ESB Group Response:

Integrated Single Electricity Market

(I-SEM)

Market Power Mitigation Consultation paper

SEM-15-094

18th January 2016

Energy for generations

Contents

EXECUTIVE SUMMARY

The implementation of I-SEM represents a significant change for the All Island electricity market, and will lead to much tighter integration with other European markets. The new design will change the dynamic of how the market operates, introduce new risks and opportunities for market participants, and lead to much greater cross-border activity. At the same time, the market is becoming increasingly competitive, limiting the ability of any one player to be able to exploit market power.

Decisions on market power mitigation measures should be considered in the context of the changing market and competitive dynamics, and not simply based on a roll forward of existing SEM measures.

There should not be a presumption that market power exists in the I-SEM, or that participants would exploit it. The scope of measures being considered in the consultation document is a concern in this respect.

The requirement to comply with the Internal Energy Market (IEM) is the key driver of the transition to I-SEM. This represents a fundamental shift away from specific national regulatory frameworks as all I-SEM market participants will have to comply with rules and regulations that are not only country or market specific, but also with overarching European laws. It is important that this level of regulation is fully taken into account when assessing the need for additional measures to address market power concerns. With initiatives such as European Regulation on Wholesale Energy Market Integrity and Transparency (REMIT), market power mitigation is becoming increasingly focused on ex-post regulation, supported by robust market monitoring. Furthermore, the design of I-SEM and indeed the rules of the IEM already contain numerous in-built mitigations to prevent the exploitation of market power and these should also be taken into consideration.

We believe that there is a strong link between some of the measures (Forward Contracting Obligation (FCO) and vertical integration) being considered in this consultation, and measures that may be implemented to promote liquidity.

It is ESB's contention that provision of sufficient forward liquidity is the greatest risk to a successful implementation of I-SEM, given the structural lack of hedgeable generation as more and more intermittent generation is commissioned[1]. A continuation of the status quo is not tenable, as by 2020 the volume of Directed Contracts (DCs) available will naturally decrease to c. 2TWh (with only c.1TWh going to third parties), and the Public Service Obligation (PSO) backed hedges*, which ESB currently and voluntarily administers on behalf of the CER, *will have stopped, meaning the existing sources of liquidity can no longer be relied upon.

Hence, it is very important that these issues should be considered in the round. There is a risk that sequential decision-making to address discrete issues will lead to an overall package that is disproportionate and/or insufficient to allow participants the ability to manage their trading exposures.

The key principles adopted by governments and competition authorities include that intervention must be reasonable and proportionate, that is, it achieves an identified aim, but:

- is no more onerous than is needed to achieve its aim; and
- does not produce disadvantages that are disproportionate to the aim.

[1] with 40% wind, only a portion of the remaining 60% thermal generation will be able to offer hedges

Proportionality is enshrined both (i) as a principle of good regulation (as part of the Better Regulation Principles at EU and national level) and (ii) as a legal principle both under EU law, which underpins electricity regulation, and as a matter of national administrative law.

Therefore in setting its I-SEM market power policy, the SEM Committee must act reasonably and only adopt measures that when taken in aggregate are proportionate to the level of risk they are intended to address, and be consistent with the wider IEM.

ESB is concerned that over burdening (or "pancaking") I-SEM with ex-ante interventions related to market power and applied only to Irish participants, risks placing those participants at a competitive disadvantage relative to others in the wider IEM who are not subject to such rules, thus distorting competition and threatening the free movement of goods and services, contrary to the objectives of the IEM. This risks a disproportionate response which could damage the development of competition in the longer run, which would not be in I-SEM customers' interest.

It is important to note that the European Commission indicates where a company has a market share of less than 40%, it is unlikely to be dominant[2]. Additionally, the European Court of Justice (ECJ) has alluded to a presumption of dominance at 50%[3] but not 40%. In fact, there is effectively a presumption that there is no dominance under 40%.

The SEM has been very successful in attracting competition into the All Island market and a reasonable assessment of market shares and other competition metrics (as conducted by the Regulatory Authorities (RAs), ESB and others) shows that very early into the lifetime of the I-SEM, ESB's market share of 31.2% in 2020 is not indicative of dominance nor is ESB pivotal in 2016 and 2019 using an Residual Supply Index (RSI) of 1.1.

Furthermore, we consider the modelled outcomes presented in the consultation paper, are (by the RAs' own admission) a worst case scenario outlook. This is particularly pertinent to 2024, which from a structural market power perspective, lacks any credibility as a modelling outcome upon which policies should be based, for the following reasons:

- The assumption that there no ESB plant closures
- High demand growth scenario used as a base case
- The exclusion of any further interconnection from the base case
- DSU assumptions - which if based on the Generation Capacity Statement forecast for 2024 we understand to have been surpassed in 2015
- The impact of interconnector flows under Euphemia not accounted for

We also have concerns around the choice for modelling the year 2019, as we consider 2020 to be more relevant given the extent of changes expected in the generation fleet in 2019. In addition the overly simplistic assumption regarding demand uplift in balancing timeframes significantly overstates the market power assessment for the balancing market (BM) across all years modelled.

We would also contest the RAs' definition of the forward market, which ESB considers is wider than proposed by the RAs. The consultation document states that "The largest possible geographic market in I-SEM includes all generators and load on the island, and the capacity of the interconnectors with GB, since that is the limit on cross-border (or between bidding zone) competition." Whilst this is true in the context of 'clean' hedges, it ignores the possibility of 'proxy' hedging using a market which is highly correlated. This is

[2] See following link: http://ec.europa.eu/competition/antitrust/procedures_102_en.html

[3] Case 62/86, AKZO v Commission, para 60

common practice in many European electricity markets, and is a risk management strategy currently employed by ESB and other SEM participants. I-SEM participants will have the option of using GB forward electricity contracts as a proxy hedge (even without transmission rights on interconnectors) or underlying gas and carbon markets which are also highly correlated.

Even using conservative assumptions, and an overly narrow definition of the forward market, market share and RSI metrics suggest that ESB is not structurally dominant.

Within the overall framework put forward by the RAs to assess market power, most of the focus has been on the structural issues and there has been no assessment of either conduct or performance. It is imperative that such an analysis is undertaken given the greater burden of proof necessary for any ex-ante market power mitigation measures, as ESB's market share falls below 40%.

Notwithstanding the illegality of plant withholding/strategic bidding (under the grid code and REMIT), we have conducted analysis (for the purposes of this consultation) to demonstrate the negative/marginal gain of such an endeavour. This analysis demonstrates that ESB plant withholding/strategic bidding at the day ahead (DA) results in only marginal benefits at the portfolio level, and often results in decreases in margins (certainly within the margin of forecast error). This highlights the fact that the risks from such a strategy (due to factors such as REMIT and the level of uncertainty due to high wind generation levels) far outweighs the small benefits that might be gained and demonstrates that such a strategy would not be followed.

While the framework adopted to assess market power (Structural, Conduct and Performance basis) is welcomed, there has not been an adequate assessment conducted (ex-ante) along these lines. This is a fundamental necessity given the level of intervention being considered and the risks that would be imposed on ESB as a result.

The structural analysis demonstrates that market power should not be a concern in the prompt and forwards markets. The transparency requirements and ex-post enforcement of market abuse provided for under the legislative framework, including REMIT and competition law, together with a well-resourced Market Monitoring Unit (MMU) should be sufficient to address any residual market power concerns.

The Balancing Market (BM) is the one area where we understand that there may be concerns regarding the potential to exercise market power. This issue is not specific to I-SEM, and in most equivalent markets internationally there is the potential for participants to exercise locational or temporal market power, and not necessarily just the larger players. Again, ex-post measures are normally deemed sufficient. However, we understand there may be a case for explicit short run marginal cost (SRMC) based bidding principles for balancing actions required to alleviate transmission constraints, or for other types of balancing actions where competition may be limited. These principles must recognise opportunity costs and risk premia associated with the risk of outage whilst delivering balancing actions.

We note that under such an approach, some plant which may be required for managing transmission constraints may fail to clear in the capacity auctions, and be unable to cover the remainder of their fixed costs by bidding in scarcity into the BM. For these plants, additional bilateral contracts with the TSO may be required to prevent them exiting the market, or greater degrees of bidding freedom permitted.

We do not believe there is a strong case requiring SRMC bidding restrictions for energy related actions, since this has the potential to distort the market by weakening balancing incentives, and interfering with cross-border flows. However, ESB considers, that where ambiguity or the potential for ambiguity exists that clarity is important and so a clearly defined set of guidelines (with flexibility enshrined in them) would aid all market participants.

With effective regulation in the BM there should be no further requirement for ex-ante measures in the DA or intraday (ID) markets. Likewise we see no case for an FCO.

A feature of any well-functioning market is a forward market where participants are able to access at any time the hedges they need at a forward price that can be relied upon. This is to the benefit of all players, including larger vertically integrated players for the purposes of hedging their assets and setting retail tariffs, and for smaller non-integrated players who need access to risk management products to manage their businesses. Given the structural issues with liquidity in the market, ESB would be willing to support a holistic approach for promoting liquidity in conjunction with other larger players. We believe that this would be a far more effective means for promoting a competitive market than an FCO, which would reduce the ability of ESB to provide more continuous liquidity to the market.

We believe that regulating the BM and ensuring there is sufficient continuous liquidity in the forward market and a reliable forward price should be the main concerns for the SEM Committee, and any ex-ante interventions should be targeted in these areas.

In light of this, we see no rationale for the continuation of ESB's vertical ring-fence since it is unrelated to market power in the BM and provides little benefit in terms of liquidity and providing a reliable forward curve.

Vertical integration is a common organisational structure in electricity markets and under I-SEM ESB will be competing against a number of vertically integrated within the IEM. A number of these firms, Centrica and SSE, already operate within the SEM.

The SEM Committee has raised concerns that vertical integration risks foreclosure. The findings of the Competition and Markets Authority (CMA) in GB are relevant to address this question. The CMA found that input foreclosure by a vertically integrated player would be a costly strategy with limited potential gain and potentially negative impacts for the vertically integrated firm's own supply business. We believe these findings have strong parallels in I-SEM and should be considered.

There are also a number of benefits of vertical integration. We estimate that ESB, with the removal of ring-fencing, could eliminate existing inefficiencies from its business of c. €12m annually. Further, we estimate that the removal of the ring-fence in advance of I-SEM would avoid ESB having to incur significant additional capital expenditure of c. €17m and the imposition of additional ongoing inefficiencies of c. €14m per annum in order to operate in I-SEM. This would be achieved through the removal of duplication and the ability to make more efficient risk management decisions. Avoiding these costs will afford ESB greater flexibility in pricing appropriately to market conditions with knock on benefit for customers.. Furthermore, ESB would be better able to offer risk management products to the market, including forward hedges and potentially other tailored products. This will be important given that participants will be faced with greater risk exposures under I-SEM when compared to the current SEM. A decision on this is urgently required in order to allow Electric Ireland sufficient time to implement the required processes and systems, for I-SEM commencement (while remaining compliant with public procurement rules).

The continuation of the vertical ring-fence is manifestly disproportionate and is not necessary. This ex-ante regulatory intervention simply cannot be justified any longer when one has regard to the changing regulatory landscape, ESB's declining market shares and the increase in competition from large, vertically integrated undertakings. A vertically integrated ESB would realise efficiencies that can benefit all I-SEM customers, and would make it better able to provide risk management products to the wider market helping to promote competition.

1. INTRODUCTION

ESB is pleased to respond to the Regulatory Authorities' ("RA"s') consultation paper on I-SEM Market Power Mitigation (SEM-15-094). This response is from ESB Group and has the following structure:

- In sections 2-4 we outline key issues and considerations that relate to the assessment of market power in I-SEM;
- In Appendix 1 we respond to each of the questions posed in the consultation paper; and
- The Appendices set out additional information that supports our position.

