Economic annex: CAP170 competition assessment

Note prepared for ScottishPower

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1 Introduction

1.1 In general, impact assessments and justifications for new regulations that restrict the commercial freedoms of market participants should be accompanied by an analysis of markets and competition in accordance with the relevant economic principles.

1.2 In the case of CAP170, Ofgem has not undertaken a thorough assessment of this type.[1] Indeed it is striking that CAP170 proposes to address concerns over inefficient market outcomes, and to introduce mandatory provision of a system balancing service (ie, intertrips) at regulated prices when 'a detailed market definition exercise has not been carried out'.[2] Defining the relevant market is one of a number of critical steps necessary for the design of regulatory interventions that are both effective and efficient.

1.3 Moreover, Ofgem admits that it has 'not specifically undertaken an analysis of the economic costs of intertrip provision',[3] or investigated the merits of alternative remedies. Consequently, Ofgem has not fully accounted for the potential impacts of extending administered intertrips on the wider balancing services market, and it has not demonstrated that CAP170 would be a proportionate response.

1.4 A related concern with Ofgem's 'competition analysis' appendix is its presentation of contradictory analysis. For example, Ofgem's assessment of the effectiveness of competition in the context of the balancing services market relies on prices from a wider set of substitutable products, whereas the assessment of the relevant market appears to present evidence suggesting that the focus should be on intertrip services alone. The structure of

[1] ScottishPower highlighted the need for an analysis of this kind in earlier correspondence with Ofgem. See ScottishPower (2009), 'CAP170 Consultation and Impact Assessment: Frontier Economics Study presented to OFGEM on 12 June 2009', letter from James Anderson to Lesley Nugent, November 17th.
[2] Ofgem (2010), 'CAP170: current thinking and further consultation on competition issues – reference number 11/10', January 26th, para 1.12.
[3] Ibid., para 1.24.

Ofgem's competition analysis therefore lacks transparency, as it is unclear why CAP170 only targets intertrip services when applying an ex ante regulatory remedy. This is particularly puzzling, since Ofgem specifically raises competition concerns in relation to both import and export constraints—and yet intertrips can only be used to resolve export constraints.

1.5 This appendix sets out the three key stages required in an analysis of markets and competition, and provides evidence that Ofgem has so far failed to consider these. This is in addition to earlier comments on the economic analysis provided by Ofgem in previous consultations on CAP170.[4] The stages considered in this appendix include:

- defining the relevant market (section 2);
- evaluating effective competition in the relevant market (section 3);
- assessing the need for a particular regulatory intervention, including assessing the effects of both ex ante and ex post regulations (section 4).

1.6 Finally, section 5 provides a summary of specific concerns related to the competition analysis appendix in Ofgem's second further consultation on CAP170.

2 Defining the relevant market

2.1 A thorough assessment of what is the relevant market should form a critical step in the process to determine whether there is a need for the type of regulatory intervention proposed by CAP170.

2.2 The OFT/Ofgem guidance on the application of competition-based analysis in the energy sector sets out that market definition is a key step in identifying competitive constraints within a market, and will normally contain product, geographic and temporal dimensions.[5]

2.3 Ofgem's January consultation does not provide sufficient rigour in the definition of the market along any of these three dimensions. The key deficiencies are summarised below.

- **Product market definition**. Ofgem does not give sufficient weight to the statements provided by National Grid that it can, and does, substitute intertrip with other mechanisms by which to control the output behind a constrained boundary, nor has it presented an assessment of the observed use of alternative services.[6] Ofgem's statement on the geographic market also reverts to a product market for 'balancing services', which is inconsistent with CAP170 as it focuses solely on commercial intertrip.[7] Indeed, later in its assessment, Ofgem acknowledges that a wider 'balancing power' market exists when presenting observed prices for a range of balancing services as 'these products are substitutes for each other and all can be used to resolve constraints in Scotland'.[8]

- **Geographic market definition**. Ofgem's analysis incorrectly refers to pivotality analysis —which is a measure of market power—to assess the geographic boundaries of the market. Pivotality analysis examines the dependence on a particular generator to satisfy demand within a given market, as opposed to techniques that examine the substitution possibilities required for market definition.

[4] Oxera (2009), 'Updated Assessment of the Economic Analysis of the Impact of a Category 5 Operational Intertripping Scheme', August 25th; Oxera (2009), 'CAP170 Draft Response: Economic Annex', July 2nd.
[5] OFT/Ofgem (2005), 'Application in the energy sector: understanding competition law', January.
[6] See National Grid (2009), 'BSIS 08/09 cost drivers update', August, p. 22; and National Grid (2009), 'Procurement Guidelines Report: 1st April 2008 to 31st March 2009', May 12th.
[7] Ofgem (2010), 'CAP170: current thinking and further consultation on competition issues – reference number 11/10', January 26th, footnote 14, p. 10.
[8] Ofgem (2010), 'CAP170: current thinking and further consultation on competition issues – reference number 11/10', January 26th, para 1.19.

– **Temporal market definition**. Despite its concern with rising constraint costs, and concern over possibility of exploitation of market power during times of constraint, Ofgem omits analysis of the nature of competition in different time periods.[9]

2.4 As a result of these deficiencies, the proposal and Ofgem's competition analysis lack both *transparency,* as it is not clear why a particular balancing service is to be singled out, and evidence of *proportionality*, since the rationale for regulatory intervention in an evolving market and an assessment of addressing the temporal competition concerns have been omitted.

