



Integrated Single Electricity Market (I-SEM)

I-SEM Market Power Mitigation

Decision Paper

SEM-16-024

11th May 2016

Table of Contents

EXECUTIVE SUMMARY	4
1 INTRODUCTION	8
1.1 BACKGROUND	8
1.2 PURPOSE AND OBJECTIVES	10
1.3 STRUCTURE OF THIS PAPER.....	10
2 CONTEXT FOR MARKET POWER POLICY DEVELOPMENT	12
2.1 INTRODUCTION	12
2.2 SUMMARY OF RESPONSES RECEIVED.....	13
2.3 SEM COMMITTEE RESPONSE.....	14
3 RELEVANT GEOGRAPHIC MARKET(S) AND TRADING PERIOD(S)	16
3.1 INTRODUCTION	16
3.2 SUMMARY OF RESPONSES RECEIVED.....	16
3.3 SEM COMMITTEE RESPONSE.....	18
3.4 SEM COMMITTEE DECISION	19
4 I-SEM DESIGN, INTERACTIONS AND IMPLICATIONS	20
4.1 INTRODUCTION	20
4.2 SUMMARY OF RESPONSES RECEIVED.....	21
4.3 SEM COMMITTEE RESPONSE.....	24
4.4 SEM COMMITTEE DECISION	28
5 RELEVANT I-SEM METRICS	30
5.1 INTRODUCTION	30
5.2 SUMMARY OF RESPONSES RECEIVED.....	31
5.3 SEM COMMITTEE RESPONSE.....	33
5.4 SEM COMMITTEE DECISION	34
6 MODELLING OF I-SEM MARKET POWER	35
6.1 INTRODUCTION	35
6.2 SUMMARY OF RESPONSES RECEIVED.....	35
6.3 SEM COMMITTEE RESPONSE.....	36
7 REVIEW OF CURRENT SEM MEASURES	46
7.1 INTRODUCTION	46
7.2 SUMMARY OF RESPONSES RECEIVED.....	46
7.3 SEM COMMITTEE RESPONSE.....	47
8 SEM MITIGATION STRATEGY AND MEASURES	49
8.1 INTRODUCTION	49
8.2 SUMMARY OF THE FIVE KEY PRINCIPLES FOR ASSESSING MARKET POWER MITIGATION POLICIES.....	49
8.3 SUMMARY OF RESPONSES RECEIVED - FIVE KEY PRINCIPLES	50
8.4 SEM COMMITTEE RESPONSE – FIVE KEY PRINCIPLES.....	51

8.5	SEM COMMITTEE DECISION – FIVE KEY PRINCIPLES	51
8.6	FORWARD CONTRACTING OBLIGATION (FCO).....	51
8.7	SUMMARY OF RESPONSES RECEIVED - FCO	52
8.8	SEM COMMITTEE RESPONSE - FCO	52
8.9	SEM COMMITTEE DECISION - FCO	54
8.10	DAY AHEAD AND INTRADAY MARKETS	55
8.11	SUMMARY OF RESPONSES RECEIVED – DAM & IDM	56
8.12	SEM COMMITTEE RESPONSE – DAM & IDM	58
8.13	SEM COMMITTEE DECISION – DAM & IDM.....	63
8.14	MARKET POWER IN THE BALANCING MARKET	64
8.15	SUMMARY OF RESPONSES RECEIVED – BALANCING MARKET	67
8.16	SEM COMMITTEE RESPONSE – BALANCING MARKET.....	69
8.17	SEM COMMITTEE DECISION – BALANCING MARKET	79
8.18	FLEXIBILITY AND WORDING OF ANY EX-ANTE BIDDING PRINCIPLES	80
8.19	SUMMARY OF RESPONSES RECEIVED - EX-ANTE BIDDING PRINCIPLES	80
8.20	SEM COMMITTEE RESPONSE – EX-ANTE BIDDING PRINCIPLES.....	81
8.21	SEM COMMITTEE DECISION – EX-ANTE BIDDING PRINCIPLES	81
8.22	VERTICAL RING-FENCING	81
8.23	SUMMARY OF RESPONSES RECEIVED – VERTICAL RING-FENCING.....	82
8.24	SEM COMMITTEE RESPONSE – VERTICAL RING-FENCING.....	82
8.25	SEM COMMITTEE DECISION – VERTICAL RING-FENCING	86
9	NEXT STEPS	88
9.1	MARKET POWER POLICY TIMELINES	88
	APPENDIX A: REMIT INFORMATION.....	89

EXECUTIVE SUMMARY

The I-SEM High Level design Decision Paper recognised that existing market power concerns will remain in the I-SEM, and gave a commitment to ensure that effective market power mitigation arrangements are developed in time for Go-live.

A market power workstream was subsequently put in place as part of the detailed design of the I-SEM. This workstream was tasked to consider and develop appropriate measures to ensure consumers and generators are protected from the abuse of market power.

In addition to this market power Decision Paper, market power concerns in the CRM and DS3 elements of I-SEM are being separately considered as part of the detailed design to ensure that sufficient market power mitigation arrangements for these segments of the market are in place. These have not therefore been considered as part of this Decision Paper and are instead being considered by the relevant CRM and DS3 project teams.

This Decision Paper outlines the framework that will be used to mitigate wider market power in the energy markets that make up the I-SEM. The four main markets that will make up the I-SEM are;

- the Forwards Market,
- the Day Ahead Market (DAM),
- the Intra-Day Market (IDM), and
- the Balancing Market (BM).

In addition this Decision Paper considers the appropriateness of the modelling that has been carried out to determine the level of market power that could potentially be exerted, along with the suitability of current ring fencing arrangements that are currently in place on ESB and Viridian.

Day Ahead and Intraday Markets

The Day Ahead and Intraday Markets (DAM and IDM) will be important timeframes in the I-SEM. It will be through these markets where the vast majority of physical electricity volumes are likely to be bought and sold.

The SEM Committee views the DAM and IDM as having the potential to be competitive. These markets will be unconstrained, and bidding will be carried out on a unit basis. Market coupling with GB will also increase competition in this segment. Currently there is around 1GW of import capacity on the interconnectors accounting for between 15% and 40% of demand. Demand participation and price formation in these markets should also act to keep prices at competitive levels.

These characteristics have convinced the SEM Committee that no ex ante bidding controls are required in this segment of the I-SEM. An effective and well-resourced market monitoring and enforcement function of the RAs will be critical to regulating these markets, and to provide an effective enforcement of the EU Regulation on Market Integrity and Transparency (REMIT), which are an essential tool in ensuring market power mitigation.

Whilst the SEM Committee views the DAM and IDM as having the potential to be competitive, we have observed that ESB will continue to have a large share in these markets. The SEM Committee have decided that this level of market concentration will need to be addressed through the introduction of an FCO on ESB to mitigate market power in the spot market.

Arrangements for Forward Contracting Obligations (FCO)

The introduction of an FCO in the I-SEM will form a key component of the SEM Committees strategy to mitigate market power and to support competition.

The SEM Committee has decided that an obligation should be placed in all generator, and potentially supplier licences which will allow for the imposition of a forward contracting obligation for the reason of mitigating market power and to support competition in the spot market(s).

The SEM Committee will not, however specify any specific triggers that would prompt the introduction of a FCO at this stage, leaving consideration of factors to be weighted on the merits of each case as they arise. This will include taking into account a range of relevant metrics in a proportional, non-discriminatory and consistent manner in considering whether to activate any FCO measures.

The quantification, price form and allocation of the FCO will be decided by the Forwards and Liquidity (F&L) workstream. The SEM Committee has considered respondent comments on this matter and agrees that this is best considered holistically. The F&L workstream will also consider whether it is appropriate to impose any additional FCO obligation for reasons of increasing liquidity in the forwards market.

Balancing Market

The last of the markets that will make up the I-SEM is the Balancing Market (BM). The BM will capture two requirements that are essential to the I-SEM market;

1. *Provide the TSOs information on the cost structures and technical information for all the BSPs.* At the day ahead stage, the TSOs will require what are known as three part offers from generators consisting of start costs, no load costs and incremental and decremental prices and quantities. These are used for system reliability software runs and allow the TSOs consider the Physical Notification (PNs) from BSPs and also to consider their own forecast of wind, demand and system constraints (e.g voltage).
2. *Provide the TSOs with the bids and offers of generators at the end of the intraday market.* This will cover 3 types of situation,
 1. Plant with PNs providing headroom
 2. Plant with an early TSO action taken which has some headroom
 3. Plant available to be dispatched within a one hour timeframe

A number of options were presented in the Consultation Paper, all of which involved the introduction of prescriptive bidding controls on generators operating in this segment.

Before reaching a decision on how to mitigate market power in this segment the SEM Committee considered the following key aspects of the BM;

- The constrained and unconstrained elements that will make up this market.
- Consideration of the amount of generation that will be able to actively participate in this segment of the market.
- Consideration of the ability of part loaded plant to bid up to the short run marginal cost of peaking units and having an ability to push up prices significantly above competitive levels.

