Summary of responses to Ofgem's consultation on electricity interconnector policy

Purpose

Ofgem's consultation on electricity interconnection policy described proposed models for the allocation of cross border transmission capacity and efficient use of electricity interconnectors and for regulation of new investment. The aim was to seek views on how Ofgem's policy should develop. The consultation was published on 26 January 2010 and closed on 30 March 2010. Ofgem received 21 responses from interconnector owners, TSOs, energy companies and other organisations (see Table 1)[1]. The purpose of this paper is to summarize responses under two main areas: 1) efficient use of electricity interconnectors and other related issues and 2) regulating new interconnector investment.

Table 1: Consultation Respondents

IC owners	TSOs	Energy Companies	Organisations
IUK	National Grid	EON	AEP
Moyle	RTE	Centrica	APX
Britned	Eirgrid	EDF	Consumer Focus
	Elia	RWE	
	Statnett	Statkraft	
	SSE	Mainstream Renewable Power	
		Statoil ASA	
		IPR	

[1] One response is treated as confidential

Section 1

Efficient use of electricity interconnectors and key related issues

Background

The consultation paper explored options for congestion management on interconnectors connecting to GB. These options were presented in the context of European policy discussions on the development of models for capacity allocation and congestion management and legal requirements promoting a single European electricity market.

The consultation sought views on a) whether the proposed models for capacity allocation and congestion management are appropriate for GB, b) how could the models be implemented in the GB and what could be the role of the Regional Initiatives in developing and implementing these models and c) the key issues that need to be addressed in parallel to ensure effective implementation of the capacity allocation models.

The way in which interconnector capacity is allocated or sold is of critical interest to both the interconnector owner and users and is key to maximising efficient use of interconnector capacity and securing the benefits of cross border trade and realising the single energy market.

Significant progress to improve capacity allocation and congestion management on cross border interconnectors was made with the adoption of the Congestion Management Guidelines annexed to the Regulation 1228/2003 requiring capacity to be allocated by means of implicit[2] or explicit[3] auctions. Current thinking at European level has led to the development of European target models on capacity allocation methods that could be adopted by 2015. The proposed target models were developed by the so-called "Project Coordination Group" (PCG) of experts established by the 2008 Florence Forum. The PCG developed practical and achievable models to harmonise interregional and then EU-wide coordinated congestion management, including a clear roadmap for harmonisation. This work has been taken forward by ERGEG[4] support by an Ad Hoc Advisory Group of experts[5]. ERGEG is drafting the framework guideline on capacity allocation and congestion management which will lead to the development of legally binding pan-European network codes produced by ENTSOE[6].

The intraday target model is implicit continuous or implicit auctions at regional level and implicit continuous at inter-regional level. This model was less developed by PCG and further work is currently being undertaken by the AHAG Intraday Implementation Group. The central proposal is day-ahead capacity allocation based on a single price coupling across Europe with single matching algorithm and common market rules. On forward markets, the arrangements developed by PCG included Financial Transmission Rights or Physical Transmission Rights with UIOSI[7] with the existence of secondary markets to allow trading between capacity holders.

At the moment, day-ahead market coupling is already in place in the Nordic Market, TLC (France, Belgium and Netherlands) and will soon be extended to CWE[8] (to include Germany and Luxembourg) which will then be coupled to the Nordic market and ultimately

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2 Allocation in which both transmission capacity and electric energy are allocated together, typically used at the day-ahead stage and potentially intra-day.

3 Allocation/auction in which transmission capacity is allocated separately from the trading of electricity

4 European Regulators Group for Electricity and Gas

5 Ad Hoc Advisory Group of Stakeholders composed of representatives from European level energy stakeholder organisations as well as ERGEG and the European Commission (http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_FWG/Electricity/Congestion%20Management/AHAG%20-%20expert%20group)

6 European Network of Transmission System Operators for Electricity

7 Use it or Sell it

8 Central West Europe Region, encompassing, France, Belgium Netherlands, Germany and Luxembourg

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to the whole North West Region, including GB. As noted in the consultation, the key driver for market coupling from a GB perspective is Britned's exemption decision which requires day-ahead implicit auctions from the start of its operation in early 2011. There are two coupling options for GB: price coupling on both IFA and Britned (enduring solution) or price coupling on Britned through the "spur solution" currently developed by APX and IFA to follow. Additional steps for the integration of SEM will be needed.

