

# Energy prices and bills report: Results and key messages for households

**10<sup>th</sup> December 2014**



- Ⓒ **Changes since 2004:** The annual bill for a typical dual-fuel household increased from £650 in 2004 to about £1,140 in 2013 (£685 on gas and £455 on electricity). 80% of this increase was due to wholesale energy and system costs.
- Ⓒ **2013 bill:** In a dual fuel bill of £1140
  - around £45 went to support low-carbon investment – delivering emissions reductions equivalent to taking 10 million cars off the road and preparing for future reductions
  - £55 paid for energy efficiency measures (many in fuel poor/low-income households) and smart meters – delivering insulation, efficient boilers and other measures to help reduce bills as well as emissions
  - £10 for the Warm Home Discount
- Ⓒ **Outlook for future energy bills to 2020 and 2030:**
  - In 2020, we estimate that bills will be about **£1,100**, of which low-carbon support costs will be £100.
  - By 2030, low-carbon support will cost about £175 out of a total annual household energy bill of **£1,305**.
- Ⓒ There is scope for the additional impacts of low-carbon policy costs to be offset by savings through **energy efficiency** opportunities, up to £210 per year in 2030.



87% of UK households use gas for heating and electricity for lights and appliances.

In 2013, a typical household used:

- 14,000 kWh of gas (temperature-adjusted)
- 3,000 kWh of electricity

However, distribution is wide and many households have lower or higher bills:

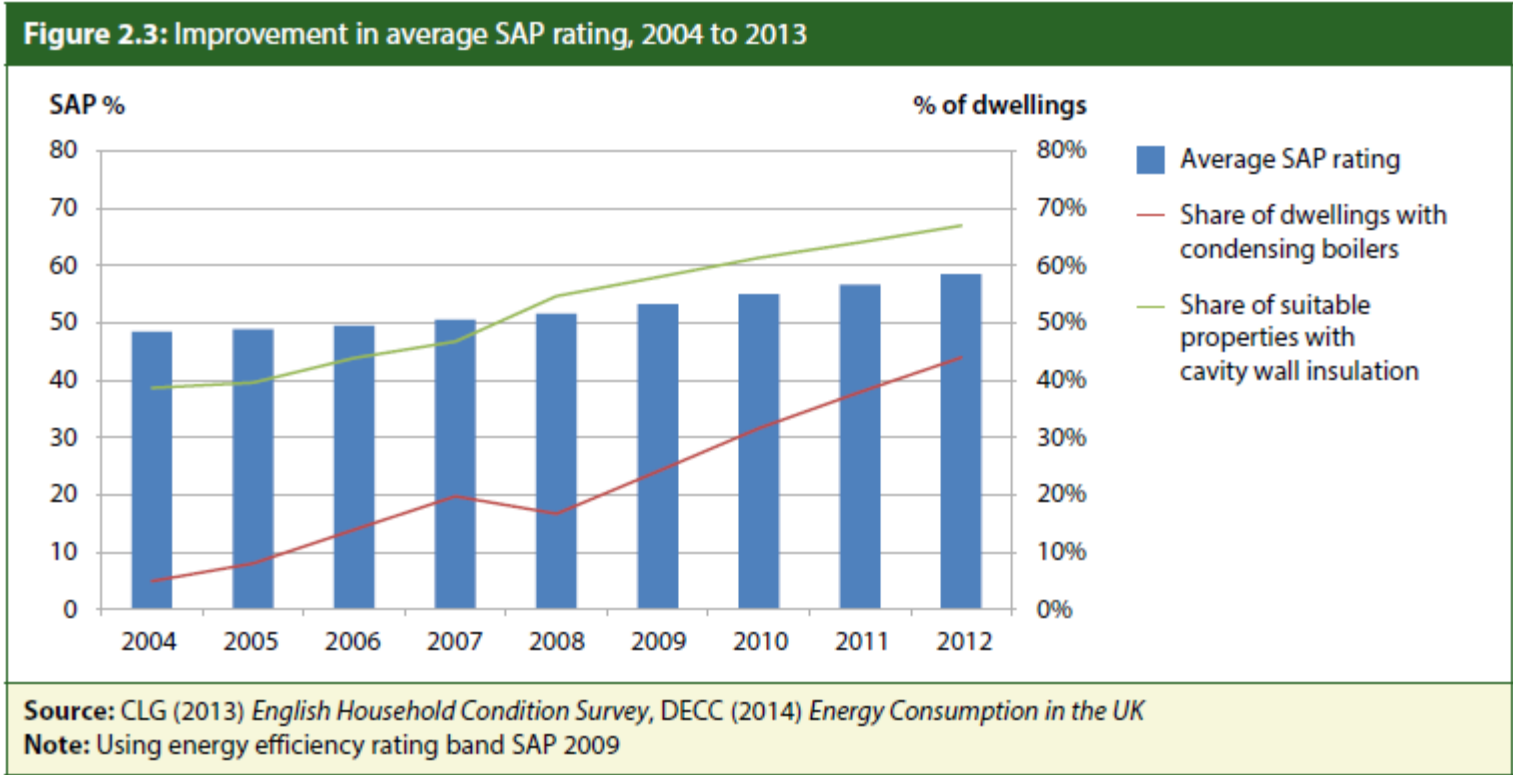
- 44% of households have a lower electricity consumption
- 58% have lower gas consumption

