



BRIEFING PAPER

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The Carbon Price Floor

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Summary

The Carbon Price Floor (CPF) is a UK Government policy implemented to support the EU wide Emissions Trading System (EU ETS) which places a price on greenhouse gas emissions. It does this by requiring heavy energy users to acquire permits for every unit of greenhouse gases they emit. These permits are called emission allowances.

The UK's Carbon Price Floor was introduced to work in conjunction with the EU ETS scheme. Their aim is to underpin the price of carbon at a level that drives low carbon investment, which the EU ETS has not as yet achieved.

The Coalition Government committed to introduce a floor price for carbon and published a consultation on Carbon Price Support (CPS) in December 2010. Following this, it announced in the March 2011 Budget that it would be introducing price support via the Climate Change Levy with a target price of £30 per tonne of carbon dioxide in 2020, with a start price of around £16 per tonne.

The Treasury confirmed carbon prices three years in advance from April 2013, together with indicative prices up to 2017. These were due to rise every year until 2020, with all revenue raised retained by the Treasury. However in Budget 2014 the Government announced that the Carbon Price Support component of the floor price would be capped at a maximum of £18 per tonne/CO₂ from 2016 to 2020 to limit the competitive disadvantage faced by business and reduce energy bills for consumers. This was extended to 2021 in Budget 2016.

Following the implementation of the Carbon Price Floor in the UK, the European Commission considered, but ultimately rejected, a similar system to reform the EU ETS. This option was also considered by France but the proposal has been dropped.

The aim of the Carbon Price Floor is to encourage the transition to a low carbon economy. With regards to coal use for electricity generation it has contributed to the large drop in use as part of the generation mix in the last two years. However, the policy itself and how it has been changed also has implications for customers' energy bills, energy intensive industries and the UK's attractiveness in terms of renewables investment. The Government has previously stated that it would set out in the Autumn Statement 2016 the long-term plans for the price floor. However, no further changes were announced. Instead the government will continue to consider the appropriate mechanism for determining the carbon price in the 2020s.

Background on the Climate Change Levy is available in [Library Briefing CBF7283](#).

1. The EU Price of Carbon

The [EU Emissions Trading Scheme](#) (EU ETS) is a mandatory cap-and-trade scheme for greenhouse gases¹, which is central to the European Union's climate change target of reducing emissions by 40% by 2030 compared to 2005 levels. It operates in 31 countries (the 28 EU countries, Iceland, Liechtenstein and Norway) and covers the 45% of the EU's greenhouse gas emissions that come from energy intensive sectors.

The cap sets an EU-wide cap on the total amount of greenhouse gas emissions from energy intensive sectors including power stations and industrial plants. The cap decreases over time (1.74% each year) in order to reduce overall emissions.² Airlines operating between the 31 countries are covered within the EU ETS but via a separate cap and are not affected by the Carbon Price Floor (CPF).

Companies either receive allowances (EUAs) free or purchase them during auctions of allowances issued by Governments.³ Surplus allowances can also be traded on the carbon market. The EU ETS is currently in Phase III (2013-2020), which aims for an overall emissions reduction of 21% compared to 2005 emissions for power stations and industrial plants.

In Phase III, power stations purchase all their allowances whereas other industries still receive some of their EUAs via free allocation. Both sectors can also buy international credits from emission-saving projects around the world.⁴ At the end of each year, if a company does not have enough EUAs to cover all its emissions it is required to pay a fine.⁵

In July 2015, the European Commission presented a legislative proposal for [Phase IV \(2021-2030\)](#) of EU ETS with the objective of reducing emissions by 43% by 2030 compared to 2005.

¹ The greenhouse gases covered by EU ETS are carbon dioxide (CO₂), nitrous oxide (N₂O) and perfluorocarbons (PFCs). Greenhouse gas emissions are linked to global warming. See for instance the US Environmental Protection Agency, '[Overview of Greenhouse Gases](#)', accessed 20 October 2016.

² European Commission, Climate Action, '[Emissions cap and allowances](#)', accessed on 20 October 2016

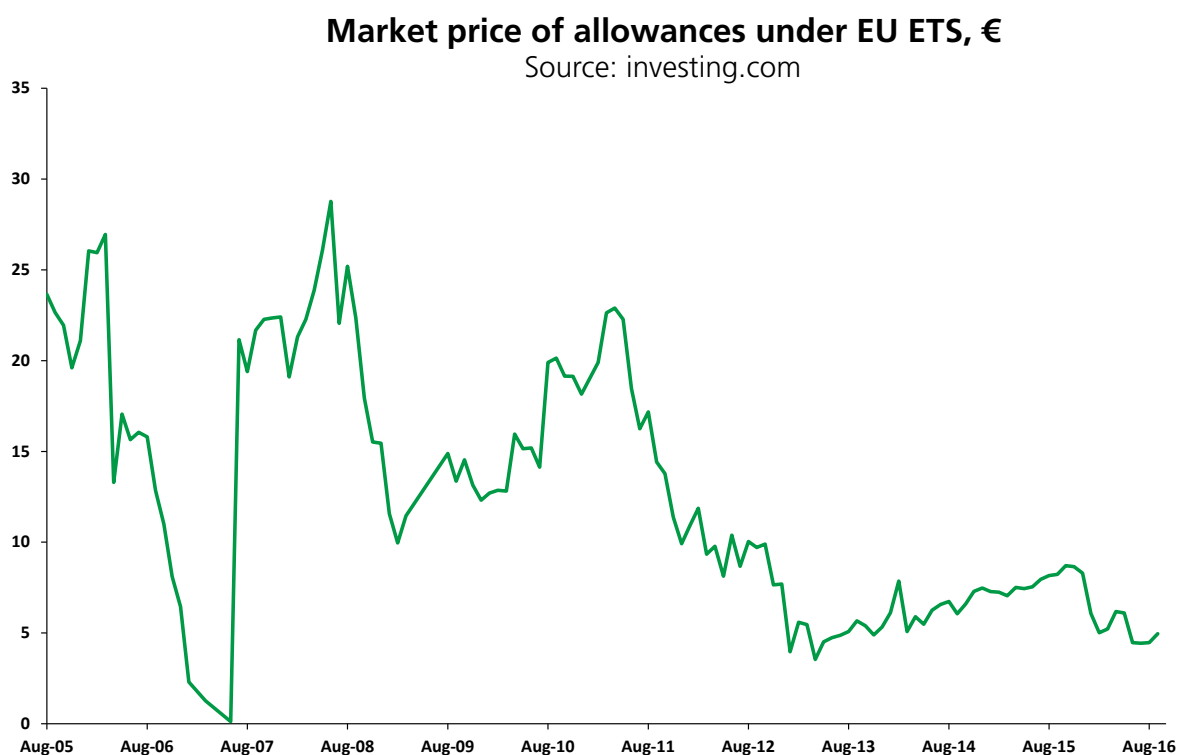
³ Each allowance gives the holder the right to emit one tonne of carbon dioxide or the equivalent of nitrous oxide and perfluorocarbons. (EU Commission, Climate Action, '[Emissions cap and allowances](#)', accessed 20 October 2016