The SEM Committee have decided that for simple incremental and decremental bids and offers submitted into the balancing market at Gate Closure, there will be no-explicit ex-ante bidding controls. However the SEM Committee will implement ex-ante bidding controls either on individual participants or across the wider market if observed behaviour is deemed to warrant this. The SEM Committee will develop a framework that will allow for the implementation of bidding controls in an expedited manner should the need arise. For example, there could be a condition placed in licences but not activated.

For all actions of units deemed to be non-energy for the purposes of the market power mitigation functionality as part of imbalance pricing, the SEM Committee have decided that Option 2b from the Consultation Paper will be applied. All actions of units deemed to be non-energy for the purposes of the market power mitigation functionality as part of imbalance pricing will therefore be settled based on 3-part offers submitted to the TSOs. The three part offers will have an explicit ex-ante bidding control applied to them. The form of the bidding control will be considered in the coming months by the SEM Committee and will be ultimately proposed in a licence condition.

Wholesale Energy Market Integrity and Transparency (REMIT) Regulatory Framework

Across all I-SEM markets REMIT enforcement will form an integral part of the toolkit that will allow the RAs to effectively detect and deter market manipulation and abuse.

REMIT introduces a sector-specific legal framework for the monitoring of wholesale energy markets. The objective is to both detect and to deter market manipulation. For the first time, energy trading will now be screened at EU level to uncover abuses. REMIT implementing legislation in Ireland and Northern Ireland provides the Regulatory Authorities (RA's) with powers to access information, inspect premises and impose sanctions for those who break the law.

Ring-Fencing Requirements

The other aspect of market power mitigation that has been considered in the Decision Paper is ring fencing requirements.

The SEM Committee notes the position of all respondents, with the exception of ESB, that the vertical Ring Fencing of ESB's supply and generation functions should remain in place.

The key question that needs to be considered when addressing ring fencing arrangements is whether the argument can be accepted that a competitive spot market will result in competitive forward hedging opportunities, whether ring-fencing is effective and whether it is desirable and necessary for all FCO's.

The Forwards & Liquidity workstream is considering many aspects of facilitating greater liquidity in forward markets. Key areas include:

- Transaction Costs
- Market Wide Liquidity Promotion/Mandating
- Cross Border Liquidity Facilitation

The SEM Committee is of the view that any consideration of the merits or otherwise of amending the current framework with regards to vertical integration/ring-fencing will form part of the consideration of the forwards and liquidity workstream and the design of any measures brought forward.

Therefore the SEM Committee will not make decision on this issue within this paper.

Next Steps

A number of next steps have been identified associated with decisions set out in this paper. These next steps fall into the following two main areas:

- Areas that will be considered by the F&L workstream. In particular the quantification, price form and allocation of the FCO will be decided upon. The matter of ring fencing requirements and whether these are appropriate will also be considered.
- The form of bidding principles that will be applied to the three part bids needs to be considered. The market power workstream will develop these principles and ensure that they are clear and easily understood by all participants.

1 INTRODUCTION

1.1 BACKGROUND

1.1.1 The decision of the SEM Committee on the High Level Design (HLD) of the Integrated Single Electricity Market (I-SEM)¹ in September 2014 highlighted the need to develop any additional measures to ensure that electricity consumers are protected from the abuse of market power. The Regulatory Authorities or RAs - the CER and Utility Regulator - have since progressed an I-SEM market power mitigation workstream.

1.1.2 At a high-level, the scope of the market power workstream is to identify the potential level of market power in the I-SEM wholesale energy and financial markets and to decide on an associated regulatory market power mitigation strategy and measures.

1.1.3 The SEM Committee published a Consultation Paper on I-SEM Market Power Mitigation on 20th November 2015. Following this a public workshop was held on the 2nd December 2015 in Dundalk to discuss the Consultation Paper. Non confidential responses from stakeholders were received on the 18th January, from the following interested parties:

- AES
- Bórd Gais Energy
- Bord na Móna
- Brookfield Renewables
- EirGrid Group
- Energia
- ESB Group
- ESRI
- Gaelectric
- Invis
- IWEA
- Moyle Interconnector
- Power NI
- Power Procurement Business
- PrePayPower
- SSE
- Tynagh
- Vayu Energy

Confidential responses were also received from 6 stakeholders.

¹ Please see: http://www.allislandproject.org/en/wholesale_overview.aspx?article=d3cf03a9-b4ab-44af-8cc0-ee1b4e251d0f

1.2 PURPOSE AND OBJECTIVES

1.2.1 The purpose of this Decision Paper is to set out the SEM Committee’s decisions on the suggested market power mitigation measures in I-SEM, with the particular aim of mitigating the incentive and ability of any market participant to exercise market power in the I-SEM physical and financial wholesale energy markets. The decisions were taken with the view of being consistent with the following objectives:

- Be in line with the I-SEM HLD and its philosophy;
- Enable efficient and transparent price formation in I-SEM’s physical and financial markets;
- Promote competition in I-SEM’s physical and financial markets, including appropriate generation entry/exit;
- Allow for the development of liquid physical short-term² and forward financial trading in I-SEM, with the latter to be progressed as part of policy developed in the I-SEM “forwards and liquidity” workstream;
- Be consistent with other I-SEM policy areas, including I-SEM’s Energy Trading Arrangements, Capacity Remuneration Mechanism, Financial Transmission Rights and policies to promote forward and spot market liquidity. This includes consistency with market power mitigation measures designed separately as part of these policy measures, for example in relation to the auction design for the Capacity Remuneration Mechanism and Financial Transmission Rights. For clarity, this paper does not examine market power issues that may exist within any of these policy areas; they are out of scope and will be dealt with separately by the respective I-SEM workstreams in a manner which is assumed to deliver efficient outcomes; and,
- Be consistent with other segments in the electricity cost chain, including in relation to electricity networks, the “DS3” programme for system services, and retail electricity markets in Ireland and Northern Ireland (NI). Again for clarity, this paper does not examine market power issues that may exist within any of these policy areas (though it does seek to be consistent with them).

1.3 STRUCTURE OF THIS PAPER

1.3.1 The Decision Paper is structured as follows:

- Section 1 (this section) sets out the objectives for this workstream and provides details on stakeholder engagement;
- Section 2 summarises some relevant policy developments and market trends, used to frame the context in which the I-SEM market power mitigation strategy is developed;

² The physical short-term markets in I-SEM will include the Day Ahead market (DAM), the Intra-Day market (IDM) and the Balancing Market (BM).

- Section 3 sets out the relevant geographic area and trading period(s) for assessing market power in I-SEM energy and financial trading periods;
- Section 4 discusses the emerging I-SEM design and its implications for market power;
- Section 5 sets out the relevant market power metrics for the detection of market power in the energy and financial trading periods;
- Section 6 shows modelling results in relation to potential I-SEM market power, based on various scenarios;
- Section 7 assesses the performance of the current SEM market power mitigation measures, providing a backdrop to potential measures in I-SEM;
- Section 8 sets out the SEM Committee decision in relation to the options for market power mitigation in the I-SEM energy and financial trading period.
- Section 9 shows the next steps and implementation phase of the market power workstream.

2.1 INTRODUCTION

- 2.1.1 Recent and likely future high-level policy developments and market trends, which may be external to the development of I-SEM itself but which impact on an I-SEM market power mitigation, are summarised below.
- 2.1.2 A key aspect that has influenced the SEM Committee thinking on the I-SEM Market Power strategy is the increased level of interconnection with GB as it increases the level of competition and cross-border trades in electricity, impacting on the ability of generation located in the I-SEM bidding zone to exercise market power. Combined with this level of interconnection is a harmonised approach to allocating cross border capacity and pricing energy in the spot markets; in the Day Ahead and Intraday initially with cross border integration of balancing markets under development.
- 2.1.3 The levels of competition inherent in the market has further had an impact on the SEM Committee's thinking. In particular, the market displays more competitive characteristics than it did when SEM was being developed. This has been driven by new entrants to the market, bringing a diversification of ownership.
- 2.1.4 The Regulation on wholesale energy market integrity and transparency (REMIT), prohibits wholesale market abuse on an ex-ante basis, specifically "market manipulation" and "insider trading", and requires that participants publish "inside information" or inform ACER and the RAs if they seek to delay its publication. The REMIT investigatory and enforcement powers conferred on the RAs have been taken into account by the RAs in developing an I-SEM market power mitigation strategy and associated measures
- 2.1.5 The benefits of greater demand side participation were also taken into account by the RAs as it could result in a reduced potential for the exercise of market power through demand bids limiting the ability of generators to raise prices above competitive levels. These benefits, both on a system-wide basis and a local basis, were taken into account by the RAs on the decision in this paper.
- 2.1.6 A key ongoing and future trend of consequence to I-SEM concerns the increasing role of intermittent renewable generation on the island. The 2020 renewables target and the increasing role of intermittent wind power will have a direct impact on the policy environment under which I-SEM market power measures are developed.

2.2 SUMMARY OF RESPONSES RECEIVED

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

- 2.2.1 The majority of respondents agreed with the policy developments and trends identified in the Consultation Paper.
- 2.2.2 Some respondents considered there were other key developments that were relevant but which had not been included in the Consultation Paper. One respondent felt that new entry from large and integrated players has changed the competitive landscape considerably; and that a number of credible new interconnector projects will further reduce any ability that ESB has to exercise market power in the physical markets.
- 2.2.3 One respondent felt that the need for fast flexible plant is not highlighted. Another respondent felt that the paper did not consider the risks arising from ESB's state ownership and the implications for market power mitigation, and that the paper did not examine in detail the possible market power mitigation measures in forward markets.
- 2.2.4 Another respondent did not directly answer this question, but stated that REMIT by itself will not cure market power abuse.

