

Briefing for the Scottish Parliament Economy, Energy and Tourism Committee in relation to its Inquiry into Security of Supply

Preamble

The CMA is the UK's primary competition and consumer authority. It is an independent non-ministerial UK government department with responsibility for carrying out investigations into mergers, markets and the regulated industries and enforcing competition and consumer law. The CMA is currently undertaking an investigation into GB energy markets, covering both gas and electricity and wholesale and retail markets.

We are aware that the Economy, Energy and Tourism Committee are currently considering the issue of security of supply with a particular focus on Scotland's energy needs. With respect to any interest the Committee may have in the CMA's investigation into energy markets, we are providing this briefing note on the provisional¹ findings of the investigation (that were published on 7 July) for information. We would draw particular attention to the scope of the investigation which looked at GB markets. Any conclusions reached in respect of the position in GB are expected to be relevant to and applicable to Scotland.

While the focus of our investigation is on competition within energy markets, there is recognition in our provisional findings of the policy context within which energy markets operate, which increasingly has had to balance the competing goals of ensuring security of supply, improving affordability and reducing emissions. In this briefing note we draw out particular competition aspects of policy interventions which the CMA investigation has considered that we think may be of relevance to the Committee's work. **Annex A** provides a summary of the provisional findings and possible remedies as a whole.

Background to the Investigation

In June 2014, Ofgem made a reference to the CMA for an investigation into the energy market. The terms of reference allowed the investigation to look at any competition issue connected with the supply or acquisition of gas and electricity in Great Britain, including both retail and wholesale markets (though only retail supply to households or microbusinesses is included).

The terms of our powers requires the CMA to decide whether 'any feature, or combination of features, of each relevant market prevents, restricts or distorts competition in connection with the supply or acquisition of any goods or services in the United Kingdom or a part of the United Kingdom'. If that proves to be the case, this constitutes an adverse effect on competition (AEC). When the CMA finds one or

¹ The final findings and remedies of the Investigation will be published in December 2015. The CMA notified its provisional findings and published its notice of possible remedies on 7 July 2015. Links to relevant documents are as follows: [CMA's Notice of Provisional Findings](#), [Summary of Provisional Findings](#), [Provisional Findings Report](#) and [Notice of Possible Remedies](#). These documents along with analyses conducted and evidence received by the CMA are available on the investigation's webpage at: <https://www.gov.uk/cma-cases/energy-market-investigation>

more AECs in a market, it is required to consider remedies to address the cause of the AEC or alleviate its effects.

As required under the Enterprise Act 2002, a Group was appointed from the CMA's independent pool of panel members, led by Roger Witcomb as Chair to lead the investigation. This Group, and not the CMA's senior executive or Board, are the decision-makers in respect of the investigation.

Provisional findings relating to security of supply

Several of the provisional conclusions that the Group has reached at this stage are relevant to security of supply, particularly provisional findings relating to wholesale electricity market rules and regulations. Perhaps the most important aspects of these rules from a security of supply perspective are: the principle of self-dispatch, which underpins current wholesale electricity markets in GB; Ofgem's recent reforms to imbalance prices; and DECC's introduction of a Capacity Market. The Group has not provisionally found AECs in relation to any of the above areas. The Group has provisionally found AECs in relation to the absence of locational pricing for transmission losses and the mechanism for allocating CfDs.

Customer behaviour can also have a bearing on security of supply, if customers have the ability and incentive to change demand in response to short term changes in wholesale prices. While this should be possible with the introduction of smart meters, it is unlikely to happen under the current settlement system. The Group has provisionally found AECs in relation to the settlement systems for both gas and electricity.

The provisional findings in relation to these areas are set out below. Other provisional findings – notably relating to retail markets, and the governance of the regulatory framework – are not directly related to security of supply, and are summarised in the appendix.

Self-dispatch

Economic dispatch is the process by which the optimal output of generators is determined at any point in time, to meet overall demand, at the lowest possible cost, subject to transmission and other operational constraints. The current dispatch mechanism in force in Great Britain, introduced by the New Electricity Trading Arrangements (NETA) / British Electricity Trading and Transmission Arrangements (BETTA) reforms, was designed as a self-dispatch wholesale electricity market, based on bilateral trading between generators and suppliers. This contrasts with the system that it replaced, the England and Wales 'Pool', which was centrally dispatched.

