publication/energy-prices-and-bills-report-2017/>

⁹ Calculations based on BEIS data for standard (non economy-7) electricity and gas bills.

2016 – a function of warmer weather as well as improving efficiency – while domestic electricity consumption was around 4% lower year-on-year.^{10,11} This decline in demand more than outweighed higher per-unit costs, which were largely driven by higher wholesale costs.

Since the 2013 high (driven by very high fossil fuel prices), nearly £150 has been shaved from the average UK energy bill (Figure 1). The gas price fell in the period 2013-2015. Since 2015, it has been on the upturn – as one indicator, the day-ahead UK price more than doubled between March 2016 and March 2018.¹² Yet, the effects of energy efficiency and falling demand have more than compensated for increasing unit costs, leaving the average home with lower bills year-on-year.

Despite the importance of consumption, the main Government statistics on energy bills do not consider changing demand. Instead, they calculate what the bill would be if usage stayed flat. In 2017, the average home consumed 3,750 kWh of electricity, only marginally below the figure of 3,800 kWh used in BEIS statistical releases. However, assuming that this figure is unchanged over time does not account for the 17% fall in consumption since 2010 (and therefore the 17% underestimation of bills from the same year, which will obfuscate declining bills in homes).¹³

The same issue affects gas bills, with current actual domestic consumption more than 15% below values reported by BEIS.¹⁴ Figure two shows how the unit costs and consumption of gas and electricity have varied since 2010 – as unit costs have increased they have been offset by falling demand, leading to overall lower bills.

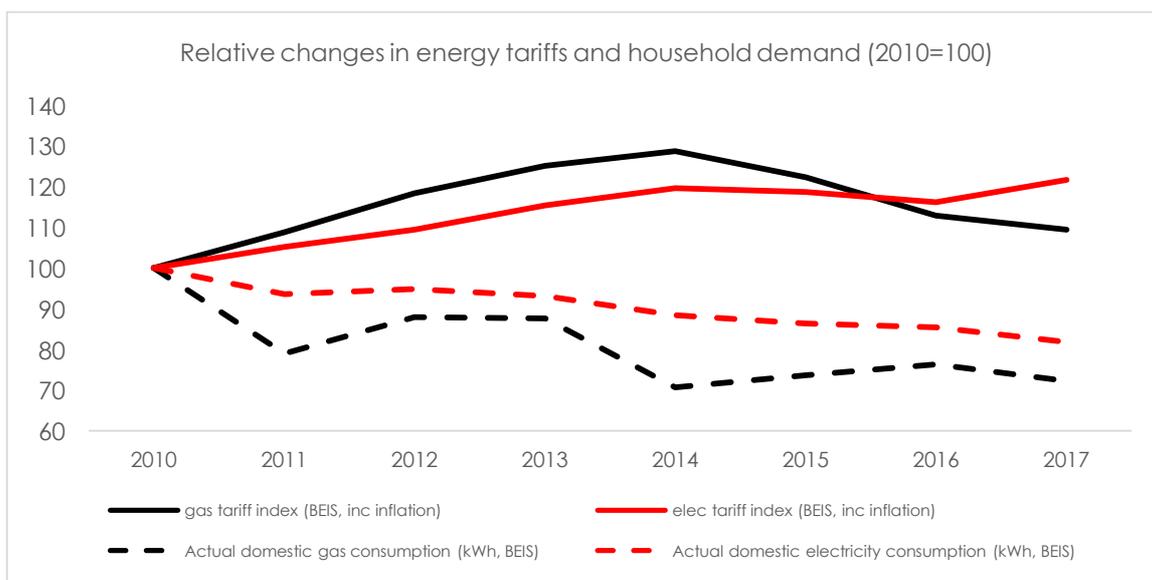


Figure 2: Changing patterns of energy demand and per-unit tariffs since 2010. **Source:** BEIS

These changes have economy-wide effects. Since 2008, total UK household expenditure on electricity has fallen by £2.5 billion, while total domestic gas expense is down by £1.4 billion, Governmental data show.¹⁵