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

- 2.2.5 One of the key concerns here was the alignment with the Forwards and Liquidity workstream (F&L workstream). Some respondents identified the need to incentivise liquidity in the forward market and the need to address potential market power abuse in this market timeframe. One respondent felt that the Market Power workstream cannot safely hand over all consideration of forward markets to the F&L workstream until it is agreed formally that the F&L workstream will cover all matters relating to liquidity in forward markets. Another respondent considered that 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 considered that decisions should be taken in the round.
- 2.2.6 Several respondents highlighted the need to assess market power implications of the interacting system services, energy market and capacity market revenue streams.
- 2.2.7 Another respondent noted that the I-SEM energy markets would also be influenced to a significantly greater extent than has been the case to date by the trading strategies adopted by Suppliers and Demand Side Bidders, with the scope for further impact on the market dynamics through the participation of asset-less traders.

- 2.2.8 Two respondents added that a sale of assets, such as the acquisition of Viridian by another group, could create rapid change in the structure of the market.

2.3 SEM COMMITTEE RESPONSE

Forwards and liquidity implications

2.3.1 The SEM Committee acknowledge the link between this workstream on market power strategy and the F&L workstream, which will be publishing a Consultation Paper shortly. It is evident that the forward market suffers from low liquidity. The F&L workstream will consider the causes of limited liquidity in the forward market, including whether any barriers to entry exist, and any other aspects of facilitating greater liquidity in forward markets. Key areas include:

- Transaction Costs
- Market Wide Liquidity Promotion/Mandating
- Cross Border Liquidity Facilitation

Other issues

2.3.2 One respondent flagged that the Consultation Paper did not take into account all credible interconnections and the entry of new integrated players as indicated in paragraph 2.2.2. The respondent did not refer to specific interconnection projects or the new integrated players. The SEM Committee has taken into account in its modelling current and expected interconnections that it considers realistic at this point in time, namely Moyle, EWIC and an additional 500 MW of interconnection to GB.

2.3.3 Regarding vertically integrated players, the SEM Committee has not identified any new players with integrated businesses in Ireland and Northern Ireland that would significantly change the market dynamics. The SEM Committee has not seen evidence to suggest that market participants that are vertically integrated in both GB and I-SEM (albeit short generation in I-SEM), would have a particular ability to exercise any market power specifically from this vertically integrated position. This is not to say that these large participants wouldn't benefit from economies of scale but this of itself isn't an exertion of market power.

2.3.4 Respondents raised two questions unrelated to policy developments – ESB ownership and the need for fast flexible plant. The SEM Committee considers that the state ownership of ESB will not be considered in the market power analysis.

- 2.3.5 Considerations regarding system flexibility primarily falls within the scope of the DS3 workstream. It is only relevant to the extent that the respondents believe that a large player can exert market power in the spot market and cause harm to new flexible entrants or foreclose the market from new investment. The SEM Committee will put in place any required measures to ensure that competitive spot markets are in place. The CRM and DS3 designs will include market power mitigation measures. It would appear that the concerns around flexible plant entry are more relevant to those workstreams.
- 2.3.6 The SEM Committee notes that following the recent sale of Viridian to an entity which has no other assets in SEM, this will not impact any of the conclusions of the market power analysis in the Consultation Paper. However, as detailed in Section 8 the SEM Committee will make provisions in all generation licences to allow proportionate measures be applied to them if and when required in the interests of maintaining competition across the market
- 2.3.7 The SEM Committee acknowledges that, in addition to generator conduct, the I-SEM markets will be increasingly influenced by the trading strategies adopted by Suppliers, Demand Side Bidders, and asset-less traders. Suppliers could potentially exercise buyer market power in the wholesale market if they had a significant share of the retail market and faced limited competitive pressure in that market. Therefore, as discussed in the Consultation Paper, the impact of retail market shares on the competitiveness of the wholesale market is an important consideration for the market power mitigation strategy, and will be monitored by the RAs. Demand Side Bidders and asset-less traders could also theoretically engage in market manipulation; however they tend to face a stronger competitive pressure than generators since their costs to enter the market are significantly lower. They also provide benefit to the market in terms of exerting competitive pressure on the generators. Overall, it appears that the risk of Suppliers, Demand Side Bidders, and asset-less traders abusing market power in I-SEM is significantly lower than for generators. Therefore, the SEM Committee considers that the best strategy at this time is to require the RAs to monitor the behaviour of these participants, and to propose additional market power mitigation measures in the future, if such measures are deemed necessary. All of the above participants will however, be subject to any market wide abuse measures such as REMIT.
- 2.3.8 Several respondents highlighted the need to assess market power implications of the interacting system services, energy market and capacity market revenue streams. As noted in Section 1, the RAs have developed a market power strategy that is consistent with other workstreams; however examining market power issues within those workstreams are not within the scope of this decision. This decision focuses on the spot markets.

3 RELEVANT GEOGRAPHIC MARKET(S) AND TRADING PERIOD(S)

3.1 INTRODUCTION

- 3.1.1 The definition of relevant markets is a necessary starting point in order to analyse market structure, levels of competition and to identify potential constraints within the market on competitive behaviour. It allows the relevant market participants – suppliers, consumers, etc – and the relevant constraints on competitive behaviour to be identified.
- 3.1.2 For the forward market, the SEM Committee proposed that all forward products traded prior to the opening of the DAM should be treated as part of a single relevant forward market that includes I-SEM capacity and the capacity of the interconnectors³.
- 3.1.3 For the DAM, the SEM Committee proposed that the geographic market should include all generators on the island and interconnection capacity, noting that the size of the geographic market will not exceed the combined capacity of the local I-SEM capacity and the capacity of the interconnectors.
- 3.1.4 For the IDM, the SEM Committee proposed that the relevant geographic market will include all generators on the island and the interconnector capacity, similarly to the DAM but is likely to be subject to different market conditions because of physical generator constraints closer to real time.
- 3.1.5 Finally, for the BM, the SEM Committee proposed that the size of the relevant geographic market in the balancing timeframe would depend on whether within I-SEM bidding zone transmission constraints are binding, and will thus be dynamically changing. Hence, for the BM the largest possible size of the geographic market will coincide with that of the IDM and the DAM: combined I-SEM capacity and the capacity of the interconnectors. The smallest relevant BM may be as small as a constrained area with a single generator.

3.2 SUMMARY OF RESPONSES RECEIVED

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

- 3.2.1 Respondents generally agreed with the proposed geographic scope of the markets/trading periods in the Consultation Paper, with several mentioning the constrained nature of the all-island system.

³ This definition of a forward market should be revised if smaller hubs for forward trading were to develop in the future.

- 3.2.2 One respondent stated that there is a difference in the definition of the geographic market due to the nature of coupling in the DAM and IDM, relative to the BM. Another respondent noted that non-energy requirements of the system have an impact on the definition of the relevant market, in particular for the balancing market. Each requirement could have a different geographic scope: defined by any unit on the system, by a particular set of units at various points throughout the system, or by a particular set of units in a particular point of the system.
- 3.2.3 One respondent primarily disagreed with the Consultation Paper suggestions regarding the geographic market definition for the forward timeframe, arguing that while the RAs' definition is true in the context of 'clean' hedges, it completely ignores the possibility of 'proxy' hedging using a market, which is highly correlated. In addition, they stated that the DAM and IDM markets involve common rules and processes (applicable under Euphemia and XBID), and are therefore best thought of as pan-European.

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

- 3.2.4 A majority of respondents agreed with the RAs' approach regarding the appropriate market and trading periods for assessing market power proposed in the paper.
- 3.2.5 One respondent noted that the Consultation Paper does not discuss how the market power rules in the balancing market apply to the complex and simple bid orders in the Redispatch and Last Hour Timeframes.
- 3.2.6 One respondent felt that that markets are appropriate but that they should all be treated individually.
- 3.2.7 Another respondent noted that the review of market data uses the HHI for annual generation, which is not a relevant market, hence the indications provided by this metric are misleading. One respondent argued that the analysis of the effectiveness of competition and the barriers to entry should be considered relative to the market definitions.

