



International
ESBI Energy Innovation

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Dear Matt

Consultation on possible models for a Capacity Mechanism – ESBI response

ESB International welcomes the opportunity to respond to DECC's consultation on the introduction of a capacity mechanism to the GB wholesale market. The options for change proposed within the consultation, set within the wider context of the Energy Market Reform (EMR) White Paper, will fundamentally change the wholesale energy market in which we operate and are critical to the investment decisions we make. As an independent developer and operator of clean, flexible thermal generation the decisions in relation to the introduction of a capacity mechanism are critical to our both our own business and future security of supply in GB.

This response briefly introduces ESB International and then provides a high-level summary of our views regarding a possible capacity mechanism, before responding to the more specific questions posed in the consultation.

ESB International

ESB International (ESBI) brings together our worldwide generation, engineering and related services businesses.

ESBI has been a developer and operator of independent Combined Cycle Gas Turbine (CCGT) generation projects in the GB market for almost 20 years. We own, operate and trade Corby power station and developed the 850MW plant at Marchwood, which was commissioned late in 2009. We are also at an advanced stage with our latest 860MW development at Carrington which is intended to become operational early in 2015. Additionally, we own and operate the 406MW Coolkeeragh plant in Northern

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Ireland. We are also developing further large-scale CCGT projects at other locations across GB.

In addition to increasing our conventional generation fleet, we continue to grow our position in the UK wind market. Our operational and development portfolio will be around 165MW, comprising of: the 24MW West Durham Wind Farm in Northern England; the 20MW Hunters Hill; and 15MW Crockagarron projects in Northern Ireland. Additionally, we are in the final stages of commissioning what will be England's largest on-shore wind farm, at 66MW, at Fullabrook in Devon and we expect to start construction of our 38MW Mynydd y Betws Wind Farm in South Wales later this year. We are also active in the ocean energy sector.

With increases in physical interconnection, in particular the commissioning of the East-West interconnector in 2012, our operations in Ireland will become more closely linked with the GB market.

Summary of views

ESBI remains of the view that a competitive, liquid wholesale market remains the best way in which to deliver secure, lower carbon generation at the most economic cost to consumers. We are concerned that any move away from these principles would be ill-advised and risk increasing costs at a time when consumers are increasingly worried about the cost of energy. Whilst we recognise the Government concern underlying the proposals is to ensure a prescribed level of security of supply for customers during a period when the current generation stock will undergo significant change, we have deep concerns that an ill-considered approach could materially undermine the competitive market and create an investment hiatus that would compound the issue that Government is seeking to solve, whilst introducing unnecessary carbon lock-in.

Improving liquidity in the wholesale market, in association with changes to the balancing mechanism (BM), would encourage suppliers to take better account of capacity adequacy whilst providing generators with economic and efficient investment signals to provide appropriate levels of capacity in a timely manner. We are disappointed that DECC and Ofgem have not looked further at using these principles to deliver the outcomes intended for any future capacity mechanism. Indeed, in order for DECC's aims to be recognised, the changes discussed above will likely have to be made to ensure the proposed models of capacity mechanism work as intended. We are particularly disappointed that Ofgem's ongoing assessment and reform of the

market to improve levels of liquidity to better support both independent generators and suppliers has not yet brought forward meaningful proposals and that reform of the cash-out calculation within the BM, to better reflect the costs of imbalance on those that cause them, has not yet transpired. We therefore seek for DECC and Ofgem to bring forward proposals in these areas as a priority.

In terms of the proposals raised in the consultation, whilst we welcome the progress made since the last DECC consultation, there remains a significant level of detail yet to be developed for both models. That said, we are of the view that (as proposed) the targeted Strategic Reserve would better deliver DECC's objectives than a market-wide mechanism such as the Reliability Market. The Strategic Reserve model, if implemented with strict governance arrangements enshrined in primary legislation, could be consistent with maintaining an effective market whilst providing Government with the additional peak capacity it believes is necessary. These governance arrangements will also be key to ensuring the "slippery slope" effect discussed during earlier consultations is avoided.