¹⁰ <https://www.gov.uk/government/statistical-data-sets/annual-domestic-energy-price-statistics> (Table 2.3.5)

¹¹ <https://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2018-06-11/152113>

¹² <https://www.ofgem.gov.uk/data-portal/gas-prices-day-ahead-contracts-monthly-average-gb>

¹³ <https://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2018-06-11/152113>

¹⁴ <https://www.gov.uk/government/collections/domestic-energy-prices>

¹⁵ <https://www.gov.uk/government/statistical-data-sets/annual-domestic-energy-price-statistics> (Table 2.6.1)

This discrepancy between headline figures released by Government and those that reflect the real world has the danger to misinform both the public and policymakers. Presenting information that shows constant year-on-year increases in energy bills may well have led to higher concern on energy bills than the figures actually merit.

Announcements of tariff increases – such as that by E.ON in late June and EDF in July^{16,17} – also assume constant usage. The companies' justification for doing this is likely to be that as it is difficult to forecast energy consumption, it is more reliable to base them on unchanging usage. However, the potential for misinformation is also clear.

While unit prices will continue to be driven mainly by the wholesale price of natural gas,¹⁸ the cost of supporting low-carbon technologies is set to increase into the next decade, as schemes agreed before the recent dramatic fall in renewable costs come online. This cost is levied on domestic energy bills – which disproportionately affects lower income households for whom energy bills constitute a larger proportion of overall budgets. Low carbon policies are estimated to add £95 to domestic bills by 2030; however, this will be more than offset by the £150 saving resulting from an improvement in energy efficiency.¹⁹

¹⁶ <https://www.eonenergy.com/About-eon/media-centre/eon-announces-48-dual-fuel-increase-effective-16th-august-2018/>

¹⁷ <https://www.edfenergy.com/media-centre/news-releases/edf-energy-announces-6-dual-fuel-increase-its-standard-variable-tariff>

¹⁸ <https://publications.parliament.uk/pa/ld201617/ldselect/deconaf/113/113.pdf>

¹⁹ <https://www.theccc.org.uk/wp-content/uploads/2017/03/Energy-Prices-and-Bills-Committee-on-Climate-Change-March-2017.pdf>

MP POLLING ON ENERGY POLICY

Changes in energy costs, especially increases, are headline-grabbing events and frequently lead to criticism of the companies involved. For example, when many of the largest energy suppliers announced increases in energy tariffs during the second quarter of 2018, Energy Minister Claire Perry described the increases as 'extremely disappointing' and 'unjustified'.²⁰

This is especially important at a political level. Firstly, a proportion of the levies paid on energy bills supports measures that cut energy waste; currently this is mainly confined to households at risk of fuel poverty,²¹ although in previous years it has been more widely applied. Secondly, there is widespread support across society for subsidising energy efficiency improvements, so it is clearly important that policymakers should be aware of their potential to shrink bills.

To examine policymakers' level of knowledge in this area, ECIU commissioned YouGov to survey Members of Parliament on the following questions:

- Over the past ten years, what do you think has happened to the average household's demand for energy and the average household's energy bill?
- To what extent, if at all, do you agree or disagree with the following policy proposals to increase energy efficiency of homes?
 - Financial support from Government for home insulation measures (e.g. loft insulation).
 - Cheaper mortgages for houses with better Energy Performance Certificate ratings.²²
 - A requirement on construction firms that all new homes be 'zero carbon'.
 - Winter fuel payments to be paid to wealthier pensioners as vouchers for home improvements.

The survey took place via online interviews with 100 MPs between 17 April and 1 May 2018. Results were weighted by party, gender, electoral cohort and geography to give a sample that is representative of the House of Commons.

Startlingly, the vast majority – 99% – of MPs provided an incorrect answer to the first question. Nearly two-thirds (63%) stated that both domestic energy demand and energy bills had increased over the previous decade (Figure 3). Of the two main parties, 64% of Conservatives and 58% of Labour members believed that both demand and bills had increased.²³

Of the whole sample, just 1% were correct in saying that both had gone down. This is a lower figure than those answering 'don't know'.

