



ESB Response to European Commission Consultation

Generation adequacy, capacity mechanisms and the internal market in electricity

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1. Introduction

ESB is pleased to provide our response to the European Commission's consultation on generation adequacy, capacity mechanisms and the internal market in electricity. Given the peripheral nature of the markets in which we operate, ESB brings extensive and directly relevant practical experience to this consultation.

Firstly our company has long experience of generation adequacy issues and the support provided via capacity mechanisms. Since its establishment, the Irish Single Electricity Market (SEM) has had, as an inherent design feature, a market wide capacity mechanism while also being interconnected to the GB (energy only) electricity market. The approach the SEM has taken with regard to interconnector trading and the treatment of capacity value for imports/exports is, we believe, a useful case study in how the European Commission could deal with CRMs within the internal market and we would encourage the Commission to draw on this experience. We would posit that the capacity mechanism has not created difficulties in cross border trade between SEM and GB (as stated in the consultation paper).

Furthermore, as an investor in the GB market, the regulation of CRMs and the potential impact for existing, on-going and future investments/operations are of paramount importance to our company, given the electricity market reforms underway in that market.

Our response to this consultation paper is based on the following high level principles.

- There is no need for the Commission to propose a one size fits all approach to CRM.
- In defining any guidelines for the introduction/existence of CRMs, the Commission should be cognisant of the fact that capacity mechanisms are an inherent feature of certain market designs (particularly pool markets, which are considered to be transparent competitive markets).
- ESB believes that a market based allocation of capacity value is valid, but that the Commission should not be prescriptive on Member States as to the mechanics of how CRMs are implemented/operated.
- The Commission should (in keeping with the Network Codes/Target Model) only focus on guidelines as to how capacity/scarcity value should be treated at borders (across interconnectors).
- Flexibility is different from generation adequacy and should be treated accordingly e.g. energy market, balancing mechanism, ancillary services (in this regard, the SEM with the highest level of RES penetration of any European synchronous system is at the forefront of thinking how electricity markets can deal with the increased requirement for flexibility under increasing levels of intermittent generation).

These points are reflected in our answers to the Commission consultation questions in the following section.

2. Consultation Questions and ESB Response

| Question | ESB Response |
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| (1) Do you consider that the current market prices prevent investments in needed generation capacity? | <p>That is too simple a view. Current market prices are one of a number of barriers to investments.. Generation investment decisions are based on the future expectations of a number of value and risk drivers over the lifetime of an investment and not simply current market prices. Key factors that influence an investment decision include:</p> <ul style="list-style-type: none"> ▪ Market fundamentals (supply/demand balance, power/fuel/CO2 prices, etc...) much of which is in turn driven by underlying macro-economic, geopolitical and technological drivers; ▪ Regulatory uncertainty on a wide range of factors (policy, charges, taxes, levies, market design, subsidy schemes/picking winners, environmental targets and obligations) ▪ Access to finance below the firm's cost of capital <p>At the present time and for the foreseeable future there is a significant uncertainty on all fronts. This is increasing the risk and therefore the probability of not making an adequate return on investment.</p> |
| (2) Do you consider that support (e.g. direct financial support, priority dispatch or special network fees) for specific energy sources (renewables, coal, nuclear) undermines investments needed to ensure generation adequacy? If yes, how and to what extent? | <p>Yes. Because of the intermittent nature of RES technology, conventional generation and storage will be necessary to secure generation adequacy. However, as RES generated power is subsidised and given priority access to the grid, it is effectively removed from the competitive market and thus the size of the "contestable market", where power producers compete with each other, shrinks. This makes it more difficult for conventional power producers to recoup costs and make a return on investment – the window for cost recovery is diminished. While in a competitive, energy only market prices should spike sufficiently for producers to recover costs (through the inclusion of scarcity rents), often this is not the case as price spikes become politically unpalatable – leading to price caps and other forms of market intervention.</p> <p>By subsidising any energy source governments are effectively selecting winners and thus undermining the investments of technologies that are not selected. This in turn leads to further interventions as the market</p> |