2. PROPORTIONALITY

One of the key principles adopted by Governments and competition authorities is that any intervention to mitigate the potential to exploit market power must be reasonable and proportionate. That is, it achieves its aim, but that:

- it is no more onerous than is needed to achieve its aim; and
- it does not produce disadvantages that are disproportionate to the aim.

Proportionality is enshrined both (i) as a principle of good regulation (as part of the Better Regulation Principles at EU and national level) and (ii) as a legal principle both under EU law[4], which underpins electricity regulation, and as a matter of national administrative law. For the reasons set out below, we are concerned about the potential for over burdening I-SEM with ex-ante market power interventions, which apply only to Irish participants and risks placing them at a competitive disadvantage relative to others in the wider IEM who are not subject to such rules. This approach risks distorting competition between Member States and threatening the free movement of goods and services, contrary to the objectives of the IEM. We do not believe this is in the interest of I-SEM customers.

In this regard, we wish to highlight the following general objectives of national regulatory authorities as specified in Article 36 of the Electricity Directive 2009/72/EC:

> "(a) ***promoting***, in close cooperation with the Agency, regulatory authorities of other Member States and the Commission, ***a competitive***, secure and environmentally sustainable ***internal market in electricity*** within the Community, and effective market opening for all customers and suppliers in the Community and ensuring appropriate conditions for the effective and reliable operation of electricity networks, taking into account long-term objectives;
>
> (b) ***developing competitive and properly functioning regional markets*** within the Community in view of the achievement of the objectives referred to in point (a);
>
> (c) ***eliminating restrictions on trade in electricity between Member States***, including developing appropriate cross-border transmission capacities to meet demand and enhancing the integration of national markets which may facilitate electricity flows across the Community;" (*our emphasis added*)

We believe there is a strong link between the different I-SEM markets and the measures being considered to mitigate the potential exercise of market power. If sequential decisions are made on discrete issues, rather than by adopting a more holistic approach, there is a significant risk that the overall package will lack cohesion, be unworkable and disproportionate. It is therefore of paramount importance that any decision to intervene is thoroughly scrutinised and based on robust evidence to ensure the right competitive balance that delivers optimal outcomes for customers. Such an approach should be consistent

[4] See for example Case C 101-12 Herbert Schaible v Land Baden-Wuerttemburg at para 32: "According to well-established case-law, the principle of proportionality is a general principle of EU law and requires that measures implemented through its provisions 'be appropriate for attaining the legitimate objectives pursued by the legislation at issue and [do] not go beyond what is necessary to achieve them'."

with principles of EU law and the Irish Better Regulation principles, which as noted above, include proportionality. The RAs' commitment to evidence-based decision making is key throughout this process in order to demonstrate that the aim of any proposed intervention is legitimate and that the measure is proportionate to achieving that aim. We see the move to I-SEM as a significant market change, and any measures need to be considered in light of this new market design and wider European regulatory framework, and not just as a simple roll-over of the existing arrangements from SEM.

We therefore urge the RAs to act reasonably and only adopt measures that when taken in aggregate are proportionate and tailored to the level and nature of risk which the RAs are seeking to address, and are consistent with the wider IEM.

2.1 Better Regulation Principles

The approach taken to mitigate concerns about the exercise of market power should be proportionate to any structural concerns as well as the incentives identified and that they could be ex-post in nature. This is one of our key concerns.

For example, we note the following statement from section 4.2.6:

> *"In general, the RAs consider that generators should not be allowed to include their own expectation of scarcity rents or future inframarginal rents in their offers because there is a concern of not being able to differentiate between the exercise of market power and genuine legitimate behaviour leading to high prices due to scarcity."*

This issue of interpreting the 'legitimacy' of behaviour with respect to pricing above SRMC is inherent in competitive electricity markets everywhere (and particularly in energy-only market designs). The issue for regulators then is how to deal with the inherent uncertainty – balancing the need to mitigate the potential to exploit market power with the need to ensure efficient dispatch and investment signals.

The consultation document goes on to state that:

> "…these issues [of uncertainty] are best addressed by appropriate market design…"

This statement appears to pre-suppose that an ex-ante (rather than ex-post) intervention is desirable to manage the uncertainty. Ex-ante and ex-post interventions each involve different challenges. The key distinction is that ex-ante interventions can stifle innovation, face a higher risk of regulatory failure due to the significant informational and analytical requirements, and impose a considerable regulatory burden on participants. Ex-post interventions are not necessarily limited in this way.

We would therefore question whether it is appropriate to maintain a principle that ex-ante intervention is preferred in all circumstances. Rather, the application of any intervention should be tested against the Irish Better Regulation Principles. We provide an initial high-level assessment against each of the principles in Appendix 1. For the reasons set out in that appendix, we believe caution should be applied before deciding to intervene ex-ante. It is therefore of paramount importance that any decision to intervene ex-ante is thoroughly scrutinised, based on robust evidence and satisfies the Irish Better Regulation Principles.

2.2 The importance of a holistic view of I-SEM

There is a strong link between the different I-SEM markets and the measures being considered to mitigate the potential exercise of market power. Below we provide high-level responses to each of the key interactions noted in the consultation document. This is a challenging space as these interactions are complex, the design of I-SEM is still a work in progress in places as are certain elements of the IEM. It would also be helpful to have visibility of the measures being considered for the Capacity Remuneration

Mechanism (CRM) and DS3 markets and being able to compare these measures alongside the other I-SEM markets.

With this in mind, we would point out that as decisions relating to the design of each market are taken with a holistic view of I-SEM the same approach should be applied to any measures to mitigate the potential exercise of market power. We see a risk that if sequential decisions are made to address discrete issues the overall package of measures may lack cohesion, be unworkable and disproportionate. This outcome would not be in the interest of I-SEM customers or participants.

Physical markets

We agree that market coupling will likely have a very significant impact on the ability of any party to exercise market power in DA market (and later the ID market and potentially BM). This will be true from day one of I-SEM, through increased efficiency of flows across the existing EWIC and Moyle interconnectors. Furthermore, a number of credible new interconnector projects could be commissioned in the coming years (for example to GB and or France). As confirmed by the RAs' own analysis in chapter 6 of the consultation document, this increased competition will have a significant impact on the ability of any party in I-SEM to exercise market power in DA and ID markets. This impact should not be downplayed.

We can understand that the exercise of local or temporal market power in the BM is a key concern for the RAs. However the potential exercise of local market power would apply only in specific circumstances, and this is not an issue unique to I-SEM, and therefore we would argue that any intervention should be specifically targeted to this case so as not to undermine competition in the energy market itself.

CRM

As the RAs acknowledge in the consultation document, the CRM design choice of a Reliability Option (RO) is itself a market power mitigation measure, as it reduces the incentive to bid in DA, ID market and BM markets above the RO strike price. We would argue that this behavioural incentive should be given greater weight in the 'Structure-Conduct-Performance' (SCP) framework put forward (i.e. as an indicator of likely conduct under I-SEM). It is in precisely these extreme 'scarcity' periods when the majority of plant are running that market power concerns may be greatest. Indeed, our analysis indicates that the degree of competition is quite strong at 'medium' levels of demand. Prices in the €200-300/MWh range are regularly seen in the SEM. The CRM would act to limit prices (via the Market Reference Price (MRP)) rising above this 'marginal peaking plant SRMC' level in periods of scarcity, and competition should ensure competitive pricing below this level.

Further, while we agree that the interaction between the CRM and the physical markets (via the MRP) could drive different incentives depending on relative RO holdings, this would tend to increase 'missing money' and thus the RO option fees, the certainty of which may be preferred by market participants. Provided that the CRM auction is transparent and competitive the combined effect should be for a reduction in the incentive for the exercise of market power in the energy market.

FTRs

While the consultation document rightly points out the interaction between FTRs and the physical markets, we would argue that the likelihood of a single party being able to manipulate prices across two markets (spreads overall) and thus increase (or decrease) the value of FTRs is remote.

DS3

Transparent and competitive procurement mechanisms should limit the ability of any party to exercise market power in setting availability payments under DS3. This should be dealt with as part of the auction/tender design for DS3.

While the consultation document rightly points out the interaction across energy and ancillary services close to real time, we would argue that the ability to exercise local market power in the BM should be greatly reduced for a DS3 provider under SO dispatch instructions.

3. CONTEXT FOR MARKET POWER ASSESSMENT

Market power is a feature of all electricity markets, and unlike in some other markets, the need to balance supply and demand instantaneously and simultaneously across the network, means that small as well as larger players can have temporal or locational market power. Hence, market power and measures to mitigate it are a key consideration in all electricity markets including I-SEM. In this section we set out the key context for assessing market power in I-SEM and put forward our view of the appropriate market definitions, metrics and modelling to carry out that assessment.

3.1 Assessing market power in I-SEM

The implementation of I-SEM represents a significant change for the All Island electricity market that will lead to further integration with other European markets. At the heart of the I-SEM philosophy is a preference for competitive approaches that are in the interest of customers and equal access to all I-SEM markets for participants of all sizes and technologies. The chosen high level and detailed design enshrines this. The RAs' commitment to evidence-based decision-making further underpins this. We consider this is important basis within the context of assessing market power.

It is essential that any market power mitigation in I-SEM is thoroughly evaluated in the wider context of the transition to, and integration with the IEM. The IEM is a central pillar of European energy policy. The vision is for a fully integrated European electricity market with active cross-border trading, and competition where participation in the market is not defined by national borders, but rather by natural trading hubs and satellite markets. The IEM comprises a legally binding set of common technical and commercial rules and obligations that govern access to and use of the European energy networks. There are a number of phases to trading in the IEM, starting with the trading of long term cross-border transmission rights, this is followed by DA market coupling, and then continuous intraday trading and ultimately common balancing arrangements. These common market rules are further supported by common technical rules for connections within the IEM and for operating the transmission networks that make up the IEM. This represents a fundamental shift away from specific national regulatory frameworks. I-SEM is a significantly different market design to the SEM and there should not be a presumption of carry-over of the market power mitigation measures.

All I-SEM market participants must comply with a host of rules and regulations comprising European regulation (including national implementation of EU laws) as well as domestic and market-specific requirements. It is important these are taken in account when assessing the need for any further measures to address any market power concerns. The design of I-SEM and the IEM also contains numerous in built mitigations to prevent the exploitation of market power (such as unit based bidding, the exclusive nature of the DA market/ID market), which are set out in detail in Appendix 2.

There is a significant body of legislation in place which already provides considerable protection against market abuse and provides for increased levels of transparency. In particular, it is worth drawing attention to EU and national competition law and the REMIT in addition to various EU measures targeted at market abuse in financial transactions (including the Market Abuse Directive and the Market Abuse Regulation).

Applicable competition law is set out in the EU Treaty and, at a national level (in Ireland) in the Competition Act 2002 to 2014 (the "Competition Act"). Article 101 of the EU Treaty (Section 4 of the Competition Act) prohibits anti-competitive agreements while article 102 (section 5 of the Competition Act) prohibits the abuse of a dominant position. Competition law is enforced both by the European Commission and national authorities (e.g. the Competition Authority in Ireland, the Competition

Commission in GB - and we are aware that the Utility regulator has competition enforcement powers in Northern Ireland).

REMIT is an European regulation, binding in all Member States, which introduces a sector-specific legal framework for the monitoring of wholesale energy markets. The objective of REMIT is to ensure that customers and other market participants can have confidence that prices set are fair and competitive and that no profit can be drawn from market abuse. Under the structure put in place for REMIT, energy trading will be monitored at domestic and EU level to uncover abuses.