²⁰ <https://www.thetimes.co.uk/article/sse-joins-the-club-as-the-last-big-six-supplier-to-lift-prices-firbv06q3>

²¹ <https://www.ofgem.gov.uk/environmental-programmes/eco>

²² A brief explanation of what an Energy Performance Certificate is was supplied with the question

²³ The number of MPs from other parties in the sample surveyed is too small to give a reliable breakdown

Over the past ten years, what do you think has happened to the average household's demand for energy and the average household's energy bill?

Base: 100 MPs | 41 Conservatives | 50 Labour

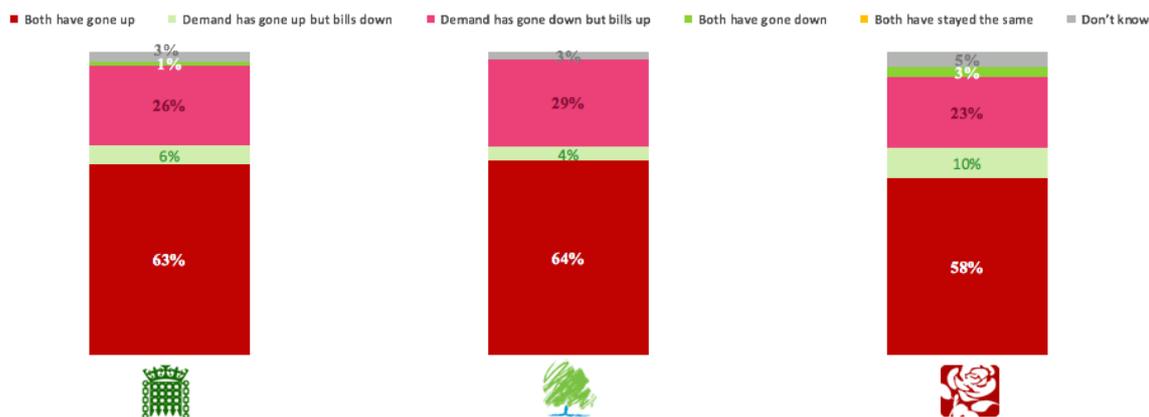


Figure 3: MP survey results showing knowledge of changes in domestic energy bills. From left: Representative sample, Conservative, Labour. **Source:** YouGov

The second most popular answer was 'demand has gone down but bills have gone up'; more than one-in-four politicians are aware that energy use in British homes is declining, but do not know that this is more than offsetting any increases in unit costs of gas and electricity.

The CCC's findings are detailed in a 2017 paper from the House of Commons Library,²⁴ which spells out the downward trend in energy bills. Yet clearly, the findings do not appear to have been internalised by MPs. Whether this is driven by the scrutiny placed on suppliers when costs increase, by BEIS figures that do not account for the effect of falling demand on bills, or other factors, is unknown. But it certainly could be argued that MPs are not sufficiently briefed on the realities of energy bills given their prominence in political debate – particularly when Government is introducing price cap legislation with wide-ranging effects.

Politicians were asked a second question to judge their support for measures to reduce energy waste. A common misconception is that all policy costs levied on energy bills are used to support renewable power generation; in fact, a sizeable component is used to fund energy efficiency programmes that lead to lower bills as well as lower emissions. This confusion may be exacerbated by Ofgem which, while reporting the breakdown of bills into different components, does not distinguish between different policy costs.²⁵

Results from the same representative sample of politicians show that nearly three quarters (73%) either agree or strongly agree that the Government should provide financial support for home insulation. Just 14% disagree or strongly disagree with this statement (Figure 4). Insulating homes is one of the most effective means of cutting energy waste, and disproportionately benefits low-income and vulnerable members of society who typically live in the draughtiest homes.