2.5 The effect of these deficiencies is to propose a reform that is inconsistent with the prospective Market Power Licence Condition (MPLC), which is both time-limited and relates to periods of constraint only.[10] This provides further evidence that CAP170 is disproportionate (particularly if it were to become a permanent change in regulation) and poorly targeted (since it would affect services that are substitutes for a range of other balancing services). These issues are discussed further in section 3.

2.6 The analysis that might reasonably have been expected within Ofgem's assessment is set out below.

Substitution possibilities among balancing services

2.7 Ofgem provides contradictory statements in its assessment of the relevant product market: it has suggested that the market for 'balancing power' includes commercial intertrip contracts, but that intertrip services may be independent of competitive pressure from other balancing services.[11]

2.8 A separate market for intertrip is at odds with the rationale that underpins the MPLC, for which the Energy Bill explanatory notes set out that, in order to balance the system, National Grid may accept BM bids and offers, and may also enter into bilateral contracts with companies, which includes services such commercial intertrip (as well as capped PNs).[12]

2.9 A wider market is also supported by statements by National Grid, which explicitly recognises the substitution possibilities of commercial intertrip and alternative actions. National Grid's Monthly Balancing Services Summary states that it 'resolves constraints in the GB Transmission System through different mechanisms, including bids and offers in the Balancing Mechanism, PGBTs, trades and SO-SO actions.'[13] Similarly, National Grid's August Cost Drivers Update sets out two alternative options to resolve constraints:[14]

– Option A: to accept bids above an export constraint; and
– Option B: to arm commercial intertrip.

2.10 As mentioned above, Ofgem acknowledges that a wider 'balancing power' market exists when presenting observed prices for a range of balancing services as 'these products are substitutes for each other and all can be used to resolve constraints in Scotland'.[15]

[9] For example, it is unclear from the analysis presented whether Ofgem believes that the focus of its concerns and proposed regulatory solutions should be during times of constraint, and how that relates to the time at which contracts for commercial intertrip are negotiated.
[10] The Energy Bill Explanatory Notes describe the actions to be monitored and acted upon during transmission-related 'constraints'. See Energy Bill (2009), 'Explanatory notes', para 90.
[11] Ofgem (2010), 'CAP170: current thinking and further consultation on competition issues – reference number 11/10', January 26th, para 1.13 and 1.14.
[12] Energy Bill (2009), 'Explanatory notes', para 92.
[13] National Grid (2010), 'Monthly Balancing Services Summary 2009/10', December. p. 20.
[14] National Grid (2009), 'BSIS 80/09 Cost Drivers Update', August, p. 22.
[15] Ofgem (2010), 'CAP170: current thinking and further consultation on competition issues – reference number 11/10', January 26th, para 1.19.

Defining the relevant market: Additional analysis required

2.11 Despite its statements reiterated above, Ofgem provides an incomplete qualitative assessment—from which it concludes that intertrip 'may be, to some extent, independent of competitive pressure from other balancing services'.[16] However, Ofgem's analysis does not follow a systematic assessment process that would be required to determine the extent of substitution possibilities. More importantly, the relevant question from a market definition perspective is whether National Grid would be able (and willing) to substitute between alternative balancing services, which the statements above confirm is the case. A more robust approach would assess the following.

– **Consideration of the physical substitution possibilities.** Ofgem draws the distinction that intertrips allow power to continue to flow from an export-constrained region (unlike other services). However, this may be dependent on the network topology of a specific constrained boundary, and it may not be applicable to other boundaries.

– **The influence of price on substitution possibilities.** Ofgem asserts that intertrip avoids the 'spread' between BM bids and offer prices, which can lead to relatively lower costs associated with intertrip. Ofgem suggests—since intertrips are less costly than resolving constraints through the BM—that BM bids and offers do not provide a competitive constraint on intertrip pricing. However, the implications of this for possible substitution opportunities are not fully explored, since there are several additional balancing services that could provide a competitive constraint on intertrip pricing. For example, Ofgem could have considered a much wider range of possible substitutes, including capped PN contracts, PGBTs, trades and SO-SO actions and the competitive interactions between them. Importantly, a number of these alternatives do not incur the 'spread' between BM bids and offers—something that Ofgem fails to consider.

2.12 Given the critical nature of establishing the relevant market in order to assess whether there is a need for mandatory intertrip provision and administered pricing of existing commercial intertrips, Ofgem might reasonably have been expected to provide analysis within the following areas:

– changes in the relative shares of alternative services over time and the drivers of those shares; and
– the nature of risks borne by National Grid and companies in the provision of alternative balancing services, and the impact this may have on prices.

2.13 Outturn volumes and prices of competing products are likely to be affected both by shifts in demand for total balancing services, and changes in joint and common costs of production, as well as competition and substitution between products, and as such careful consideration of these dynamics is required.

2.14 The evidence below points to a market *at least as wide* as that for balancing services, and highlights the areas of omission from Ofgem's analysis.