REMIT consists of three pillars as follows:

1. Prohibition of market manipulation and trading on inside information
2. A transaction and data reporting framework to allow for EU wide market monitoring by the Agency for the Cooperation of Energy Regulators (ACER) and national regulatory authorities
3. Provision to ensure any potential incidents are investigated and action is taken

REMIT also established mechanisms for the sharing of information about wholesale energy market transactions amongst relevant authorities, in particular with other national regulatory authorities including, financial (e.g., wholesale energy products which are financial instruments – EMIR) and competition authorities.

The introduction of REMIT is relatively new in the context of the SEM market power mitigations that are currently in place and we feel this changes the basis against which the design of market power mitigation measures for I-SEM are assessed.

Competition law and REMIT provide EU and national regulators with the power to investigate and enforce any breach of market abuse rules ex-post. In addition, the increased transparency requirements under REMIT assist regulators in uncovering market abuse and by triggering the investigation of suspicious behaviour. This is further supported by the requirements of Regulation 543/2013/EU (the “Transparency Regulation”). Through this Regulation, the submission by TSOs of fundamental information related to electricity generation, load, transmission and balancing for publication through the European Network of Transmission System Operators for Electricity’s (ENTSO-E) Transparency Platform has become mandatory.

Whilst we note that in the consultation paper the RAs have acknowledged the introduction of REMIT and the increased scope for effective ex-post regulation, we have not seen evidence that this has been duly taken account of in the approach being proposed to market power mitigation in I-SEM.

This increased level of market transparency provides a platform for effective ex-post regulation. The application of REMIT and the impact that it is having on market participants should not be underestimated, given the extent of penalties that can be applied.[5] The regulatory framework is a complex, multi-faceted environment and a thorough evaluation is essential to ensure a cohesive and proportionate set of measures is put in place.

I-SEM will, by virtue of its design, impose greater risk on participants that they do not currently face in the SEM. These range from marginal cash-out prices for being out of balance, the potential for financial penalties and competitive procurement processes. Market participants will need to adopt new strategies and approaches to manage risk and comply with these new market rules.

[5] Of note is the recent announcement by Spain’s CNMC fining Iberdrola €25m for a breach of REMIT. Notably, this decision dates back to before the requirement for data collection under REMIT had commenced.
http://www.cnmc.es/CNMC/Prensa/TabId/254/ArtMID/6629/ArticleID/1547/La-CNMC-sanciona-a-Iberdrola-Generaci243n-con-25-millones-de-euros-por-manipulaci243n-en-el-precio-de-la-energ237a-el233ctrica.aspx

3.2 Market power assessment framework

We support the application of the SCP framework to assess market power in I-SEM. We do, however, have concerns that the RAs' analysis has not given sufficient consideration to the conduct and performance dimensions. It is imperative that further analysis on these aspects of the framework is undertaken to compile a robust evidence base on which informed evidenced based decisions can be made.

Notwithstanding the illegality of plant withholding/strategic bidding (under the grid code and REMIT), we have conducted analysis (for the purposes of this consultation) to demonstrate the negative/marginal gain of such an endeavour. This analysis considers plant withholding / strategic bidding strategies at the DA stage and results in either negative or only marginal gains. The risks from such an approach (due to factors such as REMIT and the level of uncertainty due to high wind generation levels) far outweighs the small benefits that could be gained and demonstrates that such a strategy would not be viable. We outline our analysis in more detail in a separate confidential submission accompanying this consultation response.

We would contend, however, that the assessment undertaken has a number of shortcomings that overstate the potential extent of market power in I-SEM. It is ESB's view that market power is not a concern at all in the I-SEM forward, DA and ID markets and any market power concerns that remain are in the BM only, noting that we are yet to see the RAs assessment of the CRM or DS3 markets. We explain the reasons for this position in the following sections.

3.3 Market definition

Defining the applicable market(s) is a necessary prerequisite to assessing market power. We agree that product, geography and time are the correct dimensions to define the I-SEM markets.

In our view, the relevant markets for assessing market power become wider with integration to the IEM, whilst greater convergence across markets will also provide I-SEM participants with more options for managing risk. The RAs have acknowledged that the corresponding evaluation of market power under I-SEM needs to be from a broader geographic perspective[6]. However this sentiment has not progressed into the consultation. In Table 1 we suggests potential market definitions (product and geography) that could apply to I-SEM.

Table 1 Potential I-SEM product and geographic market definitions[7]

I-SEM market	Product	Geography
Forward	Any physical or financial market where a participant can manage its forward market exposures	Regional (I-SEM + GB)
Day Ahead	A physical contract to generate or supply electricity, traded through day ahead auctions	Pan-European (subject to physical IC capacity)
Intraday	A physical contract to generate or supply electricity, traded through continuous intraday platforms	Pan-European (subject to physical IC capacity)
Balancing	Incremental offers to increase production/decrease consumption or decremental bids to decrease production/increase consumption	Island of Ireland

[6] SEM Committee, I-SEM Market Power Mitigation discussion paper, SEM-15-031, p 8.
[7] We envisage four possible geographic market definitions under I-SEM. Local i.e. distinction areas within the Island of Ireland. Bidding Zone i.e. the Island of Island. Regional i.e. I-SEM and GB (the market(s) I-SEM is directly connected to). Pan-European referring to the Internal Energy Market.

We primarily disagree with the consultation paper suggestions regarding the geographic market definition for the forwards timeframe. The paper states that:

> *"The largest possible geographic market in I-SEM includes all generators and load on the island, and the capacity of the interconnectors with GB, since that is the limit on cross-border (or between bidding zone) competition."*

Whilst this is true in the context of 'clean' hedges, it completely ignores the possibility of 'proxy' hedging using a market which is highly correlated. This is common practice in many European electricity markets, and is a risk management strategy currently employed by ESB and other SEM participants. I-SEM participants have the option of using GB forward electricity contracts as a proxy hedge (even without transmission rights on interconnectors) or underlying gas and carbon markets which are also highly correlated.

In this regard, we note that the European Commission has considered the appropriate geographic market for financial products in several merger cases and whilst it has not been necessary to reach a definitive conclusion, it has indicated a recognition that this can be wider than national and possibly even EEA-wide[8].

While this definition of the forwards market has limited impact on the market power policies being proposed (given that the paper considers market power in the forwards market to be less of a concern and successfully mitigated by EU financial regulations), it could have an impact on I-SEM liquidity in the future as any FCO provided for under market power mitigation proposals will reduce over time (as ESB market share reduces). In this regard any liquidity obligation (that ties in with a holistic liquidity mechanism) should be more market based than the current regime under SEM.

In addition the DA and ID markets involve common rules and processes (applicable under Euphemia and XBID) and are therefore best thought of as pan-European. While at times these may be restricted due to physical interconnector capacity, with market coupling, increased convergence of the two markets can be expected in line with outcomes in the wider IEM.

Finally, we recognise the I-SEM boundary for the BM and that whatever residual market power concerns remain, they are most heightened in the BM. Our primary concern is the RAs' assessment of the geographic scope applied to the I-SEM forward market. We believe that the forward market should be thought of, at a minimum, as having a regional geographic scope. We commissioned a report from Baringa Partners to explore the appropriate scope of the I-SEM forward market. Box 1 sets out the key findings of that report. The full report is attached to this response.

Whilst we do not expect that other participants will explicitly subscribe to this view, we note that, all other SEM participants (including those much larger than ESB when assessed from a regional or pan-European perspective) benefit from the inefficiencies imposed on ESB as a result of regulatory interventions and as such a maintenance of the status quo is in their interests. However we do not believe this to be in the long term interests of customers or in the development of competition in I-SEM.

[8] See for example Case RWE/Essent M.5467, para 53, Iberdrola/Scottish Power M.4517 para 18-20, RWE/ENSYS M.5711 para 31, M.5496 Vattenfall/Nuon Energy at para. 9

Box 1: Key findings of Baringa Partners "Forward Hedging under I-SEM" paper

Energy markets are inherently volatile and participants need access to a range of risk management tools in order to manage their earnings risk. There are essentially three forms of risk hedging: clean hedging, asset backed hedging and proxy hedging. As well as standard forward contracts, traded over-the-counter or on-line exchanges, which help participants to lock in earnings from the wholesale market, there are a range of bespoke contracts that can provide participants with secure revenue streams outside of the wholesale market. In the Integrated Single Electricity Market (I-SEM) context these include Reliability Options and DS3 ancillary services contracts.

Market participants, ranging from large integrated utilities to small independent players, will adopt a range of different strategies for managing their exposures. With the introduction of I-SEM, the Irish market becomes part of the wider European Internal Energy Market (IEM), and we expect that participants will increasingly look to the more liquid trading hubs to manage their forward exposures. This is a pattern we have observed elsewhere following the introduction of market coupling.

With the greater price convergence associated with market coupling, I-SEM participants are able to hedge their positions in interconnected markets, either 'cleanly' where they are holders of transmission rights on interconnectors, or relying on the high degree of market correlation for proxy hedging. The correlation of monthly average prices between the current Single Electricity Market (SEM) System Marginal Price (SMP) and the GB electricity market (which is almost 100 times deeper in terms of trading volumes than the SEM) is already very strong at 91%, and this is despite flows frequently in the "wrong" direction to price differentials, an effect that will be eliminated with market coupling. Likewise, the highly liquid and strongly correlated GB gas market (monthly average price correlation of 92% to the SMP, with carbon included, and 2000 times deeper than the SEM) allows for proxy hedging, as well as asset-backed hedged for companies with gas-fired generation. These strong correlations are due to gas-fired generation being the most common marginal price setting plant type in both markets.

In this wider definition of the forward market, ESB is not a dominant player, and in fact by European standards it is a small company. The continuation of the vertical ring-fence would seem unusual, and a disproportionate intervention, in this context with several much larger vertically integrated players, including those active in the I-SEM who are not subject to the same restrictions.

3.4 Market power metrics

The choice of metrics put forward in the consultation paper is appropriate for assessing the structural element of the SCP framework. The RAs' assessment has focused heavily on the structural element of the SCP framework, so in this respect the three ex-ante measures considered (market share, Herfindahl-Hirschman Index (HHI) and Residual Supply Index (RSI)) are most relevant.

Market shares or concentration ratios are a simple tool to show the concentration of a market at a given point in time although it does not capture potential new entrants that may provide competitive pressure. For example, greater demand side participation and customer responsiveness may increase the elasticity of demand for electricity and thus weaken any market power. In wholesale electricity markets generation capacity is often chosen to illustrate the market concentration. This metric shows that ESB's market share

in generation continues to decline and will fall below 40%, which is below the level where the European Commission considers a firm is likely to be dominant[9].

The HHI measures the concentration of the relevant market at a given point in time by calculating the sum of the squared market shares of all market participants in a market thus takes firm scale into account. We would draw attention to a number of shortcomings of the HHI:

1. Like market shares, HHIs do not capture competitive pressures from new entrants.
2. The HHI is vulnerable to changes in plant ownership. If a generator were to be purchased by an existing Irish participant (e.g. if Centrica or SSE were to conclude a purchase of Viridian Group), upon completion of the transaction, the HHI could potentially increase even though there's been no actual change to the system itself. This could potentially increase the focus of regulatory market power intervention on ESB, whose portfolio hasn't changed. This would not be proportionate as the actions of one party could inadvertently impact another.
3. As mentioned above and in the consultation paper, the nature of wholesale electricity markets can mean that a single generator or group of firms have locational or temporal market power during certain periods and could therefore be pivotal, particularly at times of high demand. Wholesale electricity markets are susceptible to the exercise of market power during such periods. The use of market shares or HHI is commonly applied in competition economics but it does not reflect the unique characteristics of wholesale electricity markets.
4. David Newbery in commenting on the traditional measure of market power as HHI states that it "gives implausible results given the low elasticity of demand in electricity spot markets unless it takes accounts of contracting."[10] Citing the Lerner Index (as a method to describe the price-cost margin for a firm in direct proportion to its market share and inversely proportional to the elasticity of demand) a firm with high market share operating in a market with low elasticities should result in "very high price-cost mark ups – considerably higher than are observed" and leading to an "apparent inconsistency between theory and evidence."