Regarding how these models could be implemented our paper highlighted the role the Regional Initiatives and sought views on how could they best contribute to the development and implementation of regional and inter-regional solutions. It stressed the priority to meet our obligation under the Third Package to have coordinated approach to cross border capacity in the region and asked respondents' views on the proposed FUI priorities (market coupling, coordination of explicit auctions, balancing, barriers to efficient use of interconnectors and new interconnector investment).

The target models are a welcome step towards more efficient allocation of interconnector capacity. But, as highlighted in our paper there are some practical issues that need to be resolved that could be critical to their effective implementation. These include:

- Firmness: It relates to the compensation that an interconnector participant can expect to receive in the event capacity is unavailable. The degree of compensation, and its predictability, impact on the perceived value of the capacity. Our consultation asked views on what should be our approach to firmness, whether it should vary between new and existing interconnectors or between regulated and exempt and what are the costs and benefits of changing our approach.

- Two power exchanges in GB: a key component of the day-ahead market coupling model is a day-ahead power exchange. This has not been a central element of the GB market design but there are currently two power exchanges in GB operated by APX and N2EX. In principle, either power exchange could operate a market coupling arrangement.

- GB Charging Regime: Network use of system charging interconnectors and charging for losses has been considered as a potential barrier to the full benefits of market integration.

- SEM[9] market design: SEM is based on compulsory pool with capacity payments and does not have day-ahead power exchange or intraday trading. It would be more challenging for SEM to implement the target models.

Summary of responses

The responses were supportive of the target models currently developed at European level and considered that the implementation of day-ahead market coupling in GB would lead to more efficient use of interconnectors as long as an approach which will address GB specificities (e.g. charging, two power exchanges etc) is adopted. Many respondents noted that the models for the other timeframes, in particular the intraday target model, needs further work. Interestingly, respondents recognise the importance of the intraday timeframe to accommodate intermittent generation. They highlight concerns around whether the day-ahead target model is sufficient to cope with increased amounts of wind generation capacity, particularly when forecast errors make output difficult to predict accurately at the day-ahead stage. There were diverse views on the preferred approach for the intraday capacity allocation with some supporting continuous methods and others being in favour of market based methods.

There was support for a regional market coupling solution, with some recognising that Britned's "spur solution" is an important first step for GB market coupling with the Central

[9] The All Ireland Single Electricity Market

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West region, but full integration of GB and subsequently FUI[10] to CWE should be the ultimate goal. Some respondents expressed the view that solutions should not be constrained by the geographical limitations of regions identified under the Electricity Regional Initiatives, favouring the movement from regional to inter-regional cooperation, through the extension of FUI to CWE and Nordic regions.

Most respondents were supportive of the role of the Regional Initiatives in bringing together the relevant stakeholders for discussion and implementation of options and for making practical steps to accelerate European market integration. Regarding the coordination of auctions there was support for harmonisation of access rules in the region on different interconnectors and across all timescales. Some note that it is important to harmonise rules within FUI region, potentially through a simple common platform for capacity allocation on interconnectors in the region and others take this a step further noting the importance of alignment with CWE, for example by extending the CWE-CASC[11] auction office to FUI region.

On firmness, there was support that interconnector capacity should be firm, but there were diverse views on how firmness should be applied. Most respondents agree that implicit auctions require physical firmness. However, they have distinct views on: risk sharing between traders, TSOs/interconnector owners and consumers; the level and type of firmness across the different timescales and between nominated and allocated capacities. Finally, most show support for harmonisation of firmness rules and for adopting a common approach to all interconnectors. However, few note that a case by case approach is more appropriate and don't see a need for further regulation on firmness.

Regarding the other GB specific issues related to the implementation of target models, few respondents highlighted the importance of coordination of the two GB power exchanges for price coupling implementation. One respondent proposed a "global" market coupling solution including both GB power exchanges (APX and N2EX), Britned and IFA, based on the cooperation between both power exchanges to concentrate liquidity in the day-ahead process. Also proposed was the solution of one power exchange working on an embedded solution integrating volumes via Britned to the Netherlands and the other exchange via IFA to France.