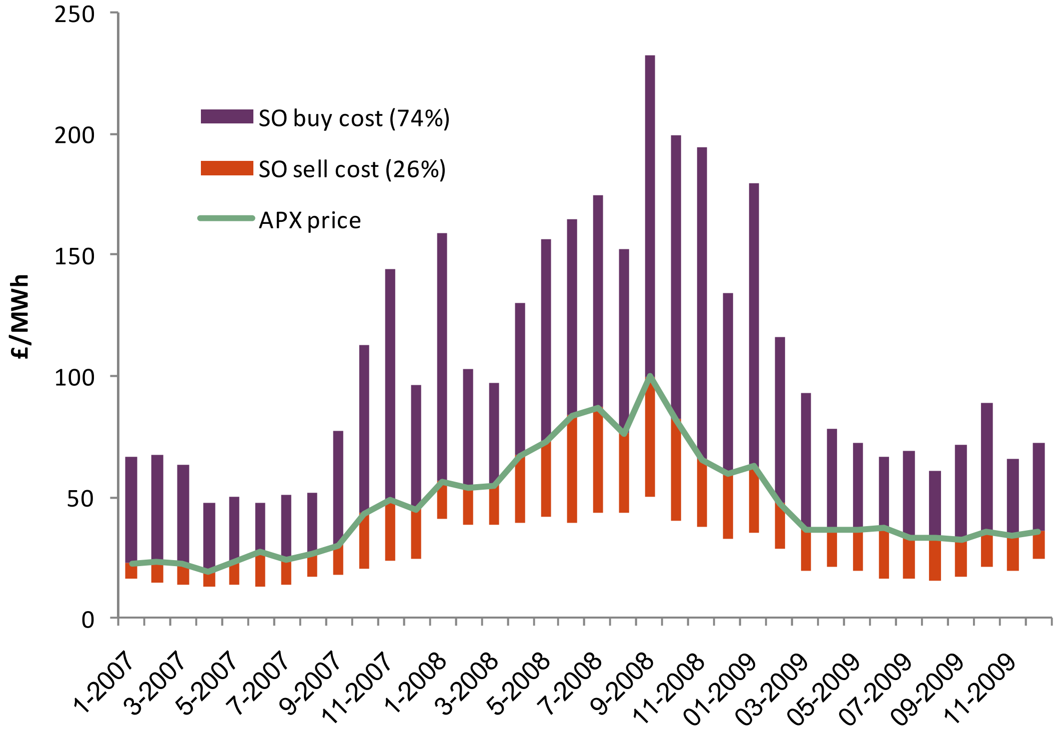
Factors relevant to pricing of balancing services

2.15 As set out above, the common feature between the provision of intertrip and other competing services is the ability to manage constraints behind a particular boundary to enable safe operation of the transmission network. Ofgem does not comment on the role that contract prices have in its analysis, nor why it does not analyse drivers of BM bids, which relate directly to the provision of balancing services behind an export-constrained boundary.

[16] Ofgem (2010), 'CAP170: current thinking and further consultation on competition issues – reference number 11/10', January 26th, para 1.14.

2.16 Figure 1 shows the decomposition of BM costs and highlights that the relevant bid-cost is around 25% of the total BM spread (referred to in Ofgem's analysis).

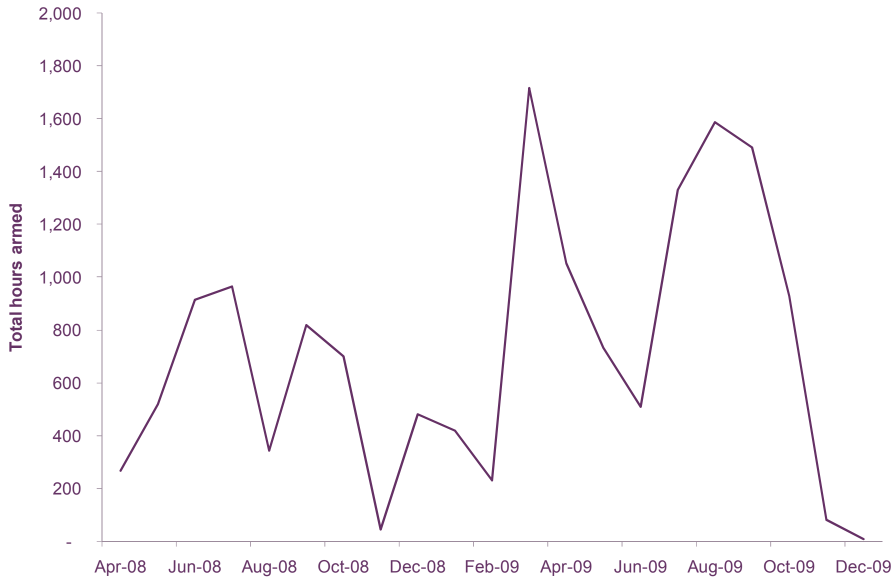
Figure 1 Decomposition of BM costs



Source: BMRA database, Bloomberg and Oxera analysis.

2.17 Figure 2 shows monthly changes in the number of intertrip hours armed. This shows that the number of hours armed is far from constant. In particular, it shows that the number of hours during which intertrip was armed fell in summer 2008 and 2009, despite the large transmission outage programme and sustained constraint periods (highlighted in Ofgem's Figure 2). This reduction in the number of hours armed coincides with increased use of other competing ancillary service contracts by National Grid (especially capped PNs), and therefore points to demand-side substitution on the part of National Grid.

Figure 2 Substitutability of commercial intertrip



Source: National Grid.

2.18 As noted above, Ofgem fails to recognise that competing products that also help to limit the output behind a constrained boundary provide National Grid and the relevant generators with alternatives to manage the risks associated with transmission constraints. The following points are important to note in this regard:

- the acceptance of BM bids is associated with a one-off reduction in output by the generator and certainty of payment (at the time of acceptance) for that service;
- contracts for the provision of commercial intertrip are completed in advance of National Grid's requirements being realised, and they may be structured in several ways. For example, generators may be remunerated through a fixed capability-related fee, together with arming and tripping payments, depending on their use. Generators thereby receive a degree of certainty over balancing services revenue through the capability fee, but face uncertain cost risks that depend on intertrip use and the impact on plant maintenance; and
- capped PN contracts provide greater certainty to generators and National Grid over the availability of the relevant plant and associated payments, but limit the plant's ability to compete in the forward market.

