CLIFFORD

CHANCE

Briefing note January 2016

Carbon Price Floor and Emissions Performance Standard: an EMR Primer

This primer briefing is the third and last in the series of briefings describing the principal mechanisms introduced as part of the UK Government's Electricity Market Reforms (EMR), namely:

- Contracts for Difference[1];
- Capacity Market Mechanism[2];
- Carbon Price Floor; and
- Emissions Performance Standard.

The EMR reforms have three key aims: to bolster the security of electricity supplies, encourage the decarbonisation of the power sector and keep energy affordable.

This briefing looks at the Carbon Price Floor and the Emissions Performance Standard.

Carbon Price Floor

Overview

The Carbon Price Floor (CPF) was introduced in 2013 and aims to provide a stable, certain and sufficiently high minimum carbon price to encourage investment in low carbon electricity generation in the UK. Carbon prices paid by generators through the EU Emissions Trading System (EU ETS) have fallen to historic lows due to oversupply in the market and other structural issues. The CPF imposes a "top-up" tax on generators. Through a combination of this tax and EU ETS allowance prices, generators should always pay the minimum carbon price for their carbon emissions.

The CPF was introduced by imposing a new form of Climate Change Levy (CCL) on generators who produce electricity from fossil fuels (see box inset for a description of the existing CCL which is levied on fuel suppliers). This new CCL is calculated based on prescribed Carbon Price Support Rates (CPSRs) which vary depending on the carbon content of the relevant fuel.

What is the Climate Change Levy?

The existing Climate Change Levy (Standard CCL) is a tax on the use (by industry, commerce, agriculture and the public sector) of certain energy resources including electricity, coal, coke and gas.

Energy suppliers collect Standard CCL through their customers' energy bills. Different rates of tax apply depending on the energy source.

In general, Standard CCL is not payable upon the supply of input fuels for electricity generation by electricity generators (although the generators themselves will be subject to CPSR CCL on such supply). Standard CCL is, however, generally payable on the consequent supply of electricity to customers. Standard CCL payable on fuel supplies to, and outputs from, qualifying Combined Heat and Power (CHP) plants is zero or reduced, depending on the plant's level of efficiency.

1 See our briefing: Contracts for Difference: an EMR CfD Primer
2 See our briefing: Capacity Market: an EMR Primer

The CPSRs are different from the Standard CCL rates, but the types of fossil fuel covered are broadly the same, namely:

- Gas of a kind supplied by a gas utility;
- Liquified Petroleum Gas (LPG); and
- Coal and other solid fossil fuels.[3]

How are CPSRs set?

For the CPF to work properly, CPSRs must be set broadly to reflect movements in the EU ETS allowance price. Individual CPSRs are set by the Government for each fuel depending on their carbon content using published fuel emission factors.

In order to provide certainty, CPSRs are announced and fixed two years in advance and indicative rates are then announced for a two further years. This is in contrast to EU ETS allowance prices which change in real time in accordance with supply and demand in the market.

Each CPSR is calculated in the following way:

CPSR = (Minimum Carbon Price - EU ETS Allowance Price) X relevant fuel emission factor

The Government originally announced in March 2011 that the target minimum carbon price would start around £16.00 /tCO_2. The intention was to escalate the minimum price every year until it reached £30 in 2020, and finally £70 by 2030.

However, EU ETS carbon prices have fallen significantly since CPSRs rates were first set in 2013. As a result, the CPSRs needed to reach the minimum carbon price have continued to rise, almost doubling each successive year. If the target minimum carbon price trajectory were maintained, it would cause a large and increasing gap between the carbon price faced by UK generators and competitors abroad. The Government took the decision to announce a freeze of the minimum carbon price at £18.00 from 2016-2017 to 2019-2020 in the 2014 budget, to limit the competitive disadvantage suffered by UK generators.

Current and indicative minimum carbon prices and corresponding CPSRs are set out below.

Confirmed and Indicative Minimum Carbon prices and CPSRs

	Confirmed Rates				Indicative Rates	
	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Minimum Carbon price under the CPF (£ per tCO_2)	9.55	18.08	18.00			
Corresponding CPSRs for each commodity						
Gas - £ per kilowatt hour (kWh)	0.00175	0.00334	0.00331			
LPG - £ per kilogram (kg)	0.02822	0.05307	0.05280			
Coal and other solid fossil fuels - £ per gigajoule (GJ) on gross calorific value (GCV)	0.81906	1.56860	1.54790			

[3] Oils and bioblends are not taxable commodities for CCL purposes and are taxed under the fuel duty regime.