⁴ European Commission, Climate Action, '[Free allocation](#)', accessed on 20 October 2016

⁵ European Commission, Climate Action, '[The EU Trading System \(EU ETS\)](#)', accessed on 20 October 2016

1.1 Is the EU price of carbon too low?

Compliance with EU ETS rules is high (less than 1% non-compliance) but the last recession and over-allocation of allowances in Phase II resulted in a collapse of the price of EUAs. As a result the EU has taken several measures to reduce the supply of allowances going forward, including removing surplus allowances from the market.⁶ However there is no floor price for EUA auctions. The market price of allowances has fallen dramatically since the scheme was first introduced in 2005, as shown by the following graph:



The low carbon price removes the incentive for big emitters to reduce their emissions and invest in low-carbon technology as it is cheaper to buy carbon credits than invest in change.

The Commission has implemented two other proposals to reduce the supply of EUAs. In the short term it has removed from the market – or [backloaded](#) - 900 million Phase III carbon allowances by not including them in auctions between 2014 and 2016. These backloaded allowances will instead be transferred into a [market stability reserve](#) that will start operating in 2019, and which will remove or return allowances to the market depending on the number available. This new reserve will operate under fixed rules that do not allow any discretion for the Commission or Member States.

⁶ European Commission, Climate Action, '[Structural reform of the EU ETS](#)', accessed on 24 October 2016

2. Towards a UK price floor for carbon

2.1 The Environmental Audit Committee report

Debate on the need to set a price floor for carbon increased significantly following the fall of Phase II allowances in 2009 to half what would be necessary to address the low levels of investment in emission reductions. The issue was raised in the Environmental Audit Committee's report on Carbon Budgets during which witnesses called for a price floor to incentivise investment in low carbon technologies:

It is hard to think why one would not have a floor: what could the downside risk possibly be? For, if policy-makers genuinely thought that the carbon price might fall below the floor, there would be a credibility question about the scheme as a whole.

Either the Commission believes that the EU ETS price will always be above the floor (in which case, there is no problem putting a floor in place), or it believes that the price could fall below (in which case, there is a good case for having a floor).⁷

However many businesses were against, arguing that it would create uncertainty unless clear notice was given. Some argued that it was unnecessary:

RWE npower thought it would help investment in low-carbon technologies if "investors are confident that the Scheme will not be subject to further political interference", and that "the threat of further intervention in EU ETS, for example price floors and ceilings, will only serve to undermine confidence in the scheme". The Carbon Markets and Investors Association argued that "concerns over whether a volatile ETS price leading to lower investments than would otherwise be the case are unfounded; the long run market signals within the EU ETS are sufficiently stable". Their conclusion was that "any market intervention should be used as a last resort", but that some potential measures might be considered—including introducing a reserve price for auctioning—so long as they were signposted far in advance so as to give long-term certainty over their effects on the carbon price. Barclays Capital, meanwhile, argued against any price interventions on the basis that they "can only be maintained by ignoring the environmental goals defined by the cap, thereby introducing inefficiencies into the market."⁸

2.2 Government support

The Labour Government of the time, in its response to the report, made it clear that it did not support a price floor. In its view the aims of the EU ETS would be achieved if emissions were kept below the overall cap and that any adjustments should involve tightening the cap.⁹ The Coalition Government, following the 2010 elections, held a different view and in

⁷ EAC, [Carbon Budgets](#), 5 January 2010

⁸ *ibid*

⁹ EAC, [Carbon budgets: Government Response to the Committee's Third Report](#), 16 March 2010

its Coalition Agreement made the following commitments with regard to the EU ETS:

- We will push for the EU to demonstrate leadership in tackling international climate change, including by supporting an increase in the EU emission reduction target to 30% by 2020.
- We will introduce a floor price for carbon, and make efforts to persuade the EU to move towards full auctioning of ETS permits.¹⁰