7% of households use electricity for heating:

- They are mostly smaller properties, many are flats
- High prevalence in the North of Scotland

# Energy efficiency improvements have contributed to a 20% reduction in average energy demand per household\* between 2004 and 2013 (equivalent to a £165 saving)

- Gas consumed for space heating and hot water has declined by around a third since 2004
- Electricity use has fallen by around 16% since 2004

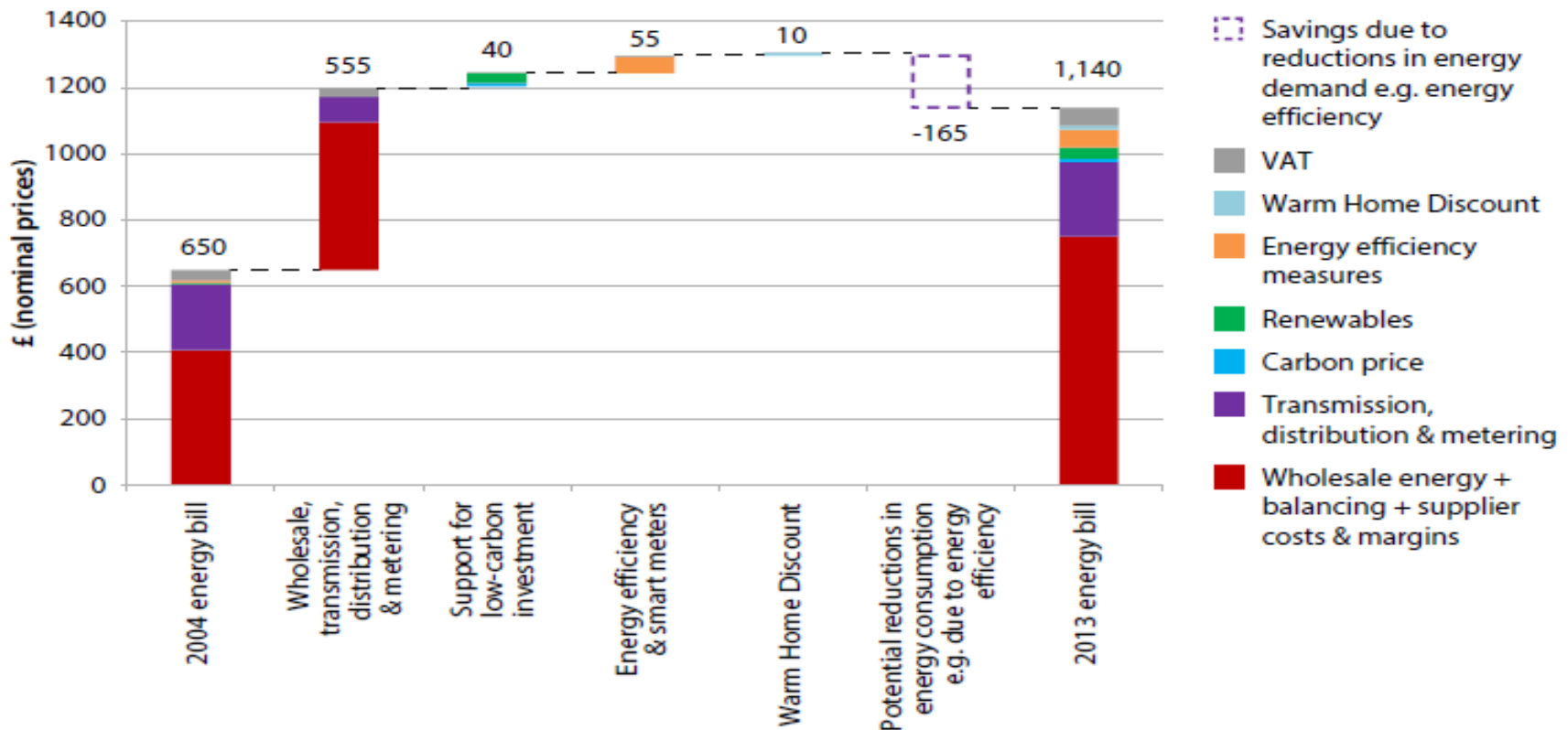


\* Typical dual-fuel household

# About 80% of the increase in bills is unrelated to low-carbon policies

- The annual energy bill increased by 75% (nominal terms) from £650 in 2004 to £1,140 in 2013