ESB would therefore urge caution in overly relying on HHI as a basis for market power assessment and/or mitigations. A HHI below 1000 suggests an un-concentrated market; and HHI between 1000 and 1800 indicates a moderately concentrated market while an HHI above 1800 indicates a high concentrated market. Notwithstanding all of the above, the metric shows that market concentration will decline to a level of moderate concentration over time.

The RSI measures a firm's potential to exercise market power in the spot market by examining if demand could be met across a year without the capacity of the specific generator under investigation. We consider that RSI is a much more suitable measure as it can account for the characteristics of wholesale electricity markets. We acknowledge there is no absolute consensus on what a critical value of an RSI should be and while the RAs' seem to have a preference for 1.2 as the RSI threshold, there is a strong body of evidence which indicates that 1.1 is more relevant and more accepted.

- The California Independent System Operator developed this measure suggesting that an RSI should not be less than 1.2 (120%) at peak or less than 1.1 (110%) for more than 5% of the hours in a year. This is also noted in the RAs' 2015 Market Power Discussion Paper.
- The EC's sectoral analysis assessment (2007) was based on an RSI threshold test of 1.1.
- ACER has recommended screening market power on the basis of whether RSI is below 1.1 in more than 5% of periods[11]
- Cambridge Economic Policy Associates (CEPA) Market Power and liquidity in SEM used both 1.1 and 1.2 as relevant benchmarks for the assessment of RSI in SEM.

[9] http://ec.europa.eu/competition/antitrust/procedures_102_en.html
[10] Predicting Market Power in Wholesale Electricity Markets, EUI Working Papers, Newbery, 2009, p. 5.
[11] European Gas Target Model: Review and Update, Jan 2015; http://www.acer.europa.eu/Events/Presentation-of-ACER-Gas-Target-Model-/Documents/European%20Gas%20Target%20Model%20Review%20and%20Update.pdf

- David Newbery's "Predicting Market Power in Wholesale Electricity Markets" EUI Working Papers, RCAS 2009/03 notes that "Most market monitoring units take as a screen an RSI of less than 110%, as this provides for a minimal level of reserves, below which the Loss of Load Probability rises sharply and with it the scarcity value of power".

It is ESB's firm contention that an RSI of 1.1 no more than 5% of the time is the most appropriate indicator to use, and given that ACER (of which the RAs are members) has recommended such a figure for use in market power screening, we believe that it should be adopted in this assessment also. In this regard the RSI figures for 2016 and 2019 (the most appropriate of the years modelled in the consultation) are indicative of no structural market power findings against ESB. When coupled with our own estimation of ESB market share of 31.2% in 2020 (which we contend that the RAs could easily replicate and verify), these findings indicate that ESB has no structural market power in I-SEM. The assumptions and outcome underpinning this analysis are included in a separate confidential submission accompanying this document.

We agree that the various ex-post measures considered can provide a sound basis for investigation and enforcement by the MMU, which we believe is vitally important in I-SEM. As discussed above, we would question the apparent underlying presumption to rely on ex-ante over ex-post measures in mitigating market power. The impact of ex-post monitoring and enforcement on behavioural incentives should not be underestimated.

3.5 Structural market power modelling

The SEM has been successful in attracting new entrants and competition has increased since its commencement in 2007. Reflecting this and on the back of analysis by CEPA the RAs' 2012 decision permitted ESB operational horizontal integration. We would also note that since this decision the volume of non-directed contracts (i.e. liquidity) offered to the market by ESB has actually increased. This is a positive reflection of the evolution of competition in the market to date. The RAs' modelling shows this improvement in competitive pressures is set to continue under I-SEM indicating that potential for the exploitation of market power is declining.

We have a number of concerns regarding the modelling outputs used to estimate structural market power in I-SEM, particularly given the weight placed upon them to determine interventions.

The modelled outcomes presented in the consultation paper are largely a function of the input assumptions and portray (by the RAs own admission) a worst case scenario outlook. The adoption of mitigations on this basis increases the risk these mitigations impose a disproportionate level of regulatory burden on ESB, which we would find unacceptable and is not in the long term interests of customers or in the development of competition in I-SEM.

We have a number of concerns with the approach taken and assumptions adopted to model the DA market. In summary:

- The choice of years modelled
- The assumption that there no ESB plant closures
- High demand growth scenario used as a base case
- The exclusion of any further interconnection from the base case
- It is unclear what DSU assumptions have been modelled. If these are based on the Generation Capacity Statement we understand the 2024 forecast was already surpassed in 2015
- The impact of interconnector flows under Euphemia not accounted for

Taken together, it cannot be said that these assumptions represent a 'best estimate' or 'central view'. As such, we do not think it is suitable to use solely as the basis for such significant decision-making.

We provide further thinking on the individual year-on-year DA results below.

The analysis regarding market power in the BM lacks credibility upon which policies should be formed, as it is based on an assumption that the balancing market is short by 10% (when compared to the Day Ahead position) in every half-hourly period throughout the year. This is a crude assumption and its fundamental flaw is that at least 50% of the time (on average) the BM is just as likely to be long as short. This implies the RSI figures for the BM grossly overestimate the extent of market power.

This overly simplistic assumption for the BM, ignores the fact that the status of the BM is a function of many factors, including:

- Demand forecast error
- Wind forecast error
- Plant availability
- Market participants being short/long relative to the system and each other
- The level of incentive (or lack thereof) for participants to balance ahead of gate closure
- The availability and utilisation of ancillary services
- The extent to which transmission constraints are binding.

Given the complexity of modelling structural potential market power in BM timeframes, we would suggest that this ex-ante analysis is not useful and is misleading. Notwithstanding the above, we recognise the potential for local market power in the BM and we see a case for SRMC bidding principles for locational actions as discussed further below.

2016 and 2019 Modelling Scenarios

The 2016 and 2019 scenarios utilise credible assumptions and have credible outcomes however in choosing 2019 as a modelled year, a number of material changes to the ESB generation portfolio in 2020 are not reflected. We have included a description of these changes as a confidential separate submission to our response. We strongly believe that 2020 provides a more informative indication of where the market will be over the longer term and that 2019 is somewhat misleading in this respect.

Even before taking account of these changes, the modelling illustrates that any dominance concern in relation to ESB generation will be marginal. Specifically:

- The RSI for 2016 and 2019 against a 1.1 threshold, which we believe is appropriate threshold to measure pivotality across the year, is 2% and 4% respectively (estimated from the RSI charts provided in the consultation), notably inside the 5% threshold level.
- The market share by volume in 2019 is just over 40%, which is significant given that the European Commission considers there is no presumption of dominance below 40% and the ECJ considers the presumption of dominance at 50% and as noted above our own analysis for 2020 shows a market share of 31.2%, where there is no presumption of dominance.

2024 Modelling Scenario

The 2024 scenario lacks any credibility as a Base Case for the following reasons:

- It assumes 10 years of no ESB action – no plant closures and no plant commissionings
- It assumes no 3rd Party Builds
- It assumes no further IC build (there are at least two highly credible projects looking to commission in the next five years)
- It assumes high electricity demand growth scenario

There has never been a 9 year period post deregulation during which these assumptions would have been valid. Indeed a number of ESB Generation plants have opted for the “limited lifetime derogation” option as provided for under the Industrial Emissions Directive (IED) which will require that they close no later than 2023 (as detailed in the confidential submission accompanying this response).

In addition, as noted above there is a high probability of further interconnection for Ireland in the period to 2024, with a number of credible projects. On this basis we suggest that additional interconnection should form part of the base case rather than a sensitivity. Furthermore, a significant expansion of demand side response, storage and distributed generation can be expected to play an even greater role in market dynamics than has been accounted for in the 2024 modelling as is already an observable trend in SEM and other European markets.

As it stands, we would argue that the 2024 Modelling Scenario is not credible and does not add any useful information to the discussion.

4. MARKET POWER FOCUS AREAS

Given our concerns regarding the geographic scope and modelling outcomes discussed above, it is ESB’s contention that market power mitigation requirements in I-SEM are less onerous than the RAs’ analysis would suggest.

- Market Monitoring: a robust, properly resourced and proactive MMU is an absolute necessity for the new market and REMIT regulations
- FCO: A forward contracting obligation, per se, to mitigate market power concerns is not required and indeed could hinder the development of a liquid forward market. However a measure to provide more continuous liquidity and establish a reliable forward curve is necessary for a well-functioning market. This is required by larger vertically integrated players for the purposes of hedging their assets and setting retail tariffs, and for smaller non-integrated players who need access to risk management products to manage their businesses.
- DA/ID bid mitigation: Due to the European nature of these market timeframes and the requirement for a level playing field for all participants, as well as the existing market abuse regulations that exist at a European level (e.g. REMIT), bid mitigation restrictions for the DA/ID markets are neither required or desirable
- BM bid mitigation: We accept that market power may be more of a concern in the balancing time frame and is held, albeit on a locational or temporal basis, by a range of participants and not necessarily the larger ones. Consideration therefore of some form of bidding restriction for the BM may be warranted although such restrictions are not without risks to competitive outcomes.
- Vertical ring-fencing: Continuation of the vertical ring-fence on ESB cannot be justified by the evidence and the issues identified, and would subject ESB (and ultimately the customer) to undue risks and costs under I-SEM. We would consider this to be discriminatory.

4.1 Market Monitoring

ESB fully supports a robust MMU. Given the more dynamic nature of I-SEM in comparison to SEM we believe it is important that the unit is adequately resourced for the increased duties it will hold in the new market, which includes capability to monitor the market with regard to REMIT.

4.2 Forward Contracting Obligation

ESB believes that there is a strong link between the issues of a FCO and vertical integration being considered in this consultation, and measures that may be implemented to promote forward market liquidity. We feel it is very important to consider these issues in the round.

We agree that the potential for exercising market power in the forward market is likely to be very limited. As forward trades will be purely financial in I-SEM the barriers to entry are by definition lower. As the consultation document notes, European financial regulations such as REMIT, EMIR and MFiD will provide adequate protection against any suspected market power abuse in the forward market. All I-SEM participants, including pure financial players, will need to put in place internal governance procedures to manage the risk of a breach of these regulations.

Therefore, ESB does not consider that structural market power in the I-SEM forward market is a concern nor is it a concern for the DA and ID markets and on that basis we believe that a FCO to mitigate market power is unnecessary and indeed (depending on its form) could damage the development of a liquid forward market.

However we readily acknowledge that the development of a well-functioning forward market is a major challenge, and key success factor for I-SEM. However the high, and increasing, penetration of intermittent generation on the system creates a structural limitation on the volume of asset backed 'clean' physical hedges generators can offer to suppliers (as wind is unable to offer a forward hedge). As the volume of intermittent generation continues to increase and the volume of thermal generating units decrease this situation is exacerbated. By 2020 there is a real the prospect that less than half[12] of the total I-SEM generation fleet will be capable of providing physical hedges required by up to 90% of the supplied volume. This is compounded by the fact that PSO-backed hedges which ESB currently and voluntarily administers on behalf of the CER, will have stopped.

In our view in a well-functioning forward market, participants' at any time can access the risk management products they need at a forward price that can be relied on. This is particularly important in the context of I-SEM, as the new market design will significantly increase the volumetric and balancing risk for market participants, which introduces a new set of questions relative to SEM (where these risks are more socialised through the market design) in terms of risk management products that the market may need. This is also vitally important to promote competition.

We believe that a wider holistic solution for liquidity would be a far more effective means for promoting a competitive market than a FCO, which would reduce the ability of ESB to provide more continuous liquidity to the market – analysis conducted by ESB indicates that by 2020 (under current methods for establishing the forward contracting obligation/DC volumes), very early into the lifetime of I-SEM, mandated forward contract volumes will have declined to c.2TWh (in reality this points to only 1TWh being available to third parties given that Electric Ireland receives c.50% of DC volumes under the existing method for apportioning contracts)[13]. Again this is compounded by the fact that PSO-backed hedges will have stopped. This is in stark contrast with the historic level of regulated forward contracting of c.7TWh.