We have reviewed the principle of self-dispatch that underpins current wholesale electricity market arrangements and considered whether there may be benefits to competition from a move to a more centralised system of dispatch. Our provisional view is that this does not appear to be the case. We do not believe that the self-dispatch system in Great Britain, when compared with alternative dispatch systems, reduces price transparency or increases transaction costs. Nor have we found evidence of systematic technical inefficiency arising from self-dispatch.

Imbalance price reforms

Supplying electricity to consumers requires the constant matching of electricity supply with demand. Imbalance prices play a key role in wholesale electricity trading in Great Britain, providing incentives to generators and suppliers continually to match supply and demand. Under current market rules generators and suppliers are charged an imbalance price if, in any given half-hour period, they have produced less than (or consumed more than) the volumes of electricity covered by their contracts. Conversely, they are paid an imbalance price if they have produced more than (or consumed less than) the volumes of electricity covered by their contracts.

Ofgem has recently approved fundamental reforms to the system of imbalance prices under the Electricity Balancing Significant Code Review (EBSCR).

We consider the move to a single price for imbalances to be positive for competition, as it will eliminate the inefficient penalty that has previously been imposed on companies that find themselves in 'helpful' imbalance at any given time.

The reformed move to PAR 1 will involve setting the imbalance price in any given period equal to the cost of the 1MWh most costly action in the balancing mechanism, which is a narrowing of the base for the calculation from the current 500MWh. This reform is being phased in, with an opportunity to learn from the experience at PAR 50. Should this demonstrate that there are real problems with further tightening, the modification can be revisited. We suggest that Ofgem should use the opportunity of the move from PAR500 to PAR 50 to do a careful empirical analysis of the likely effects of a further move to PAR1.

We think Reserve Scarcity Pricing (RSP) (including the move to price disconnection or voltage reduction actions equal to the Value of Lost Load (VoLL)) will provide stronger incentives for contracting and forecasting ex ante, and some additional incentives for flexible generation and demand, but there is likely to be an irreducible element of risk that parties cannot directly control. While smaller parties are generally more exposed to imbalance volumes than larger parties, under single pricing they are as likely to benefit from an unexpected event as lose out. Further, the prevalent use by smaller suppliers of intermediaries should help any such risks be managed. Overall, while we have not seen strong evidence in favour of a move to RSP, we believe that there are insufficient grounds to consider that it is likely to lead to an AEC.

Capacity market

The Capacity Market was introduced by DECC to help ensure sufficient investment to meet future demand. In an energy-only market, potential investors in generation might be sceptical about their ability to recover the costs of their investment, since this would require prices to be allowed to spike to very high levels on the (rare) occasions of system stress. Under the Capacity Market, National Grid holds auctions to secure agreements from capacity providers (generation and DSR) to provide capacity when called upon to do so at times of system stress.

Our provisional view is that there are cogent arguments for introducing a capacity mechanism, to help ensure that an appropriate level of security of supply is

maintained. In particular, because it is based on a competitive process, this should help to improve incentives to invest in and maintain thermal generating capacity at a time of considerable policy change and provide greater incentives for demand-side response (DSR). We have found that since 2009 the Six Large Energy Firms have suffered significant impairment losses in relation to their conventional CCGT and coal generation fleet. Impairment losses are a clear indication that investors do not expect to fully recover the cost of past investments in these technologies.

A number of concerns were raised with us relating to specific aspects of the operation and design of the Capacity Market. Having considered these, our provisional view is that the design of the Capacity Market appears broadly competitive. As regards the recovery of Capacity Market costs and the Capacity Market penalty mechanism, our provisional view is that these are unlikely to give rise to an AEC.

Locational pricing in the wholesale electricity market

Energy is lost when electricity is transported from one part of the country to another. In addition, it is sometimes not possible to generate electricity from the cheapest source because of limits to the transmission network (constraints). The costs of both losses and constraints vary considerably by geographical location. For example, in an area with relatively low levels of demand and high levels of generation, consuming electricity will be associated with low losses and is unlikely to be subject to constraints, while generating electricity will be associated with relatively high losses and high likelihood of constraints. Despite this locational variation in the costs of losses and constraints, under the current regulatory regime, these costs are allocated to generators and consumers in a way that takes no account of their geographical location.