| Question | ESB Response |
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| | is deemed to be failing when investors stay away. |
| (3) Do you consider that work on the establishment of cross-border day ahead, intraday and balancing markets will contribute to ensuring security of supply? Within what timeframe do you see this happening? | Yes. The development of cross-border day ahead, intraday and balancing markets will certainly contribute to security of supply. However the contribution will be limited for some markets where physical interconnection levels are not sufficient to ensure generation adequacy at all times. Furthermore it is unlikely that there will be sufficient interconnection in place before 2020. The internal energy market must reflect the fact that security of supply is a national issue (as defined under Directive 2005/89/EC). |
| (4) What additional steps, if any, should be taken at European level to ensure that internal market rules fully contribute to ensuring generation adequacy and security of supply? | The removal of energy policy dissonance between the often conflicting objectives of security of supply, sustainability and competitiveness would make a major contribution, as would recognition of the time horizons of the sector with regard to visibility and consistency of policy/regulatory measures. As an example a clear indication on the integration of maturing RES technologies into the market through a timetabled phasing out of support schemes, as well as policy focussed on a single instrument (e.g. carbon price), as the sole mechanism for reducing CO2 emissions beyond 2020 would alleviate some of the uncertainty investors are currently facing. |
| (5) What additional steps could Member States take to support the effectiveness of the internal market in delivering generation adequacy? | Ensuring adequate levels of interconnection exist between Member States must be a priority for the effectiveness of the internal market, particularly for island systems. |
| (6) How should public authorities reflect the preferences of consumers in relation to security of supply? How can they reflect preferences for lower standards on the part of some consumers? | Public authorities can reflect consumer preferences in relation to security of supply through the provision of transparent and cost reflective prices at the point of sale, coupled with efficient demand reduction initiatives that are supported by the necessary technologies/programmes (e.g. smart metering, time of use tariffs etc.). |

| Question | ESB Response |
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| <p>(7) Do you consider that there is a need for review of how generation adequacy assessments are carried out in the internal market? In particular, is there a need for more in depth generation adequacy reviews at:</p> <ul style="list-style-type: none"> a. National level b. Regional Level c. European Level | <p>No. Directive 2005/89/EC empowers each Member State with responsibility for security of supply, furthermore the political impact of power shortages will remain a national issue. For this reason we believe that the assessment of generation adequacy is and should remain in the first instance a national concern. However such assessments must take into account the contribution from cross border interconnectors and therefore any regional assessments should not differ widely from individual national assessments.</p> <p>We are not of the view that a European level assessment would add significant value to national assessments, however as will be discussed below, a better approach would be to define a consistent assessment methodology across the EU.</p> |
| <p>(8) Looking forward, is the generation adequacy outlook produced by ENTSO-E sufficiently detailed? In particular,</p> <ul style="list-style-type: none"> a. Is there a need for a regional or European assessment of the availability of flexible capacity? b. Are there other areas where this generation adequacy assessment should be made more detailed? | <p>Yes, the generation adequacy outlook produced by ENTSO-E is sufficient. However, ESB believes that flexibility and generation adequacy should be treated separately and it should be ensured that any mechanisms to address shortfalls in either do not overlap (generation adequacy can be defined as having sufficient MW of generation available to meet a specific standard, whereas flexibility should be defined as having the right type of MW available to balance the system within specified timeframes after system events).</p> <p>While we do not object to a regional or European assessment of flexibility, such an assessment must be cognisant of the fact that both GB and Ireland are interconnected solely via DC interconnectors and the ability for such interconnectors to delivery flexibility is limited (in comparison to mainland European AC interconnected markets). A better approach would be to assess flexibility based on the synchronous system area.</p> <p>The ENTSO-E assessment on generation adequacy could make some comment on whether the prevailing market/investment conditions exist for an identified shortfall to be filled and potential policy responses/regulatory measures that might help to alleviate such a situation.</p> |

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| (9) Do you consider the Electricity Security of Supply Directive to be adequate? If it should be revised, on which points? | Yes and it states with the Directive that, Member States must ensure security of electricity supply, while having regard for co-operation with cross border markets. |
| (10) Would you support the introduction of mandatory risk assessments or generation adequacy plans at national and regional level similar to those required under the Gas Security of Supply Regulation? | ESB would support this, however a direct comparison with the gas risk assessment is not appropriate. A fundamental difference between gas and electricity security of supply is the fact that some Member States have no ability to meet gas demand levels from indigenous sources and so the key risk is a reliance on regional and external suppliers. Furthermore the inability to store electricity coupled with the instantaneous requirement to balance the system at all times leads to very different assessment approaches. |
| (11) Should generation adequacy standards be harmonised across the EU? What should be that standard or how could it be developed taking into account potentially diverging preference regarding security of supply? | As stated above, Security of Supply is primarily a national issue. Notwithstanding this, ESB is supportive of some level of harmonisation such as a standardised methodology for assessing generation adequacy. However, given that the assessment of loss of load probability, for example, is specific to the structure of the power system (generation mix, potential for storage, RES penetration levels, type and level of interconnection), for a particular market/area it is unlikely that a single European adequacy standard would be workable. |

| Question | ESB Response |
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| (12) Do you consider that capacity mechanisms should be introduced only if | No. There must be recognition from policy makers that not all markets are energy only and that some, (generally pool markets with regulated rules for how energy is bid into the market ¹) incorporate capacity |

¹ Bidding code of practice rules permitting only short run marginal cost bidding. The market rules therefore provide no opportunity for generators to earn scarcity rent. As such a capacity mechanism is required not only to provide signals for new entry/investment but remunerate plant and capacity in accordance with performance (including during times of scarcity).