We note and welcome DECC's view that any capacity mechanism should only address peak demand adequacy and that shorter-term system flexibility and balancing should be managed by National Grid as the SO, albeit in a more transparent way than today in order that market participants can better understand the impact on market price of the SO's short-term actions. However, we believe that the interaction between capacity held within the Capacity Mechanism and that used by National Grid as part of the Short Term Operational Reserve (STOR) market needs to be better defined and managed in a way that ensures unintended distortions are avoided. It is our view that capacity procured by National Grid within the STOR contracts should be precluded from being included within any capacity mechanism. We would seek for DECC to develop this area further before any mechanism is introduced.

It is important to recognise that the introduction of a Capacity Mechanism is only one part of the suite of market reforms proposed by the White Paper. It will inevitably have interactions with the other mechanisms that have been proposed to lower the carbon intensity of the future generation fleet. In particular, and as raised in the consultation, there are interactions between any Capacity Mechanism and the Feed-in Tariff with Contract for Difference (FIT CfD), which will require careful consideration, particularly within the design of the relevant FIT.

At the highest level, we are of the view that generation capacity supported under the FiT CfD should not also be provided market support under the Capacity Mechanism as it could lead to adverse unintended consequences for the types of generation that will be needed to provide system flexibility and adequacy in the future. Further, it will make the administration of both mechanisms considerably less complex if the interaction is limited by not allowing capacity to be supported by multiple mechanisms. Finally, any Capacity Mechanism must not adversely impact the market indices referenced within the FiT CfD. Indeed, wherever possible the Capacity Mechanism should be consistent with, and promote, liquid and reliable market indices that may be relied upon within the FiT CfD.

Response to specific questions

This section provides responses to the questions raised in DECC's consultation. Due to the similarity of the themes within some of the questions we have grouped a number together and to these we have provided responses that address the common themes.

Question 1: Does this table capture all of your major concerns with a targeted capacity Mechanisms? Do you think the mitigation approach will be effective?

The table in figure C3 captures the principle concerns which we have identified in respect of a Strategic Reserve. We also agree that the high-level mitigation measures proposed could be effective, in particular the targeting of the costs of using the Strategic Reserve on to those that are out of balance through a reformed cash-out calculation.

Question 2: How long should the lead time for Strategic Reserve capacity procurement be?

Question 3: Should the length and nature of contracts procured by the Strategic Reserve procurement function be constrained in any way?

We do not believe that it is necessary for the Strategic Reserve function to fully underwrite the development of new plant specifically to serve this requirement. Such an approach would inherently be based upon a prescribed view on the volume profile and technology of plant to meet the Strategic Reserve demand and would shift the market substantially back toward central



planning with risks that customers pay for poor decisions. The challenge which the current market faces is to give comfort to the developer and plant operator serving the peak low load factor role that sufficient returns will be made in the periods of shortage to meet the costs of building and operating that plant. The consultation recognises the future challenges caused by high levels of inflexible and intermittent generation and the consequent difficulty in forecasting and capturing periods of high prices, compounded by regulatory and political risk of appearing to exploit such situations of shortage.

We are of the view that for the Strategic Reserve function to fully underwrite new plant would directly displace plant attempting to extract value from the open market and lead precisely to the slippery slope effect which is noted in the consultation as a concern with the Strategic Reserve approach.

Instead, the features which we feel to be important are that the mechanism helps smooth revenue for relevant plant over the medium term and that its operation should be stable and predictable over time.

We therefore feel that a competitively tendered contract with a term of up to five years should be sufficient and that the nature of the contracts should be sufficiently general as to be not absolutely prescriptive as to generation technology. For a Strategic Reserve contract of up to five years, it would appear practical to have an associated lead time (ie period from contract placement to commencement) of five years, thereby creating a rolling mechanism that the agency can manage to ensure the appropriate amount of capacity is within the mechanism, without unnecessarily rewarding plant as could be the case with mechanisms with longer lead times and contract durations. We would welcome further discussion on this point during the further development of the Strategic Reserve option.

In order to avoid unintended consequences and the unnecessary rewarding of some capacity, we are of the view that any capacity procured within National Grid's STOR arrangements should not be permitted to be further supported by the Strategic Reserve mechanism. Any capacity being used or held by National Grid for the purposes of short-term system balancing will not be able to provide the additional peak capacity that the Strategic Reserve seeks to provide and including such capacity within the Reserve could create unintended consequences and unnecessarily reward capacity.