**Figure 2.8: Changes in the typical dual-fuel bill (2004 to 2013)**

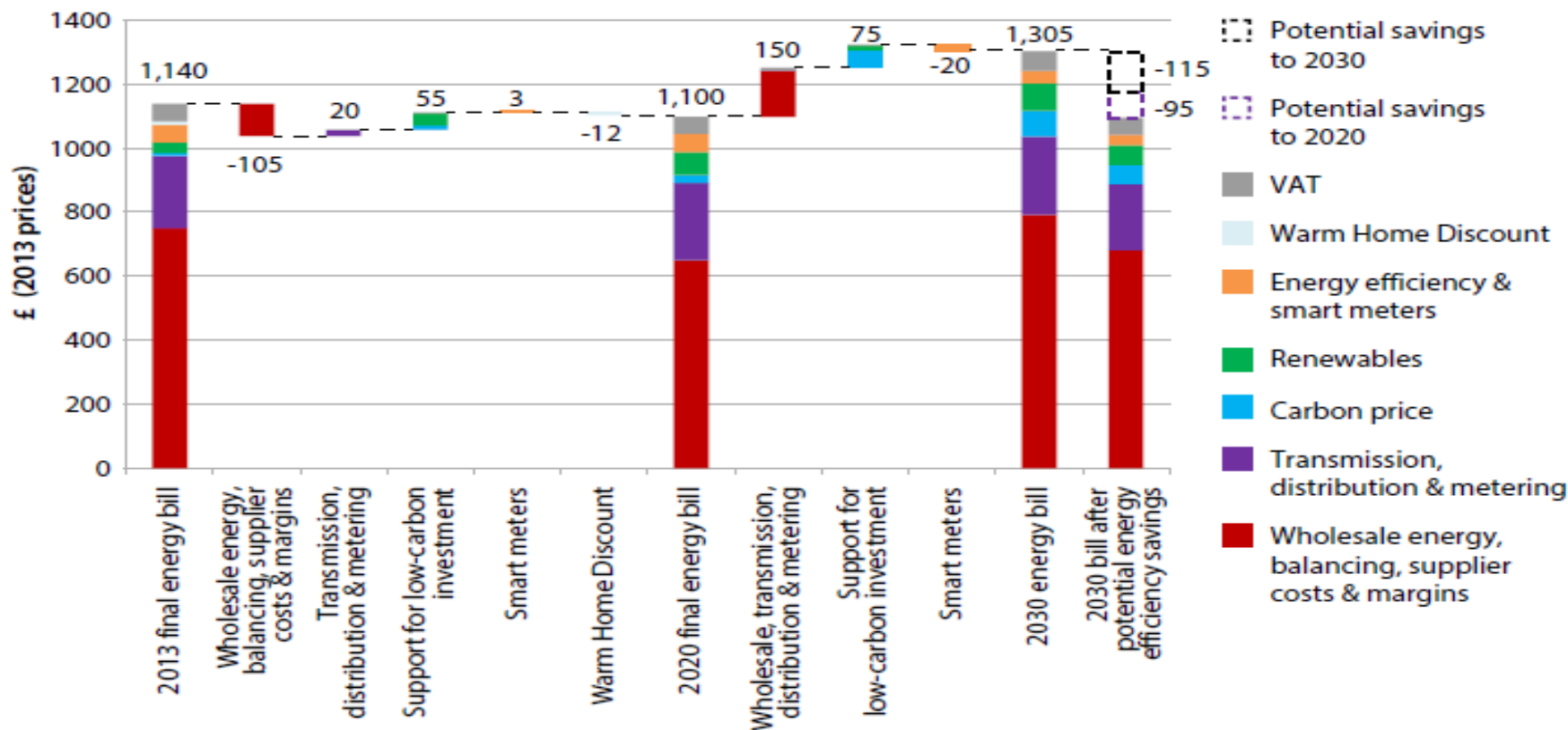


Source: CCC calculations based on DECC Quarterly Energy Prices & Ofgem's Supply Market Indicators.  
 Note: Numbers may not sum due to rounding.

# The dual-fuel bill is projected to remain roughly the same to 2020, and rise by about £200 to about £1,300 by 2030 (if