²⁴ researchbriefings.files.parliament.uk/documents/CBP-8081/CBP-8081.pdf

²⁵ <https://www.ofgem.gov.uk/consumers/household-gas-and-electricity-guide/understand-your-gas-and-electricity-bills>

To what extent, if at all, do you either agree or disagree with the following policy proposals to improve energy efficiency of homes?

Base: 100 MPs

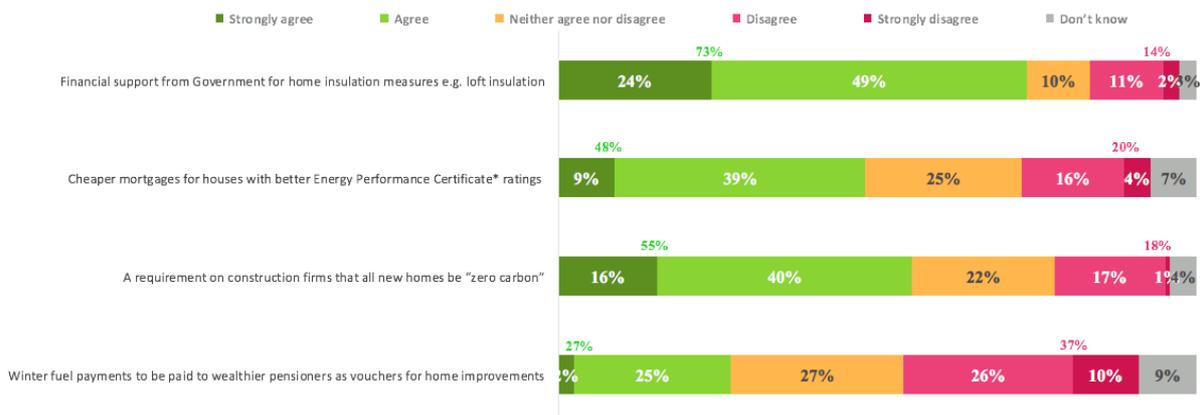


Figure 4: Survey results showing agreement or disagreement or representative sample of the House of Commons with policy proposals to increase energy efficiency of homes. **Source:** YouGov

The second most popular of the suggested policy options was a requirement on construction firms that all new homes be 'zero carbon', which more than half of respondents (55%) either agreed or strongly agreed with, compared with just 18% not in favour. This suggests that the Zero Carbon Homes (ZCH) policy that was axed by then Chancellor George Osborne in 2015 retains support across the house. ZCH aimed to cut emissions from new homes to nil through a combination of on-site low-carbon electricity generation, energy efficiency measures and off-site carbon abatement. Following nearly a decade of consultation and planning, the housebuilding industry was prepared for incoming legislation, and was by all accounts not expecting the policy to be cancelled during the 2015 Infrastructure Act.²⁶ Anecdotal evidence suggests that as housebuilders had plans in place for ZCH policy, reinstating it would be possible without significant industry upheaval.

Nearly half of MPs (48%) support introduction of 'green mortgages', where better rates are offered for mortgages on energy-efficient properties. Only 20% oppose the idea. Some mortgage providers already offer such plans,²⁷ but there is potential for expansion.

The least popular policy – and the only one with a net 'disagree' rating – was the issuing of winter fuel payments to wealthier pensioners in the form of vouchers for home improvements. MPs discussed this measure during a debate on the Government's Clean Growth Strategy,²⁸ but have made no steps towards realising it.