A few respondents note that given the SEM market design (20 hour gate closure, requirement to bid ½ hourly prices, no day-ahead prices and no intraday trading) it would be more difficult to implement the target models and additional steps will be needed for the inclusion of SEM in an inter-regional market coupling solution. Some recognise that given the large volume of wind generation expected in what is a relatively small market, the solution for dealing with intermittency is critical for managing the Irish system and it is difficult to see how the day ahead target model would cope with this.

Many respondents highlighted the GB use of system charges including TNUOS and BSUOS[12] as well as the treatment of losses as barrier to experiencing the full benefits of market integration. It was noted that the charging mechanism is driven by the GB regulatory regime where interconnectors are treated as both load and demand whereas on the Continent they are considered part of the transmission grid. Some note that the use of TNUOS charges could be interpreted as a charge on cross border flows which may not consistent with EU legislation. Respondents consider the GB charging regime and treatment of losses as creating a dead band, preventing price convergence and acting as a barrier to trade. Some talk specifically about the GB approach to demand charging driven by the "TRIAD methodology"[13] as restricting the free cross border flow of electricity. The risk of incurring demand TNUOS is driven by exporting during TRIAD periods which results in being charged demand TNUOS during the whole year. As a result, efforts to avoid exporting

[10] French-UK-Ireland Region of Electricity Regional Initiative
[11] Joint Auction Office , operating activities linked to long term explicit auctions in the Central West Europe Region
[12] Balancing system use of system
[13] Transmission network charges to demand customers

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at TRIAD periods often results in inefficient flows. On the other hand, it was noted that previous reviews of charging have shown that these charges were compliant with NGET's legal and regulatory obligations whilst the ITC[14] scheme was non-mandatory. However, respondents recognised that changes in EU legislation and the adoption of a mandatory ITC scheme could require further consideration of the charges on interconnectors in GB.

[14] The Inter-TSO Compensation Scheme

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Section 2

Regulating Interconnector Investment

Background

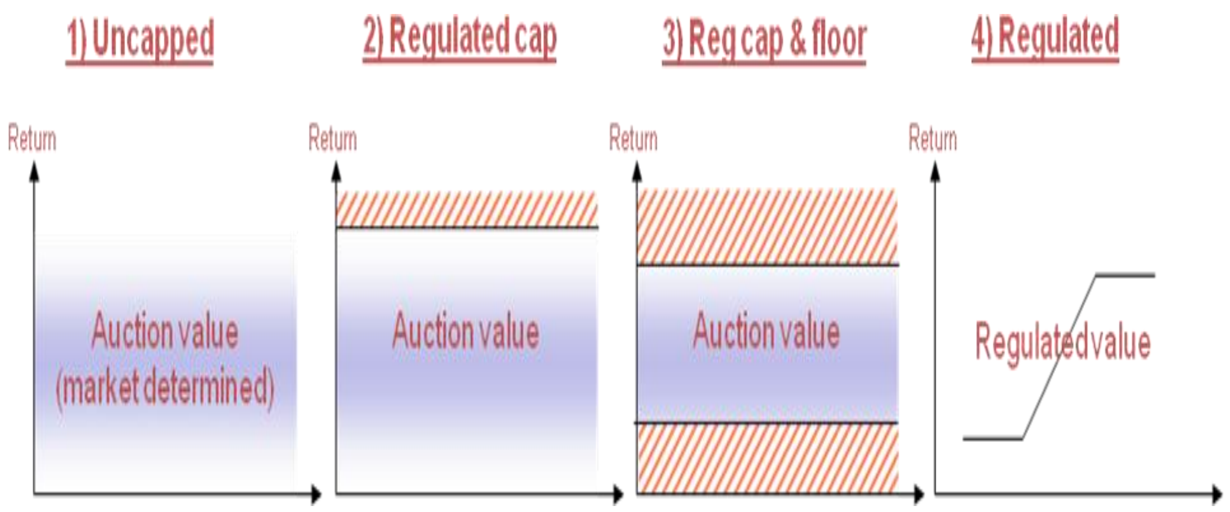
Our consultation sought views on the key issues in regulating new interconnectors, on whether new interconnectors will be seeking for exemptions, on the preferred option for regulation as well as on the feasibility of having a mixture of different approaches for different interconnectors

NG, Elia and RTE recent consultation[15] concluded that more interconnection between GB and the neighbouring markets is needed for the development of a single European Energy Market, to deal with increased intermittent generation and to improve security of supply. The key issue is to recognise the drivers and provide a basis for an enduring regime for interconnector investment that will support the long term development of optimal levels of new infrastructure investment.