energy demand remains unchanged)

- We estimate that low-carbon policies will cost about £175 per year by 2030. This is about 13% of the typical bill.
- Scope to offset these costs through energy efficiency savings, up to £210 by 2030

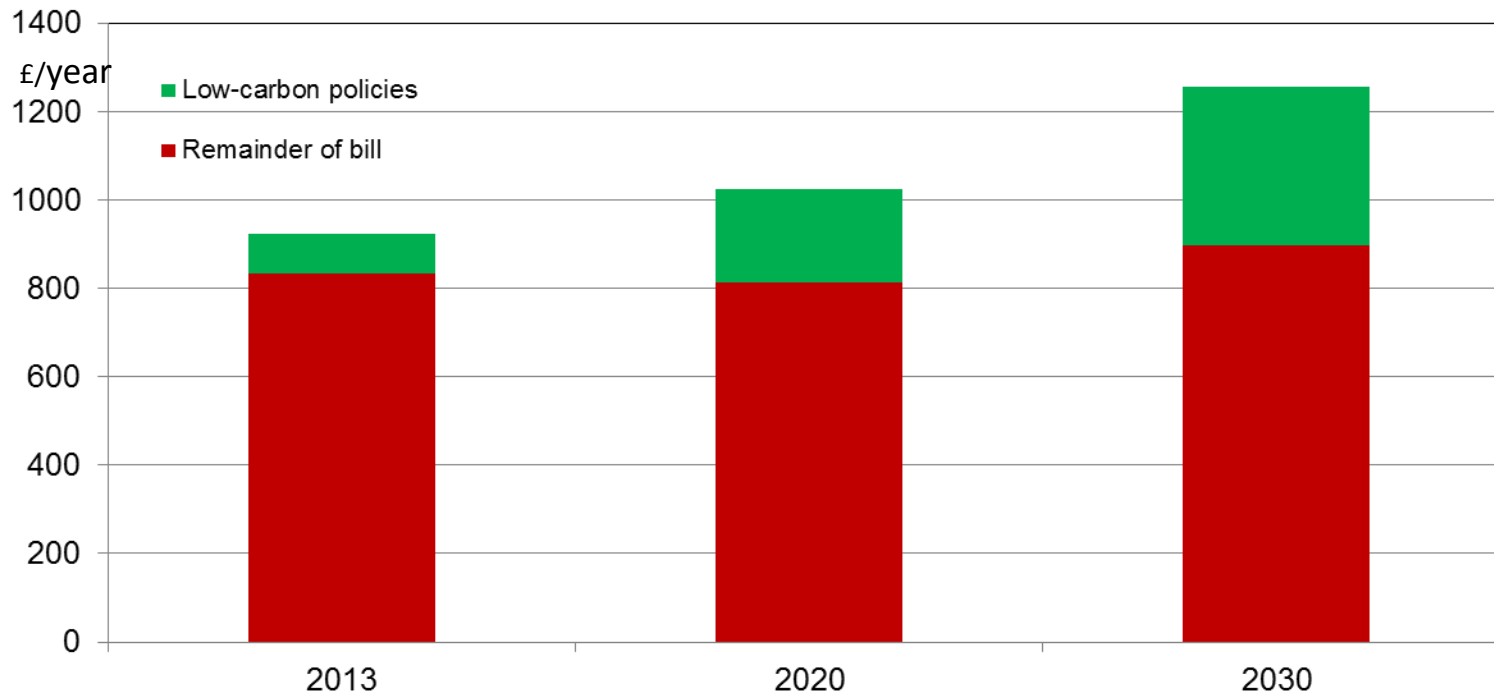
**Figure 2.11: Changes in the typical dual-fuel bill (2013, 2020 & 2030)**



Source: CCC calculations.

