



Department
of Energy &
Climate Change



UK Electricity Market Reform Process

David Rutland

Head of Enabling Activities

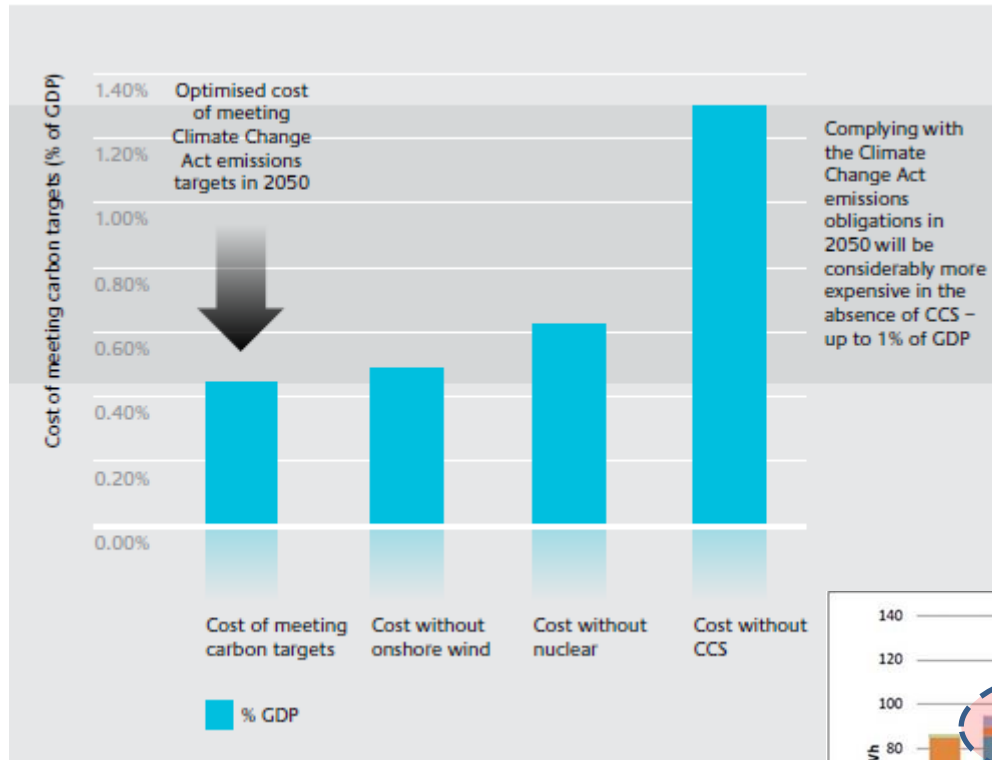
Office of Carbon Capture and Storage

Department of Energy and Climate Change

5th IEA International CCS Regulatory
Network Meeting, 18-19 June 2013, Paris

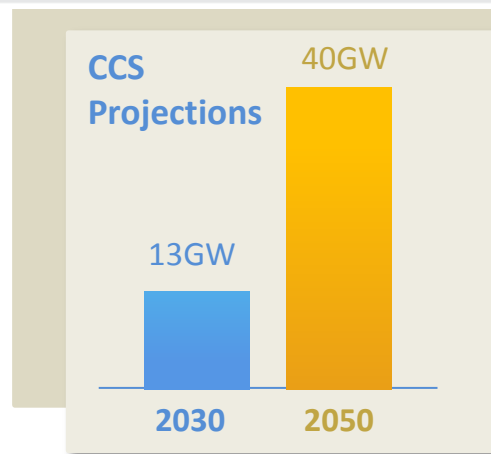


Cost effective decarbonisation