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| <p>and when steps to improve market functioning are clearly insufficient?</p> | <p>mechanisms as an inherent function of their design. An example is the Irish Single Electricity Market (SEM), where several independent studies² have concluded that the SEM is meeting its strategic objectives of promoting competition, ensuring supply security and the promotion of renewable generation (i.e. the market is functioning).</p> <p>For energy only markets it is prudent for policy makers to consider capacity mechanisms <u>only</u> when there is a real threat to generation adequacy that is not expected to be met by the market. However this should not be considered a market failure, but a natural functioning of the market in response to distortions created by existing regulatory/administrative interventions (RES support mechanisms, regulated prices etc.).</p> |
| <p>(13) Under what circumstances would you consider market functioning to be insufficient:</p> <p>a. to ensure that new <i>flexible</i> resources are delivered?</p> <p>b. to ensure <i>sufficient</i> capacity is available to meet demand on the system at times of highest system stress?</p> | <p>As noted previously, ESB believes that flexibility and generation adequacy should be treated separately. Market functioning can be considered to be insufficient to ensure new flexible resources are delivered if it is considered that the market will not sufficiently reward flexibility through the appropriate price signals or remuneration mechanisms. Flexibility can be remunerated by energy, balancing markets and/or systems services and not capacity mechanisms.</p> <p>As noted in Question 1, investment in generation is based on a range of inter-related factors. Any number or combination of these factors could lead to the market not delivering adequate capacity to meet demand during times of stress. Of paramount significance is the ability of the market to sufficiently reward scarcity during times of stress (as assessed through modelling future scenarios). However, of at least equal importance in today's environment is the level of regulatory uncertainty facing investors. As such market</p> |

² The Economic and Social Research Institute in Ireland (ESRI), *Review of Irish Energy Policy* (Research Series No. 21 April 2011). Cambridge Economic Policy Associates Independent review of Market Power and Liquidity in the SEM, a report to the CER and Utility Regulator (December 2010). Reforming Competitive Electricity Markets to Meet Environmental Targets, David Newbery (August 2011).

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| | functioning is insufficient to ensure sufficient capacity when it does not provide the appropriate investment signals to investors, this circumstance is exacerbated further as a result of regulatory uncertainty. |
| <p>(14) In relation to strategic reserves:</p> <p>a. Do you consider that the introduction of a strategic reserve can support the transition from a fossil fuel based electricity system or during a nuclear phase out?</p> <p>b. What risks, if any, to effective competition and the functioning of the internal market do you consider being associated with the introduction of strategic reserves?</p> | <p>In that a strategic reserve is a form of capacity mechanism and that it can be easily removed, then yes it can support the transition.</p> <p>Strategic reserves create additional costs that are not reflected in wholesale markets, as they are remunerated through alternative revenue streams. However, notwithstanding the fact that strategic reserves create a distortion to the wholesale energy price, appropriate design can minimise the effect of that distortion.</p> |
| <p>(15) In relation to capacity markets and/or payments:</p> <p>a. Which models of capacity market and /or payments do you consider to be most and least distortionary and most compatible with the effective competition and the functioning of the internal market, and why?</p> | <p>A non-discriminatory, technology neutral mechanism, where scarcity value is established through some market based approach will be least distortionary. In terms of compatibility with the effective competition and functioning of the internal market, provided appropriate complementary rules are established at the border on how capacity is to be traded across interconnectors between two member states/bidding zones, the capacity model in each respective zone is irrelevant. In summary this will entail defining whether prices to be traded via the coupling algorithms are done so on a like-for-like (short run or long run) basis. Provided there is consistency between markets/bidding zones, this will reduce trade distortion across borders. It will also allow trade to take place without significant distortion between states where capacity mechanisms exist and those that do not, as is the case between GB and Ireland at present.</p> |

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| <p>b. Which models of capacity market and /or payments do you consider to be most compatible with ensuring flexibility in a low carbon electricity system?</p> <p>c. Are there any models of capacity mechanism the introduction of which would be irreversible, or reversible only with great difficulty?</p> | <p>As noted previously, ESB believes that flexibility and generation adequacy should be treated separately, and that flexibility should not be remunerated via capacity payments.</p> <p>Where a CRM is introduced into a market (previously energy only), inherently the value of scarcity should drop to zero when sufficient capacity exists. However it is over simplistic to assume that it would be easy to reverse the mechanism, as the subsequent impact on any long term contracts entered into, will introduce significant distortions.</p> <p>Where a CRM is an inherent function of the market design (i.e. pool markets with regulated bidding), it is also difficult to reverse a capacity mechanism without a market re-design, which is generally a costly and time consuming exercise, having wider implications than just generation adequacy.</p> |
| <p>(16) Which models of capacity mechanisms do you consider to have the least impact on costs for final consumers?</p> | <p>Those that are technology neutral and non-discriminatory, i.e. they treat existing and new investments on an equal basis.</p> |
| <p>(17) To what extent do you consider capacity mechanisms could build on balancing market regimes to encourage flexibility in all its forms?</p> | <p>As noted previously, flexibility and generation adequacy should be treated separately, and that flexibility should not be remunerated via capacity payments.</p> |
| <p>(18) Should the Commission set out to provide the blueprint for an EU-wide capacity mechanism?</p> | <p>No, we do not believe the Commission should undertake such an initiative. In the same way that it has approached the formation of the internal market (via the development of network codes and congestion management rules on interconnectors), the Commission should restrict itself to defining how capacity is</p> |