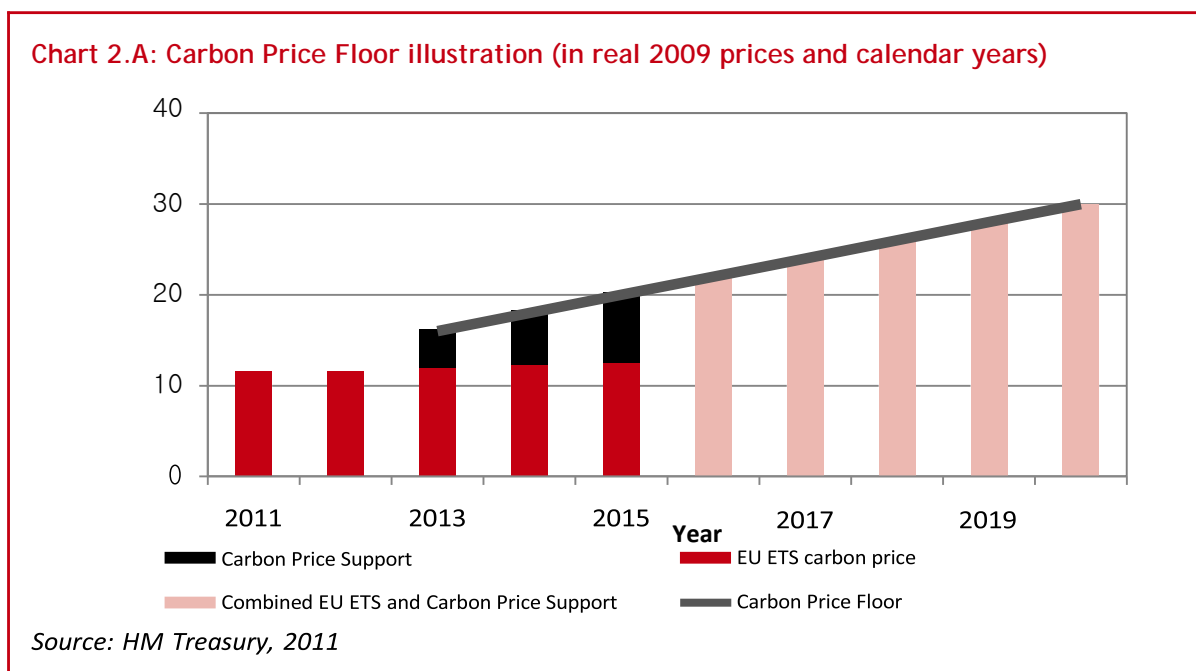
2.3 Consultation

The Coalition Government published a consultation in December 2010 which proposed introducing a Carbon Price Floor by taxing fossil fuels at rates that took into account their average carbon content. These rates would be known as the 'CCL Carbon Price Support rates':

The Government proposes to introduce a Carbon Price Support mechanism to support investment in low-carbon generation. The Government has decided that this is best achieved by the climate change levy (CCL) and fuel duty being levied on all fossil fuels used in the UK to generate electricity.¹¹

The proposal was that the level of the CCL would be set, depending on the EU ETS price, to achieve a predetermined overall target price trajectory. Background on the Climate Change Levy is available in the [Commons Library Briefing Paper](#) on the Levy.

An illustration of the floor price (£/tCO₂) from the consultation response is set out below:¹²



¹⁰ Cabinet Office. [The Coalition: Our programme for Government](#), May 2010

¹¹ HM Treasury, [Carbon Price Support Consultation](#), 16 January 2010

¹² HM Treasury, [Carbon Price Support Consultation response](#), March 2011

The aim of this was to address carbon price uncertainty which according to the consultation document “is predominantly driven by wider the aim of this regulatory uncertainties and the Government might therefore be better placed to manage some carbon price risk”.¹³

A regulatory impact assessment was published along with the consultation documents. This considered three scenarios. All set a target price for a tonne of carbon dioxide in 2030 of £70. The projection for 2020 under the EU target of 20% emissions reduction by 2020 was a price of £16.30 per tonne of carbon dioxide. This overall allowance was projected to rise yearly until 2020, when it would reach £30 per tonne. The Carbon Price Support would be increased as necessary, taking into account projected EU ETS allowance prices, so that the overall carbon floor price reached this level.

The Committee on Climate Change, which advises the Government on its climate policies, published its [Fourth Carbon Budget](#) report in December 2010. This concluded that a carbon price underpin which reached at least £27/tCO₂ in 2020 and rising through the 2020s would provide appropriate signals.

The Government announced its decision in the March 2011 Budget to introduce a Carbon Price Support of £4.94. This was based on the projected future carbon market price under the EU ETS for 2016 of around £11, and would bring the overall allowance price to around £16 per tonne. In Budget 2012 the Government set indicative rates of the CPS until March 2017.

CPS rates for 2013-14 and 2014-15

The CPS rates from 1 April 2013-14 were announced at Budget 2011, with the CPS rates of CCL legislated for in Finance Act 2011. The rates will be equivalent to £4.94 per tonne of carbon dioxide (tCO₂). From 1 April 2014, the CPS rates of CCL and fuel duty will be equivalent to £9.55 per tCO₂. [...]

Indicative CPS rates for 2015-16 and 2016-17

Indicative CPS rates for 2015-16 and 2016-17 will be equivalent to £12.06 per tCO₂ and £14.86 per tCO₂ respectively.¹⁴

Box 1: how the carbon floor price is charged

The carbon floor price consists of two components which are paid for by energy generators in two different ways:

- The EU ETS allowance price. Generators purchase the [EU ETS allowances](#) through regular Government auctions or the carbon markets.
- The Carbon Support Price (CPS). This tops up EU ETS allowance prices, as projected by the Government, to the carbon floor price target. It is charged through a component of Climate Change Levy, in £/kWh, and applied to fuels used for electricity generation. The [CPS rates of CCL](#) are paid by owners of electricity generating stations. It is different to the CCL main rates paid by businesses for their energy supply.

¹³ HM Treasury, [Carbon Price Support Consultation](#), 16 January 2010

¹⁴ HMRC, [Carbon Price Floor, Further Legislative Provisions and Future Rates](#), March 2012

2.4 Reactions to the decision

The CBI welcomed the introduction of Carbon Price Support but warned it needed to be co-ordinated with other measures:

With a third of our existing power generation capacity retiring by 2020, CBI has been calling for reforms to the electricity market since 2009. This Carbon Price Floor is one part of a broader package of measures, which all need to fit together. To mitigate the concerns of businesses' about this new energy tax, Government will need to take action to support the UK's industrial competitiveness by the time it takes effect.¹⁵

The Renewables Energy Association also welcomed the announcement, but would have liked the commitment to go beyond 2020 to provide greater certainty to investors.¹⁶

There were criticisms that a Carbon Price Floor would result in higher energy prices and therefore provide a windfall for existing nuclear generators and a hidden subsidy for any new generation by increasing the price of fossil fuel generation.