3.3 SEM COMMITTEE RESPONSE

- 3.3.1 The SEM Committee notes the responses received to the Consultation Paper and believes that the majority of comments are captured by the proposed definition of relevant markets.
- 3.3.2 In relation to the DAM and IDM, the SEM Committee notes that although the I-SEM will be linked to the wider European market through market coupling, the level of integration with other markets is limited by the interconnector capacity available.
- 3.3.3 The SEM Committee also notes that the interconnection capacity will also form part of the relevant geographic market in the IDM and BM, assuming that the future implementation of market coupling in the Intraday Market goes ahead, as well as the plans for Internal Electricity Balancing Market. In the absence of market coupling in the Intraday Market and/or a common merit order list in the Balancing Market, the use of the interconnector capacity in these two timeframes may be restricted, reducing the size of the relevant geographic market.
- 3.3.4 The SEM Committee agrees that the relevant market in relation to the balancing timeframe will be determined by transmission constraints and non-energy requirements. This could give rise to many local markets, some comprising a small set of generators, or even a market comprising as little as a single generator. The SEM Committee believes that describing every potential local market is neither practical nor necessary for the formulation of a market power strategy. That said, the SEM Committee expects the RAs, via their market monitoring and enforcement function to monitor relevant local markets as they emerge according to transmission constraints and non-energy requirements.
- 3.3.5 In relation to the forwards market, the SEM Committee interprets the reference to the possibility of ‘proxy’ hedging as the opportunity to hedge using the GB forwards market in addition to the I-SEM forwards market. The SEM Committee is aware from discussions with market participants that SEM participants do utilise a number of hedging techniques to make up for what they see as a lack of liquidity in SEM. These techniques include proxy hedges using gas and carbon etc. However, the same participants have said that such hedging is not nearly as reliable as a forward contract struck against the SMP. Therefore, while, the SEM Committee believes that hedging in the GB energy market could provide market participants with an alternative to hedging in the less liquid I-SEM forwards market, the two do not represent exactly equivalent opportunities. A CfD in the GB market plus a financial transmission right (FTR) between the I-SEM and GB markets is similar to an I-SEM CfD, but hedging through the former requires the purchaser to take account of the optional nature and price of the FTR and does not require consideration of the relative liquidity of the GB market.

- 3.3.6 The purpose of hedging through a forwards contract is to reduce a market participant's exposure to volatility in the spot energy markets. The degree of substitutability between I-SEM and GB forward contracts will be a function of the correlation between the spot prices in the two markets. Given increasing levels of wind penetration and the limits imposed by existing interconnection capacity, the future correlation of GB and I-SEM spot electricity market prices is uncertain at this point.
- 3.3.7 It is not in the SEM Committee's view necessary to resolve uncertainties around definition of relevant markets in the forward timeframe for the purposes of its decisions on market power mitigation in relation to the spot timeframe. In particular, the forward market size is difficult to quantify and depends greatly on participant behaviour. The spot markets for example can be quantified given that all generation and demand must be bought and sold through these. The forwards market is voluntary in the sense that it doesn't provide a route to generation or consumption.
- 3.3.8 Regarding measures applicable to complex and simple offers within the Redispatch and Last Hour Timeframes, respectively, the SEM Committee notes the decision within the ETA workstream that in Redispatch timeframe I-SEM systems should be able to explicitly accommodate generators' fixed costs. This comment, however, is not directly relevant to the definition of geographic markets, and applicable measures to these offers are discussed in more detail in Section 8 where the SEM Committee decisions on the appropriate option for market power mitigation in the balancing market is set out.
- 3.3.9 The SEM Committee agrees with the observation that annual generation is not a relevant market according to the definition set out in the Consultation Paper; however the reporting of metrics for annual generation offers a high-level indication of the evolution of market concentration. As discussed in Section 5, the SEM Committee proposes to use a range of indicators including, but not limited to HHI, to determine the level of market power in the I-SEM. Some of these metrics are best used for specific trading periods within a year, while others can be aggregated to offer a picture of the average conditions in the market across an entire year.

3.4 SEM COMMITTEE DECISION

- 3.4.1 The SEM Committee is satisfied with the definitions proposed in the Consultation Paper for both the appropriate markets/trading periods for assessing market power in I-SEM's energy and financial markets and the geographic scope of the proposed markets /trading periods and has used this definition as the basis for the modelling reported in subsequent sections.

4.1 INTRODUCTION

4.1.1 In this section the proposed definition of competitive behaviour in I-SEM and market power strategies is discussed, along with the responses received. Responses to the analysis of aspects of the I-SEM forward market design and the physical market design are also considered and discussed. The section concludes with a consideration of responses on interactions with other workstreams.

Definition of competitive behaviour

4.1.2 Market power analysis requires a definition of competitive behaviour, which the SEM Committee defined in the Consultation Paper as:

Competitive offers equal short run marginal cost (SRMC), where SRMC includes relevant opportunity costs.⁴

Forward market and physical market design

4.1.3 In relation to the Forward market, the SEM Committee considered that the potential for market power abuse in I-SEM is related to the levels of liquidity in this market. By addressing the liquidity issues of the current forward market, any potential for market abuse should also be mitigated. EU financial regulation is an important instrument to prevent the exercise of forward market power. Hence, the focus of the Consultation Paper was on I-SEM physical rather than financial markets.

4.1.4 A potential market power-related issue in I-SEM is that the DAM and IDM auctions clear without a consideration for transmission constraints. In other words, these markets yield so-called “unconstrained schedules”. If some of these schedules are not feasible in real time in the BM (e.g., they would violate some transmission constraints, or aggregate supply would exceed demand), then the TSO will have to accept some incremental offers or decremental bids to balance the system.

4.1.5 The key implication of local market power is the incentive it creates for the generator that possesses it. If a generator knows that it will have to be dispatched by the TSO in real time (e.g., in order to meet demand in a load pocket), it will have less of an incentive to bid competitively, since it is all but

⁴ In addition, inframarginal rents earned during scarcity pricing periods would also be consistent with competitive behaviour. The administered scarcity pricing mechanism will ensure that market participants have no incentive to inflate their scarcity rents.

guaranteed to run in the BM, such that its bids and offers are not at competitive levels.

Interaction with other workstreams

- 4.1.6 One source of interaction is that between the Capacity Remuneration Mechanism (CRM) and the physical markets. In particular, the key factor when considering CRM is the Market Reference Price (MRP). The value of Reliability Options (ROs) will be influenced by the level of the Strike Price and the MRP, which is in turn determined in the physical markets. Therefore, if a RO holder possesses market power in the physical markets, it may have an incentive to inflate or suppress the MRP, depending on the relative size of its RO holdings and physical market positions.
- 4.1.7 Another source of interaction is that with Financial Transmission Rights (FTRs). If some FTR holders had the ability to manipulate the DAM market price, either in I-SEM or GB or both, they could do so in order to increase the value of their FTRs, though it is noted that holding an FTR increases the incentive to manipulate the DAM price but not the ability. For example, they could seek to inflate the I-SEM DAM in order to increase the value of their FTRs. Similarly a potential FTR holder could engage in price suppression in the I-SEM DAM in order to reduce the cost of purchasing an FTR. This would require the abuse of market power in the DAM however. The SEM Committee has considered the DAM and is confident that the measures detailed in Section 8 will deliver competitive outcomes in the DAM.
- 4.1.8 In addition, the SEM Committee is cognisant of the interactions between the various requirements within DS3 System Services and the physical markets. Whenever constraints bind, they create local markets both for energy and DS3 products, and thus give rise to local market power.

4.2 SUMMARY OF RESPONSES RECEIVED

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

- 4.2.1 Respondents' views in relation to this question were fairly divided. Around half of the respondents had reservations towards the SEM Committee's proposed definition of competitive behaviour and pricing in the Consultation Paper either due to issues related to SRMC or due to the definition being too limited. In relation to the former, the main argument was that defining competitive behaviour at SRMC will deprive generators of recovering legitimate costs. Among the reasons given by respondents were that SRMC pricing only applies "within the theoretical abstraction of a perfectly competitive atomistic market"; that it "is impossible to apply [SRMC] when economies of scale exist"; or that "it is unfair to assume that any deviation from SRMC bidding is uncompetitive behaviour". In addition, other

respondents rejected the proposed definition highlighted for being too limited and narrow, in excluding CRM and DS3 along with the physical markets or “addressing behaviour with respect to [...] access to the market” by new entrants.

- 4.2.2 On the other hand, a significant cohort of respondents agreed with the proposed definition. Several of these respondents agreed in principle, with one respondent stating that the difficulty relies in “how short run marginal costs are defined and determined”.
- 4.2.3 Another respondent was not clear the MMU could enforce SRMC bidding for storage units.
- 4.2.4 Two respondents did not provide a direct answer, however, one of them warned that market power mitigation measures should be flexible enough to incorporate circumstances “where participants may not be exercising market power through deviating from their SRMC”.

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

- 4.2.5 The majority of respondents agreed that the examples provided in the consultation capture the relevant issues in which market power can be exercised in I-SEM. One respondent warned that because market power strategies can be highly sophisticated they could extend beyond the examples provided. Another respondent cautioned that the examples relating to physical or quantity withholding are only applicable to the BM and not the DA and IDM, as those markets are exclusive and non-mandatory.
- 4.2.6 A minority of respondent did not agree with the suggested examples, either because “it is unlikely that all the relevant issues are captured in the brief suggested examples as it is difficult to predict how markets may be manipulated” or that the narrow focus on SRMC increases the risk of Type 1 and Type 2 errors.

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?