Question 4: Which criteria should providers of Strategic Reserve be required to meet?

It is core to the concept of a Strategic Reserve that providers under contract have the physical capability to deliver against their contracts. Hence the agency managing the process should be tasked with assurance that contracts are supported by real generating plant with the capability represented by the contracts offered and that the plant is available exclusively for this role. It is likely that the agency will need to consider an audit function to support this requirement. Similar criteria should apply to assurance that a Demand-Side provider is offering real capacity reduction and that capacity reduction is available at times that it is likely to be called upon.

Question 5: How can a Strategic Reserve function be designed to encourage cost-effective participation of DSR, storage and other forms of non-generation technologies and approaches?

ESB currently has no energy supply interests in Great Britain and has limited expertise in DSR as a form of reserve capacity. We would observe that most concepts of the future role of DSR are of limited timescale (eg deferring charging of electric vehicles) and seem to be more an element of the System Operator's use of STOR contracts to manage flexibility than to be part of the somewhat longer timescales implied in the Strategic Reserve requirement.

However, the use of Interconnectors in capacity provision is a key topic which needs to be considered carefully. The challenges include judgments as to behaviour of individual jurisdictions when conditions of widespread shortage could lead to decisions as to in which market to deploy capacity and where to fail to serve demand, notwithstanding contractual entitlements. The growing scale of interconnection is such that resolving these issues is vital to evolution of the capacity market, although it seems certain that the initial framework of a Strategic Reserve arrangement would need to be put in place ahead of resolution of interconnector issues.

Question 6: Government prefers the form of economic despatch described here. Which of the proposed despatch models do you prefer and why?

We believe that the key objective of the Strategic Reserve function should be to provide a tranche of additional capacity with minimum impact upon the ability of low load factor plant to collect peak

revenues from the open market. In this context our current judgement is that an economic basis for despatch will give greater certainty and a more predictable impact on the remainder of the market. The relationship between capacity margin and short term market price is difficult to predict in the context of the evolving plant mix and of the System Operator's actions and this challenge is a key government argument for the creation of a Strategic Reserve. A volume based dispatch approach would not mitigate this uncertainty for market participants and may indeed add a further level of uncertainty.

Question 7: How would the Strategic Reserve methodology and despatch price best be kept independent from short-term pressure?

We believe that it is critical to ensure independence and consistency in the application of the Strategic Reserve methodology and that failure to maintain this assurance will fundamentally undermine long term confidence in the market and its regulatory structure. The key approaches in achieving stability would be:

- clarity: that the rule sets applying to procurement and operation are clearly set out in scheme design
- transparency: that the operations of the relevant agency are open to market participants and to audit
- independence: that the agency is external to government, the System Operator and the regulator and has appropriate internal governance
- consistency and stability: that the Strategic Reserve design should be protected in some detail by primary legislation so as to limit temptation for interference and ensure that the capacity within the Strategic Reserve does not affect the normal operation of the market

Question 8: Do you agree that a Strategic Reserve should be periodically reviewed? If so who would be best placed to carry out the review and how often should it be reviewed?

Given that the Strategic Reserve represents significant expenditure on behalf of customers its operation, administration and success must clearly be reviewed at intervals. We suggest that the focus of review should be on whether the design of the Reserve is adversely affecting operation of the market and whether it is cost effective in relation to its objectives. The framework of the review should also include justifying the continuation of the Reserve mechanism. As we have observed earlier, stability in market mechanisms is critical to investor confidence and we therefore suggest



that a review should be carried out every third year or following any period of extensive utilisation of the Reserve.

Question 9: Into which market should the Strategic Reserve be sold and why?