Experts were divided on the effectiveness of the new floor price. Many warn it will not be high enough to drive significant increases in low-carbon investment, while others predict it will deliver a major windfall in excess of £1bn a year to existing nuclear power plants. Matthew Spencer, director of green business think tank the Green Alliance, predicted the floor price would prove far too low to drive increases in investment.

"The Treasury has been tying itself in knots trying to keep the floor price to avoid giving a big windfall to nuclear operators," he said. "But that could have been tackled through a windfall tax. There are also no measures to protect people in fuel poverty from the resulting impact on energy prices, so there is a risk this will just be seen as a stealth tax."¹⁷

However nuclear generators, such as EDF, welcomed the proposals as a way of providing investment in future generation by restoring the carbon price to what was originally intended:

"The Carbon Price Floor is important for all low carbon technologies as it restores the carbon price to what was originally intended. It will support the economics of renewables and carbon capture and storage and can reduce the need for specific measures to support those technologies."¹⁸

In response to the proposals the Energy and Climate Change Select Committee published a report on 26 January 2012 on the [EU Emissions Trading System](#) in which it was highly critical of the proposals for a floor price for carbon because "unless the price of carbon is increased at an EU-wide level, taking action on our own will have no overall effect on

¹⁵ CBI, *The Budget and the Low Carbon Economy*, 24 March 2011

¹⁶ REA *Press Release, Budget to re-energise funding and planning for renewables*, 23 March 2011

¹⁷ Business Green, [Budget 2011: Experts divided over carbon floor price impact](#), 23 March 2011

¹⁸ EDF [Energy, Carbon Price Floor will encourage investment in nuclear, renewables and carbon capture and storage](#), 23 March 2011

emissions other than to out-source them. A revenue raising exercise disguised as a green policy won't help anybody". Tim Yeo MP, Chairman of the Committee, said:

"The Chancellor was right to say we won't save the planet by putting the UK out of business. Ironically, however, it is the Treasury's decision to set a Carbon Price Floor that could result in industry and electricity production relocating to other EU countries."¹⁹

2.5 A set price – Budget 2013

The Treasury confirmed in the 2013 Budget the rates for the Carbon Price Floor up to 2016 and indicative prices up to 2018.

	Confirmed rates			Indicative rates	
	2013-14	2014-15	2015-16	2016-17	2017-18
Carbon price equivalent (£/tCO ₂)	4.94	9.55	18.08	21.20	24.62

Full details, including table setting out what this would translate to as part of the CCL can be found [Excise Notice CCL1/6: a guide to Carbon Price Floor](#). Revenue from the CPF to 2017-18 was estimated by the Treasury as follows in 2013:

Estimated income from the Carbon Price Floor				
<i>£ million cash</i>				
2013-14	2014-15	2015-16	2016-17	2017-18
975	1,420	2,025	2,075	2,200

HM Treasury, *Budget 2013*

2.6 A frozen price – Budget 2014

There was speculation in the run up to the 2014 Budget that the Treasury was planning to freeze the price floor. The CBI had written to the Chancellor expressing its concerns, stating that in their view price floor was putting energy intensive industries at a disadvantage:

An important tool to promote investment but with continuing disappointment with the level of the EU ETS price, the CPF puts UK industry, particularly those that are energy-intensive and trade exposed, at a considerable competitive disadvantage.²⁰

The Business and Energy Minister, Michael Fallon had also referred to the cost to business, particularly energy intensive industries, in a speech on 10 March to the International Utilities Conference in London.²¹

¹⁹ ECCC, [Go-it-alone UK Carbon Price Floor could harm industry and consumers](#), 26 January 2012

²⁰ [CBI Letter to the Chancellor of the Exchequer](#), 18 February 2014

²¹ Utility Week, [Fallon: government will cut energy costs to save industry jobs](#), 10 March 2014

A maximum cap on the Carbon Price Support component of the CPF, at £18/tCO₂ until 2019-20, was confirmed by the Chancellor in his [budget speech](#) on 19 March 2016.

The Treasury estimated that this would reduce revenue to the Government by £870m by 2018 compared to figures published in the 2013 budget.²² Further details can be found in [Carbon Price Floor: reform and other technical amendments](#) published by HMRC following the budget announcement. In his speech the Chancellor also stated that change would save “a mid-sized manufacturer almost £50,000 on their annual energy bill”.

The Committee on Climate Change [examined](#) the impact of the freeze, concluding that it would be marginal, but that the change was not conducive to providing a clear and consistent signal to investors:

The Carbon Price Support tops up the carbon price from the EU Emissions Trading System to the published UK ‘floor price’ trajectory, which rises to £32 per tonne in 2020 and £75 in 2030. The trajectory remains, but the top-up has now been capped (at £18 per tonne) to 2020 – unless the ETS price rises significantly (it is currently around £4 per tonne), the target trajectory is unlikely to be met and UK carbon prices will be lower than previously assumed.

This should mean lower electricity prices, with the Treasury estimating that the average household will be around £15 per year better off by 2020 under the capped support. That seems about right from our calculations too.

Could it undermine investment in low-carbon generation, storing up costs and risks for the future? In reality, the direct impact is likely to be marginal.

[...]