So far, GB approach to interconnector investment was based on the expectation that it would be built on a merchant basis, seeking exemptions from aspects of EU legislation such as Third Party Access, the use of revenues and methodology approval requirements. However, this route seems increasingly difficult. In the case of Britned, the Commission imposed additional conditions on the exemption decision at the end of a long process. This introduced a level of regulatory uncertainty into the exemption application process to interconnector developers.

Under EU legislation, it is clear that the default approach to interconnectors is a regulated investment. Although Ofgem is still open to the exemption route, we thought it is timely to review the framework for regulated interconnector investment and consider further how we would address proposals to build a regulated interconnector. As noted in the consultation, the project driving our review is NEMO (proposed interconnector between Belgium and GB) where we’ve been asked how we would treat NEMO under a regulated model.

The figure below includes the four main options discussed in our consultation, ranging from merchant to revenue controlled approaches. We recognise that other options may exist, and we asked participants to propose alternative solutions:



[15] NG,ELIA,RTE consultation (http://www.nationalgrid.com/uk/Interconnectors/France/consultations/)

Option 1 is the merchant approach, where revenues are exclusively determined by auction proceeds. It is considered as requiring an exemption from the European Regulation[16] to protect against the risk of subsequent changes to market rules damaging the business case of the project. As specified by the Commission these exemptions can only be granted in exceptional cases. Experience from Britned suggests that one of the conditions could be a cap on returns which would be a move to Option 2.

Option 2 puts a cap on returns or revenues from auctions. Any excess revenues must be invested in increased capacity or returned to customers. The developer still has all the downside risk but a capped upside, so lower expected returns.

Option 3 is a generalisation of the other options. Returns are set within a range, above or below which they are returned or supplemented from customers. If the range between the cap and floor is very wide it would look like option 1 and if it is narrow like option 4. The purpose of the floor would be to offset the risks associated with having a cap, the risk of future regulated interconnectors damaging returns (risk for exempt interconnectors) and with changes to legal requirements as to how they can sell capacity.

Option 4 is a regulated approach. It is equivalent to including interconnectors in the transmission tariff mechanism. It involves setting the revenue entitlement of the interconnector project independently of the revenues received from capacity auctioning. There is a need to set the allowed revenue level and then for a true-up mechanism of some sort. This would require the regulator to approve the project and to use customer's money to underwrite costs. The major risk is stranding[17], although there is an upside where customers could profit.

Summary of Responses

There was no clear preference for any of the four options discussed in our consultation. Respondents' views were spread between Options 1 (merchant), 3 (cap & collar) and 4 (fully regulated approach), with limited support for option 2 (cap).

Option 1: On the merchant approach, some recognise the benefits of risks and rewards being covered by the investor, considering this option as providing the most efficient levels of interconnection and as the preferred way to provide timely investment. Others see merchant interconnectors as increasingly infeasible due to the regulatory uncertainty with the exemption route. As a result, respondents believe that reliance on merchant approach is likely to lead to less interconnector capacity being built than would be economic. Others don't recognise this as a problem and highlight merchant investment as the way to provide timely investment. Some respondents noted that given the need for more costly sub-sea DC interconnectors which are inherently risky projects it does not seem logical for them to be underwritten by consumers.

On the GB license regime, which under the Electricity Act 1989 (as amended) requires that interconnector licensees to be a distinct legal entity from transmission licensees, some respondents noted that it is a point of difference with other European markets which may be unhelpful. For some the GB license regime "fulfils" the exemption requirements which require the interconnector owner to be legally separate from the SO and not have received funding from distribution or transmission charges in the systems linked by interconnectors. Others note that assuming the current regime remains unchanged, merchant interconnectors may still be preferable for some investors and restricting interconnector development to network operators may not necessarily be beneficial.