We have found that the current system of uniform charging for transmission losses creates a system of cross-subsidisation that distorts competition between generators and is likely to have both short- and long-run effects on generation and demand:

(a) In the short run, costs will be higher than would otherwise be the case, because cross-subsidisation will lead to some plants generating when it would be less costly overall for them not to generate, and other plants – which it would be more efficient to use – not generating. Similarly, cross-subsidies will result in consumer prices failing to reflect fully the costs of providing the electricity.

(b) In the long run, the lack of locational pricing may lead to inefficient investment in generation, including inefficient decisions over the extension or closure of plant. There could also be inefficiency in the location of demand, particularly high-consumption industrial demand.

The absence of locational pricing for losses is a feature of the wholesale market rules that we provisionally conclude constitutes an AEC.

Modelling conducted to inform consideration of a recent proposal to introduce locational charges for losses suggests that such a reform could lead to an efficiency benefit over ten years of somewhere between £160 million and £275 million. Introducing locational pricing for losses would also have a distributional effect, leading to transfers:

(a) from customers in areas of low generation relative to demand to customers in areas of high generation relative to demand (for example, the above modelling suggested that the reform would result in a transfer of just under £40 million a year from consumers in the South of England to those in Scotland and the North of England); and

(b) from generators in areas of high generation relative to demand to generators in areas of low generation relative to demand.

We have also considered whether the absence of accurate prices to reflect transmission constraints is a feature of the market that constitutes an AEC. From our initial analysis, this question is finely balanced, with reasons to see both costs and benefits. EU legislation requires this issue to be considered at regular intervals in the future. For these reasons, we have decided not to investigate it further.

Contracts for Difference

CfDs have been introduced to replace the RO as the main mechanism for incentivising investment in low carbon generation. Unlike the RO, which takes the form of a payment on top of the revenue generators receive from the wholesale electricity market, under CfDs, generators are paid the difference between a strike price (which is fixed in real terms) and a market reference price.

CfD payments are due to increase steadily, reaching about £2.5 billion a year by 2020/21. DECC has expressed the view that, by insulating low carbon generators from a fluctuating wholesale price, CfDs will allow them to manage risks more effectively, resulting in a lower cost of capital and, in the long run, lower costs to consumers. We have found that there is some evidence to support DECC's view that the more attractive risk properties of CfDs will encourage investors to accept a lower level of support per MWh of generation.

In our view, a central benefit of the move from ROCs to CfDs is that, while under the RO levels of support are set administratively, under CfDs competition can be used to set the strike price and hence the level of support provided to low carbon generators. By enabling a competitive process, CfDs should provide a more efficient means of providing support.

We therefore think that DECC's move to a competitive allocation process was a positive step towards ensuring an efficient allocation of support. The first competitive auction was held in 2015, resulting in prices considerably below the reserve price ('Administrative Strike Price'). We estimate that the amount of support to projects awarded CfDs in the first auction was approximately 25% lower than it would have been had CfDs been awarded to projects at their Administrative Strike Prices, saving consumers around £110 million a year.

The scale of the decisions being made and their impact on future bills mean that it is essential that support to low carbon generation is provided at least cost to consumers. The benefits of using a competitive allocation process are, in our view, clearly demonstrated by looking at the Final Investment Decision enabling for Renewables (FIDeR) scheme, under which contracts were awarded through a non-competitive process. In March 2013, DECC launched this scheme to award an early form of CfDs to renewable generation projects with the intention of avoiding investment delays during the transition to the enduring CfD regime.