The consultation document makes clear that the role of the Strategic Reserve is to provide a buffer of additional sustained capacity able to provide output over a period of weeks, such as might arise when a winter anticyclone has resulted in low wind generation simultaneously with high levels of demand, or alternatively in the circumstances of a fuel supply emergency. Short term flexibility is to remain a function discharged by the System Operator utilising STOR contracts and the balancing market. It is also acknowledged to be an issue that the costs of STOR contracts are spread over all system users rather than targeted at those whose actions have given rise to the costs. Additionally, the relationship between cash-out prices and the Bids and Offers for capacity in the balancing mechanism is inevitably imprecise because of the System Operator's short term priorities in using the Bids and Offers and because of the balancing price formulation methodology. Finally, the consultation recognises that to reduce the risk of the 'slippery slope' effect, the Reserve should be managed to come into effect only after normal market mechanisms have been exhausted and should not weaken the signals to market participants to balance their own accounts.

Given these criteria, we feel that a Strategic Reserve dispatched at the predetermined "Strategic Reserve Economic Dispatch Price" is best sold into the bilateral market, probably at the day-ahead stage, so as to reflect the likely mobilisation time for the relevant plant. We argue elsewhere for a sharpening of cash-out prices which would increase incentives on parties to achieve a balance in their accounts. A dispatch basis of this type is capable of operation by an independent agency at arms-length from the system operator, so as to limit the risk that the Strategic Reserve simply becomes an expansion of the STOR function, with costs smeared across all users and subsequent pollution of price. Additionally, we endorse the development of mechanisms that would allocate the full costs from the Strategic Reserve (fixed and variable) to parties who have not procured sufficient capacity.

Question 10: Do you have any comments on the functional arrangements proposed for managing a Strategic Reserve?

The arrangements in figure C7 appear to capture the principle requirements.

Question 11: Given the design proposed here and your answers to the above questions, do you think a Strategic Reserve is a workable model for the GB market?

Recognising DECC's commitment to introduction of a capacity mechanism, we feel that the Strategic Reserve described is workable and reflects ESB's preferred option.

Question 12: How and by whom should capacity in a GB capacity Market be bought and why?

We feel that it is critical that an independent buying agency should be created to act as common buyer for all capacity that is to be used in a Reserve, as opposed to being traded in the bilateral market. This would help preserve for customers the benefits of a diverse and competitive generation marketplace. We are strongly of the view that the alternative of placing the responsibility with Suppliers carries great risk of increasing the further concentration of the market in the hands of a small number of participants who can wield market power through their scale and vertically integration.

Question 13: What contract durations would you recommend for a capacity market?

Question 14: How long should the lead time for capacity procurement be? Should there be special arrangements for plants long procurement times?

Our views here are similar to those expressed in relation to the Strategic Reserve: contract duration should be sufficient for market stability, but should not extend to long-term asset specific contracts under which the market is effectively being determined by a central planning process. We therefore believe that any contracts let under the capacity market should be for no more than three years and that procurement lead times should, as far as possible, be within investment lead times for new capacity.

Question 15: Should there be a secondary market for capacity? Should there be any restrictions on participants or products traded?

We believe that if the market-wide mechanism is chosen, then it should provide for tradable secondary contracts in order to provide further liquidity in the market. A tradable secondary capacity market with a diverse range of participants will contribute to maintaining an effective competitive market which will benefit customers through more efficient investment decision making and operations. Further, it could help mitigate some of the difficulties generators have in hedging. We would seek for DECC and Ofgem to ensure (through its ongoing work on market liquidity) that any capacity mechanism is supported by a transparent and accessible market with liquidity across a range of products and delivery timescales.

Given that the purpose of the Capacity Market is to provide greater physical assurance to customers against the possibility of loss of supply due to insufficient capacity, rather than to make financial compensation, it is essential that primary contract holders be required to demonstrate that the any contract let under the mechanism is directly underpinned by physical capacity. The agency administering the market should be charged with establishing a capacity registration system to ensure that each contract is exclusively associated with real physical assets. It may be necessary for the agency to include capacity audit or verification functions. Careful consideration therefore needs to be given to how linkages are maintained between these physical contracts and any secondary traded product which would likely be a financial instrument.

Question 16: What are the advantages and disadvantages of making a central, administrative determination of (i) the capacity that can be offered into the market by each generator; (ii) the criteria for being available; and (iii) the penalties for non-availability? In outline how would you suggest making these determinations?