- 4.2.7 Responses to this section of the Consultation Paper were varied, with a slight majority of respondents supporting the Consultation Papers position that the potential for market power abuse in the forward market appears to be weaker than in the physical markets.
- 4.2.8 A number of observations were provided by respondents that supported the position laid out in the consultation.
- 4.2.9 One respondent was of the view that European Market Infrastructure Regulation (EMIR) and Markets in Financial Instruments Directive (MiFID) will assist in detecting and preventing anti-competitive actions in the forwards market.
- 4.2.10 Another respondent stated their belief that the forwards market is purely financial, and that its primary purpose is to provide hedging opportunities against volatile spot prices. This respondent further asserted that as demand

in the forward market is more elastic than in the physical markets participants can choose to remain unhedged, or choose other methods to hedge. This theme that buyers can choose to remain unhedged, or to proxy hedge through fuels was picked up by a number of other respondents

- 4.2.11 Another theme picked up by some responses was the fact that whilst the potential for market abuse in the forward markets was lower, the vast majority of forward contracts only exists due to regulatory considerations (such as DC's, PSO Auctions etc).
- 4.2.12 A respondent that favoured the consultations assumption cautioned that there is minimal liquidity in the existing SEM and that this situation may not improve in the new market. This respondent cautioned that a potentially worse problem in the spot market should not be seen as an argument for ignoring the potential for market abuse in the forward market.
- 4.2.13 A number of respondents stated their disagreement with the Consultation Paper and considered that market power is present in the forwards timeframe and should be addressed equally.
- 4.2.14 One respondent stated that any potential new entrant to the forward market required a liquid intraday and balancing market. They believed that without certainty over the ability of either market to offer liquid, equitable solutions new entrants will be less likely to offer forward products. This would then dampen entry signals to the forwards market and increase the potential for market power abuse.
- 4.2.15 Another respondent felt that there is potential in this segment for vertically integrated companies to withhold volumes or prohibitively price products if no controls are put in place.
- 4.2.16 One response stated that a lack of forward contract availability is one of the main barriers to competitive retail markets in the all-island market and results in additional costs for customers. This respondent also touched on the liquidity issue arguing that pricing risk is further exasperated without a liquid underlying market in which you can freely enter and exit positions.
- 4.2.17 A supplier that disagreed with the Consultation Paper stated that this was based on flawed assumptions. This respondent argued that forward market power will tend to harm independent and smaller players. This respondent felt that further analysis needs to be carried out and that the F&L workstream is given a mandate to examine market power in this segment.
- 4.2.18 One respondent questioned the impact that EU regulations will have and felt that these will not play a significant role in preventing the exercise of that market power in the first place.

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?

- 4.2.19 A majority of respondents recognised the interdependent relationship between each segment of I-SEM, albeit with a variety of views on how these

interactions are manifested. There were a number of respondents that argued that the analysis is at a very high level and that more coverage of these interactions should have been performed by the RAs. For instance, one respondent considered that the suggested examples captured some of the relevant interactions, but because market power strategies can be highly sophisticated they could extend beyond the examples.

- 4.2.20 In relation to CRM, one respondent stated that the reliability option aspect of the CRM creates a direct link between the physical energy market and the capacity market, which provides parties with market power in the physical energy market an opportunity to exercise market power in the CRM. Another respondent noted that the design elements of the CRM chosen, as well as their perceived RAs' desire to force plant exit, will inevitably exacerbate structural market power.
- 4.2.21 A third respondent warned that the interaction between FTR positions and a participant's capabilities within physical markets must be addressed with targeted market power mitigation measures. On the other hand, another respondent felt that the market power interaction with FTRs is likely to be a minor concern.
- 4.2.22 In relation to DS3, one respondent felt that careful monitoring of both markets will be required, and that principle-based regulation may assist in this area. In addition, a few players had concerns over depressed RO and DS3 system services prices arising from vertically integrated portfolio players having confidence to cross-subsidise their bids with energy profits, squeezing independent merchant developers.

4.3 SEM COMMITTEE RESPONSE

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

- 4.3.1 The policy underpinning the market power mitigation strategy in SEM is based on bidding principles with generators expected to represent opportunity costs in their bids. As part of the implementation of the bidding framework, the Bidding Code of Practice was developed with the BCOP setting out in a reasonable level of detail how generators should present their costs to the Market Operator. Therefore, the current framework might be seen as principles by some and prescriptive by others.
- 4.3.2 The SEM Committee recognises that the introduction of new market timeframes which operate in different ways creates an issue for participants in how they bid and is not in all ways comparable to the current market.
- 4.3.3 However, at conceptual level, the SEM Committee is designing a set of market arrangements which seek to finance efficient undertakings operating within that market. The explicit capacity mechanism (as opposed to an energy only market) should provide a mechanism to recover the fixed costs

of a peaker plant which may not earn any infra-marginal rent under normal conditions. However the difference from the current market is that the level of fixed cost recovery will be established using a competitive market based approach (CRM auctions) in contrast to the more desktop based study undertaken for the current mechanism. This difference in establishing the capacity price doesn't change the underlying fundamentals.

- 4.3.4 In addition, the I-SEM will have an Administered Scarcity Pricing (ASP) function built into the energy trading arrangements. ASP will ensure that the energy price in the BM increases in response to scarcity as opposed to relying on market signals to do so in an energy only market. Hence peakers will be able to earn infra marginal rent during scarcity periods.
- 4.3.5 In light of the above, a generator participant in I-SEM should be incentivised to be available and should be incentivised to be dispatched by the TSO. Given the above, generators should be incentivised to bid at their true opportunity cost in the same way as today with SRMC referenced to opportunity cost. The SEM Committee does not expect that the operational efficiency of the physical markets will be sacrificed (by market participants consistently offering above SRMC) by generators attempting to incorporate fixed cost into their offers if the market is competitive these will get competed away. Inefficient plant will exit if the capacity and DS3 revenue plus inframarginal rent is not sufficient to cover their fixed costs.
- 4.3.6 If there are widespread instances of generators being dispatched and bidding significantly above opportunity cost, this would indicate a lack of competition. Further to this, in general, cost recovery is a matter for overall market design and the objective of this is for revenues to recover efficiently incurred costs, not to recover fixed costs of all existing plants
- 4.3.7 The SEM Committee also recognises that at certain points in time generators may need to deviate from a strict interpretation of SRMC in their offers. For example, participants in other I-SEM consultation responses have stated that the day ahead market algorithm and indeed the overall market configuration creates scheduling risk for some players and that this might need to be managed through bidding which could see deviations from SRMC.
- 4.3.8 The SEM Committee would not necessarily see offers that deviated from SRMC on a short term basis as an indication of lack of competition and the SEM Committee in general would be of the view that in reviewing the cost reflectivity of bids and offers, all spot timeframes would need to be examined, along with the forward position of the generator. In requiring any bidding controls the SEM Committee would be seeking to address more extreme or sustained deviations from SRMC.
- 4.3.9 At least one respondent made reference to what they saw as a significant downside to prescriptive bidding. The scenario was put forward where a generator is required for local system reasons but the market is not

adequately remunerating them. In such instances it was suggested that the appropriate response would be for the generator to submit offers in excess of SRMC to recover their costs but the upper bounds on such bidding up being the cost of addressing the local transmission issue.

4.3.10 The issue mentioned above is a complex one and refers to a situation where the plants net going forward costs are greater than the sum of revenues that the plant expects to receive from the combination of energy, capacity and system services revenues. Given the market framework that the SEM Committee is putting in place instances of the above scenario should not be widespread and would in general be accounted for in local specificities on the system combined with a single energy and capacity price.

4.3.11 The SEM Committee is mindful of this issue as it has been raised but the extent of the issue will remain unclear until other areas of the market design emerge. For example the level of de-rating in the CRM or the attributes of the demand curve in the CRM auction will influence a plants prospect of remuneration. Also, decisions on systems services, most notably tariff levels in the short term, will influence a plants total remuneration.

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

4.3.12 The examples are not intended to be all encompassing. As some respondents noted, there are many possible methods of exercising market power, and these examples are a sub-set. There are very complex and sophisticated methods in addition to simpler approaches and it would not be appropriate to list all possible instances of exercising market power, however the RAs will monitor for all possible instances. The comment is noted that the examples may not be wholly applicable to IDM and DAM, but highlight that in these markets there is the potential for market power to be exercised in several ways despite the markets being non-mandatory, for example through financial withholding or if there was collusion to reduce quantities offered across multiple market participants.

4.3.13 Several respondents highlighted the risk of Type 2 errors (under-mitigation) and a concern that this might increase under SRMC bidding. Significant and/or sustained deviations from SRMC will provide the RAs with an indication that it should investigate further, and would not preclude the RAs from following other indicators or undertaking investigations in other circumstances. Monitoring by the RAs on the basis of SRMC reflecting a competitive offer strategy should therefore not increase the risk of Type 2 errors.

4.3.14 A respondent expressed concern that a focus on SRMC would lead to Type 1 error (over-mitigation). The Consultation Paper stated that prices that deviate from SRMC would indicate a “possible exertion of market power” that merits further investigation, rather than an automatic indication of definite market power exertion. This, along with a clear definition of SRMC that reflects the different operating environments of all market participants and consistent with

the definition of market manipulation under REMIT will help to minimise the risk of Type 1 error.

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?