We have compared the subsidy awarded to the offshore wind projects under the FIDeR scheme to the levels of subsidy awarded under the competitive auction. Our analysis suggests that the support cost per MWh to consumers of the offshore wind projects awarded under the FIDeR scheme was between 30 to 60% higher than the support cost of similar offshore wind projects awarded through competitive allocation a few months later. We estimate that DECC's decision to award a large proportion of the available CfD budget outside the competitive process under the FIDeR scheme is likely to have resulted in consumers paying substantially higher costs (approximately £250–£310 million per year for 15 years, equivalent to a 1% increase in retail prices). This provides a stark illustration of the additional costs that can be expected if the competitive process is circumvented. While DECC has highlighted the general benefits of providing greater certainty to investors, we have not seen any analysis of the specific benefits arising from supporting these projects early through FIDeR.

We are therefore concerned that some elements of the CfD allocation process currently in place potentially restrict the use of competition in setting the strike price in the future. Notably, the Energy Act 2013 gives DECC powers to award CfDs directly to parties through a non-competitive process in the future. While there will be some situations where competition may not be the most appropriate means by which contracts should be allocated (for example, where there is a very limited number of potential competitors), the experience of FIDeR shows that any proposal not to use a competitive process in the future needs to be considered carefully, transparently and in full recognition of the likely costs. Without this, there is a risk that future contracts may be awarded that do not deliver value for money for customers.

We have also reviewed two important aspects of the approach DECC has taken to the competitive allocation of CfDs. Specifically, we have considered the division of the technologies into separate 'pots', whereby DECC separates different technologies for the purposes of the competitive process; and we have also considered the way that budgets are allocated into each of these pots. Decisions on both of these parameters influence the intensity of competition and the level of support provided through the scheme.

While there could be reasons, based on economic efficiency, for different technologies to be separated out, these decisions need to be carefully made, given the potential impact on competition and future prices. Regarding the division of technologies into pots, we have not received evidence from DECC demonstrating how its preferred option would result in the best outcome for consumers. Nor have we been made aware of significant analysis undertaken by DECC on the rationale for its decision on how to allocate the budget between the pots. Going forward, we believe it is important that DECC regularly monitor the division of technologies into

pots and provide for each auction a clear justification for the allocation of budgets between pots to ensure that an appropriate amount of support is allocated to technologies at different stages of development.

Overall, while DECC's introduction of CfDs represents a positive step towards an efficient competition-based process, in light of these concerns and the potential impact on future bills we have reached a provisional finding that the mechanisms for allocating CfDs are a feature giving rise to an AEC.

Settlement

Settlement is the system by which disparities between the volumes of energy covered by suppliers' contracts and the volumes their customers actually use are identified, reconciled and paid for. Accurate and timely settlement is fundamental to well-functioning retail energy markets. However, we have concerns that elements of the settlement systems of both gas and electricity lead to inaccuracies and delays that distort competition between energy suppliers.

Our provisional finding is that the current system of gas settlement gives rise to an AEC in the domestic retail gas market through the inefficient allocation of costs to parties and the scope it creates for gaming, which reduces the efficiency and, therefore, the competitiveness of domestic retail gas supply.

Our main concern in relation to electricity settlement is that the current profiling system of settlement distorts supplier incentives (compared with a system of settlement based on customers' actual half-hourly consumption). The use of profiling to estimate each supplier's demand fails to charge suppliers for the true cost of their customers' consumption – costs that can differ considerably at different times of the day. This means that suppliers are not incentivised to encourage their customers to change their consumption patterns, as the supplier will be charged in accordance with the customer's profile. This in turn may distort suppliers' incentives to introduce new products such as time-of-use tariffs.

In principle, smart meters should remove the need for profiling in electricity, since they provide accurate half-hourly meter reads which could be used for settlement. However, there are currently no concrete proposals for using half-hourly consumption data in the settlement of domestic electricity customers, even after the full roll-out of smart meters.

Our provisional finding is that the absence of a firm plan for moving to half-hourly settlement for domestic electricity customers is a feature of the market for domestic and SME retail electricity supply in Great Britain that gives rise to an AEC through the distortion of suppliers' incentives to encourage their customers to change their consumption profile, which overall reduces the efficiency and, therefore, the competitiveness of domestic retail electricity supply.

