

UK Electricity Market Reform – FiT for energy traders?

The UK Government has said its commitment is to “transform the UK’s electricity system to ensure that our future electricity supply is secure, low carbon and affordable”. On 12 July 2011, the UK Government’s Department of Energy & Climate Change (DECC) published a white paper setting out its proposals to achieve this (the **White Paper**)¹. The White Paper follows the announcement in the Budget 2011 of a floor price for carbon in the electricity sector and sits alongside Ofgem’s market review proposals, including those to increase liquidity.

This Paper considers the likely impact of the proposals on wholesale energy and emissions trading.

Overview of the Proposals

The White Paper states the UK faces threats to security of supply from future plant closures, as well as the need to decarbonise power generation to meet the Government’s carbon reduction targets, and an expected rise in electricity demand. To meet these threats, the Government wants to create conditions encouraging greater long-term investment in renewable and nuclear electricity generation. The White Paper sets out the Government’s policies to encourage this investment. The main new policies relevant to traders are:

- long-term contracts for low-carbon energy called (long-windedly) Feed-In Tariffs with Contracts for Difference (**FiT CfDs**) to provide predictable revenue streams for investors in low-carbon generation;
- a carbon price floor to further incentivise low-carbon generation;
- a framework for contracting for capacity (the **Capacity Mechanism**) to ensure there is enough electricity to meet peak demand; and
- measures to improve wholesale market liquidity.

DECC’s White Paper describes the FiT CfD and Capacity Mechanism in detail. The carbon price floor will operate as part of the UK tax code and was announced in the 2011 Budget. Ofgem is currently considering measures to increase liquidity.

FiT CfDs

At present, the Renewables Obligation (the **RO**) provides the main support for expanding low carbon generation. The Government proposes replacing the RO with FiT CfDs to provide a bigger incentive to invest in these projects.

A FiT CfD is a long-term contract between a generator and contract counterparty. The contract is designed to stabilise the generator’s revenues at a pre-agreed strike price for the length of the contract. If a reference market price is lower than the strike price, the counterparty will make payments to the generator to top-up its revenues. But if the market reference price is above the strike price, the generator will pay the difference to the counterparty. This is intended to make the mechanism more efficient by preventing generators “cashing-in” on high power prices.

When the Government consulted on FiT CfDs as a possible mechanism in its December 2010 Electricity Market Consultationⁱⁱ, many respondents thought these contracts could encourage investment. But some respondents thought they could not judge whether FiT CfDs were the best approach without more detail about the contracts. And many were concerned that investors would delay decisions about long-term investments in UK generation until this information became available.

The White Paper provides some further detail on FiT CfDs' terms. FiT CfDs will have different terms depending on the type of generation. For example, for intermittent generation a day-ahead price would be used as the market reference price as this best reflects the ability of the generating asset to sell into the grid. A FiT CfD for a baseload plant would use year-ahead baseload prices as the reference. Further work is needed on the design, and some aspects remain subject to the final design of the Capacity Mechanism (discussed below). DECC will produce more detailed thinking on contract design at the end of the year. There remain many issues to address but the following are particularly significant:

- **Price discovery:** initially, FiT CfD prices will be set administratively (and be subject to inflation adjustment). Ultimately the Government would like to introduce auctions or other competitive price setting processes but it does not believe that will be possible initially.
- **Contract counterparty:** it is as yet unclear who will be the counterparty contracting with generators, how creditworthy it will be, what credit standards it will impose and what collateral it may require from generators. Government says a decision on this is expected at the end of the year. It is not yet clear whether a public or private sector entity will be liable as contract counterparty under the FiT CfDs. The White Paper states that one possibility would be for a new delivery authority to perform the contract counterparty role. Another option would be for the delivery authority to oversee contracting between generators and suppliers.
- **State aid:** the FiT CfD mechanism (and indeed other mechanisms) will need to meet EU state aid requirements.
- **Financial regulation:** on their face FiT CfDs will be cash-settled derivatives contracts and thus, without specific treatment, could fall within the scope of financial services regulation, with potentially significant impacts (e.g. a need for the contract counterparty to be FSA-authorised and meet capital and risk management standards designed for the OTC derivatives market). In the past, Government had a wide freedom to exempt such arrangements from regulation. However, that may be severely limited by the changes to be brought by the current review of the Markets in Financial Instruments Directive (MiFID). While DECC says in the White Paper that it awaits those changes, we would hope that DECC is already working with HM Treasury to ensure European financial regulatory change does not impair FiT CfD design and operation.
- **Liquidity:** DECC says that FiT CfDs will work best with liquid power markets in which generators can sell power quickly and at low cost. Without this, the reference prices on which FiT CfDs will be based are less likely to inspire investor confidence. But the introduction of FiT CfDs may itself affect liquidity through impacting how generators sell their power in the market. For example, if generators seek to match the reference price in their FiT CfD, it will cause different types of generator to sell

into different parts of the forward curve (day ahead for wind power generation; year ahead for nuclear generation). This may have implications for market monitoring and supervision.