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| | <p>traded at the borders. As we have outlined in our response to Question 15(a) and 20(a), provided there is consistency on how capacity is treated between markets then we believe it is possible to allow Member States to define national solutions to the generation adequacy issue, in whatever way they deem appropriate, without distorting trade across borders. We believe this would be consistent with the Target Model/network codes for the internal market and as such could be implemented within the 2014 timeframe. We believe this approach is also consistent with the rights for Member States to secure their own supply needs, whilst taking into account cross border interconnection.</p> |
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| Question | Response required |
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| (19) Do you consider that the European Commission should develop detailed criteria to assess the compatibility of capacity mechanisms with the internal energy market? | No. Security of supply is primarily a national issue and should remain so. Therefore high level guidelines that focus on the impact at the borders are sufficient. |
| (20) Do you consider the detailed criteria set out above to be appropriate? | <p>Some of the criteria are appropriate provided they remain as high level guidelines, however we would add the following qualifications:</p> <ul style="list-style-type: none"> ▪ Consideration of “less distortionary” measures such as energy efficiency or demand reduction, must take account of associated risks, e.g. <ul style="list-style-type: none"> ○ Energy efficiency targets often not realised; ○ Energy efficiency gains do not necessarily lead to reductions in overall energy consumption (as new energy consuming products are purchased); ○ Reduced demand levels may lead to plant closures which may do nothing to help generation adequacy levels. ▪ Criteria relating to the duration of the capacity mechanism should not be defined; <ul style="list-style-type: none"> ○ this would be unduly prescriptive on markets with capacity mechanisms as a function of their |

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| <p>a. Should any criteria be added to this list?</p> | <p>design. There should be no requirement for retroactive changes to existing CRMs.</p> <ul style="list-style-type: none"> ○ For other markets the capacity price will trend to zero as sufficient capacity is added <ul style="list-style-type: none"> ▪ A capacity mechanism should be implemented on a non-discriminatory basis for all participants (incumbents and new entrants). By its nature therefore, in encouraging investment, a capacity mechanism can potentially enhance competition with a consequent reduction in the market power of incumbents. However market power/competition issues should be primarily addressed via other regulatory frameworks. ▪ The Commission should restrict itself to ensuring that CRMs are allocated via market based, measures without the need to specify details on how CRMs are implemented. ▪ No retroactive changes to existing CRMs, particularly where they exist as a feature of the underlying energy market design. <p>In order to ensure that the existence/introduction of capacity mechanisms is compatible with the internal energy market and does not result in barriers to trade, the European Commission could define criteria for how capacity value/scarcity is to be treated at borders. ESB proposes that the Commission could define the following criteria in order to minimise any trade distortion from CRM, while taking into account the contribution from interconnection to a Member States generation adequacy:</p> <ul style="list-style-type: none"> ○ Prices at any specific border must be exchanged on a complementary basis to each other and in this regard must both either: <ul style="list-style-type: none"> - Specifically include scarcity value in bid/offer prices³ <p>OR</p> <ul style="list-style-type: none"> - Specifically exclude scarcity value in bid offer prices⁴ <p>Under these circumstances, the fact that some Member States value security of supply more than others and are disposed to place the cost of this additional insurance onto consumers within the State, should not</p> |
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³ In this regard price coupling can take place between markets where one market values scarcity explicitly through CRMs while the other values scarcity implicitly through the energy price, and/or between markets where both value scarcity implicitly through the energy price, without creating barriers to trade

⁴ In this regard where two markets have chosen to explicitly value scarcity explicitly through a CRM, they have the option to exchange prices on a short run basis only

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| <p>b. Which, if any, criteria should be given most weight?</p> | <p>be considered distortionary to the internal market.</p> <p>CRMs that focus on contractual auctions etc. across borders, while worthy, suffer from the reality that security of supply remains a national issue, and in particular, during times of system stress, national concerns (which are outside the control of any market participants) will take precedence over cross border contractual arrangements.</p> <p>We believe the criteria specified in our answer to 20 a) should be given considerable weighting.</p> |
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