As explained in section 3.3, once I-SEM becomes part of the IEM, the forward market for participants is wider. It is expected that the European trend of volumes gravitating towards liquid trading hubs will continue, with participants in smaller markets using the liquid hubs for the bulk of their forward risk management, and separately managing any residual basis risk. Larger vertically integrated players who have sophisticated trading capabilities will be best placed to take advantage of this liquidity source while small and independent players will likely have to rely on a diminishing volume of clean hedges available in I-SEM.

This issue cannot be solved through market power mitigation measures (as these too will diminish over time). The solution lies with those larger vertically integrated players that have the knowledge, expertise and resources to access liquidity in correlated markets such as the GB market (which is deeper and

[12] Assuming c.40% wind, leaves c.60% of the remaining fleet capable of providing hedges. Given scheduling risk it is likely that only a proportion of this 60% can offer hedges.
[13] Assumptions underpinning this analysis have been provided to the RAs in separate confidential submission.

adequately correlated to SEM/I-SEM[14]) and can in turn offer liquidity to those smaller participants that do not have a similar trading capability and who will likely be reliant on a diminishing level of clean hedges available in I-SEM.

As a large player in the market with flexibility in both its generation and supply portfolios (assuming the vertical ring-fence is removed), ESB acknowledges that it has a role to play in providing liquidity to the market ensuring that non-integrated participants have access to the flexibility they need to manage their forward exposures, and balance their near-term positions at reasonable cost. These products will supplement other hedging instruments available to participants available through the wider IEM.

With the vertical ring-fence removed, discussed further in section 4.5, ESB would be better able to manage its own risk, as other integrated players can, this will allow us to, in conjunction with other large players, make available the hedging and risk management products that I-SEM participants will need. Excessive market power intervention measures may prevent this from occurring, to the detriment of competition, and ultimately Irish customers.

ESB is willing to be part of a wider solution on liquidity and is willing to ensure, as part of its commitment to that solution, that forward liquidity is, at the least, not negatively impacted from the re-integration of its businesses. However ESB is not willing to accept a FCO imposed solely on ESB on the basis of mitigating market power concerns which are at most residual. This would be disproportionate and run counter to the objectives of national regulatory authorities set out in the Electricity Directive and the vision for competitive IEM operating across the EU as outlined earlier in this paper.

4.3 Day ahead and intraday market bid mitigation

The I-SEM DA and ID markets will be exclusive and cross-border in nature and as such all I-SEM market participants trading in these timeframes must comply with the many rules and regulations they fall under.

The raison d'etre of making these extensive changes is to facilitate market integration supported by efficient interconnector flows. If prices in I-SEM are established on a different basis than the rest of the IEM (as would be the case with DA and ID bid restrictions), the whole endeavour is undermined and could deliver inefficient interconnector flows. There is a real risk that any ex-ante interventions applied in these markets may place I-SEM participants at a disadvantage relative to other participants in this wider market who are not subject to such rules. This would be disproportionate and should be viewed as a regulatory failure.

For these reasons caution should be applied before deciding to intervene ex-ante into the DA and ID markets. As discussed below, an appropriately regulated BM should be sufficient to guard against possible exploitation of market power in the DA and ID markets since parties effectively have the option of trading through the BM via imbalance settlement if DA and ID prices were being manipulated (which in the light of REMIT would be an extremely risky and potentially illegal strategy). It is of paramount importance that any decision to intervene ex-ante is thoroughly scrutinised, based on robust empirical evidence and (both as a matter of law and a principle of good regulation) must be proportionate. Any measure should satisfy the Irish Better Regulation Principles to ensure the right competitive balance that delivers optimal outcomes for customers. The RAs' commitment to evidence-based decision making is paramount throughout this process. We see the move to I-SEM as a significant market change, and any measures need to be considered in light of this new market design and wider European regulatory framework, and not just a simple roll-over of existing arrangements from SEM.

[14] The extent of the correlation between SEM and BETTA is also recognised in the latest SEM MMU Report, Q3 2015 – *"The profile and trend of historic market prices in both markets is broadly similar, and there is a high degree of correlation between the two."*

Given the above, ESB considers that only an ex-post assessment and monitoring of bids into the DA and ID market is viable. In terms of whether bidding principles based on SRMC, conduct/performance assessment against SRMC outcomes, or licence condition to prevent undue deviations in prices are adopted, the fact remains that flexibility in bidding must be permitted, while any deviation from expected outcomes will be assessed on the basis of a SRMC outcome (which takes into account opportunity costs and risk premia).

ESB considers, however, that where ambiguity or the potential for ambiguity exists that clarity is important and so believe that a clearly defined set of guidelines (with flexibility enshrined in them) would aid all market participants.

4.4 Balancing market bid mitigation

The analysis conducted by the RAs, even with what we believe are fairly conservative assumptions, demonstrates that there is unlikely to be market power in the forward, DA and ID market. The BM is, however, the one area where there may be legitimate concerns regarding the potential to exercise market power, (notwithstanding our previous comments related to the sophistication of the modelling for the BM market power assessment). This issue is not specific to I-SEM, and in most equivalent markets internationally there is the potential for participants to exercise locational or temporal market power, and not necessarily just the larger players.

In most other European markets, ex-post measures have been deemed sufficient to tackle this issue, further strengthened now by the REMIT provisions. In GB, an explicit licence condition (pre-dating REMIT) was implemented to prevent abuse of market power behind transmission constraints.

Whilst we believe that ex-post regulation, implemented through an enhanced MMU, should be sufficient, we understand the case for explicit SRMC-based bidding principles for balancing actions required to alleviate transmission constraints, or for other types of balancing actions where competition may be limited. These principles must recognise opportunity costs and risk premia associated with the risk of outage whilst delivering balancing actions.

We note that under such an approach, some plant which may be required for managing transmission constraints may fail to clear in the capacity auctions, and be unable to cover the remainder of their fixed costs by bidding in scarcity into the BM. For these plant, additional bilateral contracts with the TSO may be required to prevent them exiting the market.

There is also the broader question of whether SRMC-based bidding restrictions should be extended to all bids in the BM, including energy actions used to set imbalance prices. This would be a robust measure to remove any residual concerns regarding abuse of temporal market power, but would potentially have some negative consequences for the wider market, including:

- A BM that is less ‘volatile in terms of price (i.e. without some element of scarcity pricing) will fail to send sufficient balancing responsibility incentive to suppliers. Ultimately this is in nobody’s interest and is not good for the integrity of the market. For example, by removing strong dynamic price signals it may slow the development of demand side response, which itself would help to alleviate market power concerns.
- Balance responsibility incentives are already somewhat dampened by decisions made in the CRM work stream for a hybrid RO Reference price. This decision serves to *“…provide suppliers with a hedge on BM and ID market price exposure…”.*

  It is not certain how or whether SRMC formulaic/prescriptive bidding would comply with the IEM’s network code on Balancing, which will seek to apply a common merit order of balancing products between Coordinating Balancing Areas. Level playing field concerns may be voiced if one set of parties to the common balancing regime are required to bid on a short run cost basis only, whereas others may be bidding in scarcity and inframarginal rents. It could also ultimately lead to I-SEM customers subsidising balancing actions for other European markets.

- Finally we have questions over how an SRMC regime in the BM, where generators cannot bid in their own view of scarcity and future inframarginal rents, will operate in the context of the CRM. Under the new CRM a plant has no guarantee to receive an RO contract (capacity payment) but such plant may actually make a positive and meaningful contribution to security of supply. Whether SRMC bidding is appropriate in such circumstances should be assessed further.

4.5 Removal of ESB's vertical ring-fence

Our primary concern regarding the market power mitigation measures under consideration is the continuing application of the vertical ring-fence between ESB's generation and supply businesses. In this regard, we would draw your attention to the following statutory objectives, duties and functions of the SEM Committee:

- The principal objective of the SEM Committee in carrying out its functions under section 8A(4) of the Electricity Regulation Act 1999 (as amended), is to protect the interests of customers of electricity in the State and Northern Ireland supplied by authorised persons, wherever appropriate by "*promoting effective competition between persons engaged in, or in commercial activities connected with, the sale or purchase of electricity through the Single Electricity Market.*[15]"

- The SEM Committee must carry out its functions in a manner that is best calculated to promote efficiency and economy on the part of authorised persons (i.e. licensed market participants);[16]

- In carrying out its functions, the SEM Committee may not discriminate unfairly as regards terms and conditions between authorised persons[17]

The continuation of asymmetric market power mitigation measures targeted at ESB, and in particular, the imposition of vertical ring-fencing in respect of ESB's generation and supply businesses, can no longer be justified. It does not address the two primary areas of concern under I-SEM, namely limiting any market power concerns in the BM and providing continuous liquidity and a reliable forward price.

The ring-fencing measures are contrary to the requirement not to discriminate unfairly and do not promote the objectives of efficiency and competitiveness, as they require ESB to trade and operate in a burdensome and inefficient manner which impedes its ability to compete with generators and suppliers of significant scale, who are not subject to any such ring-fencing requirements.

Vertical integration of generation and supply activities is a common organisational structure in electricity markets. This is the case in GB and Europe and under I-SEM, ESB will soon be competing against a number of vertically integrated within the IEM. A number of these firms, Centrica and SSE, already operate within the SEM.

Vertical integration provides efficiency benefits but may reduce transparency which is an area of concern for regulators. The recent Energy Market Investigation by the CMA in GB explored the costs and benefits of vertical integration and found little evidence of harm suggesting there was no case for business or legal separation of the vertically integrated companies, despite calls in some quarters for such remedies. It is clear that the CMA was not even close to considering business separation. Although market concentration is different in the I-SEM context, it raises the question as to whether an equivalent investigation in the Irish market would have required the imposition of a vertical ring-fence on ESB.

Prior to 2012, ESB had separate regulated and "unregulated" generation activities which were subject to horizontal ring-fencing requirements. The RA's 2012 decision permitted ESB to horizontally integrate each

[15] Section 9BC(1)(c) Energy Regulation Act 1999 as amended
[16] Section 9BC(4)(a) Energy Regulation Act 1999 as amended
[17] Section 9BC(2)(e) Energy Regulation Act 1999 as amended

of its generation business, allowing the previously separate businesses to share information and to jointly trade in the market. ESB vertical integration (i.e. integration between generation and supply activities) was disallowed at that time for four reasons[18]:

- The SEM spot market (gross mandatory pool) showed a high level of market concentration when measured with the HHI
- Forward market power would be more significant than the status quo, which could be disruptive to other suppliers and have a negative impact on competition in wholesale and retail markets
- There could be information advantages that would benefit Electric Ireland and have a negative impact on competition in both the wholesale and retail markets
- CEPA was of the view that full vertical integration was unfavourable as it could damage competition and the replacement of a structural remedy with a likely less efficient and or effective regulatory remedy.

The above are clearly all costs associated with market power concerns, whereas the current consultation states that *"if it were clear that the potential benefits (i.e. cost savings) from allowing incumbents to vertically integrate clearly outweighed the costs associated with, say, any negative impacts on forward liquidity or the risk of foreclosure, then allowing vertical integration would have a justification."*

These concerns both from the 2012 Decision and the current consultation are discussed further below.