- 4.3.15 The SEM Committee agrees that DC and PSO contracts do, as one respondent noted, account for a large proportion of the overall contracts (by GWh), but the SEM Committee highlight that since the introduction of OTC contracts in 2011 there has been a growing volume of contracts traded on the OTC platform, year on year.
- 4.3.16 The SEM Committee accepts that in some circumstances there may be a premium for certainty for hedging in the forward market and that this should encourage greater trading from existing participants as well as new entrants to this market. Barriers to trading in the forwards timeframe will be examined in the forward and liquidity workstream.
- 4.3.17 Concerns expressed over the withholding of volume in the forward market need to be considered along with any premium that is paid for forward contracts and any barriers to entry. The entry of new participants and increased access to trading for existing participants should address concerns over withholding of volumes and higher premiums in this market. The forward and liquidity workstream will also consider the need for mandating of trading in this timeframe in order to promote liquidity.
- 4.3.18 The SEM Committee view is that the concerns expressed by a number of participants over market power in the forward market appear to primarily relate to a lack of liquidity in this timeframe. These respondents stated that it acted as a barrier to entry with impacts on small players and for the retail markets. The case for market power is not clear; for example, concern has been expressed about the sell price of forward contracts and that it incorporates a significant premium. If the sell prices on offer are so obviously over-priced compared to the general view of forward prices this should provide a signal to other generators to offers at or slightly below this “high” price. This in general hasn’t happened which would appear that the sell prices are not so high that other generators would offer the same terms and have their supply arm purchase on the spot market. This of itself would appear to suggest that other generators don’t see the risk premium as being high enough to warrant offering forward contracts. The SEM Committee accepts that this may be an over simplification of the issue however.
- 4.3.19 Overall however, the SEM Committee believes that these concerns are best addressed in the forward and liquidity workstream where a holistic approach to the issues on liquidity can be examined. Section 8 contains further information on the scope of the F&L workstream.
- 4.3.20 The majority of forward contracts are likely to reference the day ahead market as it would be expected to be the most liquid spot price. The day ahead market will also be the reference price for Financial Transmission Rights (FTRs). This will not preclude participants from entering into forward contracts that reference other spot prices such as the intraday or balancing market. For this reason the SEM Committee is keen to ensure that the day ahead market is competitive

4.3.21 The RAs will monitor the forward market in addition to the physical markets and the RAs will liaise and cooperate with the financial regulators in both jurisdictions to ensure effective market monitoring and enforcement.

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?

4.3.22 The SEM Committee recognises that the examples presented in the Consultation Paper do not cover every possible interaction between the physical markets and the other I-SEM markets. Due to the complex interactions between these markets and the diversity of market power strategies, providing a comprehensive list of examples is not feasible.

4.3.23 Following the first Consultation on the CRM design, the SEM Committee has decided that the MRP used to determine difference payments under ROs will reflect the price of electricity traded by capacity providers in each of the I-SEM physical energy markets. For the capacity contracted through ROs but not sold in the physical markets or contracted under DS3 System services, the MRP will be set at the BM price. This means that there will be potential interactions between the CRM and all I-SEM physical markets.

4.3.24 At a high-level, the implementation of the CRM, FTRs and DS3 System Services markets will not change the fundamental premise of physical electricity markets where the electricity price in any given period is driven by the costs of the marginal generator. The opportunity to earn additional revenue in these markets may impact physical energy markets by i) reducing the need for generators to recover fixed costs through wholesale energy market prices; and ii) by supporting higher levels of generation capacity than might have been the case in the absence of these additional revenue streams. The need to run specific plants to provide system-services will be addressed by non-energy actions in the balancing market.

4.3.25 The SEM Committee is of the view that the best way to address market power implications stemming from the interaction between the various I-SEM markets is through constant and close monitoring of the actual performance of all markets.

4.4 SEM COMMITTEE DECISION

4.4.1 The SEM Committee is satisfied that the definition of competitive behaviour in the Consultation Paper is appropriate for I-SEM. Deviations from this could be a trigger for further investigation by the RAs but would not necessarily lead to a decision that intervention was required. It is the SEM Committee's expectation that in all the energy markets competition will deliver this outcome, and an assessment of competition will be done against a range of metrics, as outlined in section 5.

4.4.2 The SEM Committee is of the view that addressing the concerns over liquidity in the forward market will also necessitate taking account of the concerns expressed by some market participants over market power in this market. As

a result the forward and liquidity workstream will address both issues in this market.

- 4.4.3 The RAs will examine all I-SEM markets to ensure that all interactions between these markets are captured.

5.1 INTRODUCTION

5.1.1 The proposed market power metrics for I-SEM are based on the structure-conduct-performance (SCP) paradigm with three main components:

- **Structure**—refers to the established market structure, reflected by metrics such as market shares, market concentration and the pivotality of suppliers. These metrics measure the structural market, which may influence market participants’ ability and incentive to exercise market power;
- **Conduct or behaviour**—describes whether market participants actually engage in economic withholding or physical withholding or other forms of non-competitive behaviour; and
- **Performance**—whether market performance (e.g., market prices, price mark-ups, net revenues, liquidity) is affected by market participants’ non-competitive conduct.

5.1.2 The SEM Committee proposed to use a combination of metrics for the relevant I-SEM markets/trading periods as shown below. In response to a comment received to the Consultation Paper, an error in the table presented in the Consultation Paper incorrectly describing the proposed liquidity measures has been corrected.

Table 5.1: Proposed role of market power metrics in I-SEM

Metric	Type	Applicable markets	Role within broader I-SEM market power strategy
Market Structure Metrics			
Market shares HHI	Ex-ante	BM, IDM, DAM	<ul style="list-style-type: none"> • To be used as a descriptive metric by RAs in its regular reporting. • May be used to determine FCOs.
Residual Supply Index (RSI) Pivotal Supplier Indicator (PSI)	Ex-ante Ex-post	BM, IDM, DAM	<ul style="list-style-type: none"> • RSI to be used by the RAs for ex-ante determination of the expected level of market power. • RSI/PSI could be used for ex-ante mitigation in the BM. • May be used to determine FCOs.
Residual Demand Analysis	Ex-post	BM, IDM, DAM	<ul style="list-style-type: none"> • To be used on an ad hoc basis by the RAs to conduct ex-post investigations when significant market power concerns arise.

Metric	Type	Applicable markets	Role within broader I-SEM market power strategy
Market Conduct Metrics			
Mark-up indices	Ex-post	BM, IDM, DAM	<ul style="list-style-type: none"> • Generator mark-up over its SRMC and system markup (applied by the marginal generator over its SRMC) to be monitored by the RAs and included in its regular reporting. • Applied by the RAs as part of ex-post enforcement.
Withholding analysis	Ex-post	BM, IDM, DAM	<ul style="list-style-type: none"> • The RAs should conduct (random) audits of outages and derates, as well as withholding through falsely declared generator parameters (e.g. ramp rates). • Applied by the RAs as part of ex-post enforcement.
Market Performance Metrics			
Net revenue	Ex-post	BM, IDM, DAM	<ul style="list-style-type: none"> • Generators' net revenue and system mark-up (applied by the marginal generator over its SRMC) to be routinely monitored by the RAs and included in its reporting. • Applied by the RAs as part of ex-post enforcement.
Liquidity measures	Ex-post	All	<ul style="list-style-type: none"> • Includes a number of measures, such as, volume of trade in a market relative to the underlying physical demand (churn rate), number of market participants, etc.; • Not a useful measure to draw conclusions about market power; liquid markets may not be competitive, and vice versa, illiquid markets may produce competitive outcomes.

5.2 SUMMARY OF RESPONSES RECEIVED

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

5.2.1 A majority of respondents agreed with the metrics proposed in Section 5 of the Consultation Paper. One respondent proposed demand side as a possible inclusion for the future. A number of respondents did not have a strong opinion on this topic. On the other hand, one respondent noted that RAs' assessment focuses too heavily on the structural element of the SCP framework, while another respondent stated that the liquidity metric chosen is not an assessment of liquidity. Another respondent argued that the HHI for

“annual generation” does not correspond to any of the relevant markets defined earlier in the Consultation Paper, hence could be potentially misleading.

Are there other metrics that you consider should be applied?

5.2.2 The following are some observations by respondents:

- Tracking volatility in prices and correlation with gas price movements might assist in identifying potential exercise of market power.
- Net revenues should consider the implications of increased revenue under FTRs, DS3 and CRM within its remit, not just energy margins.
- Forwards should be within scope and the RAs should assess both bid/offer spreads and volumes across I-SEM.
- A clear roadmap is needed for new entrants.
- Metrics for the retail market should be included.

5.2.3 One respondent noted that the RAs’ analysis has not given sufficient consideration to the conduct and performance dimensions of the SCP framework. Another respondent requested the development of an “effective” filter does not only identify market participants that have market power, but also excludes market participants that provide competitive pressure.