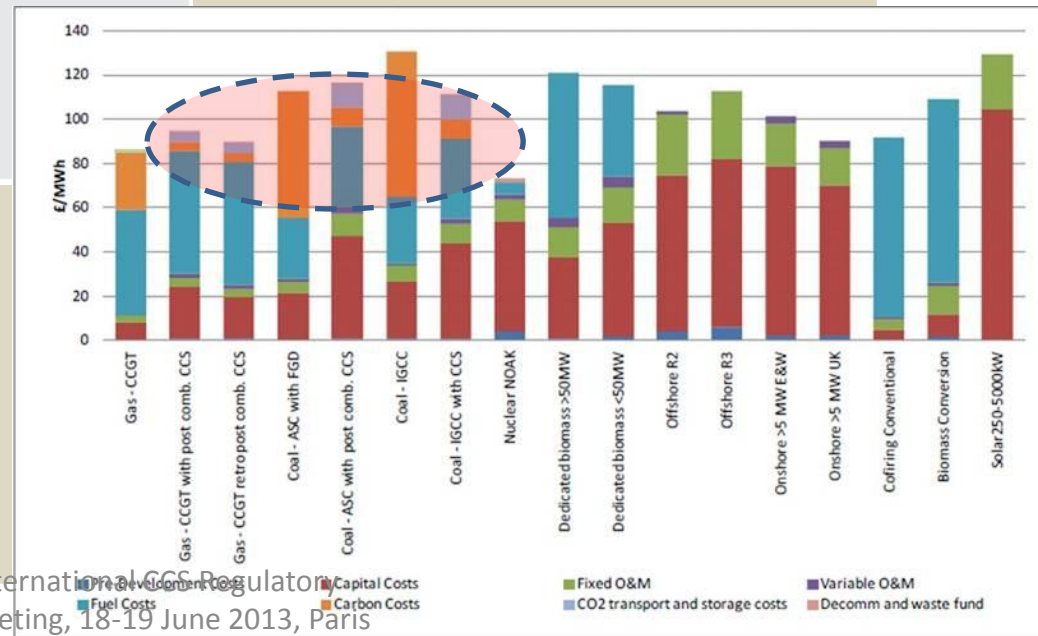


“Successfully deploying carbon capture and storage would be a huge economic prize for the UK in its low carbon transition, cutting the annual cost of meeting our carbon targets by up to 1% of GDP by 2050”

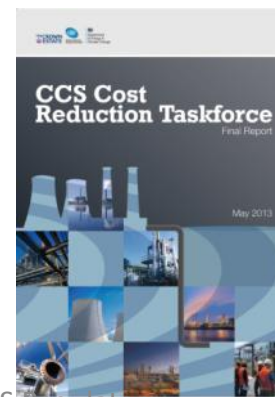
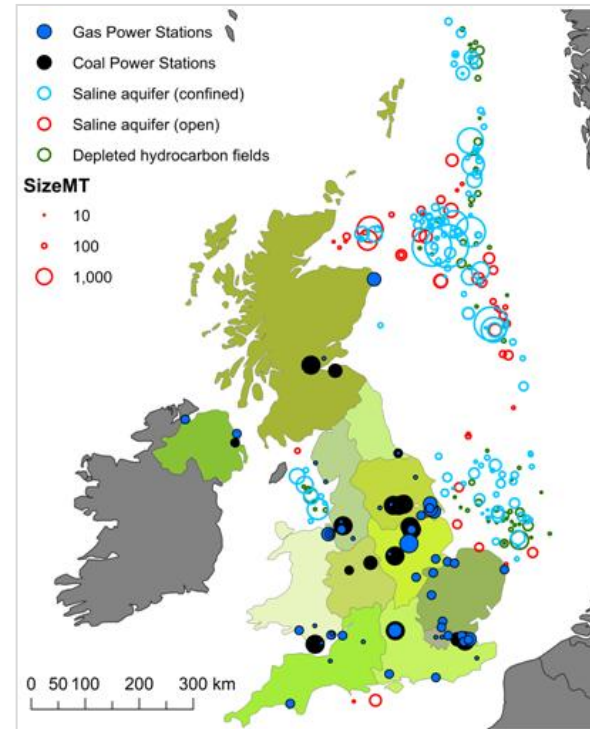
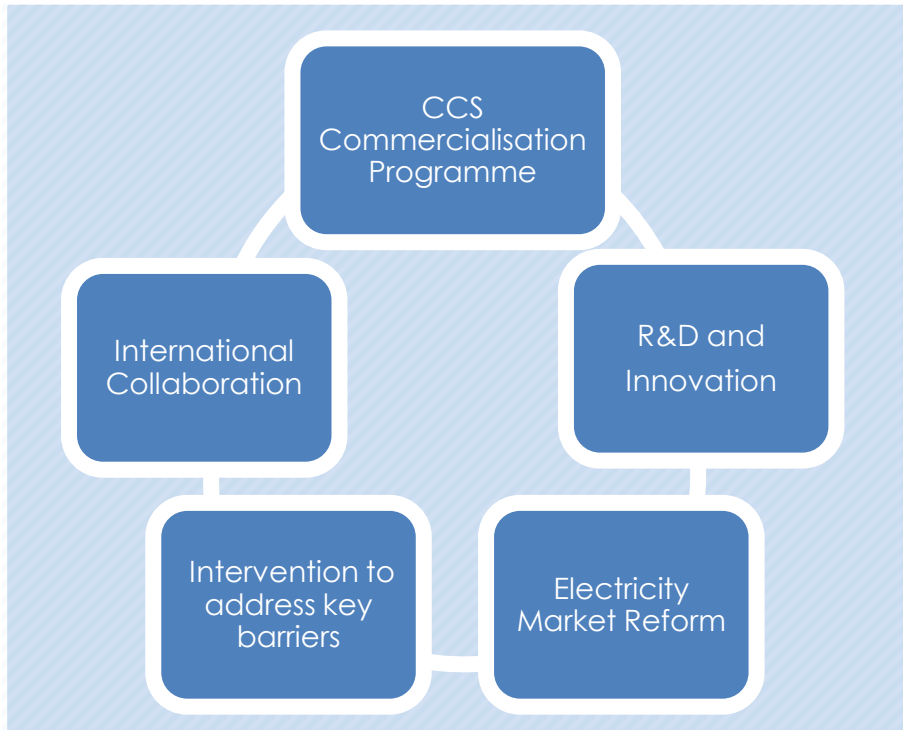
- ETI / Ecofin 2012