2.19 The above points suggest that observed intertrip pricing should reflect the various risks faced by different providers, as well as the relative costs of competing products. It also highlights that restricting the pricing strategies of providers of commercial intertrip (eg, by imposing administered prices) would be likely to hinder their ability to manage these risks. If such a regulatory intervention into the balancing services market were inappropriate, it could limit new market entry, and undermine the development of competition and further innovation.

3 Evaluating effective competition

3.1 The inconsistency in Ofgem's market definition and competition analysis is made apparent by the fact that it concentrates largely on BM price differentials in its assessment of the competition concerns—rather than intertrips, which is the focus of CAP170.

3.2 As mentioned in the introduction to this annex, concerns over the observed prices for some balancing products (eg, BM bids/offers) cannot always be addressed through administered intertrip prices.[17] Indeed, Ofgem states that intertrip contracts can 'only be used to resolve export constraints',[18] which highlights the irrelevance of the evidence it presents on BM offers (in Figure 1 of Ofgem's competition analysis appendix). If CAP170 is intended to address the level of BM prices during times of constraint (including export and import constraints), it cannot be regarded as either appropriately targeted or proportionate.

3.3 There are a number of other areas where, on the basis of its own analysis, Ofgem has not established the relevance of the analysis it presents.

- First, given that Ofgem's Competition Act investigation was closed and the probability of finding an infringement was deemed to be low,[19] the reasons for presenting analysis on BM offers in constrained and unconstrained periods (in Figure 1 of Ofgem's competition analysis appendix) and BM bids (in Figure 2 of Ofgem's competition analysis appendix) compiled for that investigation are not made clear. An assessment of why Ofgem continues to judge there to be a need for CAP170 in light of the proposals to introduce the MPLC would also appear warranted.

- Second, there is not sufficient explanation to link Ofgem's conclusion on the effectiveness of competition with the evidence it presents on BM price differentials. Specifically related to Ofgem's analysis on the effectiveness of competition, further clarity would appear necessary in the following areas (it should be noted that the following points related to the analysis and presentation of market data, and the absence of explanations over the limitations of this evidence highlights an apparent lack of statistical and methodological rigour in the data exercises in the competition appendix to Ofgem's second further consultation on CAP170):

  - average coal bid and offer prices for England and Wales plant are calculated as the average of around 15 power plants—compared to two in Scotland—which would be expected to lead to considerably more variation in the average prices presented for Scotland than in England and Wales, all else being equal. Consequently, the smaller sample size in Scotland could be an alternative explanation for the volatility in BM price differentials;

  - given the smaller sample size in Scotland, plant-specific operating factors (such as maintenance programs, plant efficiency, and co-firing decisions) are likely to have a greater impact on observed prices; and

  - the analysis presented shows that the extent of BM price differentials varies both within and between constrained periods, and that large price differences in the opposite direction exist in other periods, for which Ofgem does not provide any discussion or explanation.

3.4 Looking forward, the reason for Ofgem's concern over the sustainability of competition is not clear. Significant weight appears to have been given to the claim that National Grid considers that 'the reduction [in prices] is primarily due to the regulatory attention that has been focused on the constraint costs issue and that the prices achieved this year are unlikely to be

[17] This highlights the general concern over potential asymmetries in the substitution possibilities between different balancing services—something that is not considered by Ofgem. It is therefore conceivable that intertrips may not act as a competitive constraint on BM bids and offers in some circumstances, yet BM bids and offers could nonetheless provide a competitive constraint on intertrip pricing.

[18] Ofgem (2010), 'CAP170: current thinking and further consultation on competition issues – reference number 11/10', January 26th, para 1.10.

[19] Ofgem (2009), 'Competition Act investigation into Scottish Power and Scottish and Southern Energy', January 19th.

sustained'.[20] However, Ofgem has subsequently confirmed that National Grid considers this to be just a 'possible explanation'.[21] An equally plausible explanation is that National Grid did not take the necessary long-term steps to plan and manage the procurement of constraint services in 2008/09, and that its procurement practices seem to have improved significantly since then (as described in Annex 3). If this were the case, price reductions would be expected to continue, and constraint costs may be expected to decline further.

Evaluating effective competition: Additional analysis required

Due to Ofgem's incomplete market definition exercise, an assessment of competition cannot be undertaken in a robust manner. It is equally unclear what cost and price estimates would provide an appropriate benchmark to assess 'excessive' pricing of intertrips or other balancing services in different periods and at different network locations. Ofgem states that prices for balancing services might be expected to be near the avoidable cost of the marginal generator.[22] However, this highlights two areas of omission within the analysis:

- the marginal balancing service within the relevant market with which to make comparisons has not been established;
- an assessment of the relevant costs of products within the applicable market has not been presented.

3.5 Given that Ofgem's concern relates to prices, there is clear precedent from the European Court of Justice (ECJ) that excessive pricing relates to a price that 'has no reasonable relation to the economic value of the product'. The ECJ suggests that the question to be asked is:

> whether the difference between the costs actually incurred and the price actually charged is excessive, and if the answer to this question is in the affirmative to consider whether a price has been charged which is either unfair in itself or when compared to other competing products [23]

3.6 This suggests that the first step in an assessment of market outcomes should be to undertake a detailed analysis of costs (including the opportunity cost) of the product. Ofgem acknowledges that it has not 'undertaken an analysis of the costs of intertrip provision',[24] and as such its consultation fails to consider several cost considerations that would appear relevant, including the following.