4.5.1 The Benefits (i.e. Cost Savings) from Vertical Integration

ESB currently carries a range of additional costs arising from the continued imposition of business separation restrictions. ESP Consulting in a report for DECC cited the ESB ring-fence as a case study, stating that although unable to *"access any public domain data on the cost of implementing and managing the ring-fence obligations, it is very clear that they are considerable".*

In the same report ESP also highlight a number of generic benefits from vertical integration. These include "*diversification along the value chain, collateral-free off-take and sourcing channels within the business, a relatively balanced market risk position, advantages in the short-term market relating to balancing and shaping, and a tendency towards higher credit/debt ratings due to perceived higher stability"*. Stating that *"Actions which constrain vertical integration are disruptive to these benefits and therefore disproportionally increase costs and there is no guarantee that such interventions will lead to sustainable improvements in liquidity"*[19].

ESBs perspective on these benefits can be summarised as:

- Better Risk Management Capability
  - A single risk management function reducing costs
  - Reduced credit margins
  - Less requirement for internal compliance function
- Reduced Wholesale Price Premiums
  - Avoid both a trading and supply premium to wholesale costs
  - Avoided brokerage fees paid to a third party trade platforms e.g. Tullett Prebon
  - Smoother wholesale costs aligned with more liquid gas / CO_2 markets
- More Innovative Tariffs
  - Offer more competitive shaped products to customers e.g. residential 2 year fixed price

[18] SEM-12-002 p. 4
[19] GB Wholesale power market: Liquidity Intervention Options, ESP Consulting for DECC, May 2013, p 11 and 113.

- Domestic customers less exposed to lower liquidity in peak production due to increase in wind
- Ability to adjust new product offerings quicker

- Greater Competition
  - Economies of scale, no duplication of Trading teams/IT systems / Business Processes
  - Balance sheet strength and credit rating
  - More sophisticated trading capability & experience

The additional costs will increase significantly in I-SEM if the ring-fence is retained, as ESB is either faced with the choice of exposing Electric Ireland to an increased level of risk (which will ultimately lead to additional costs) or acquiring additional (duplicate) resources and systems at significant expense, for its standalone supply business to trade in I-SEM. Electric Ireland is currently not geared to trade in a dynamic and volatile market such as I-SEM.

The removal of the ring-fence will ensure that unnecessary new costs are avoided. Avoiding these costs will afford ESB greater flexibility in pricing appropriately to market conditions with the knock on benefit for customers. Our current estimates of the inefficiencies that are currently imposed on ESB due to ring-fencing, as well as future inefficiencies that will be incurred if ring-fencing is retained are summarised in the Table 2.

Table 2 Estimated Costs/Inefficiencies Imposed on ESB from Ring-fencing

Description	**€**
Existing Inefficiencies *(Replication in staff, functions and systems, ineffective risk management arising from an inability to trade one position for the group)*	12m pa
Future Avoidable Inefficiencies *(Additional resources and systems required to allow Electric Ireland manage its risk in I-SEM)*	14m pa
Annual Costs Arising from Continuation of Ring-Fence in I-SEM	**26m pa**
Additional (avoidable) capital cost for Electric Ireland in I-SEM if ring-fence is retained	€17m

A decision on the continued application of the vertical ring-fence in I-SEM is urgently required in order to

- Allow Electric Ireland sufficient time to implement the required processes and systems, for I-SEM commencement (while remaining compliant with public procurement rules).
- Avoid stranding an additional €17m spend which will ultimately be borne by the customer.

The elimination of the ring-fence would provide an immediate and lasting benefit for all electricity customers. In addition, its removal would help to ensure that competition is founded on a sustainable structure, where rivals need to work to create discounts on behalf of customers, rather than benefiting from the inefficient structure of the incumbent imposed by regulatory decree.

4.5.2 Vertical Integration, Forward Liquidity and Foreclosure

4.5.2.1 Forward Liquidity

The second reason cited by CEPA for disallowing vertical integration was based on the concerns about forward market liquidity in the SEM. Specifically, CEPA noted that ESB may not have the incentive to offer

forward products or to offer them at high prices to all suppliers or to offer low prices to Electric Ireland and high prices to other suppliers. Any of these outcomes would have an adverse impact on retail market competition and ultimately on the I-SEM customer.

This view persists into I-SEM, given that the SEM Committee has stated in the market power consultation paper that vertical integration would have a justification *"if it were clear that the potential benefits (i.e. cost savings) from allowing incumbents to vertically integrate clearly outweighed the potential market power costs associated with, say, any negative impacts on forward liquidity or the risk of foreclosure…".* Whilst ESB understands the RAs rationale in this respect, it is clear from the market power analysis that a continuation separation of generation and supply within ESB is not warranted and hence if the RAs are of the view that customers are better served through maintenance of ring-fencing arrangements, then it follows that the very same arrangements should apply to all participants in the market place in order to ensure adequate liquidity, as to do otherwise would be discriminatory.

As noted in the section on forward contracting obligations related to market power mitigation measures, ESB is willing to be part of a wider solution on liquidity and is willing to ensure, as part of its commitment to that solution, that forward liquidity is, at the least, not negatively impacted from the re-integration of its businesses. However, a general concern about forward liquidity is not a valid basis on which to impose asymmetric ex-ante measures on ESB, nor is vertical ring-fencing a necessary or appropriate means by which to achieve liquidity in the market.

A feature of any well-functioning market is a forward market where participants are able to access at any time the hedges they need at a forward price that can be relied on. This is to the benefit of all participants, including larger vertically integrated players for the purposes of hedging their assets and setting retail tariffs, and for smaller non-integrated players who need access to risk management products to manage their businesses. Given the structural issues with liquidity in the market, ESB would be willing to support a holistic approach for promoting liquidity in conjunction with other larger players. This would be a far more effective means for promoting a competitive market than a FCO or retaining the vertical ring-fence, which would reduce the ability of ESB to provide more continuous liquidity to the market – analysis conducted by ESB indicates that (under current methods for establishing the FCO/DC volumes) by 2020, very early into the lifetime of I-SEM, mandated forward contract volumes will have declined to c.2TWh (in reality this points to only 1TWh being available to third parties given that Electric Ireland receives c.50% of DC volumes under the existing method for apportioning contracts)[20]. This is compounded by the fact that PSO-backed hedges which ESB currently and voluntarily administers on behalf of the CER, will have stopped.

Ensuring there is sufficient continuous liquidity in the forward market and a reliable forward price should be the main concerns for the SEM Committee (and ESB contends it is the primary risk to the successful implementation of I-SEM given the structural deficit in hedgeable generation in I-SEM) and that the provision of forward volumes on the basis of a residual and declining market power concern is not a sustainable outcome. Such an outcome places the market under a high risk of failure (particularly for smaller players), where there is an insufficient ability to manage risk**.**

ESB considers that the liquidity it can offer to third parties will be greater than the prospect envisaged from a market power FCO (and potentially a distinct and separate liquidity mechanism) if a more progressive and holistic approach towards forward liquidity is adopted by the SEM Committee, e.g. with a solution similar to the Secure and Promote measures adopted by OFGEM, coupled with the removal of its ring-fence vertical integration. We also contend that there would need to volume limits to ensure that the parties subject to these obligations are not unduly exposed.

4.5.2.2 Foreclosure

One of the primary concerns regarding vertical integration is the foreclosure of the market by the vertically integrated firm. The CMA in GB in its recent Energy Market Investigation has conducted analysis into the

[20] Assumptions underpinning this analysis have been provided to the RAs ina separate confidential submission.

ability, incentive and effect of vertically integrated firms using their position in one market to harm competitors in another market (foreclosure). The analysis considers two types of foreclosures, both of which are standard issues to consider in the context of vertical integration and are also pertinent to vertical integration in a SEM/I-SEM context.

- Customer foreclosure: Involves a vertically integrated supplier causing harm to upstream competitors by strategically reducing their ability to sell their output. In electricity, these upstream competitors are independent generators.
- Input foreclosure: Involves a vertically integrated firm taking action in an upstream market to disadvantage participants in a downstream market, i.e. independent retailers. We consider two possible mechanisms: one through increasing wholesale electricity prices, and one through trading and liquidity

On Customer Foreclosure the CMA found that:

- Most of the vertically integrated energy firms as net purchasers of electricity are likely to offer a potential alternative route to market to any foreclosed generator (in the absence of a coordinated foreclosure strategy).
- Independent suppliers represent not insignificant volumes in domestic and non-domestic supply. This means that they provide a significant alternative route to market for potentially foreclosed generators.
- Independent generators represent significant market share, and therefore even a successful foreclosure strategy would have limited impact on customers if it affected only a proportion of independent generators.

In summary therefore, the CMA found that vertically integrated firms do not have the ability to foreclose independent generators and that it was questionable as to whether there is an incentive to foreclose, or whether there would be any effect on end customers in any event. Given that all three conditions must be met for customer foreclosure to be viable, the CMA did not find any reason to consider this issue further.

On Input Foreclosure the CMA found that:

- The benefit to the withholding firm depends on two factors. First, how many switching customers does it gain? Second, what margin does it earn on those customers? The diversion of customers from independent suppliers will generally not be wholly to the foreclosing vertically integrated firm. Furthermore it can be expected that the customers who are diverted will be primarily the most price elastic customers, and that margins on those customers will be low. Therefore, the gain from foreclosure will not be large.
- Even generators with relatively low market shares may be able to influence wholesale prices by withholding generation capacity. However in practice, the ability to affect wholesale prices significantly generally occurs when demand is close to the point at which there is a shift between technology types of the marginal unit of generation, and withholding can change the price-setting technology – for example, shifting it from coal to gas. However, many of these opportunities arose because of the increase in spread between coal and gas prices that took place in 2013, so for a withholding strategy to be consistent with forward trading, the parties and the market in general would need to have anticipated the increase spread between gas and coal prices in 2013, and the CMA consider this to be relatively unlikely. Beyond that shift, any further price rises are relatively small and require withholding relatively large volumes; which are generally unprofitable for the generator.
- The size of any gain depends on how many customers switch to the foreclosing vertically integrated firm (or are deterred from switching away from it) and the margins earned on those marginal customers.
- The ability and incentive to exploit the opportunity is hampered by uncertainty about demand and wind output. If a generator does not know with certainty when it will have the ability to shift

price significantly, it will have to withhold capacity more often in order to achieve price effects, and will incur a loss when the price does not shift significantly.

- In order to have the ability to withhold, the generator either will have to avoid forward contracting the relevant output, thus incurring risk that could have been avoided, or will have to acquire a costly reputation for withholding even when its forward position would incentivise it not to do so.
- There is a substantial lag between introducing the strategy and seeing an effect on independent suppliers, and therefore a degree of risk which reduces the profitability of the strategy – because market circumstances may change between the period in which the generator withholds and the period in which expectations affect forward prices.
- In the standard economic model of input foreclosure, the vertically integrated firm will sell to other firms at the raised price while its retail arm continues to purchase the upstream arm's output, so the retail arm does not face higher costs. However, in the electricity sector in practice the retail arm will purchase from other market participants (this could be for a number of reasons, e.g. to meet customer shape requirements). Therefore, the retail arm cannot entirely avoid the increase in wholesale prices, so its costs increase and the retail margin available (i.e. the gain from foreclosing) is consequently reduced.
- Finally capacity withholding could be considered a market abuse and therefore punishable under REMIT. If detected, penalties can be severe, meaning that gains from withholding would be more than offset.

Given all of the above the CMA has found it unlikely that vertically integrated firms would have clear incentives or the ability to disadvantage independent suppliers through foreclosure.

We are confident that the issues and findings of the CMA on vertical integration are relevant in I-SEM and as such the findings, should be of prime consideration for the I-SEM Market Power work stream.

From an I-SEM perspective the SEM Committee has added comfort from two additional points, namely:

- On customer foreclosure, ESB is structurally short and will continue to be a net purchaser of electricity and therefore will provide a route to market for independent generators

- On input foreclosure, the Irish Commission for Energy Regulation (CER) has the option to re-introduce regulation of ESB's retail business should they conclude that market dynamics have changed such that competition and customers in a given market have been negatively impacted.