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UK CCS Programme

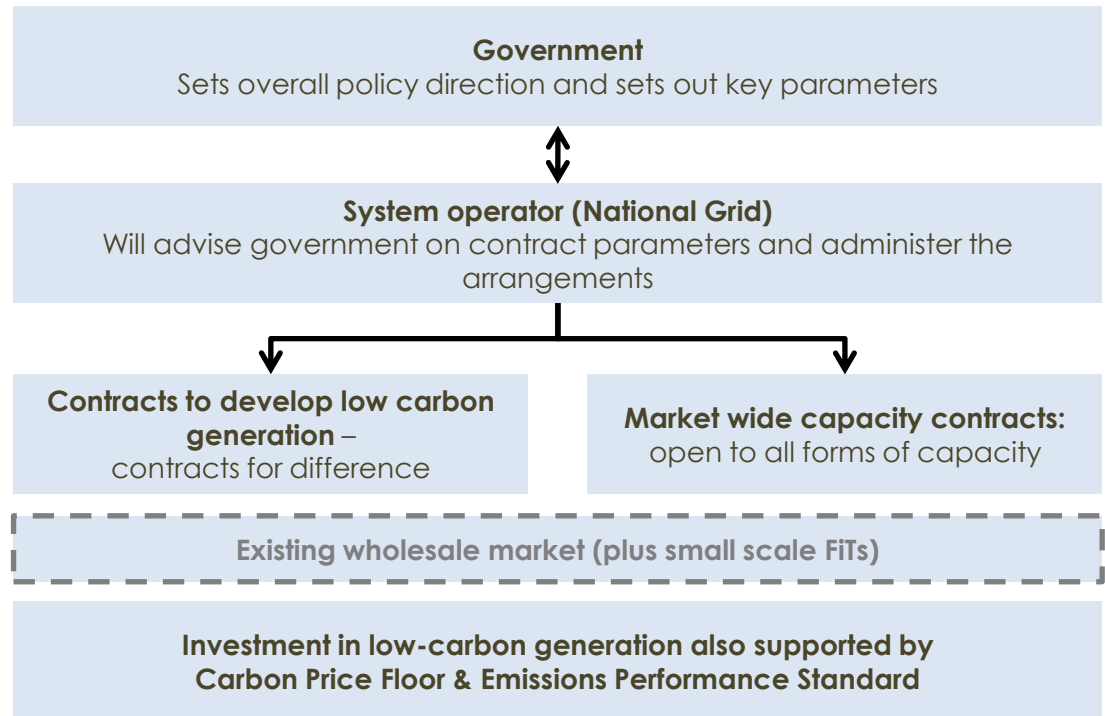


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Electricity Market Reform (EMR)

UK EMR Programme includes:

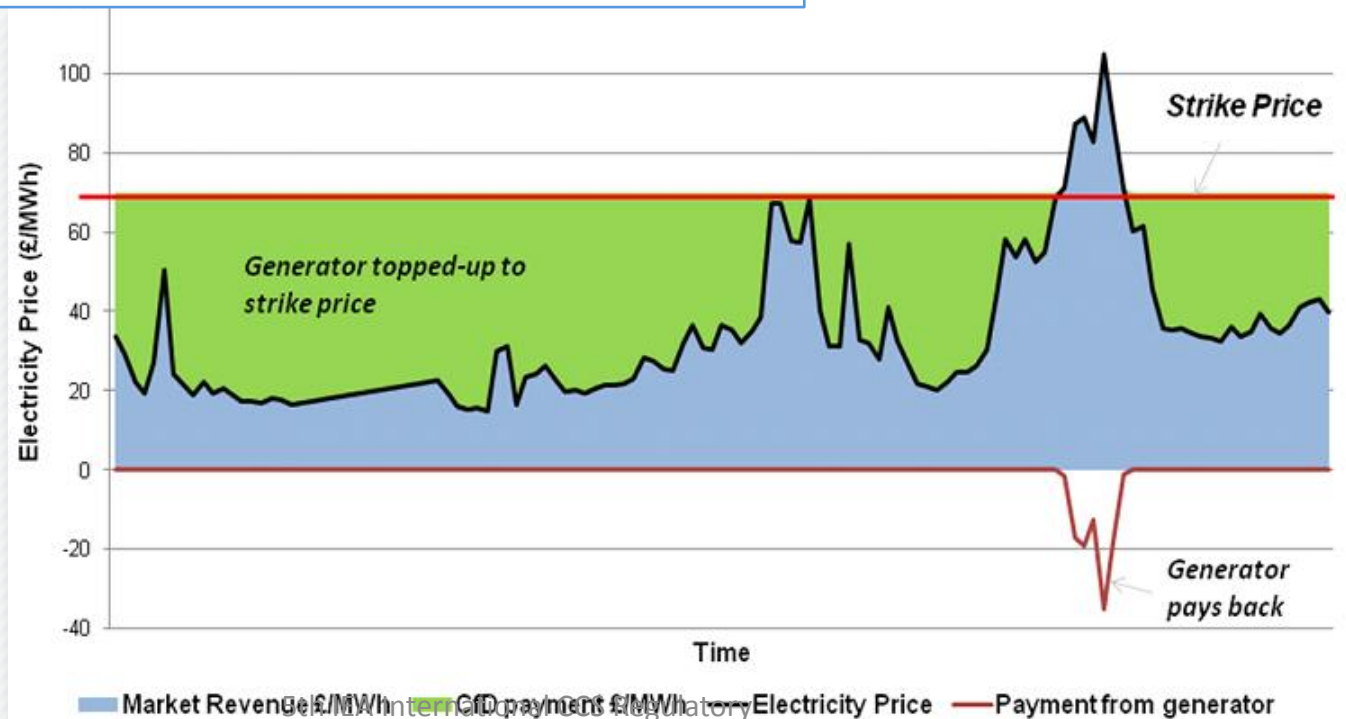
- Long-term contracts that reflect the value of low carbon generation
- Feed-in Tariff Contract for Difference
- A proposed Capacity Mechanism
- A Carbon Price Floor
- An Emissions Performance Standard
- £7.6bn Levy Control Framework (LCF) in 2020/21



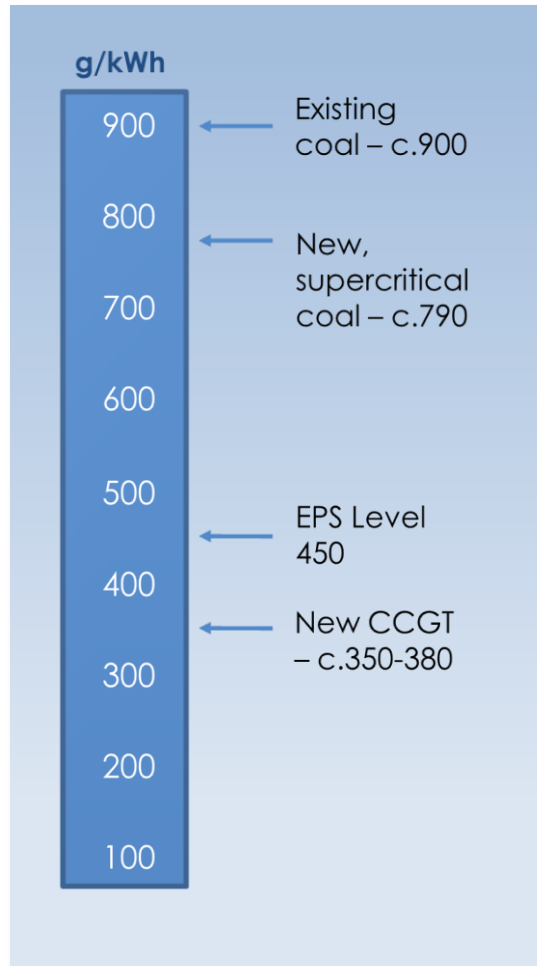
Contracts for Difference (CfDs)