However, introducing a policy and then fundamentally changing it a short time later is not conducive to providing the clear and consistent signals that investors require.²³

2.7 Budget 2016

At Budget 2016 the Government stated that the Carbon Price Support maximum cap of £18/tCO₂ per tonne would be maintained and then uprated by inflation in 2020-21. It also stated that the Autumn Statement would set out the “long-term direction” for the Carbon Price Support rate in the Autumn Statement:

At Budget 2014 the government capped Carbon Price Support (CPS) rates at £18 t/CO₂ from 2016-17 to 2019-20 to limit competitive disadvantage to British businesses. Due to the continued low price of the EU Emissions Trading System (EU ETS), the government is maintaining the cap on CPS rates at £18 t/CO₂, uprating this with inflation in 2020-21, in order to continue protecting businesses. The government will set out the long-term direction for CPS rates and the Carbon Price Floor at Autumn

²² HM Treasury, [Budget 2014: Policy Costings](#), p16

²³ CCC, [The Budget freeze in Carbon Price Support](#), 31 March 2016

Statement, taking into account the full range of factors affecting the energy market.²⁴

The Office for Budget Responsibility published a reduced estimate of the Carbon Price Floor receipts as follows in March 2016:²⁵

Climate Change Levy (CCL) receipts - Forecast						
	<i>£ billion</i>					
	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
CCL Receipts	1.8	2.1	2.2	2.1	2.4	2.2
of which:						
CCL Receipts (excl CPF*)	0.6	0.9	1.0	1.0	1.5	1.5
CCL Receipts - CPF	1.2	1.2	1.1	1.0	0.9	0.7

Source: Office for Budget Responsibility, *Economic and Fiscal Outlook March 2016*, 'Economic and fiscal outlook supplementary fiscal tables - March 2016'

*CPF stands for Carbon Price Floor

Revenue from both EUAs and the Carbon Price Support are retained by the Treasury, which could be viewed as an incentive to continue with both measures. Receipts from EU ETS auctions were £0.6 billion in 2014-15, but this is expected to fall to £0.5 billion in 2015-16 and 2016-17, and to £0.4 billion in the years that follow through to 2020-21.²⁶

The Autumn Statement 2016, published 23 November, did not make any changes to the CPS, stating instead:

Carbon Price Support – To provide certainty to businesses, the government confirms it is maintaining the cap on Carbon Price Support rates at £18 t/CO₂, uprating this with inflation in 2020-21. The government will continue to consider the appropriate mechanism for determining the carbon price in the 2020s.²⁷

3. Impact of the CPF

DECC published research in November 2014 [Estimated impacts of energy and climate change policies on energy prices and bills](#). This found a positive impact of policies on household energy bills but a negative impact for business energy bills making compensation mechanisms necessary. The Committee on Climate Change also examined the issue at the time, publishing [Energy prices and bills - impacts of meeting carbon budgets](#) in December 2014,

Both the reports took into account the impact of the carbon price floor freeze until 2020-2 and provide the most up to date information available on impacts on energy bill. However, there has been a large number of changes to climate and energy policies since 2014 which is likely to impact on the estimates of policy costs and future energy bills. These include the ending of the Green Deal finance for householders, reductions in renewable support mechanisms and the removal of the exemption from climate change levy for renewables.

²⁴ HM Treasury, [Budget 2016](#), para 1.191

²⁵ OBR, [Economic and Fiscal Outlook charts and tables](#), March 2016

²⁶ Ibid. Table B5

²⁷ HM Treasury, [Autumn Statement 2016](#), 23 November 2016

3.1 Households

According to the DECC research, household energy bills are first and foremost driven by wholesale energy costs. They were estimated to be responsible for 56-71% of increase in energy prices between 2010 and 2013.²⁸ Bill levels are also driven by network costs (gas and electricity transmission and distribution costs) and supplier costs and margins. In comparison, DECC estimated that energy and climate change policies had been responsible for 5% of the increase and had had a net positive impact in reducing consumption.²⁹

3.2 Business

Unlike domestic energy, business energy bills and consumption have steadily increased since 2005 – an increase which has only partly been offset by energy efficiency policies:

Consumption trends in the non-domestic sector are heavily driven by fuel-switching, and the economic environment. The effect of the recession is notable in both gas and electricity consumption [...]. However energy efficiency policies have also played a role in reducing consumption.³⁰

According to the DECC report in 2014, energy costs accounted for around 3% of operating costs on average for businesses overall. However, policy costs accounted for less than 1% of these overall costs.³¹ However the impact on Energy Intensive Industries is much greater. Of all the sectors of the economy they are the most sensitive to increases in coal prices.³²

Energy Intensive Industries support

Energy intensive industries (EIs) – the steel, chemicals, engineering and brick making industries – are those businesses that have high energy costs as a share of their total gross value added and are therefore particularly sensitive to increases in energy costs. In recent years there have been increasing concerns raised about the financial impact of EU and UK energy and climate change policies on energy intensive industries.³³

The costs of energy to EIs were expected to rise but DECC's 2014 estimates of impacts were very broad – between 1% and 50% depending on weather high or low fossil fuel prices scenarios were used, with the impact dependant on the effectiveness and uptake of compensation measures.³⁴ In answer to these cost concerns, the Government has introduced several compensation measures aimed at

²⁸ DECC, [Estimated impacts of energy and climate change policies on energy bills](#), March 2013, para 16

²⁹ Ibid., para 20-27

³⁰ Ibid., para 33

³¹ Ibid., p.41

³² Oxford Economics, [Fossil fuel price shocks and a low carbon economy](#), December 2011

³³ House of Commons Library, [Debate Pack: Energy intensive industries](#), 9 March 2016

³⁴ [Estimated impacts of energy and climate change policies on energy bills](#), Table 7, p.50

alleviating the costs of the EU ETS, the CFP, feed in tariffs and the renewables obligation. These measures are set out below.

2011 support package

The 2011 Autumn Statement announced a support package worth £250m originally due to start in 2013. The Chancellor said:

We will give particular help to our energy-intensive industries. I have not shied away from supporting sensible steps to reduce this country's dependency on volatile oil prices and reduce our carbon emissions.

I am worried about the combined impact of the green policies adopted not just in Britain but by the European Union on some of our heavy, energy-intensive industries.

We are not going to save the planet by shutting down our steel mills, aluminium smelters and paper manufacturers. All we will be doing is exporting valuable jobs from this country, so we will help them with the costs of the EU trading scheme and the Carbon Price Floor, increase their climate change levy relief and reduce the impact of the electricity market reforms on those businesses, too.