A policy frame work based upon physical capacity underpinning the primary capacity contracts requires a process of assurance that the offered capacity is real and reliable and requires that the process of attributing a capacity value to physical plant be objective, transparent and non-discriminative. In the absence of an administered basis of this type, decisions on levels of reliable capacity would be left to generators with the result that the nature of the contracts has effectively become financial. ESBI's response is based upon a preference that primary capacity contracts should be physical in nature.

Question 17: How would the reference market for reliability contracts be determined and what would be an appropriate reference market if it is set by the regulator? How could the adverse effects of choosing a particular option be mitigated?

As noted above, ESBI's preference is for a framework based upon physical capacity, but were a market-wide mechanism to be introduced and to be based upon financial reliability contracts, we would make the following comments on Questions 17-21.

In determining the reference market for reliability contracts, consideration needs to be given to the status of the currently active markets as well as to the ways in which markets will respond to the need for market participants to manage risks arising as a result of the reliability contract structure itself as well as within the CfD-based Feed-in Tariff arrangements. This new regulatory framework is likely to fundamentally impact the existing traded markets and consideration needs to be given to an orderly transition from the current marketplace rather than simply picking a solution directly from the current alternatives.

The key requirements for a reference market are that: it should be widely accessible for participants; its core structure should be simple enough that widely traded, liquid products should emerge; its structure should be capable of accommodating longer term or more complex products better matched to generation and supply market risks; and credit requirements for participants should be minimised.

Given that the market will be designated by a regulated process and the fundamental significance of this market to both conventional and low-carbon generation, its integrity must be of the highest order. In this context, the currently opaque methodology of market reporting in the otc market would give rise to some concern and lead to a preference for a more transparent, perhaps regulated market in which the price attached to individual deals is captured reliably. Notwithstanding, the current lack of liquidity further out along the delivery curve would suggest that the more prompt markets would better deliver a reliable reference price that was accessible to a larger proportion of the market.

The legislation should enable the regulator to designate a market to form the initial basis for Reliability contracts and should enable the regulator to set up an orderly periodic process to review the workings of the market and to re-designate to an alternative market if failings are

identified. However, if a change in reference market was deemed necessary, this decision must not be taken lightly and sufficient notice must be given to market participants. In order for participants to make robust investment and operational decisions, the clarity and certainty attributed to the mechanism must be of the highest order.

Question 18: For a Reliability Market, how should the strike price be determined? If using an indexed strike price, which index should be used?

The Reliability Market contract, as described, is essentially an insurance-type product and there will be a direct relationship between strike price and option fee. Our preference is that the strike price be set relatively high, so as to enable the market to predominately operate on a commercial basis without bringing the Reliability mechanism into play. Thus the capacity payments would form a relatively small proportion of generator incomes and supplier costs. A strike price level should be set generally above levels seen during the period of relative surplus of recent years and approaching the level of 'VOLL' at which it is assessed that customers are indifferent to the prospect of loss of supply.

ESBI feels that Reliability Contracts should not form the basis for fully underwriting the construction of new plant because that process would undermine the current competitive market in which customers enjoy the benefit of efficient investment and operational decision making. It will not therefore be necessary to establish long term contracts and the associated question of fixing or escalating prices into the future.

Clearly input fuel costs, particularly gas prices, vary over short timescales which suggests that a generator would not be able to offer a price for a Reliability contract unless he was simultaneously able to cap his input fuel costs. Gas markets are substantially international in nature and will not readily offer a matched cap on price, related to E&W electricity prices. This suggests the Reliability contracts will need to be on a spread basis, effectively indexed to short term fuel price. A consequence of basing the capacity market on spreads will be that customers do not enjoy a cap on their gross electricity prices per se but would have exposure to international fuel prices. To fix this risk would involve developing a similar Reliability market concept into the domestic gas market, which is a concept beyond the current consultation.



Question 19: For a Reliability market, what level of physical back-up (if any) should be required for reliability contracts and how should it be monitored?

As described above, were a Reliability Market to be introduced, we favour basing primary contracts upon real physical capacity. Of the options discussed in the consultation, a regulatory de-rated capacity would appear to best fulfil this requirement. Implicit in such a structure is that the monitoring agency will need to have a role in the determination and policing of the real de-rated capacity available from each plant.