In addition, analysis conducted by ESB regarding plant withholding / strategic bidding strategies at the DA stage results in either negative or only marginal gains. The risks from such an approach (due to factors such as REMIT and the level of uncertainty due to high wind generation levels) far outweighs the small benefits that could be gained and demonstrates that such a strategy would not be viable. We outline our analysis in more detail in a separate confidential submission attached with this response.

Finally, concerns over input foreclosure should give added incentive to the SEM Committee to ensure that there is sufficient continuous liquidity in the forward market and a reliable forward price – a reliable forward curve becomes the benchmark against which all trades can be assessed (including for vertically integrated participants) and allows regulators to scrutinise whether input foreclosure has occurred. This is evidenced in GB where analysis of market abuse conducted by the CMA was against the publicly quoted BETTA forward curve.

4.5.3 Vertical integration and informational advantages

The third reason relates to concerns that vertical integration provides Electric Ireland with an information advantage relative to other suppliers that operate in the SEM. CEPA noted a concern that Electric Ireland could have an advantage over other suppliers from knowing information about ESB generation portfolio or

other supplier's contracted positions and if it were to act on that information it would have a negative impact on competition and customers.

Market integrity and transparency is of paramount importance for well-functioning energy markets and for promoting the confidence of market participants and customers. CEPA's noted concerns were part of the rationale underpinning the development of REMIT. REMIT is a sector-specific legal framework for the monitoring of wholesale energy markets and applies to all energy market participants, including those that are vertically integrated and those that are not. The objective is to ensure that customers and other market participants can have confidence in the integrity and transparency of market prices and to detect and to deter market manipulation.

In addition to REMIT, the Transparency Regulation[21] makes European electricity market information more precise and comparable. It is mandatory for each TSO to submit fundamental information related to generation, load, transmission and electricity balancing to ENTSO-E which is then published on a central platform[22].

Since CEPA's report on vertical ring-fencing, Member States have adopted the measures necessary to effectively implement REMIT at a national level, the necessary procedures have been put in place by ACER, and the Transparency Regulation has been adopted. These measures are relatively new in the context of the SEM market power mitigation measures. Whilst the vertical ring-fence may have served a purpose in mitigating CEPA's concerns up until REMIT and the Transparency Regulation came fully into effect in Member States, the continuation of the vertical ring-fence to address this information concern is clearly no longer necessary. Whilst CEPA acknowledged the introduction of REMIT at European level, it can now be seen how the measures taken to give effect REMIT provide a high degree of transparency in practice, and that this is proving an effective tool to target market abuse and for authorities to take enforcement action.

4.5.4 Vertical integration as a more efficient structural remedy

The final reason raised by CEPA in 2012 recognised the benefits of a simpler regulatory regime. CEPA claimed the removal of the vertical ring-fence would require 'significantly more regulatory oversight and on a more frequent basis'. Whilst this may have been the case at the time of the RAs' decision in 2012, we have shown both in this section and in section 3 above that there is clear duplication between the vertical ring-fence and other mitigations of any residual market power, including those which have been introduced in the interim through European law, suggesting that the continuation of the vertical ring-fence is manifestly disproportionate and is not necessary. This ex-ante regulatory intervention simply cannot be justified any longer when one has regard to the changing regulatory landscape, ESB's declining market shares and the increase in competition from large vertically integrated players.

Removing the vertical ring-fence would have little impact on the regulatory protection for customers, and yet would allow ESB to compete more effectively with other European vertically integrated players. It would also be consistent with a maturing of competition in the SEM, and an acknowledgement of the importance of new European energy market regulations.

As previously noted it is vital that the potential for market power under I-SEM is carefully evaluated, and any mitigations are proportionate and are consistent with the wider IEM of which I-SEM will be part. As part of that assessment we believe there is a compelling case to allow the re-integration of ESB's generation and supply business units, for the following reasons:

- With the introduction of, and integration with the IEM, the relevant markets for assessing market power become wider. Greater convergence across markets will provide I-SEM participants with more options for managing risk. The continuation of ESB's vertical ring-fence

[21] Regulation (EU) 543-2013 Transparency Regulation
[22] https://transparency.entsoe.eu/

is inconsistent with this future vision of integrated players and independents competing across the IEM, and is a disproportionate intervention which prevents ESB from competing on a level playing field in this wider market.

- There is a significant difference between having market power, and abusing it to the detriment of customers. The CMA's recent Energy Market Investigation makes clear this distinction, and disproves several theories of harm related to vertical integration.

- Any market power mitigations must be considered in the context of protections already provided through licences, the market rules and wider European competition law and regulations, such as REMIT. To dismiss REMIT as not being "sufficient to protect customers and competitors from the exercise of market power, given the level of structural market power forecast for I-SEM" is short sighted and fails to take account of the impact this regulation will have on behaviour. Ex-ante forms of regulation, such as the vertical ring-fence risk trying to address concerns which are covered elsewhere, and can potentially thwart the development of competition which result in regulatory failure.

- I-SEM will, by virtue of its design, impose greater risk on market participants. With the ring-fence removed, ESB will be better able to manage its own risk, as other integrated players can, to the benefit of its customers, and to make available the hedging and risk management products that non-integrated players will need. Excessive market power intervention measures may prevent this occurring, to the detriment of competition, and ultimately I-SEM customers.

- CER and the Utility Regulator have in place very onerous reporting obligations on generators and suppliers in SEM. Since 2012 generators have been required to provide financial performance reports annually to regulators on revenues, operating costs and earnings/profitability on a station by station basis in alignment with regulated accounts reporting. The RAs can review generator financial performance in order to inform policy decisions and this is considered a key transparency tool for the market. For suppliers, the Retail Energy Market Monitoring (REMM) provides detailed insights and transparency to both Regulators in SEM on the level of retail activities contributing to commercial and financial performance. This licence obligation, which commenced in the second half of 2015, provides, monthly, quarterly and annual detailed breakdowns of a range of indicators including make up of pricing for the full range of tariff types, retail margins (including breakdown of wholesale components), payments, arrears, and complaints across the total customer base and related business and residential segments. These obligations have increased significantly since the 2012 decision on vertical integration, and should provide the RAs with a signficiant level of transparency and comfort in I-SEM.
- As has been set out in this paper, there is no case to justify the continuation of the ring-fence and it is an entirely disproportionate measure to address a declining market power concern. The risks of interfering with ESB's ability to compete effectively in I-SEM and the greater IEM far outweigh any benefits of continuing the operation of the ring-fence.

4.5.5 Summary of Vertical Integration Arguments

In light of the market power assessment framework conducted by the RAs the continuation of ESB's vertical ring-fence under I-SEM can no longer be justified when one has regard to the changing regulatory landscape, ESB's declining market shares and the increase in competition from large vertically integrated players. It would also appear at odds with allowing other vertically integrated players that ESB will compete against in the IEM, and a number of which already operate in the SEM, to operate without such restrictions. Indeed, this risks distorting competition in I-SEM and the IEM. Further, a vertically integrated ESB would be able to realise efficiencies that can benefit all I-SEM customers, and would make it better able to provide risk management products to the wider market helping to promote competition and to ensure I-SEM develops into a successful and vibrant market.

APPENDIX 1: RESPONSES TO CONSULTATION QUESTIONS

In this section we provide detailed responses to the questions posed in the RAs' consultation paper. In sections 2-4 above we address a number of aspects of the consultation questions. Where that commentary is applicable we have cross-referenced the question responses to the relevant section above.

Chapter 2

Do you agree with the policy developments and trends identified (above) as potentially impacting on an I-SEM market power mitigation strategy?

Increasing wind penetration is a key market trend, with a number of fundamental impacts in this context, including:

- It is driving the I-SEM market to be structurally short, which is in turn driving new risk management approaches via GB proxy hedges (and already demonstrating a wider forward market definition than that being proposed by the RAs)
- A reduction in ESB's overall generation market share
- An increase in the importance of flexibility (and potential pivotality of flexible assets)
- A consequence of ESB having a smaller market share is a reduction in the volume of DCs (linked to HHI) as a driver of forward market liquidity

We would add a number of further comments on the policy developments identified:

- New entry from large and integrated players has changed the competitive landscape considerably
- A number of credible new interconnector projects have a high likelihood of proceeding in the coming years and this will further reduce any ability that ESB has to exercise market power in the physical markets
- We agree that demand side participation in spot markets can drive greater elasticity and further reduces the ability to exercise market power while also reducing the need for such measures
- The introduction of REMIT is a significant reform in European energy markets, and the strength of the associated disclosure and enforcement provisions in terms of impacting behaviour should not be underestimated

Are there other factors not identified here which you consider relevant?

I-SEM will introduce new risks for market participants to manage, and as such we would suggest that liquidity and availability of products should be the chief concern for RAs looking to drive increased competition. With market coupling, I-SEM will become more integrated with GB and the wider European market, both in financial forward markets and physical spot markets over time. Market participants will need access to new risk management products, and ESB and other larger players with more sophisticated trading capabilities will have a role in providing these products to the market.

We believe there is a strong linkage between the issues and proposed measures discussed in this consultation with those associated with liquidity and vertical ring-fencing, and hence consider that decisions should be taken in the round. A series of discrete interventions to address each issue identified individually risks introducing pancaking of measures, and a disproportionate level of overall intervention with negative consequences for the development of the market.

Chapter 3

Do you agree with the proposed appropriate markets/trading periods for assessing market power in I-SEM's energy and financial markets?

At a high-level, these distinctions on product and market timeframes for the purposes of assessing market power make sense.

On the physical markets, as the paper notes there will be varying degrees of supply availability in different timeframes, whether driven by generator or transmission constraints. It therefore makes sense to first conduct the market power assessment for each market separately, while taking into account the strong interactions between the various markets so as to avoid duplication or 'pancaking' of measures / interventions.

We agree that the relevant product in forward markets should be financial-only products, and that the assessment of market power should be conducted on this basis.

Do you agree with the proposed geographic scope of the proposed markets/trading periods?

Please see section 3.3

Chapter 4

Do you agree with the proposed definition of competitive behaviour and pricing in I-SEM?

The consultation document defines competitive offers as "…equal to short run marginal cost (SRMC), where SRMC includes relevant opportunity cost". While this mirrors the prevailing philosophy under the SEM, we would make three comments on its applicability or desirability under I-SEM:

1. It is as yet unclear where fixed cost recovery might occur across the energy, capacity and DS3 markets in I-SEM and any decision to impose a requirement such as SRMC behaviour and pricing must be considered in the wider context.
2. This philosophy may require further consideration in the context of integration with the European electricity market under I-SEM. Pricing down to SRMC under I-SEM could distort cross-border flows where there is a different pricing philosophy in the adjacent market. For example, as scarcity pricing is allowed in the GB market arrangements, we may expect SRMC pricing in I-SEM to drive exports to GB during tight winter periods. This could in turn have security of supply implications for Ireland. It highlights the importance of harmonisation of market arrangements as European integration increases (an issue which is currently on the European Commission agenda in the context of individual member state capacity mechanisms).
3. It should be recognised that the use of SRMC pricing in the wholesale market can affect the mix and capability of plant coming onto the system. In particular, with SRMC controls, the lower volatility inherent in prices close to real-time may under-value flexibility both from the generation and demand side. Conversely, SRMC pricing may insulate intermittent generation from the real-time costs of their intermittency. This is not necessarily a competitively neutral outcome in the long-term, and while other mechanisms (such as DS3) could procure the required flexibility, there may be reduced innovation and thus a loss of dynamic efficiency. This may result in a perverse outcome that dampens the emergence of an active demand side.

We provide further comment on the individual proposed interventions in section 4 and below in response to the questions in chapter 8 of the consultation paper.

Do you think that the suggested examples in which market power can be exercised in I-SEM captures the relevant issues?