The survey results show, that in spite of a lack of government progress on measures to improve energy efficiency, policies are popular with politicians. Measures to curb energy waste also resonate with the general public: the latest BEIS attitudes tracker survey showed that 78% of people give a lot or a fair amount of thought to saving energy in their home,²⁹ while ECIU's survey last year found that 85% of the public supports subsidies for cutting energy waste. Separate polling carried out on behalf of centre-right think-tank Bright Blue shows that reducing energy waste is popular with Conservative voters, although the survey did not go into detail on individual policies.³⁰ None of the

²⁶ <https://www.theguardian.com/environment/2015/jul/10/uk-scrap-zero-carbon-home-target>

²⁷ <https://www.which.co.uk/news/2018/04/barclays-launches-new-green-mortgages-but-do-they-offer-the-best-rate/>

²⁸ <https://hansard.parliament.uk/Commons/2018-03-08/debates/BD7EFAA5-F1D8-48E7-B378-36A363C2BDAC/EnergyEfficiencyAndTheCleanGrowthStrategy>

²⁹ <https://www.gov.uk/government/statistics/energy-and-climate-change-public-attitudes-tracker-wave-25>

³⁰ <https://brightblue.org.uk/tories-must-be-greener-to-win-younger-voters-says-bright-blue/>

surveys mentioned here touched on the financial benefits of improving energy efficiency, with each £1 invested forecast to boost GDP by £3.20.³¹

Since the Green Deal was cancelled, the UK has not had a wide-ranging energy efficiency strategy, despite the potential benefits in terms of energy spend, reliance on imported fuels and on carbon emissions. Apart from the recently watered-down ECO scheme,³² energy efficiency improvements are currently unsupported by Government policy, despite clear backing both within Parliament and across the nation. The CCC noted in its June 2018 Progress Report³³ that 'withdrawal of incentives has cut home insulation installations to 5% of their 2012 level.' As such, policymakers may wish to heed the results of this polling when making plans on how to boost the take-up of energy efficiency measures.

³¹ <http://www.energybillrevolution.org/media/big-boost-in-energy-efficiency-investment-to-save-uk-households-4-95-billion-a-year/>

³² <https://utilityweek.co.uk/eco-changing-better/>

³³ <https://www.theccc.org.uk/publication/reducing-uk-emissions-2018-progress-report-to-parliament/>

CONCLUSIONS

Britain's falling energy bills is a piece of 'good news' that is seldom told. As well as a financial boon to most householders, it is also a triumph for policymaking, given that the bill reductions can partly be attributed to policies that cut energy waste – both in buildings and appliances. Extending analysis carried out by the CCC to include the most recent data, we show here that downward pressure on domestic energy expenditure continues, with the average dual fuel bill more than £16 lower in 2017 than in 2016, despite increasing unit prices of energy.

As energy bills continue to feature in media and political discourse, it is clearly important that policymakers and others involved in those discussions possess the most accurate and up to date knowledge on real world data. Polling of MPs shows that the majority are unaware that both household bills and energy use are falling, despite intense debates around the price cap. Government, regulators and energy companies could all increase understanding of the reality by presenting data in a way that priorities trends in real bills rather than in calculated ones.

Although MPs are largely unaware of the financial benefits produced by energy efficiency policy, they continue to support it. Polling shows across-the-board backing for Government funding of home insulation, with 73% of MPs in favour, and a seven-to-one ratio of MPs in favour to MPs opposed. Other schemes to boost energy efficiency are also popular, with a three-to-one majority of MPs for building all new homes to zero-carbon standards and two-and-a-half-to-one backing for cheaper mortgages for energy efficiency homes.

Considering that the UK is currently without an implementable energy efficiency policy outside relief for homes in fuel poverty, it is interesting to see such support for measures to cut energy waste among politicians. And it is backed by huge support in the country. The Committee on Climate Change has renewed its call for getting energy efficiency policy back on track, too, as the Government remains off track to achieving the next set of carbon targets.

UK homes remain some of the least energy efficient in Europe, and while bills are falling, they are still pushed up by heat pouring out of poorly sealed windows and badly insulated lofts. Following the demise of both the Green Deal and Zero Carbon Homes policies, British citizens are currently not incentivised to curb the amount of energy used in their homes, which has a detrimental effect on energy bills, reliance on imported fuels and carbon emissions.

The findings of this report suggest that stepping up measures to cut energy waste – particularly through funding home insulation – would command widespread support across Parliament and the country, help put the UK back on track to delivering its pledges on climate change, and maintain the welcome trend of falling energy bills.