- **Opportunity costs are likely to be significant.** Ofgem refers only to the opportunity cost associated with lost BM revenues in providing intertrip.[25] However, both anticipated maintenance from plant tripping, as well as lost power sales and future balancing revenues from such damage are relevant. The scale of such impacts is discussed in more detail in the Annex 3.

- **Rates of return are relevant.** Due to the difficulties in apportioning the costs of production across multiple joint products (eg, forward power, balancing power, and frequency response) and the volatility of electricity prices, the assessment of the return on capital employed over a sufficiently long period is arguably the most appropriate way

[20] Ofgem (2010), 'CAP170: current thinking and further consultation on competition issues – reference number 11/10', January 26th, para 1.23, footnote 16.
[21] Ofgem (2010), 'RE: CAP170 – Queries on Impact Assessment and Further Consultation Letter', email correspondence from Lesley Nugent to Gerry Hoggan, February 15th.
[22] Ofgem (2010), 'CAP170: current thinking and further consultation on competition issues – reference number 11/10', January 26th, para 1.23.
[23] Case 27/76 *United Brands v. Commission* [1978] E.C.R. 207; [1978] 1 C.M.L.R.429.
[24] Ofgem (2010), 'CAP170: current thinking and further consultation on competition issues – reference number 11/10', January 26th, para 1.24.
[25] Ofgem (2010), 'Response to questions raised by industry participant in relation to Ofgem's consultation on CAP170', February 9th.

to assess whether revenues have consistently exceeded costs, including financing costs. Indeed, as set out in the OFT/Ofgem guidance, given the frequency of short term price spikes—both in power prices and underlying commodity costs in response to both changes in supply and demand (as well as changes to expected prices)—analysis over shorter periods can be misleading.

3.7 The second step in the analysis would then be to compare the prices offered for a particular product with those of competing products.

3.8 Ofgem has omitted to provide a cost assessment and has then compared prices of arbitrarily selected products from providers that are assumed to have similar costs—eg, BM bids from other coal plants (as seen in Table 3 of Ofgem's competition analysis appendix)—although the basis for this assumption is not made explicit. This is despite Ofgem's acknowledgement that the relevant comparison between service offerings should be with the marginal generator.[26]

3.9 The prices of alternative products would appear relevant to the assessment of intertrip prices given the substitution possibilities noted above, and observations of innovation and entry within the market for balancing services. Although it was not included in Ofgem's second further consultation letter (or its competition analysis appendix), it would therefore be reasonable for Ofgem to have considered historical market developments (including changes in National Grid balancing services procurement practices) in this context.

3.10 Recent developments in the provision of balancing services highlights the potential for further competition and innovation in the balancing services market. For example, recent entry from a new provider in Scotland, greater variety in some services contracts, and developments in tendering practices by National Grid indicate the emergence of an efficient market.[27] In turn, this would be expected to lead to more active price-based competition, and greater examples of tenders for such services being won and lost by competing providers. Details of this are provided in the Annex 3. Ofgem's analysis fails to consider these points, and as such does not examine the nature of competition between providers of balancing services with different cost characteristics.

3.11 Despite this, in its assessment of competition for balancing services, Ofgem appears to place undue weight on its limited assessment of market shares behind the Cheviot boundary. Due to Ofgem's limited analysis on the scope for substitution, its conclusions on the extent of intertrip provision appear to be based on the assertion that, in practice, only one plant is 'key' due to its location.[28] This omits a serious consideration of past market outcomes, in which price-based competition has resulted in plant competing to win recent ancillary services contracts. Again, details of this are presented in Annex 3.

3.12 Regarding other potential derogated boundaries, recent work commission by DECC suggests that there is scope for a number of additional transmission boundaries to be derogated in future, including the B1, B4, B6, B7a (and possibly B8 and B9) boundaries.[29] Ofgem provides no indication of the extent of competition concerns it may or may not expect to be present, and the relevance of CAP170 to those conditions.

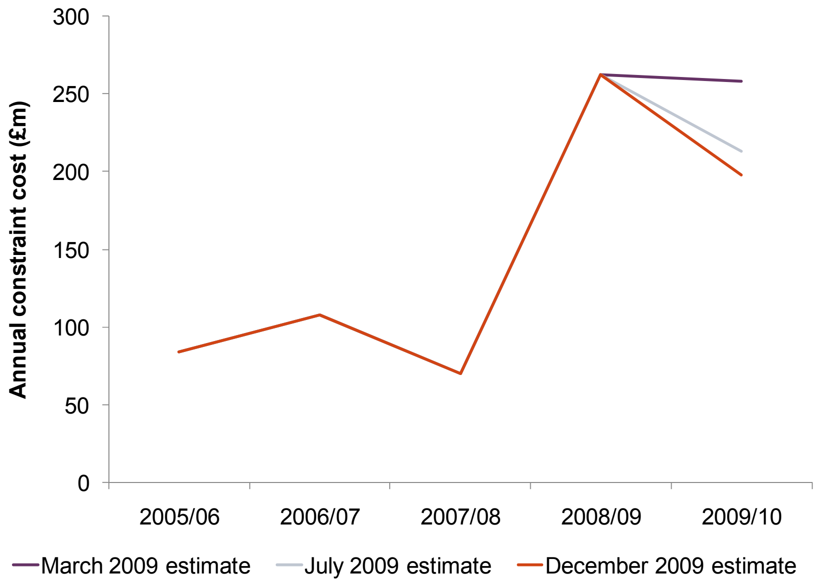
3.13 Therefore, before finalising CAP170 further analysis of the following would be required:

[26] Ofgem (2010), 'CAP170: current thinking and further consultation on competition issues – reference number 11/10', January 26th, para 1.23.
[27] Indeed, National Grid states that it 'will seek to, where it proves economic and efficient to do so, enter into Commercial Intertrip schemes to manage system issues'. The clear implication of this is that existing commercial intertrips are economic and efficient. See National Grid (2009), 'Procurement Guidelines Report: 1st April 2008 to 31st March 2009', May 12th, p. 22.
[28] Ofgem (2010), 'CAP170: current thinking and further consultation on competition issues – reference number 11/10', January 26th, para 1.22.
[29] Redpoint Energy (2010), 'Improving Grid Access: Modelling the Impacts of the Consultation Options', January.

– an assessment of the number of potential derogated boundaries and their location;
– the extent to which constraints may occur on those boundaries;
– the number and type of generating plant (including potential entrants) likely to be located behind those boundaries;
– the scope for the provision of balancing services by renewable generation; and
– the reasons for concerns that there may not be sufficient competition or further innovation in the offerings provided by those generators.

3.14 The development of new balancing services at potential derogated boundaries might be expected to develop as constraint costs rise and the price signal induces a supply response. Indeed, Figure 3 shows the evolution of constraint costs over the last 5 years, and highlights that development of new products has coincided with increased market opportunities arising from the increase in constraint volumes.

Figure 3 Historic and forecast constraint costs



Source: Ofgem.

4 Assessment of regulation, including ex ante vs. ex post intervention

4.1 It is accepted regulatory best practice that the introduction of any new regulation should be the minimum necessary to address a legitimate policy objective, such as addressing an identified market failure.[30] This regulatory best practice is based on the principle that fair and effective competition is likely to result in greater overall efficiency and greater benefits to consumers in the long run. For example, the Competition Commission noted in 2007 that:

> 'GEMA submitted [to the Competition Commission] that the UK experience of liberalization and regulation in utility markets demonstrated that competition and

[30] This is a principle adopted formally by competition authorities and national regulatory authorities in several sectors. For example, Directive 2002/21/EC establishes a common regulatory framework for electronic communications networks and services, and identifies the need for proportionality in the application of ex ante regulation.

nondiscriminatory access to infrastructure have the potential to generate significant benefits for consumers.'[31]

4.2 Given that the above principle would also be expected to apply to regulation of GB markets for wholesale electricity and balancing services, a major concern with the potential introduction of CAP170 is its overlap with the prospective MPLC set out in the Energy Bill.

4.3 As noted by DECC in its Energy Bill impact assessment, the MPLC is designed to address potential market power held by wholesale market participants at times of network constraint by facilitating Ofgem in exercising its competition enforcement powers.[32] The MPLC is designed to:

> 'provide a targeted and proportionate provision that will address the exploitation of market power whilst avoiding unnecessary uncertainty in the electricity wholesale market in Great Britain which could undermine investment in generation and, hence, security of energy supply'[33]

4.4 It is also important to note that the Energy Bill impact assessment identifies the potential for excessive pricing of BM bids and intertrips during export constraints as specific market concerns to be addressed by the MPLC.[34] Furthermore, the above objectives are to be supported by the implementation of three key safeguards, including a 'sunset' clause limiting the application of the MPLC to (at most) seven years, the inclusion of an appeals route to the Competition Appeals Tribunal, and the requirement for Ofgem to develop appropriate enforcement guidance.

4.5 It is clear that the implementation of CAP170 could undermine the above aims of the MPLC by introducing unnecessary and greater uncertainty into electricity markets by making the provision of intertrip services at administered prices mandatory for certain generators. Crucially, this form of ex ante regulatory intervention would interfere with prices and volumes in the wider balancing services market. In turn, this could have important implications for generation investment incentives.

4.6 It is therefore surprising that Ofgem has failed to undertake the necessary analysis (as set out in section 1 and 2 of this annex) to identify the rationale for further regulatory intervention beyond the MPLC and the likely impacts of CAP170 being applied to current and future constrained boundaries. For example, in order to quantify the benefits of CAP170 it would be necessary for Ofgem to demonstrate that the benefits of CAP170 would be additional to the benefits expected from introduction of the MPLC.

Ex ante vs. ex post intervention

4.7 As emphasised above, implementation of CAP170 would involve significant changes in the form of regulation applied to the electricity wholesale and balancing services markets. In general, CAP170 represents a movement along a notional spectrum of regulatory interventions that may be characterised as extending between pure ex ante and pure ex post regulatory regimes:[35,36]

– the current regulatory regime governing the balancing services market is closer to being a pure ex post regime since it is mainly governed by the competition law enforcement;

[31] Competition Commission (2007), 'E.ON UK plc v GEMA on Energy Code Modification UNC116: Decision and Order of the Competition Commission', July 10th, para 4.16.
[32] DECC (2009). 'Impact assessment for the Energy Bill', November 13th, pp. 38–56.
[33] Energy Bill (2009), 'Explanatory notes', para 94.
[34] DECC (2009). 'Impact assessment for the Energy Bill', November 13th, pp. 41–43.
[35] 'Ex ante' refers to regulatory interventions (eg, controlling prices, quantity, and/or quality) that are not motivated by evidence of abuse of market power by individual firms, as would be the case under pure 'ex post' regulation.
[36] LECG (2009), 'The case for ex post regulation of energy networks', October 7th.