Question 20: Do you agree that a vertically-integrated market potentially raises issues for the effectiveness of a Reliability Market? If so, how should these issues be addressed?

We agree that monitoring of physical back-up to Reliability contracts will contribute to maintaining an effective competitive market in the presence of the six large vertically integrated supply companies.

We are fundamentally opposed to allowing the Reliability Market to become one of Supplier obligation to procure capacity directly. We believe that this would act to reinforce the strength of vertical integration and would deter new entrants to the market and lead to an adverse impact on customers as a result of lower levels of competition. Of the two options proposed in the consultation, we agree that ensuring contracts are physically backed-up would go some way to mitigating issues that arise from the highly vertically integrated nature of the GB market, however we believe contract paybacks to consumers, whilst being conceptually possible, would prove prohibitively difficult to administer and police. We would welcome DECC's further thoughts on how this could be implemented.

Question 21: What could we do to mitigate interactions between a Capacity Market (especially if a Reliability Market) and Feed-in with Contract for Difference without diluting the effectiveness of either?

This is essentially a question of whether to permit generators in receipt of CfD based Feed-in Tariffs to double-sell capacity, once under the two-way CfD of the Feed-in Tariff and then again under the one-way Reliability Market contract. As stated previously, we are of the view that it

would be administratively simpler and avoid unintended consequences if generation supported by the FIT CfD is not included, or rewarded, by any capacity market.

However, assuming that the Reliability Market, if introduced, is structured around real physical capacity, as we suggest and assuming that the Feed-in Tariff is structured around metered output rather than on a firm basis, then there would be disparity in incentive upon the two types of generator: a fossil fuel generator would be exposed to full market risk under his Reliability Market contract were he unavailable at a time of system stress, whereas a nuclear generator would only face the loss of his fixed net income. This could be addressed either by estimating receipts under the Reliability Market capacity contracts and netting off in fixing the strike price for nuclear contracts, or alternatively by requiring the nuclear generator to enter into a Reliability Market contract as a condition of the Feed-in tariff arrangement. For a wind generator, a fixed volume capacity contract is not feasible and there would be an undue administrative burden in attempting to calculate the output he ought to have generated for specific wind conditions. Hence, the suggested solution of excluding intermittent generation from the capacity market seems appropriate.

If the Reliability market is developed in the form of purely financial contracts, then the linkage between the two mechanisms is unimportant.

Question 22: How can a Capacity Market be designed to encourage the cost-effective participation of DSR, storage and other non-generation technologies and approaches?

ESB has no comment to make in relation to DSR, albeit that should DSR be included in the Capacity Market with physical capacity underpinning any contracts, then DSR should be subject to the same availability scrutiny as generation.

In respect of the role of Interconnectors, per our comments on Question 5 we feel that a carefully considered mechanism will improve the efficiency with which security of supply is provided to customers of individual European states.

Question 23: Do you have any comments on the functional arrangements proposed for managing a Capacity Market?



The outline in the consultation document adequately covers the functional requirements for operation, oversight and review of the Capacity Market.

Question 24: Do you think that a trigger should be set for the introduction of a Capacity Market? If so, how do you think the trigger should be established and how should it be activated?

ESB believes that it is critical to future investment to minimise the period of uncertainty about the establishment of a major change to market arrangements. If DECC is convinced of the need for a Capacity Market to provide assurance of supply security then it should proceed directly to design and implementation of a scheme. If not, then market participants should be spared the cost and diversion of preparing for the new mechanism and the associated uncertainty as to the timing of introduction.

Question 25: What is the most appropriate design of Capacity Market for GB and why?

ESB believes that customers' best interests are served by facilitating a diverse, efficient and competitive generation wholesale market which will respond to future capacity needs and to changes in generation technologies and in customer security expectations. We believe that the targeted Strategic Reserve, as described herein by ESBI, is better capable of meeting these objectives.

Should you wish to discuss any of the views expressed in this response further, please do not hesitate to contact me. I look forward to DECC's further development of the principles consulted on in its consultation and would welcome the opportunity to further present our thoughts to you.

Yours sincerely,


GB Regulatory Manager

ESBI Investments

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