Note: Numbers may not sum due to rounding. Potential savings at 2030 prices.

# Electrically-heated households tend to have a lower average bill but pay a higher proportion of their energy bill towards low-carbon policy costs than dual-fuel households

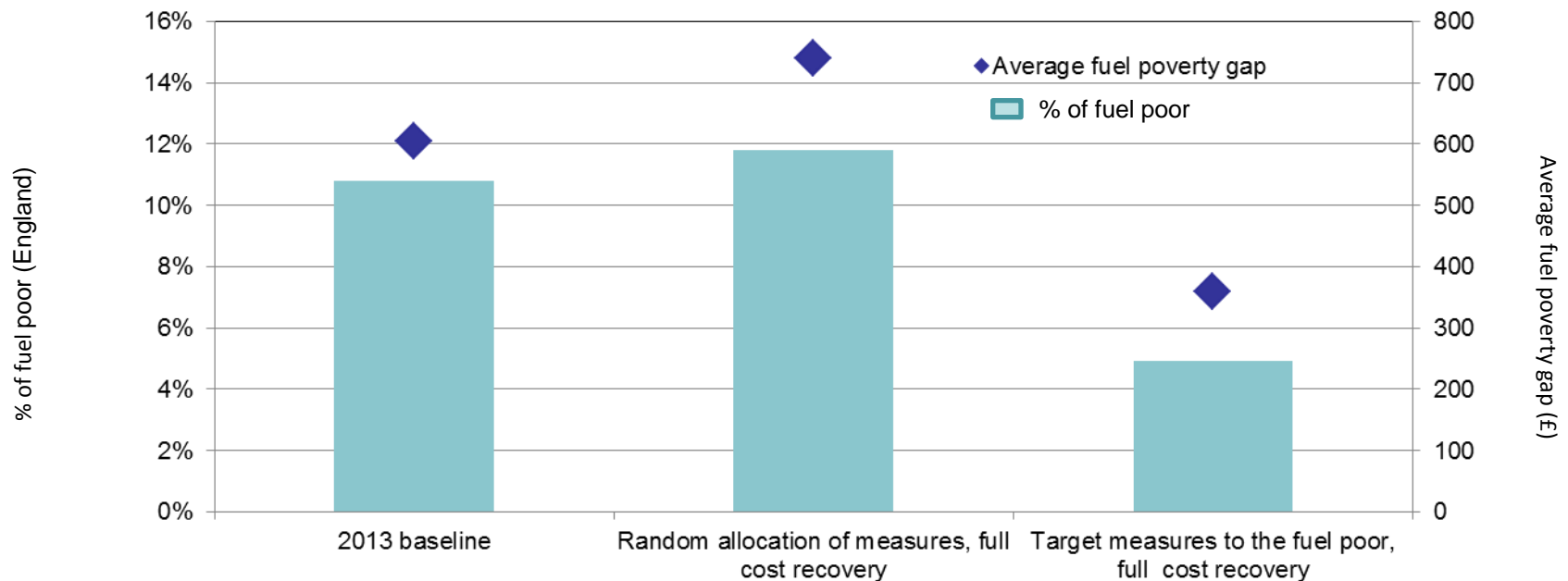


Notes: Low-carbon policies include the carbon price and direct support for low-carbon. Assume average electricity consumption of 7,800 kWh.

There is a high incidence of fuel poverty (24%) in electrically-heated households. Further measures are needed to help them improve energy efficiency and switch to low-carbon heat.

With effective targeting of energy efficiency and low-carbon heat measures, fuel poverty can be reduced significantly.

Share of English households in fuel poverty & average fuel poverty gap by 2030 (LIHC definition)





## We have also looked at prices and bills for commerce and industry - the sector is diverse and that is reflected in our analysis.