As mentioned in section 2.1 below is our high-level assessment of the ex-ante and ex-post intervention against each of the Irish Better Regulation Principles. On the basis of this analysis we believe caution should be applied before deciding to intervene ex-ante and that any decision to do so should be thoroughly scrutinised based on robust evidence as well as satisfy these principles.

Effectiveness

Removing a firm's ability to cause a market failure through ex-ante intervention provides the regulatory body a high degree of certainty that the potential for market failure and resulting customer detriment is mitigated. This can be particularly important if governments or regulatory bodies want to demonstrate that they have solved a particular problem.

In contrast, ex-post interventions aim to deter or prohibit certain market behaviour. This in itself does not mitigate the potential for market failure. It is the corresponding obligation power for regulatory bodies to either continuously monitor a market and/or to investigate and enforce any suspected breach that acts as a powerful deterrent. A firm could face a substantial monetary fine, face considerable reputational harm or ultimately lose its operating licence. This threat of enforcement can thus drive a behavioural change in the interests of customers.

Ex-post interventions leave some of the interpretation of acceptable behaviour to the market participant. Hence, it can be more ambiguous than an ex-ante intervention but also more wide-reaching. One potential advantage of this is that the regulatory body does not need to impose rules that may have unintended consequences, including imposing unnecessary costs on participants, for little customer benefit and which risk thwarting competition and innovation. To address the potential for ambiguity, regulatory bodies often issue guidelines to inform participants what is acceptable conduct (or indeed companies look to formulate ex-ante principles to guide behaviour and thus minimise the risk of enforcement action).

Effect on competition and innovation

An ex-ante intervention in its simplest form is a distortion to a market structure, which has the potential to harm or impede the development of competition and/or remove the incentive to innovate. This can lead to sub-optimal outcomes for customers, especially in the long-run. Therefore the risk of regulatory failure is higher which suggests that careful analysis is necessary before deciding to intervene ex-ante. Indeed, for an ex-ante intervention to be effective it must be flexible and reviewed and updated regularly to ensure it evolves as the market conditions evolve. By contrast, ex-post intervention allows markets to work giving competition and innovation that opportunity to produce an efficient outcome. At the same time it gives regulatory bodies sufficient powers to investigate and enforce any foul play which safeguards customers from any detrimental effect of market failure.

Regulatory certainty

An ex-ante intervention can provide participants with greater certainty of revenues, costs or any applicable technical standards. This may help participants secure planning permission, financing or a licence. This predictability can help to progress societal objectives by providing greater investor confidence, and promoting new entry. However, if poorly designed, the ex-ante intervention can have the opposite effect, due to regulatory failures.

Regulatory certainty is harder to achieve through ex-post intervention. As the nature of the intervention is after an event it always involves an element of uncertainty for the each participant (although this uncertainty will apply equally to all participants). That said, regulatory bodies can act to mitigate the uncertainty by issuing guidelines.

Risk of regulatory failure

A regulatory failure is a situation where an intervention by a government or regulatory body leads to an inefficient allocation of resources, which results in a sub-optimal outcome for customers. There are a

number of potential regulatory failures that could come about as a result of intervention to mitigate market power (either ex-ante or ex-post). These include:

- The intervention does not arrive at the socially optimal solution to the market failure it is trying to solve due to information asymmetry or regulatory capture
- The intervention is poorly designed meaning it fails to achieve its objective; or does so at a high cost; or the intervention leads to unintended consequences
- The intervention may be poorly implemented or enforced
- The intervention becomes obsolete and as the policy environment around it evolves

Any type of intervention faces the risk of regulatory failure. We would argue that ex-ante intervention is more susceptible to this risk due to the informational and analytical challenges associated with determining the impact of a market failure. Moreover, as ex-ante interventions are by definition more reliant on regulatory judgement, the risk of regulatory failure is likely higher. The regulatory risk of ex-post intervention is primarily the challenge of the case-by-case nature of investigations and enforcement.

Regulatory burden

Ex-ante interventions often impose stringent rules and requirements on participants and thus add to the regulatory burden. On the other hand, such requirements can make it easier to demonstrate and report compliance which can reduce the regulatory burden.

Finally, under I-SEM the Irish market will become part of the wider IEM, which has less ex-ante regulation and a greater focus on competition and ex-post monitoring and enforcement. There is a risk that any ex-ante interventions applied to Irish participants may put them at a disadvantage relative to other participants in this wider market who are not subject to such rules.

Do you agree that the potential for market power abuse in I-SEM appears to be weaker in the forward financial market compared to the physical markets?

Please see section 4.2

Do you agree with the implications for market power arising from interactions between the physical markets, CRM, FTRs and DS3 System Services as shown above?

Please see section 2.2

Chapter 5

Do you agree that these are the appropriate metrics to identify market power ex-ante and ex-post in I-SEM?

Please see section 3.4

Are there other metrics that you consider should be applied?

Please see sections 3.2 and 3.4

Chapter 6

Do you agree with the approach taken by the RAs to modelling market power in I-SEM?

Please see section 3.5

Do you agree with the conclusions for I-SEM market power that have been drawn from the modelling results?

Please see section 3.5

Chapter 7

Do you agree with the SEM Committee's view on the effectiveness of each of the SEM market power mitigation measures?

In Table 3 below we provide our own summary of the various interventions in place under SEM to mitigate market power.

It shows that the SEM is a highly regulated and administered market. In the forward timeframe liquidity is mandated through the requirement to offer DCs and PSO related Contracts for Difference (CfD). The physical market is a gross mandatory pool where participants must bid their short run marginal cost and where prices are determined ex-post. Ancillary services are paid regulated tariffs and are required to run. Capacity is separately remunerated through an administered price paid uniformly to all providers.

The mitigations are a mix of ex-ante and ex-post measures. Some apply to specific timeframes, while others are market wide and apply across all timeframes. Similarly, some mitigations apply to all participants while others target specific participants, such as ESB. Further, some measures are specific to the SEM while others are driven from European law

ESB considers the current suite of market power mitigation measures under SEM to be disproportionate to the level of risk and in this regard would reference the Baringa Report: Mitigating Market Power in the SEM accompanying this response.

Table 3: SEM market power mitigations

SEM market	Timeframe specific	SEM wide	Targeted and SEM wide	Pan-European
Forward	– Directed Contracts – Public Service Obligations	Market Monitoring Unit	Vertical ring-fence	REMIT, MIFID II, EMIR, Transparency Regulation Competition law[23]
Pool	– Bidding Code of Practice – Two windows to alter DA offers – Ex-post price determination – Price cap or RMR			
Balancing	– Grid Code prohibits capacity withholding – Ex-post price determination			
Ancillary services	– Ex-post price determination – Annually approved regulated tariffs for reserve, reactive power and black start services – Grid Code mandates requirements on generators for other services			
CRM	– Capacity payments are			

[23] Competition law is set out in Articles 101 and 102 of the Treaty on the Functioning of the European Union and is implemented in Irish law via the Competition Acts 2002 – 2014 and in UK law through the Competition Act 1998.

	determined administratively and paid to all capacity providers			

As discussed in section 2, one of the key principles adopted by competition authorities is that any intervention must be reasonable and proportionate, that is, it achieves its aim, but that:

- It is no more onerous than is needed to achieve its aim; and
- It does not produce disadvantages that are disproportionate to the aim.

While the RAs assess each measure individually in this section, we see no analysis of the effectiveness of the overall package of measures nor an analysis of whether the package as a whole is proportionate to the harm identified (either at SEM outset).

On the vertical ring-fencing for example, by the RAs' own admission it is unclear how to assess the impact individually, given the interaction with other measures. This is highlighted in section 7.2.23:

"Assessing the effectiveness of vertical ring-fencing on its own (i.e., as if no other market power mitigation measures were in place) is difficult, partly because it is not straightforward to estimate the impact of functional separation on generation and retail market performance, and partly because market outcomes that can be observed may have been influenced by other mitigation measures."

This highlights in stark terms the 'pancaking' of various market power mitigation measures under SEM. This must be avoided under I-SEM – all interventions should be clearly justified to ensure they are necessary as part of a package – particularly given that the Irish market will be much more integrated with the European IEM.

Are there any particular aspects of the SEM market power mitigation strategy that you think should be applied differently, especially in relation to I-SEM?

Please see sections 2 and 4.5

Chapter 8

Do you agree with the five key principles for assessing market power mitigation policies as outlined in this section 8.3? If you think there should be alternatives, please state the reasoning?

In broad terms we agree with the five key principles outlined. However, as mentioned in section 2.1, we would add an additional and overarching principle to ensure 'proportionality'.

Given the extent of the changes to the market under I-SEM, and the consequent risks associated with interventions that only apply in Ireland, we think a full impact assessment is required prior to finalising the decision.

Questions relating to the Forward Contracting Obligation

Please see section 4.2

Which of the balancing market mitigation options do you consider most appropriate, i.e. MMU-triggered intervention, automated intervention via a PST or via the "flagging and tagging" approach, or prescriptive bidding controls? Where feasible please relate the preferred approach the five key principles for this workstream of effective, targeted, flexible, practical and transparent?

Please see section 4.4

Which ex-ante bidding/offer market power mitigation options for the DA and ID markets do you favour – bidding principles and ex-post assessment, or ex-post assessment only? Where feasible please relate the preferred approach to the five key principles for this workstream of effective, targeted, flexible, practical and transparent.

Please see section 4.3

If ex-ante bidding principles were to be adopted, how flexible should they be and how would this be facilitated/enshrined in their wording?

Please see section 4.3

Under what structural conditions or in combination with other market power mitigation measures should vertical ring-fencing of the incumbents be relaxed?

Please see section 4.5

Under what circumstances and criteria (or metrics) should the application of ring-fencing to other market participants be considered?

With the launch of I-SEM in 2017, Ireland will join the NWE region and be part of an integrated market spanning 19 countries. The SEM currently imposes vertical ring-fencing on some but not all vertically integrated players. This appears inconsistent with the future vision of pro-competitive integrated markets under the IEM. We observe that other Member States who are already part of the IEM, namely Italy and Portugal, have comparable market share of the largest incumbent and levels of interconnection but those vertically integrated firms are not subject to such restrictions.

APPENDIX 2: I-SEM MARKET DEFINITIONS AND DESIGN FEATURES THAT MITIGATE MARKET POWER

As mentioned in section 3.1, this appendix shows the numerous design features of I-SEM that mitigate market power. We note that at the time of this response a number of decisions are still to be made.

Market	Product	Geography	Design features that mitigate market power
Forward	Any physical or financial market where a participant can manage its forward market exposures	Regional (I-SEM + GB)	– Forwards and liquidity workstream is ongoing – The existence of attractive proxy hedges with GB gas and EUA carbon or GB power – The addition of FTRs for cross-border trade will increase competition
Day Ahead	A physical contract to generate or supply electricity, traded through day ahead auctions	Pan-European	– Exclusive route to the physical market in I-SEM – Unit bidding requirement – Increased participation of the demand side – The day ahead market is by design and definition a pan-European market. – The alignment of trading timeframes with European markets and common rules will increase competition – The EUPHEMIA algorithm optimises social welfare and schedules flows subject to transmission constraints – FTRs will help focus liquidity into DA market
Intraday	A physical contract to generate or supply electricity, traded through continuous intraday platforms	Pan-European	– The intraday market is by design and definition a pan-European market. – Unit bidding requirement – Increased participation of the demand side – The alignment of trading timeframes with Europe will increase competition – Continuous ID trading will increase the trading efficiency albeit at the expense of ID liquidity
Balancing	Incremental offers to increase production/decrease consumption or decremental bids to decrease production/increase or consumption	Island of Ireland	– Unit bidding requirement – Mandatory bidding – Increased participation of the demand side – Grid Code prohibits capacity withholding – Alignment of gate closure times with Europe will increase competition – The network code on balancing facilitates TSO-TSO trading of common products via a common merit order, increasing competition for balancing services