[16] Regulation No. 714/2009 of the European Parliament and of the Council on Conditions for Access to the Network for Cross-Border Exchanges in Electricity and repealing Regulation No. 1228/2003
[17] Values recovered from capacity sales not being sufficient to cover costs, leaving customers to pick up the difference

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Option 2: Very few respondents showed a preference for the cap approach, seen as an acceptable option only if the cap is set at a high level. Consumer organisations consider this a second best option to the merchant approach, as in both 1 and 2 options consumers are not underwriting the risks of new investments. Several believe that this option distorts the incentives to invest in interconnectors and if the cap is not correctly applied it can also result in inefficient use of interconnector capacity. It was also considered by some respondents as less acceptable by developers as the interconnector owner is liable for all risks, while its revenues are capped. It was also noted that negotiation to arrive at this option could cause delays in investment and result in collapse of investment plans.

Option 3: Regarding the cap and collar option, many highlight it as an option to maintain merchant investment in interconnectors whilst complying with the current rules and legislation within GB and Continental Europe without the need for exemptions. It is seen as combining the basic features of a regulated model while providing some incentives to project developers. Symmetry of risk for consumers and investors is an advantage, unlike option 2. Others believe that it distorts incentives to invest in interconnectors and as option 2, if it is not correctly applied it can result in inefficient use of interconnector capacity. A few note that the floor is an unacceptable risk for consumers, particularly as the risks associated with interconnectors are not well understood, making the setting of the cap and floor complicated. Respondents highlight that the key to this approach is the cap and floor levels as there needs to be a balance between protecting consumer interests and providing investors with sufficient incentives to proceed with the investment. Some believe that the floor should be set at a level that allows the owner to recover capital and operating costs[18] or at a level to provide comfort in the event of a significant shift in regulatory policy concerning the funding of parallel links.

Option 4: Several respondents note that the regulated approach would make GB fully in line with Europe, is a more certain way that interconnectors will be developed and reduces financial risks. The regulated approach is also the default model in EU legislation, resulting in potential efficiencies from harmonisation of legislation (for example in terms of time taken for investment to be concluded). Others considered the introduction of TSOs would slow the investment process and could lead to inefficient number of interconnectors, resulting in potentially higher costs for consumers. Some refer to the risk of stranded costs if the interconnector is not congested, with these costs being socialised across end users, as the major downside of this approach. Finally, respondents highlighted that the regulated regimes where all costs are socialised are commonly applied to AC onshore investments. When dealing with high cost, sub-sea, long distant DC lines the regulated regime may need to provide different incentives for the realisation of investments.

Regarding the development of an enduring regime for new interconnector investment, there was some support for a mixture of different approaches for different interconnectors with a few noting that they should not be applied retrospectively on established projects. Others see a mixture of different approaches as having fewer advantages with some arguing that it should be limited to existing interconnectors and a unified approach should be applied to all new interconnectors to provide correct investment signals. Many note the importance of coordination of NRAs[19] in the two sides of the border on their approach to regulated interconnectors. In order to facilitate interconnector projects it is important that the regimes in both ends are compatible. Finally, some respondents expressed concern over how merchant interconnectors will compete with regulated interconnectors. As more interconnectors are built, merchant interconnectors will become less profitable. Regulated interconnectors will pose risks to unregulated ones as their returns will be eroded. Some believe that a mechanism to opt into for a regulated rate of return for all existing or under development merchant lines between the same markets as the regulated ones, would offset these risks.

[18] Moyle
[19] National Regulatory Authorities

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Offshore Network and Interconnectors

There has been some interest in offshore wind farm connections to multiple markets (combining a wind farm connection and an interconnector) and in the idea of a North Sea offshore Grid. The possible implications of these developments are outside the scope of this consultation but they were raised by several respondents.

Summary of Responses

Some respondents share the view that it is necessary to develop a regime that captures the synergies between the two types of investment projects. At present, the GB framework for these two types of infrastructure seems incompatible. The growing number of offshore wind farm projects in the North Sea could potentially encourage demand for new interconnectors and could lead to the development of a "NorthSea SuperGrid". As already mentioned in the introduction, some respondents feel that offshore grids are likely to influence the route of conventional interconnectors in the future, with demand for new interconnectors not coming from pure "interconnector projects" but from combination of offshore wind farm projects and Interconnectors. Some note that the opportunities provided by offshore wind farms, could reduce the cost of providing interconnection capacity. Some respondents highlight the need for greater clarity regarding the classification of grid elements when it is not simple a point-to-point interconnector. Others note that it is not clear whether the current license regime would support or preclude a combined OFTO[20]- Interconnector arrangement.

[20] Offshore Transmission Network Owner

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