5.3 SEM COMMITTEE RESPONSE

- 5.3.1 The SEM Committee welcomes the support expressed by respondents for the metrics proposed to identify market power.
- 5.3.2 One respondent noted that the assessment focused too heavily on the structural element of the SCP framework. The SEM Committee agrees that analysis of structural market power has formed the main part of the assessment presented in the Consultation Paper, but considers this an inevitable limitation of forward-looking market power analysis. While market structure can be reasonably well predicted in I-SEM, this is not the case for market participant conduct, or market performance. The new I-SEM markets, as well as the interaction between them, can give rise to a wide range of possible market participant strategies, most of which cannot be incorporated into an ex-ante analysis. Therefore, the SEM Committee considers that it is more appropriate to monitor these two aspects of the SCP framework on an ex-post basis. Market power monitoring in the I-SEM will involve assessment of all aspects of the SCP paradigm using the proposed structural, conduct and performance metrics as well as other indicators and information deemed relevant by the RAs.
- 5.3.3 As discussed in Section 3, the SEM Committee agrees with the observation that annual generation is not a relevant market according to the definition set out in the Consultation Paper. However the reporting of metrics for annual generation offers a high-level indication of the evolution of market concentration. The SEM Committee proposes to use a range of indicators including, but not limited to HHI, to determine the level of market power in the I-SEM. Some of these metrics are best used for specific trading periods within a year while others can be aggregated to offer a picture of the average conditions in the market across an entire year.
- 5.3.4 The SEM Committee believes that analysing correlations between electricity and gas prices can provide information about systems mark-ups. This kind of analysis will be captured within the proposed mark-up indices category by looking at the mark-up applied by the marginal generator over its SRMC (considering that the marginal generator is a gas-fired power plant for most of the periods in a year).
- 5.3.5 The SEM Committee agrees that net revenue analysis should consider all market revenues, including CRM, DS3, FTRs.
- 5.3.6 The SEM Committee agrees that the proposed market power metrics should also be used to monitor for market power in the forwards market. The metrics proposed by the respondents are useful indicators of liquidity in the forwards market, but by themselves cannot provide sufficient evidence of an exercise of market power. Metrics and monitoring of the forwards market will also have to consider measures adopted to boost liquidity in the forwards market as part of the Forwards and Liquidity workstream.

5.3.7 While the SEM Committee agrees that monitoring of market power in the retail market should also be undertaken, this is outside the scope of the I-SEM. Generation and demand bids in the I-SEM market timeframes will be monitored however. Should retail market power impact upon the workings of the I-SEM then this will be considered by the SEM Committee.

5.4 SEM COMMITTEE DECISION

5.4.1 The SEM Committee is satisfied that the market power metrics outlined in the Consultation Paper, while also expanding them to include the forward market where appropriate, are an adequate basis on which to consider the structure, conduct and performance of the market and the basis for implementing mitigation measures. These metrics will be kept under regular review to ensure that the RAs and the SEM Committee has the most relevant metric for assessing market power and completion in I-SEM.

6.1 INTRODUCTION

- 6.1.1 As part of the Consultation Paper, modelling of the proposed market power metrics for several time horizons (2016, 2019 and 2024) and several different generation and demand scenarios, was carried out as the basis for concluding on the need for mitigation measures.
- 6.1.2 The top two market participants by market share, in terms of both the generation and installed capacity, remained ESB and SSE across all of the frames. However, as wind generation and interconnection increases over time, a decrease in ESB market share was observed.
- 6.1.3 Nevertheless, the potential for exercising market power at certain times is likely to increase in the future. For example, while ESB's RSI is below the 1.2 threshold circa 9.1% of the time in 2016, this share increases to 37.5% in 2024, due to assumptions related to demand growth and the closure of non-ESB owned generation. A similar trend can be seen for the two pivotal supplier (2PS) test. These results are due to increasing wind generation, expected reduction in non-ESB conventional generation capacity, as well as higher demand. The modelling results suggest that, in periods of low wind generation, the potential for at least one market participant to exercise market power will remain.
- 6.1.4 The modelling also identified that smaller participants may have the incentive and ability to exercise market power at certain times of the year, which again needs to be considered in any I-SEM market power mitigation strategy. Modelling was based on the market definition proposed in section 3.

6.2 SUMMARY OF RESPONSES RECEIVED

Do you agree with the approach taken by the RAs to modelling market power in I-SEM? Do you agree with the conclusions for I-SEM market power that have been drawn from the modelling results?

- 6.2.1 A majority of respondents broadly agreed with the approach taken to model market power in the I-SEM.
- 6.2.2 One respondent who agreed with the modelling stated that it agreed with the principles followed, the objectives and the conclusions given, and the information provided. Another commented on the reasonableness of the approach taken.
- 6.2.3 Another respondent stated that the analysis could be expanded to include the potential from vertically integrated companies and demand side to exercise market power.
- 6.2.4 Another respondent felt that whilst they agreed with the approach taken the analysis should take into account uncertainty due to unresolved issues based

on the 2015-2024 GCS. This respondent mentioned DS3 and RoCoF compliance, impacts of EU IED directive and the calculation for the level of generation adequacy required for I-SEM CRM process as areas of uncertainty.

- 6.2.5 A number of respondents did not agree with the modelling approach taken or did not provide comments in relation to the modelling assumptions and outputs.
- 6.2.6 One of those respondents argued that the modelling has limitations because it did not consider non-energy actions and local market power.
- 6.2.7 Another respondent stated that assumptions used for the DAM do not represent a 'best estimate' or 'central view'. This respondent outlined a number of concerns including the choice of years modelled, assumption of no ESB plant closure, high demand growth scenario being used as a base case and impact of interconnector flows under Euphemia.
- 6.2.8 One respondent felt that there needed to be a deeper analysis of the sensitivities around the growth of wind generation.
- 6.2.9 In relation to the modelling outputs, a majority of respondents agreed with the conclusions drawn from the modelling results. Several of the respondents also interpreted the results of the modelling as a clear indication that ESB will remain a significant player in I-SEM market for the foreseeable future.
- 6.2.10 One respondent who agreed with the results stated that the RSI analysis indicated the potential for collusive market power. Another respondent felt that whilst it understood the market power concerns in the BM, there could also be market power issues in the IDM.
- 6.2.11 One respondent stated that the results confirmed their concerns that both the time and location aspects of the balancing market makes are critical.
- 6.2.12 A significant minority of responses stated that they did not agree with the results. One respondent stated that the lack of system operating constraints in the BM meant that they were limited.
- 6.2.13 Another respondent disagreed with the modelling results because the conclusions drawn appear to suggest that the capacity market is not important, while the balancing market (which, they argued, represents a small exposure for most participants) is important.
- 6.2.14 One respondent added that the conclusions should also take into account the analysis previously commissioned by the RAs on the provision of system services (ref. IPA “Economic Appraisal of DS3 System Services”).

6.3 SEM COMMITTEE RESPONSE

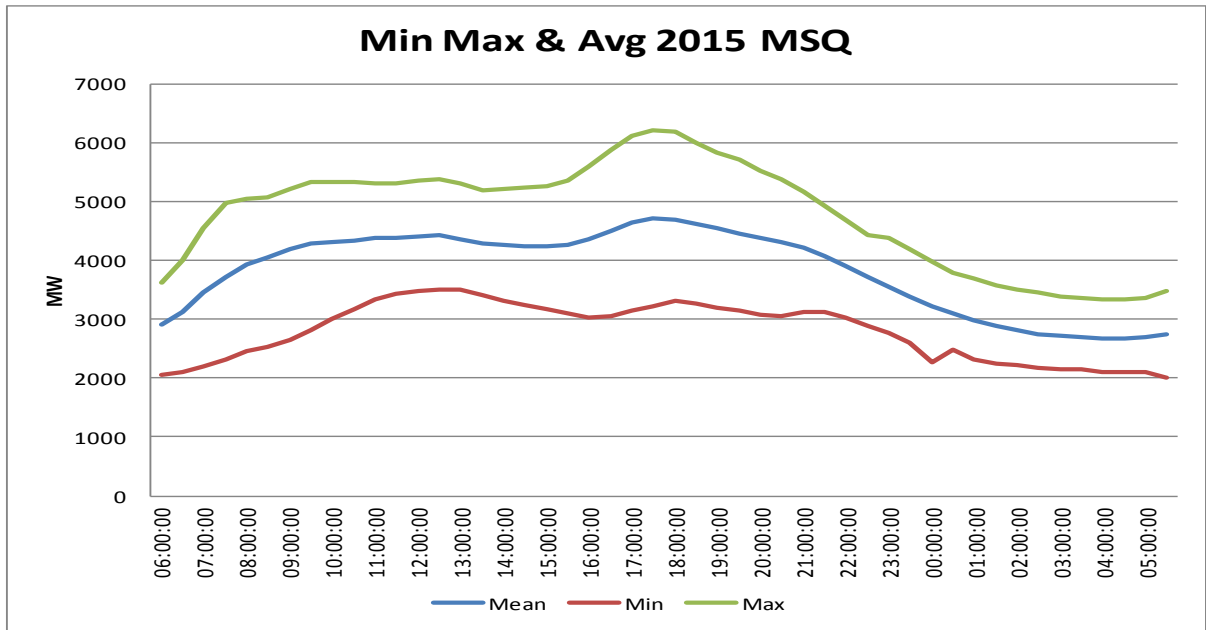
- 6.3.1 The SEM Committee acknowledges responses received on the approach taken to model market power in the I-SEM and the conclusions drawn from this exercise.

6.3.2 Modelling carried out in the Consultation Paper focused on two periods, the DAM and IDM markets and the BM. In the SEM Committee response each of these periods is discussed individually.