– the MPLC is an intermediate regulatory instrument that would involve regulatory scrutiny of prices based on a pre-specified approach to assessing costs or profitability. In this case, although the regulator's guidance would not be binding on firms, the regulator would determine whether prices were reasonable and whether further interventions were warranted; and
– CAP170 is closer to being a pure ex ante regime, since it would involve mandatory provision of intertrip services by certain firms at administered prices.

4.8 As noted by in a recent report for Ofgem submitted as part of its 'RPI–X@20' project, the determining factor for whether to apply increasingly ex ante forms of regulation is whether firms are shown to have 'persistent and significant market power'.[37] The form of regulation represented by CAP170 would typically only be justified under the principles of European competition law where a firm was a provider of an 'essential facility' (as with energy network operators, whose networks are considered natural monopolies), or where a firm was 'super dominant' (ie, with market shares of around 75–90% or more) in a market with significant barriers to entry.[38] It is therefore striking that Ofgem should propose to implement CAP170 without a thorough market definition and competition assessment (as discussed in sections 2 and 3 of this annex), and without consulting on the full range of regulatory alternatives (the report identified four distinct intermediate forms of regulation between pure ex ante and ex post regulation).[39]

4.9 The analysis for Ofgem also highlights the potential detrimental impacts of applying increasingly interventionist regulatory policies in inappropriate circumstances.

4.10 Based on five criteria (ie, preventing excessive pricing, promoting efficient and timely investment and innovation, promoting operating efficiency, minimising the regulatory burden, and providing a stable and predictable regulatory process), the report concluded that an ex ante regime continues to be suited to regulation of energy networks, since a shift towards ex post regulation would raise uncertainty and increase the cost of capital (with adverse consequences for investment).[40]

4.11 It follows that a similar (ex ante) regulatory regime applied to an otherwise competitive market (or a market that is potentially competitive, such as the balancing services market) would be expected to increase the regulatory burden substantially—at the same time as dampening incentives for efficient and timely investment and innovation (ie, lower 'dynamic efficiency'). Furthermore, assuming that administered prices reflected the underlying costs of different providers, the costs of regulation in the form of greater dynamic inefficiency would be set against only marginal (if any) improvements (in terms of preventing excessive pricing).

4.12 Professor George Yarrow, while still a Non-Executive Director of GEMA, recognised that:

> 'because experience teaches that competitive markets tend to be highly effective in the discovery of new information and in innovation based on such discovery, it will tend to have value (and potentially very substantial value) beyond any quantitative valuations that can reasonably be made on the basis of today's information.'[41]

[37] LECG (2009), 'The case for ex post regulation of energy networks', October 7th, p3.
[38] See *Radio Telefis Eireann and Independent Television Publications Ltd v European Commission*, joined cases C-241/91 P and C-242/91 P, European Court of Justice; *Oscar Bronner GmbH v Mediaprint Zeitungs GmbH*, Case C-7/97, Sixth Chamber of the Court of First Instance; *Compagnie Maritime Belge Transports SA v Commission of the European Communities*, cases C-395/96 etc, European Court of Justice (2000); and European Commission (2005), 'Discussion Paper on the Application of Article 82 of the Treaty to Exclusionary Abuses', December, para 92.
[39] LECG (2009), 'The case for ex post regulation of energy networks', October 7th, p. 2.
[40] Ibid, p. 11.
[41] Yarrow, G. (2007), 'E.ON UK plc v GEMA on Energy Code Modification UNC116: Witness statement of George Yarrow', May 22nd, para 38.

4.13 The implication of this is that, if CAP170 were to undermine the efficient operation of the balancing services market, then significant long-term benefits associated with a competitive market could be foregone.

4.14 The analysis for Ofgem also highlights the risk of administered prices being substantially lower than actual economic costs. In this case the dynamic efficiency of the balancing services market would be even more significantly—and negatively—affected. This analysis would suggest that a thorough assessment of the economic costs of intertrip provision would be necessary to determine the potential impacts of extending administered intertrips on the wider balancing services market.

5 Summary

5.1 The following table provides an itemised summary of comments related to the competition analysis appendix in Ofgem's second further consultation on CAP170.