Liability for CPSR CCL

Owners of generating stations must pay the CPSR CCL (unlike the Standard CCL for which responsibility is placed on the fuel supplier). Where the CPSR CCL has to be paid, no Standard CCL needs to be paid on the input fuel. Owners liable to CPSR CCL must register with HMRC unless they are already registered for Standard CCL.

CPSR CCL becomes due at the point gas passes through the meter at the generating station, or solid fuel / LPG is delivered through the entrance gate of the station.

Treatment of certain generating stations

There are a number of variations in the treatment of certain generating stations including primarily:

- *Small generators and standby generation*: Operators with combined generating stations of under 2MW, and operators of standby generation plant, are not liable to CPSR CCL.
- *Qualifying CHP stations*: CPSR CCL on qualifying CHP plants is reduced in the same way as Standard CCL (see box inset on page 1) and will depend on the efficiency of the plant.
- *Small CHP stations*: Operators of CHP plants of 2MW or below are not liable to CPSR CCL.
- *Carbon Capture and Storage (CCS)*: CPSR on generating stations fitted with CCS equipment is reduced to reflect the amount of captured CO_2.

Treatment of oils used for generation purposes

Oils are subject to fuel duty as opposed to CCL. A relief from fuel duty applies for electricity used in the production of electricity to ensure tax treatment of oils is consistent with other fuels used for electricity generation. The CPF in respect of oils again works in tandem with the EU ETS, by restricting the amount of fuel duty relief applicable when oils are used for generation purposes. CPSRs are used to implement the reduction in relief on fuel duty, and these are set out below:

Fuel	1 April 2015 to 31 March 2016	On and after 1 April 2016
Fuel oil; other heavy oil; rebated light oil (£ per litre)	0.05730	0.05711
Gas oil, kerosene; rebated bioblend (£ per litre)	0.04990	0.04916

CPSRs for oils used as input fuel to qualifying CHP plant are reduced in a similar way to relief from CPSR CCL, as mentioned above.

Emissions Performance Standard

The Emissions Performance Standard (EPS) is a regulatory limit on the amount of carbon a fossil fuel plant is permitted to emit. Whilst carbon pricing and other incentives will encourage a switch to cleaner forms of electricity generation, the EPS aims to provide an ultimate backstop limit which will prevent coal-fired power generation without CCS abatement[4]. The EPS came into force on 18 February 2014 under the Energy Act 2013.

[4] In this way the EPS reflects National Policy Statement Fossil Fuel Electricity Generating Infrastructure (EN-3) which requires that no new coal-fired plant will come forward without CCS.

What generating stations does the EPS apply to?

The EPS applies to most forms of fossil fuel plants [5] over 50MW. Any such plant must comply with the EPS if it is either:

- Constructed on or after 18 February 2014; or
- Subject to replacement, or addition, of any main boiler on or after 18 February 2014.

How does the emissions limit work?

The Energy Act establishes a notional emissions limit of 450 g/kWh of CO_2. This limit has been fixed until the end of 2044. In each calendar year, a plant must not exceed the total volume of CO_2 emissions which would be emitted if the plant operated at the notional emissions limit and at baseload capacity (deemed at 85% of full capacity) for the entire year (annual emissions obligation).

For these purposes, the plant includes any associated gasification or CCS plant.

The annual emissions obligation is modified to reflect changes to the generating capacity of the plant, or to deal with a situation where start-up or cessation of operation occurs part way through a calendar year.

Exemption for CCS

Individual generating units which have CCS installed and are ready to capture carbon are exempt from the EPS for a period of three years from completion of the plant. This exemption will no longer be available after 31 December 2027.

In practice, use of CCS will reduce the carbon emissions of the relevant plant allowing them to meet the limit.

Suspension in exceptional circumstances

The Secretary of State can suspend the EPS at times when there is insufficient electricity generation to meet total demand, or a significant risk of that situation occurring.

Notification and monitoring

Operators of relevant fossil fuel plant must notify the regulator [6] of the annual emissions limit for the plant. Operators must also monitor emissions and notify the regulator if the plant's emissions exceed the relevant limit at the end of any year.

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5 Comprising coal, lignite, peat, natural gas, crude liquid petroleum, bitumen, and other gasification fuels produced from these fuels.

6 The Environment Agency regulates the EPS for England; Natural Resources Wales does so for Wales.

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