By 2020, low-carbon costs as a share of total costs in industry are expected to increase by 0.3%, or **3 pence on £10** of goods.

In some energy-intensive sectors this is more and compensation is required to offset concerns over competitiveness.

Products will see an increase in costs of this order of magnitude, with variation according to the embodied energy of the product:

1. An extra 15p on a £50 restaurant meal to 2020, or 40p to 2030.
2. On a £100 weekly shop, low-carbon policies would add 70p to 2020, or £1.70 to 2030.
3. For a £10,000 conventional car, the increase would be £70 by 2020 and £190 by 2030. However, running costs are expected to fall by more by 2020 (around 40% for a conventional vehicle, equivalent to around £500 a year)

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- Ⓒ There is scope for the additional impacts of low-carbon policy costs to be offset by savings through **energy efficiency** opportunities, up to £210 per year in 2030.

# Annex

# Background to The Climate Change Act 2008 and role of the Committee on Climate Change



## *The Climate Change Act 2008* (passed with broad cross-party support)

- Ⓒ A statutory **2050 target** for emissions reduction
- Ⓒ Legally-binding 5-year '**carbon budgets**'
- Ⓒ Requirement to develop **policies and proposals** to meet budgets
- Ⓒ Establishes the **CCC** as independent advisor
- Ⓒ CCC required to take into account impact of its recommendations on **fuel poverty and competitiveness** (amongst other factors)

## *The Committee on Climate Change*

- Ⓒ **How fast?** Level of 2050 target and carbon budgets
- Ⓒ **How?** Sectoral contributions, technologies and policy options
- Ⓒ **Progress?** Monitoring: are we on track to meet budgets? Annual progress report to Parliament
- Ⓒ **Prevention?** Adaptation Sub-Committee

**Process:** Committee of eminent economists and scientists weighs the evidence

**Table 1:** Central estimate for typical dual-fuel household energy bills (in £2013)

	2013	2020	2030
Wholesale, transmission, distribution	£1,025	£940	£1,090
Direct low-carbon support <sup>1</sup>	£35	£75	£90
Carbon price <sup>2</sup>	£10	£25	£85
Energy Company Obligation <sup>3</sup> , Warm Home Discount and smart meter support	£70	£60	£40
<b>Total energy bill for typical dual-fuel household</b>	<b>£1,140</b>	<b>£1,100</b>	<b>£1,305</b>
Potential for energy efficiency savings		£-80	£-210

**Notes:** Numbers are rounded. All numbers include VAT. We assume constant consumption of 3,000 kWh for electricity, 14,100 kWh for gas. <sup>1</sup> Includes the Renewables Obligation, Feed In Tariffs, Contracts for Difference, and balancing costs associated with renewables. <sup>2</sup> Carbon price including EU ETS and carbon price support, rising from £7 in 2013 to £76 tCO<sub>2</sub> in 2030. <sup>3</sup> Funding for the ECO is assumed to stay constant between 2013 and 2030. Smart meters are expected to provide a reduction in network costs by 2030.

**Table 2:** Central estimate for changes in energy bills due to low-carbon policy costs for businesses and industry (2013 to 2020 and 2030)

	2013-2020	2013-2030
Industry (sector average, without compensation and exemptions)	11%	26%
Commercial sector (sector average CRC)	14%	31%
<p><b>Note:</b> For fixed level of consumption based on 2013. Industry sector average assumes no compensation or exemption, and it does not include cost of EU ETS allowances purchases. Electro-intensive industry eligible for compensation will not experience these levels of increase.</p>		

There are some key differences between DECC's and our approach, although the main assumptions underpinning both assessments are comparable.

- ☾ We start with actual 2013 bills, DECC uses 2014 estimated bills.
- ☾ DECC includes a wider range of policies that deal not directly with climate change.
- ☾ DECC looks at the average bill across all household types, we focus on a typical 'dual-fuel' household.
- ☾ We estimate the potential for energy efficiency savings separately, DECC includes them within its estimate of bills.
- ☾ Our costs are in line with scenarios for achieving the 4<sup>th</sup> carbon budget. DECC only includes policies already in place or planned. These are currently not sufficient to achieve the 4<sup>th</sup> carbon budget.