The Government expects that the first FiT CfDs will be signed in 2014 with the first payments possibly being made in 2016. Hence, FiT CfDs will not provide income support to generators in the short term. However, some commentators are concerned that uncertainty about their structure and the range of issues to be addressed is already affecting long term trading.

The Carbon Price Floor

The Government is introducing from 1 April 2013 a carbon price support mechanism to support investment in low-carbon generation. The Government thinks carbon prices under the EU ETS are unlikely to be high enough or certain enough to drive the investment the UK needs to decarbonise generation and ensure security of supply. Hence, it will introduce a carbon price floor mechanism to top-up the carbon price for power generation where the EU ETS price falls short.

The carbon price support mechanism works by amending the climate change levy (CCL) and fuel duty. The floor will start at around £16 per tonne of carbon dioxide (tCO₂) and increase on a linear path to target £30/tCO₂ in 2020 (both in 2009 prices). Carbon price support rates in 2013-14 will be equivalent to £4.94/tCO₂. The Government has stated that this reflects the difference between the Government's target carbon price (the floor) and the futures market price for carbon in the EU ETS in 2013. The Government have indicated support rates for 2014-15 and 2015-16 will be £7.28/tCO₂ and £9.86/tCO₂ respectively.

For the trading community, the biggest concern about this mechanism is uncertainty and its impact on liquidity, particularly for long-term power trading. In its December 2010 consultationⁱⁱⁱ, HM Treasury reviewed indicative carbon price scenarios for initial carbon price support of £1/tCO₂, £2/tCO₂ and £3/tCO₂. As a result, many in the market assumed that the level of carbon price support would be within this range, and not at the £4.94/tCO₂ level announced. Of course, Government can argue that this simply reflects carbon futures prices and not changes in policy. But while Government has indicated how it intends to operate the floor in future, Government could change its approach (for example to raise more revenue). The carbon price support rate is set on an annual basis with indicative price scenarios two years further forward. The method by which it is calculated is not hardwired in legislation or Government commitment. Some commentators have suggested this uncertainty will affect the bankability of projects and the ability of generators to hedge exposures relating to carbon prices.

Capacity Mechanism

The White Paper says that without action, the UK faces a “significantly increased risk” of being unable to meet its energy needs as capacity margins tighten around the end of the decade. While demand side responses (DSR), storage and new connections to other countries will improve security, the Government believes the UK needs a Capacity Mechanism so there is enough reliable and diverse capacity to meet demand.

The Capacity Mechanism will not address short-term operational balancing. This will continue to be a matter dealt with by National Grid by accepting bids and offers in the

Balancing Mechanism and reserving capacity (the Short-Term Operating Reserve) to be made available on demand. Instead, the Capacity Mechanism will be designed to avoid situations (such as low wind generation) where there is simply not enough generating capacity to meet demand. It will do this by paying for the provision of capacity that can be called on when other resources are insufficient to meet demand.

The December 2010 Electricity Market Reform consultation had proposed a targeted mechanism whereby a strategic reserve is centrally procured, removed from the electricity market and only utilised when circumstances require. The White Paper develops this proposal in response to comments and concerns raised in the consultation. It also explores an alternative market-wide mechanism in the form of a capacity market, in which providers willing to offer capacity (whether generation, storage or DSR) can sell their capacity; and the required volume of capacity required is purchased.

The White Paper discusses various forms of capacity market. These include markets that set incentives and regulate capacity through administrative means such as PJM's Reliability Pricing Model. The White Paper also discusses in detail an innovative alternative – a Reliability Market – in which providers sell reliability contracts (essentially call options) enabling the holder to buy electricity at no more than the strike price (or if power is not available, receive compensation). The premium paid for the contract is intended to provide a reliable source of income on which to base investment decisions.

The White Paper contends that while a strategic reserve would be a well-understood mechanism, it may be less effective in encouraging the use of non-generation approaches to ensuring capacity. A well-designed capacity market may be more effective. However, an effective capacity market design may present design challenges and take longer to implement.

Whatever capacity mechanism DECC chooses, careful work will be needed on its interaction with FiT CfDs. Thus, while a future capacity market may present long-term opportunities for traders, it increases market uncertainties today.

Improving Liquidity

Work on improving liquidity in the GB wholesale electricity market is being led by Ofgem. Ofgem's main work forms part of the Retail Market Review (RMR). Ofgem published its initial proposals on this in March 2011^{iv} and provided an update on this work in June^v. In addition, Ofgem has said it will undertake a review of Imbalance Settlement (or cash out) as it is believed the cash out price may not accurately reflect the costs of balancing the system. This may also impact liquidity in that if the cash out price is more accurate that could improve the reliability of spot prices. However, this Paper focuses on the RMR.