Providing long term price stability

- CfD provides long-term revenue stability, lowering risk to investors and costs to consumers
- Generator sells power, but receives a 'top-up' payment
- Top-up pays the difference between the 'Strike Price' and the market price:
 - Generator paid when market price below strike price
 - But, generator pays back when market price is high



Emissions Performance Standard



Emissions Performance Standard

- Strengthens commitment of no new coal without CCS (minimum 300MW (net))
- Long-term certainty ("grandfathering" of limit to 2045) for consented plant
- All new fossil fuel power stations (at or over 50MW) fall within EPS regime
- Reviewed in the future – first review by end 2015
- 450g CO₂/kWh (at baseload) limit on carbon emissions



Carbon Price Floor

Blow to green hopes after price of carbon permits fall to record low

Damian Carrington

The price of carbon crashed to a record low yesterday in the European Union's emissions trading scheme (ETS) after a vote in Brussels against a proposal to support the struggling market.

The price of a permit to emit a tonne of carbon dioxide fell 40% at one point to €2.81 (£2.38), far below its record high of €32, before recovering to more than €4.

The ETS, aimed at reducing emissions from Europe's energy and industrial sectors, has been plagued by an oversupply of permits owing in part to overgenerous initial allocations following lobbying by industry.

"This should be the final wake-up call both to governments and to the European parliament," said Connie Hedegaard, EU climate commissioner. "To those in industry who both say that they want a strong EU ETS while they at the same time lobby against the policies that can secure exactly that, I say: it is time to think twice."

emissions reductions - get rewarded if the carbon price is low." Sandbag calculates that there will be an excess of 2.2bn permits by 2020.

Yesterday's freefall in the ETS was prompted by the energy and industry committee of the European parliament opposing a proposal to delay the release of 900m future permits, so-called "back-loading". This would limit supply in the capped market and therefore prop up the carbon price.

Analysts believe such a move could raise carbon prices to €15, but say prices above €20 are needed to give utilities the incentive to make serious switches to lower carbon energy generation.

€2.81 Lowest price yesterday for a permit to emit one tonne of carbon dioxide. In the past the highest recorded price was €32

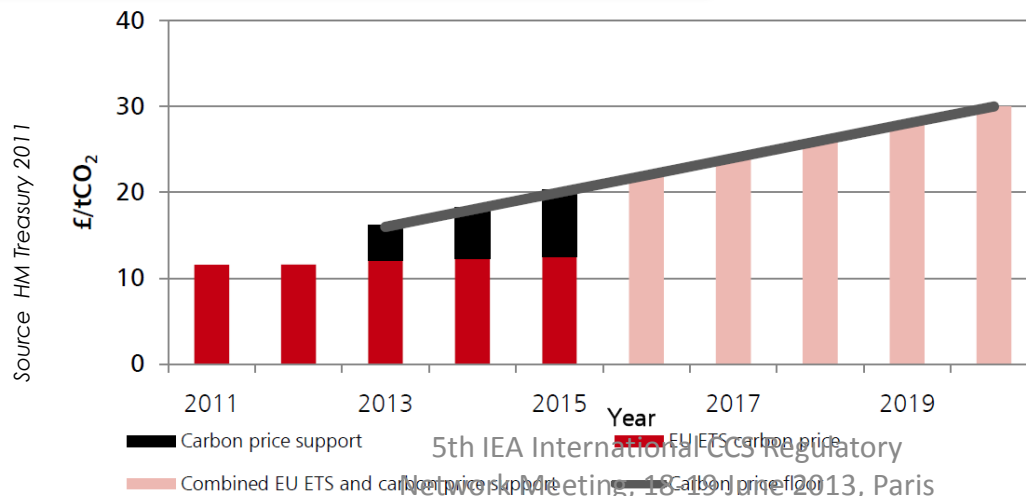
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EU ETS carbon spot price, € per tonne



Source: Thomson Reuters Point Carbon

Carbon Price Floor Illustration



Source: HM Treasury 2011

5th IEA International CCS Regulatory

Workshop Meeting, 16-19 June 2013, Paris



Summary

CCS will be critical for widespread decarbonisation.

- UK Committed to decarbonising its economy and developing a low carbon energy mix
- Some role for unabated generation but longer term, cost competitive CCS likely to be essential for fossil fuels.
- Government has comprehensive programme to drive forward development of CCS, but reliant on market for deployment
- Capital and operational support for commercial scale CCS, as part of a wider programme to facilitate CCS.
- CfD to provide operational support for CCS. Part of a wider market framework to bring forward all low carbon generation.