This amounts to a £250 million package over the Parliament, and it will keep industry and jobs here in Britain.³⁵

This included amounts to compensate energy intensive industries for the impact of the EU Emissions Trading Scheme (EU ETS) (£110 million) and the UK's Carbon Price Floor (£100 million) for the period April 2013 to March 2015.

For this package, the Government notified the European Commission of its plans to compensate certain energy - intensive industries for the indirect costs of the Carbon Price Floor. The European Commission approved this State Aid application on 21 May 2014.³⁶

2014 support package

In Budget 2014 the Government announced it would:

- extend the compensation for energy intensive industries for the cost of the Carbon Price Floor (CPF) and EU emissions trading system to 2019-20; and
- introduce a new compensation scheme, to help energy intensive industries with higher electricity costs resulting from the renewables obligation (RO) and small-scale feed in tariffs (FiT) for renewable generation, from 2016-17.

At the same time it announced the combined cost of these compensation measures was expected to be around £500 million a year from 2016-17. Along with previous announcements, HM Treasury said that this package means energy intensive industries would be compensated for all government policy designed to support low carbon and renewable investment up until 2019-20.³⁷

³⁵ [HC Deb 29 November 2011 c799 onwards](#)

³⁶ [HC Deb, 1 July 2014, c538W](#)

³⁷ HM Treasury [Budget 2014](#), HC1104, 19 March 2014 para 1.107

On 17 December 2015, the Government announced that its application to allow compensation for the energy costs of energy intensive industries under State Aid rules had been granted by the EC.³⁸

3.3 Coal generation decline

Since the implementation of the CPF there have been significant falls in coal electricity generation output together with the closure of several coal stations in 2016.³⁹ [Renewables UK](#) summarised the changes to the generation mix in 2015, when renewables outperformed coal, as follows:

In 2015, there was a further switch in the main sources of electricity generation away from the fossil fuel of coal to more low carbon generation. Generation from coal fell by 25 per cent, as a number of plants closed or switched to burning biomass; gas fell marginally by 0.9 per cent; nuclear output rose by 10 per cent with renewables up by 29 per cent. The overall renewables share of generation increased to a record 25 per cent share of generation.⁴⁰

Coal generation produces around twice the carbon dioxide per unit of electricity generated as gas and is therefore particularly affected by any CPF price increases.⁴¹ The increase in April 2015 of the CPS from £9 to £18 is one of the factors which has accelerated the reduction into 2016. DBEIS data from July 2016 set out how consumption of coal by electricity generators was down by 71 per cent to 1.8 million tonnes in 2016:

Total demand for coal in the second quarter of 2016, at 3.3 million tonnes, was 61 per cent lower than in the second quarter of 2015. Consumption by electricity generators was down by 71 per cent to 1.8 million tonnes. Electricity generators accounted for 54 per cent of total coal use in the second quarter of 2016; compared with 73 per cent a year earlier.

Demand for coal for coke manufacture fell 60 per cent in Q2 2016 compared to a year earlier, from 1.1 million tonnes to 0.4 million tonnes.

Sales to industrial users fell by 4.4 per cent in the second quarter of 2016 and sales to other final consumers including domestic increased by 1.7 per cent to 0.1 million tonnes during the second quarter of 2016.

Coal used in blast furnaces was 0.3 million tonnes in the second quarter of 2016, a decrease of 23 per cent compared to the second quarter of 2015.⁴²

³⁸ BIS, [Press release: UK government secures EU compensation for Energy Intensive Industries](#), 17 December 2015

³⁹ DBEIS, [‘Energy trends section 2: solid fuels and derived gases’](#), September 2016

⁴⁰ Renewables UK. [Renewable energy outperforms coal in new official UK electricity statistics](#), 28 July 2016

⁴¹ DBEIS, [Coal Generation In Great Britain The pathway to a low-carbon future: consultation document](#), November 2016

⁴² DBEIS, [‘Energy trends section 2: solid fuels and derived gases’](#), September 2016

4. The future of the CPF and CPS

Amber Rudd [announced](#) in November 2015 that the UK would phase out unabated coal (that has no carbon capture and storage) by 2025 and restrict it from 2023 provided that electricity supplies are maintained. More recently, the new Secretary of State Greg Clarke stated in a speech in November 2016 to Energy UK, the energy trade body, that the UK needed “energy which is cheaper, and as reliable as coal and carbon free”.⁴³

4.1 Closure of unabated coal consultation

The Government published its consultation in November 2016 on how the phase out of coal could be achieved. The [consultation](#) provides an overview of coal generation in the UK, including how and why the number of stations have fallen from 17 in 2012 to eight in 2016, with a resulting reduction in generation capacity from 23GW to 13GW.⁴⁴ The remaining power stations are on average 47 years old and the consultation sets out why many are expected to close in the near future:

Most of the UK’s coal stations also require much more significant investment before 2020 if they are to meet more stringent atmospheric pollution standards. Our understanding is that, in current market conditions, the owners of coal fired power stations are finding it increasingly difficult to justify the case for such investments. Stations are therefore likely to close in the near term as further investment becomes necessary to remain operational, to comply with strengthened pollution standards and as policies to encourage decarbonisation of electricity generation take effect.⁴⁵

The Government summarised the aim of the consultation as exploring how to regulate unabated coal (where no measures are in place to limit carbon emissions) to provide market certainty around replacing coal stations with gas generation. It also makes clear that it is satisfied that the Capacity Market⁴⁶ will bring forward the investment needed to compensate for the closure of unabated coal.⁴⁷

The proposals include two different options for the introduction of an emissions performance standard (or EPS) of 450gCO₂/KWh of generation for all coal generation from 2025. There is already an EPS in place that applies to any new coal generation power stations, should they be built.

⁴³ DBEIS [Greg Clark speech at Energy UK](#), 11 November 2016

⁴⁴ DBEIS, [Coal Generation In Great Britain The pathway to a low-carbon future: consultation document](#), November 2016

⁴⁵ *ibid*

⁴⁶ The Capacity Market provides a payment to generators, alongside their electricity revenues, that are contracted to deliver backup electricity to the grid when needed if demand is very high.