Annex A Summary of provisional findings and possible remedies

The CMA's Energy Market Investigation provisionally has found the following features of the markets under investigation give rise to an Adverse Effect on Competition (AEC):

- 1. the absence of locational pricing for transmission losses in the wholesale electricity market, as it is likely to distort competition between generators and to have both short- and long-run effects on generation and demand**

Remedy - Introduction of a new standard condition to electricity generators', suppliers', interconnectors', transmission, and distribution licences to require that variable transmission losses are priced on the basis of location in order to achieve technical efficiency

- 2. the mechanisms for allocating CfDs in the wholesale electricity market, through increasing the risk of inefficient allocation of financial support to generation capacity and which adversely impacts competition**

Remedy – DECC to undertake and consult on a clear and thorough impact assessment before awarding any CfD outside the CfD auction mechanism.

Remedy - DECC to undertake and consult on a clear and thorough assessment before allocating technologies between pots and the CfD budget to the different pots

- 3. weak customer response in the markets for domestic retail supply of gas and electricity, which gives suppliers a position of unilateral market power concerning their inactive customer base which they are able to exploit through their pricing policies or otherwise**

Remedy – Measures to address barriers to switching by domestic customers

Remedy – Requirement that energy firms prioritise the roll-out of smart meters to domestic customers who currently have a prepayment meter

Remedy – Ofgem to provide an independent price comparison service for domestic (and microbusiness) customers

Remedy – Measures to provide either domestic and/or microbusiness customers with different or additional information to reduce actual or perceived barriers to accessing and assessing information

Remedy – Measures to prompt customers on default tariffs to engage in the market

Remedy – A transitional 'safeguard regulated tariff' for disengaged domestic and microbusiness customers

- 4. a number of policy interventions, including the 'simpler choices' component of the Retail Market Review rules (the ban of complex tariffs, the maximum limit on the number of tariffs that suppliers will be able to offer at any point in time, and the simplification of cash discounts)**

Remedy – Remove from domestic retail energy suppliers’ licences the ‘simpler choices’ component of the RMR rules

5. aspects of the regulatory framework in relation to gas and electricity settlements

Remedy – Requirement to implement Project Nexus in a timely manner

Remedy – Introduction of a new licence condition on gas shippers to make monthly submissions of Annual Quantity updates mandatory

Remedy—Requirement that domestic and SME electricity suppliers and relevant network firms agree a binding plan for the introduction of a cost-effective option to use half-hourly consumption data in the settlement of domestic electricity meters

6. weak customer response in markets for retail supply of gas and electricity to microbusinesses which, in turn, give suppliers a position of unilateral market power concerning their inactive microbusiness customer base which they are able to exploit through their pricing policies or otherwise

Remedy – Ofgem to provide an independent price comparison service for domestic (and microbusiness) customers

Remedy – Measures to reduce actual and perceived barriers to accessing and assessing information in the SME retail energy markets

Remedy - Introduction of a new requirement in the licences of retail energy suppliers to provide price lists for microbusinesses on their own websites and to make this information available to PCWs

Remedy – Introduction of rules governing the information that TPIs [spell out] are required to provide to microbusiness customers

Remedy – Introduction of a new requirement into the licences of retail energy suppliers that prohibits the inclusion of terms that permit the auto-rollover of microbusiness customers on to new contracts with a narrow window for switching supplier and/or tariff

Remedy – Measures to provide either domestic and/or microbusiness customers with different or additional information to reduce actual or perceived barriers to accessing and assessing information

Remedy – A transitional ‘safeguard regulated tariff’ for disengaged domestic and microbusiness customers

7. a lack of robustness and transparency in regulatory decision-making which, in turn, increases the risk of poor policy decisions which have an adverse impact on competition

Remedy – Remedy to improve the current regulatory framework for financial reporting

Remedy – More effective assessment of trade-offs between policy objectives and communication of impact of policies on prices and bills

Remedy — Revision of Ofgem’s statutory objectives and duties in order to increase its ability to promote effective competition

8. industry code governance, which limits innovation and causes the energy markets to fail to keep pace with regulatory developments and other policy objectives

Remedy – Recommendation to DECC to make code administration and/or implementation of code changes a licensable activity

Remedy – Granting Ofgem more powers to project-manage and/or control timetable of the process of developing and/or implementing code changes

Remedy – Appointment of an independent code adjudicator to determine which code changes should be adopted in the case of dispute