Retail Market Review

Ofgem's RMR recognised a static retail market structure with only one new supplier entering the market since 2008, and stagnating liquidity in the wholesale electricity market, particularly when compared to other European markets such as Germany. Ofgem believes power market liquidity, ease of market entry and retail market competition are linked. Ofgem suggests that in the present market vertical integration may confer competitive advantages related to improved risk management and lower collateral requirements. In addition, since the development of the N2EX exchange, there have been only "volatile and limited" increases in

trading volumes. Ofgem also identifies that the level of “churn” in the market has fallen since 2009.

The RMR proposed two main measures to improve liquidity through improving access to wholesale market products for new entrants and independent suppliers and generators.

Mandatory Auctions

The first proposal is to set a new license condition forcing the big 6 vertically integrated suppliers to make available between 10% and 20% of their generation into the market through a Mandatory Auction. Ofgem hopes that this will drive reference prices and support the ability of independent market participants to access the bulk of the wholesale products they need.

Mandatory Auctions are expected to cover both near term products and products further out including baseload, peaked and a small number of shaped products. Auctions would take place on a monthly basis with an independent trustee appointed to ensure that Ofgem’s objectives are being met. Mandatory sellers will be able to set reserve prices but measures will be taken so these are not set at levels that would frustrate the purposes of the auction. The trading platform to run the auctions will be selected by competitive tender. Ofgem has said that it wishes to see “fair and reasonable” trading arrangements (including collateral and credit arrangements) which do not frustrate the purposes of the auction.

Mandatory Market Making

The second proposal is to establish Mandatory Market Making arrangements. Under these, the Big 6 would be required to provide a bid and offer price for a small volume of power for a narrow range of traded products (e.g. baseload and peak). The collective market making obligation would cover 20-50MW in total. The Big 6 will be subject to a maximum bid/offer spread, to ensure the obligations of the scheme are not frustrated. Ofgem has said that it will support, and may require, the Big 6 to post their continuous bids and offers on a common platform. As with the Mandatory Auctions, Ofgem is looking for trading arrangements that do not frustrate its objectives to ensure that market participants are able to trade continuously and mitigate imbalance risks.

Ofgem has emphasised that these proposals should be seen against developments, such as greater integration in the European energy market. They cite in particular increased “market-coupling” under which interconnector operators make available unused capacity to power exchanges, a development that Ofgem thinks will drive greater liquidity in the day-ahead market. Ofgem also argues its proposals are aligned with requirements for greater transparency of trading resulting from other European legislative changes such as the Regulation on Energy Market Integrity and Transparency (REMIT), the review of the Market in Financial Instruments Directive (MiFID) and the European Market Infrastructure Regulation (EMIR).

Some commentators have suggested these measures require marginal and complicated changes to Big 6 behaviour without addressing the fundamental issue of self-supply. Another concern is whether these measures will “crowd out” innovative market-based solutions for independents provided by financial players and others.

In any case, important issues remain to be worked out with both schemes including the nature of the obligations on the Big 6, exactly what products will be supported and the platform to be used. The impact of financial regulation on the arrangements will also need to be addressed, particularly for further out products. Credit and collateral requirements in these arrangements will need to be considered.

Interestingly, HM Treasury^{vi} and FSA^{vii} are each currently consulting on aspects of the regulatory regime that will govern UK auctions of EU emissions allowances. There appear to be crossovers (but also some differences) between the work that will need to be done designing the competitive procurement process to appoint the UK auction platform for emissions allowances and the work further work DECC will need to do on these arrangements.

Conclusion

The Government's and Ofgem's proposals will make major changes to the UK electricity market. While much work still needs to be done on the proposals, and many key details still need to be worked out, it is clear that the prospect of the new mechanisms being introduced is already affecting trading decisions. While the proposals represent a wide-ranging attempt to reform the market, some commentators suggest the number and complexity of the different mechanisms being introduced at the same time creates a major risk of unintended consequences.

ⁱ Planning our Electric Future: a White Paper for secure, affordable and low-carbon electricity, Department of Energy & Climate Change, July 2011, Reference CM 8099

ⁱⁱ Electricity Market Reform – Consultation Document, Department of Energy & Climate Change, December 2010, Reference Cm 7983

ⁱⁱⁱ Carbon price floor: support and certainty for low-investment, HM Treasury and HM Revenue & Customs, December 2010

^{iv} The Retail Market Review – Findings and initial proposals, Ofgem, 24 March 2011

^v Ofgem's Retail Market Review – update and next steps (liquidity proposals), Ofgem letter to all stakeholders, 22 June 2011

^{vi} Regulating auctions of EU emissions allowances, HM Treasury, July 2011

^{vii} CP 11/14 - Auctioning of greenhouse gas emissions allowances, FSA, July 2011