⁴⁷ DBEIS, [Coal Generation In Great Britain The pathway to a low-carbon future: consultation document](#), November 2016

4.2 Policy uncertainty

There has been no price set beyond 2021. The Energy and Climate Change Committee called on the government in March 2016 to put an end to the policy uncertainty surrounding CPF beyond 2020:

As we have already noted, energy projects can take many years, or even decades, to go from conception to fully operational. Investors therefore want to have clarity about the policy framework over a project-long timescale. Witnesses described a policy “cliff-edge” in 2020: beyond this point, there is no information about the Levy Control Framework budget or the Carbon Price Floor.⁴⁸

The Chancellor stated in Budget 2016 that the Autumn Statement would set out the “long-term direction” for the Carbon Price Support rate. However, as already referred to no changes were made, instead the Government will continue to consider the appropriate mechanism for determining the carbon price in the 2020s.⁴⁹

Policy uncertainty regarding renewables and low carbon energy since May 2015 have been linked to the UK’s drop out of EY’s index of 10 most attractive countries to invest in renewables. The UK fell from 8th to 11th in September 2015; the report had concluded at the time that

A wave of policies reducing or removing various forms of support for renewable energy projects has confused investors and consumers.⁵⁰

In October 2016, the UK fell further to 14th:

Uncertainty caused by Brexit, the closure of the Department of Energy & Climate Change and the approval of Hinkley Point C all dealt a sizeable blow to the UK renewables sector. Some respite came when the Government approved 1.8GW Hornsea 2, which will be the world’s largest offshore wind farm if completed as planned.⁵¹

However, in the run up to the Autumn Statement 2016, views about the continuation of the CPF have been mixed. Energy companies SSE and Drax have expressed their support for the policy and urged Philip Hammond, the chancellor, to maintain the three-year-old Carbon Price Floor until at least 2025.⁵² Energy UK, which represents energy companies, published a statement calling for the CPF to be retained:

If energy companies are to deliver the £ 215 billion of infrastructure investment required by 2030, they need clarity on the whole policy framework including the next Contracts for Difference Round and the continuation, at least to 2021, of the Carbon Price Floor which has compensated for the weak carbon price signals from the EU Emissions Trading System.

The Autumn statement is an ideal opportunity for Government to provide investors with confidence to make major long term,

⁴⁸ Energy and Climate Change Committee, [Investor confidence in the UK energy sector](#), 3 March 2016, para 24

⁴⁹ HM Treasury, [Autumn Statement 2016](#), 23 November 2016

⁵⁰ EY, UK country focus, September 2015

⁵¹ EY, [Renewable energy country attractiveness index](#), October 2016, p.6

⁵² Financial Times, [‘UK climate pledge faces stiff test amid carbon tax drive’](#), 25 September 2016

infrastructure investment. While the continuation of the Carbon Price Floor needs to account for impact on power traded through interconnectors and those adversely affected by CPF, clarity on this key element of domestic UK energy policy would be a strong signal for investors and a strong commitment to our low carbon future.⁵³

The issue of energy imported through interconnectors from other countries that is subject to different carbon costs was raised in a PQ in July 2016. The Government responded:

Whatever the source, and wherever it is from, we import electricity when the cost is lower than here in the UK, driving down consumer bills. Ofgem's analysis of proposed interconnector projects shows that the Carbon Price Floor is not the determinate of whether the projects are in the interests of UK consumers.⁵⁴

Further information on interconnection can be found in the report for the Infrastructure Commission on [Costs and Benefits of GB Interconnection](#) published in February 2016.

Although Energy Intensive Industries are compensated for a range of carbon and renewable policies there have still been calls, as in the Parliamentary debate on the Steel Industry on 11 May 2016, for the Government to go further:

Yet we are still seeing prices that are uncompetitive. Despite the energy intensive industries compensation package, we are still seeing prices that are in the region of 25% higher than in Germany. What consideration has been given to any further review of the Carbon Price Floor and the climate tax impact? What about network costs and wholesale costs? Are there additional measures that could be taken there?⁵⁵

Other commentators such as industry representative group [Engineers Employers Federation](#)⁵⁶ have called for the CFP to be scrapped on the basis that it affects international competitiveness: :

"We engaged with the Treasury in the build-up to the 2016 Budget and we got what we hoped for when they scrapped the Carbon Reporting Commitment, which wasn't offering anything to businesses.

"However, to go one step further, we would like to have seen a complete scrapping of the Carbon Price Floor, which is a business-unfriendly concept in terms of international competitiveness."⁵⁷

⁵³ Energy UK, [Energy UK writes to the Chancellor ahead of Autumn Statement](#), 2 November 2016

⁵⁴ [PWQ 42746](#), [on interconnectors], 13 July 2016

⁵⁵ HC Deb, Steel Industry, Stephen Doughty, 11 May 2016, Volume 609, [Column 332WH](#)

⁵⁶ EEF, ['Government urged to turn 'stick' of ineffective green taxes into 'carrot' in energy policy review'](#), 14 September 2015

⁵⁷ Edie.net, ['Scrapping Carbon Price Floor would 'level the playing field', manufacturers claim'](#), 1 April 2016

4.3 Recent debate on impacts on households

A Centre for Policy Studies [economic brief](#) from 2016 included an estimate of the direct and indirect costs of renewables to households in 2020/21 of £466. The brief called on the Government:

To urgently review how its interventionist policies are damaging the UK's energy policy, particularly on the Carbon Price Floor and the promotion of renewables.⁵⁸

In response, CarbonBrief published a [factcheck](#) in which it addressed the assumptions made. The article pointed out that the figures used in the brief assume that costs to businesses will be passed on to householders, and refers to a statement by BEIS to journalists rejecting this approach:

We do not recognise these figures on household bills – they do not represent what renewables policies are expected to add to household energy bills. The CPS [Centre for Policy Studies] has assumed the costs which fall to business energy bills are ultimately passed onto households through inflation. We do not think this is a sensible assumption, and it results in a trebling of the cost figure to households.