Table 5.1 Comments on statements made and issues raised by Ofgem on CAP170

Ofgem reference[1]	Statement or issue	Comments
Paras 1.13 and 1.14	The relevant product market includes only intertrip services	A separate market for intertrip is at odds with the underlying rationale of the MPLC, as outlined in the Energy Bill explanatory notes, that states that in order to balance the system, National Grid (NG) may accept BM bids and offers, and may also enter into bilateral contracts with companies, which includes services such as commercial intertrip (as well as capped PNs).[2] A wider market is also supported by statements by National Grid, which explicitly recognises the substitution possibilities of commercial intertrip and the availability of alternative actions (such as accepting bids above an export constraint). A systematic and robust approach to the product market definition needs to fully explore the following aspects: – physical substitution possibilities which would take into account the physical layout of the constrained boundary and willingness of NG to substitute. This could be informed by an analysis of the nature of risks borne by NG and companies providing alternative services; and – the influence of price on substitution possibilities as the costs and prices of additional balancing services (eg, PN contracts and PGBTs) would influence the competitive constraint on intertrip pricing. Analysis of changes in relative shares of alternative services and the associated drivers could prove useful in this respect. Evidence indicates that the relevant market is at least as wide as that for balancing services. For example, the number of intertrip hours armed varies considerably over time and the reduction in the number of hours armed coincides with increased use of other competing ancillary service contracts by National Grid (especially capped PNs). Evidence on the market also suggests that the observed intertrip pricing should reflect the different risks faced by providers, and the relative costs of competing products.
Paras 1.13 and 1.14	Inconsistent analysis of market definition and pricing analysis	Ofgem's assessment of the effectiveness of competition in the context of the balancing services market relies on prices from a wider set of substitutable products, whereas the assessment of the relevant market appears to present evidence suggesting that the focus should be on intertrip services alone. Ofgem's analysis on the effectiveness of competition requires further clarity in a number of areas, such as: (1) the calculation of the average coal bid and offer prices for England & Wales plant; (2) analysis of the effect of plant-specific operating factors (such as maintenance programs, plant efficiency, and co-firing decisions) on prices; and (3) discussion of the relevance of the analysis of BM price differentials within and between constrained periods.
Para 1.23	Determination of the appropriate benchmark to assess 'excessive' pricing on intertrips	Ofgem states that prices for balancing services might be expected to be near the avoidable cost of the marginal generator. However, the analysis does not take into account two aspects: – the marginal balancing service within the relevant market with which to make comparisons has not been established; – an assessment of the relevant costs of products within the applicable market has not been presented.

Ofgem reference[1]	Statement or issue	Comments
Para 1.23	The appropriate benchmark services	Ofgem has compared prices of arbitrarily selected products from providers that are assumed to have similar costs However, to determine an appropriate benchmark, recent developments in the provision of balancing services (such as recent entry from a new provider in Scotland and developments in tendering practices by National Grid) need to be taken into account. Moreover, Ofgem's analysis places undue weight on its assessment of the Cheviot boundary. Recent work commissioned by DECC suggests that there is scope for a number of additional transmission boundaries to be derogated in future, including the B1, B4, B6, B7a (and possibly B8 and B9) boundaries.[3] Further analysis of the following is therefore required: – an assessment of the number of potential derogated boundaries and their location; – the extent to which constraints may occur on those boundaries; – the number and type of generating plant (including potential entrants) likely to be located behind those boundaries; – the scope for the provision of balancing services by renewable generation; and – the reasons for concerns that there may not be sufficient competition or further innovation in the offerings provided by those generators.
Para 1.24	Assessment of the costs of products in the relevant market	Ofgem confirms that it has not undertaken an analysis of the economic costs of intertrip provision. Such an analysis is required, and would need to consider: – opportunity costs associated with lost BM revenues in providing intertrip. This analysis should also account for anticipated maintenance from plant tripping, as well as lost power sales and future balancing revenues from such damage; and – rates of return on capital employed over a sufficiently long period, to determine whether revenues are persistently greater than economic cost.
	Potential overlap of the CAP170 with the prospective MPLC set out in the Energy Bill	The Energy Bill impact assessment identifies the potential for excessive pricing of BM bids and intertrips during export constraints as specific market concerns to be addressed by the MPLC. The implementation of CAP170 could undermine the MPLC by introducing greater and unnecessary uncertainty into the electricity wholesale market, by making the provision of intertrip services at administered prices mandatory for certain generators. This is because CAP170 would be expected to interfere with price formation in the balancing services market. Hence, a detailed analysis of the additional benefits of CAP170 (over and above the impacts of the MPLC itself) is required.

Ofgem reference[1]	Statement or issue	Comments
	Choice between ex ante and ex post regulation	The regulatory regime represented by CAP170 is close to a pure ex ante regime—which is justified under the principles of European competition law when a firm was a provider of an 'essential facility' or where the firm was 'super dominant'. The application of such a regime, therefore, necessitates a thorough assessment of the relevant market definition and competitive conditions. Moreover, the ex ante regime, when applied to an otherwise (or potentially) competitive market, such as the balancing services market, would be expected to increase the regulatory burden substantially at the same time as dampening incentives for efficient and timely investment and innovation (ie, lower 'dynamic efficiency').
Figure 1 (page 13)	Lack of transparency	Given that Ofgem's Competition Act investigation was closed and the probability of finding an infringement was deemed to be low, the reasons for presenting analysis on BM offers in 2007 compiled for that investigation are not made clear.[4] The relevance of BM offer price differentials during import constraints to CAP170 is unclear since intertrips can only help to resolve export constraints. An assessment of why Ofgem continues to judge there to be a need for CAP170 in light of the proposals to introduce the MPLC would also appear warranted.
Table 3 (page 14)	Lack of transparency	As noted above, Ofgem has omitted a cost assessment and then compared prices of arbitrarily selected products from providers that are assumed to have similar costs (eg, BM bids from other coal plants), although the basis for this assumption is not made explicit.

Note: [1] Unless otherwise stated, all references pertain to Ofgem (2010), 'CAP170: current thinking and further consultation on competition issues – reference number 11/10', January 26th, pp. 8–15. [2] Energy Bill (2009), 'Explanatory notes', para 92. [3] Redpoint Energy (2010), 'Improving Grid Access: Modelling the Impacts of the Consultation Options', February. [4] Ofgem (2009), 'Competition Act investigation into Scottish Power and Scottish and Southern Energy', January 19th.
Source: Oxera analysis.