As already referred to, and summarised by CarbonBrief below, the debate about price impacts suffers from the fact that the latest figures were published by Government in 2014. CarbonBrief also refers to a wider range of policies and measures that impact on household bills, both as costs and savings:

The DECC/CCC estimates of bill impacts (£100/129) specifically exclude the cost of energy efficiency, fuel poverty, smart meter and capacity market policies. This is because the Centre for Policy Studies figure also excludes these costs. Including these additional policies, the cost added to bills in 2020 would amount to £189 or £160, according to DECC and the CCC respectively.

Note, again, that these figures were published in 2014 and so do not reflect policy changes since then, including efforts to reduce subsidies for renewables. Nor do they reflect a range of factors that will have increased policy costs, including lower expectations for future wholesale prices, the faster-than-expected uptake of subsidies under the Renewables Obligation and Feed-in Tariffs plus higher-than-expected output from offshore windfarms.

On the other hand, the estimates also exclude savings on bills due to energy efficiency policies, as well as the impact of renewables in reducing wholesale power prices⁵⁹

5. A European price floor?

Carbon Price Floor is a UK policy but it has been considered at EU level and been pursued by France as an option.⁶⁰ In 2012, the European Commission launched a review of the EU ETS system in order to identify

⁵⁸ Centre for Policy Studies, Economic Bulletin, [Are We Heading For Blackout Britain?](#) 29 September 2016

⁵⁹ Carbon Brief, [Factcheck: The Carbon Floor Price, and household energy bills](#), 29 September 2016

⁶⁰ Carbon Pulse, ['Exclusive "We can't wait any longer": France floats EU ETS price support proposal'](#), Mike Szabo, 13 March 2016

solutions to the problem of EUA oversupply. A European Carbon Price Floor was one of the mechanisms considered:

As from the third trading period a large amount of allowances will be auctioned, a Carbon Price Floor has been discussed as a feature applied primarily in the primary market, i.e. for auctions. A Carbon Price Floor would create more certainty about the minimum price, giving a better signal for investors.⁶¹

After running a public consultation on the merits of the various options considered, the Carbon Price Floor option was not favoured by the majority of respondents:

The vast majority of stakeholders highlight that the process for determining the true economic cost of abating greenhouse gas emissions is best determined through market principles and not via discretionary price management. Still, a few stakeholders, including project developers for international credits, would be supportive of a creation of a mechanism, which creates a reserve to buy allowances under a defined policy. A preferred choice that clearly emerges from the online consultation to address part of the surplus due to the economic crisis is to establish, not a price-based, but rather a volume-based supply-management mechanism.⁶²

Eventually, the Commission opted for a different option (back-loading of auctions and market stability reserve).⁶³ A senior EU official Jos Delbeke is reported to have explained the Commission's position as follows:

"We would not be in favor of a price corridor or a minimum price," Delbeke, the commission's director general for climate, said in an interview in Brussels on Wednesday. "The ETS is a market instrument. We have to find a balanced market; but if we're going to regulate prices directly, we may have all kinds of side effects that are not worth striving for."⁶⁴

Despite this, the French government announced in May 2016 that it would be introducing its own floor price of 30 Euros per tonne in 2017 in an effort to drive similar reforms in the rest of the EU. French Environment Minister Segolene Royal said:

I told [EU ambassadors] that France will fix a carbon price in the next finance law of about €30 per tonne and it is very important that this momentum is followed by a coalition of other countries⁶⁵

⁶¹ European Commission, Report from the Commission to the European Parliament and the Council, ['The state of the European carbon market in 2012'](#), 14 November 2012, p.10

⁶² European Commission, [Consultation on structural options to strengthen the EU Emissions Trading System](#), Main outcomes of consultation, ['Options for structural measures to strengthen the EU Emissions Trading System: Main outcomes of the public consultation'](#), para 9

⁶³ European Commission, Climate Action, ['Structural reform of the EU ETS'](#), accessed 2 November 2016

⁶⁴ Bloomberg, ['EU's Delbeke backs tighter carbon supply over price floor'](#), Ewa Krukowska and Brian Parkin,

⁶⁵ Business Green, ['France to set Carbon Price Floor at €30 per tonne'](#), Madeleine Cuff, 8 May 2016

However, press reports from October 2016 suggested that the measure, intended to be introduced in 2017, had been dropped.⁶⁶

5.1 Carbon Price Floor and Brexit

Leaving the EU would not automatically remove the Carbon Price Floor, as this is a UK measure; neither would it necessarily mean the UK would have to leave the EU ETS, but it would depend on the approach to exit the UK chooses to take. Membership of the EU is not a prerequisite of participation. Following the Paris Climate Agreement in December 2015, there is an added impetus for the expansion of emissions trading. The UK has been directly involved in this process, with the announcement in January 2016 that UK government officials are working with China to ensure that the Chinese carbon cap-and-trade system is compatible with the EU ETS.⁶⁷

Leaving the EU could allow a freer hand for the Government in supporting sectors, such as the Energy Intensive Industries, to deal with the impact of higher carbon prices. This is because it would not need to obtain approval from the EU Commission, which has been the case to date with existing support schemes as they fall under the definition of state aid. However, any support would still have to be considered in the context of the future trading arrangements in place with the EU and others. Following the referendum the price for carbon allowances fell; BusinessGreen reported this was due to uncertainty over UK policy towards the ETS in the future.⁶⁸

⁶⁶ Reuters, ['France to drop carbon tax plan: Les Echos'](#), Geert De Clercq and Emmanuel Jarry, 20 October 2016

⁶⁷ Business Green, [Sir David King: EU and Chinese carbon markets will 'join forces'](#), 29 January 2016

⁶⁸ Business Green, ['EU carbon price tumbles in wake of Brexit uncertainty'](#), 24 June 2016

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