Day Ahead and Intra Day Markets (DAM & IDM)

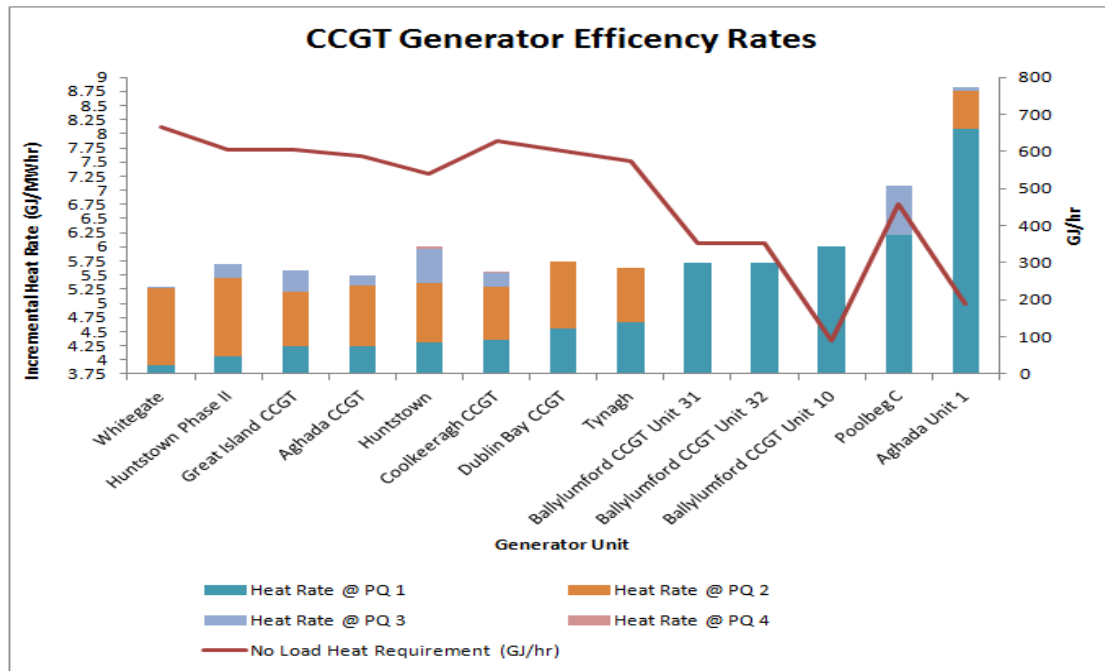
6.3.3 Currently in the SEM there is an excess of generation capacity. At present there exists around 10GW of thermal generation and 3GW of intermittent generation in the market. Demand levels observed generally range between 2GW and 6GW. The table below outlines the maximum, minimum and mean MSQ volumes for 2015.

Figure 6- 1



6.3.4 Over the duration of the current SEM market gas fired plant has continually made up the majority of the generation mix. This trend is expected to continue into the I-SEM. The SEM Committee has observed the incremental unit efficiencies of the larger gas fired plant that operate in the market and the results are shown below. The figures are based on the Price Quantity (PQ) pairs and No-Load heat requirement contained in the RAs SEM forecast model on the SEM Committee webpage.

Figure 6- 2



- 6.3.5 Based on the results observed the SEM Committee is of the view that there exists a sufficient level of competition among these units to deliver competitive prices. If any unit was to bid significantly higher than its incremental heat rate it would likely be displaced by a number of units in the merit order.
- 6.3.6 However when the ownership of all units that would be expected to operate in these segments of the market is analysed it can be seen that ESB has a significant market share. The Consultation Paper provided an in-depth analysis on market concentration and market power based on generation ownership and the modelling results indicate that market concentration will remain a concern, at least in the early years of the I-SEM DAM and IDM.
- 6.3.7 The table below provided a summary of the modelling results carried out in the Consultation Paper on Capacity and Generation market shares across the three timeframes (2016, 2019 and 2024)

Table 6- 1

Generation Owner	2016		2019		2024	
	Capacity market share	Generation market share	Capacity market share	Generation market share	Capacity market share	Generation market share
ESB	44.4%	46.6%	46.1%	42.0%	52.3%	30.3%
SSE	13.5%	14.1%	14.0%	14.9%	8.4%	19.1%
BGE	13.2%	7.2%	8.1%	5.7%	5.6%	12.5%
AES	4.7%	7.0%	4.9%	7.8%	3.2%	0.0%
BnM	2.5%	4.3%	2.6%	4.4%	2.9%	4.9%
Aughinish	1.8%	3.8%	1.8%	3.5%	2.1%	3.4%
Viridian	8.1%	1.9%	8.5%	1.5%	9.6%	2.6%
Power NI	6.3%	1.3%	6.6%	1.0%	7.5%	1.8%
Tynagh	4.1%	0.4%	4.3%	0.3%	4.9%	2.2%
GB import	n/a	5.9%	n/a	8.8%	n/a	11.7%
Independent wind	n/a	6.7%	n/a	8.1%	n/a	9.6%
Others	1.3%	0.8%	3.1%	1.9%	3.5%	1.9%
HHI	2,484	2,617	2,558	2,237	3,036	1,667

6.3.8 The SEM Committee is of the view that the modelling results indicate that the market concentration of ESB remains a concern in the I-SEM DA and ID markets.

6.3.9 The impact of ESB's large share of the installed capacity was also shown in the RSI analysis that was carried out across all timeframes in the Consultation Paper. A summary of the results of this analysis is shown below.

Table 6- 2

Company	2016		2019		2024	
	% half hourly periods		% half hourly periods		% half hourly periods	
	RSI < 1.2	RSI < 1	RSI < 1.2	RSI < 1	RSI < 1.2	RSI < 1
ESB	9.1%	0.7%	12.5%	1.3%	37.5%	13.9%
SSE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2PS	40.6%	15.4%	40.4%	16.2%	54.8%	30.8%

6.3.10 The SEM Committee notes that ESB is required to meet both 100% and 120% of demand in the market at a greater frequency as time increases. This is despite its share of actual generation is decreasing. This is due to the fact that wind by its very nature will be intermittent and this generation will make up an increasing share of the generation mix. Based on the TSO's GCS, other non ESB owned plant will also be likely to exit the market over time, thereby

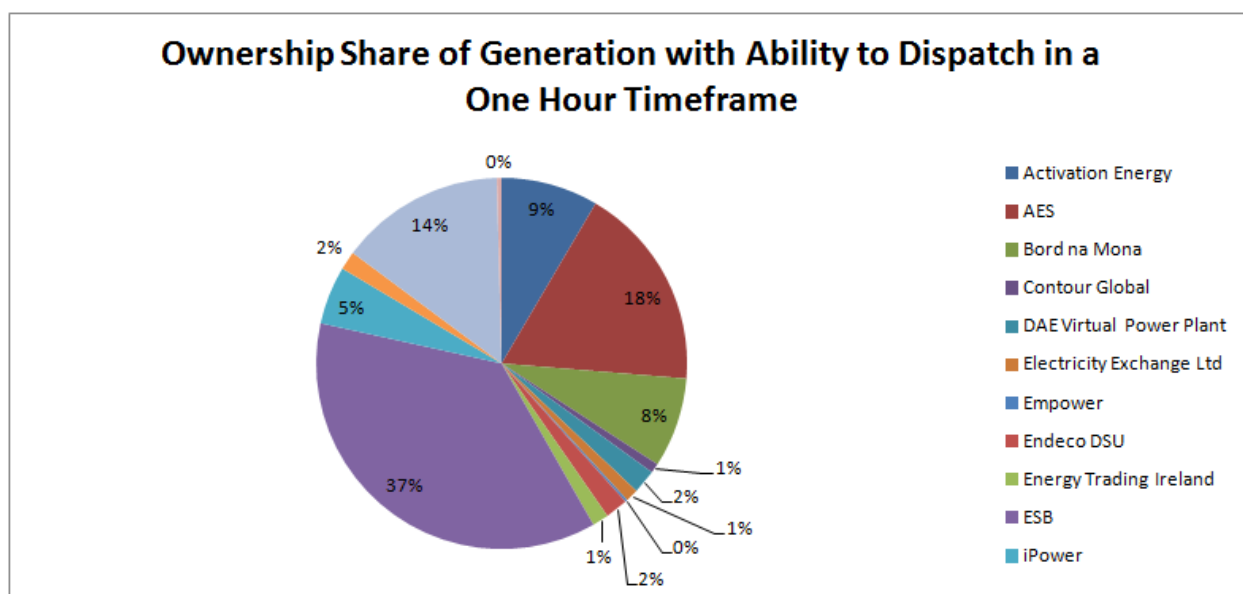
increasing the reliance upon ESB generation in certain periods. The modelling also assumed that no new thermal plants would come on-line during this period.

- 6.3.11** The SEM Committee acknowledges that this modelling focuses on the structural aspect of the SCP paradigm, and reiterates that market power assessments also need to take into account market participant conduct and market performance. However, structural market power is the only element of SCP the paradigm that can be reasonably assessed within an ex-ante assessment, which the SEM Committee considers necessary for the formulation of a robust market power mitigation strategy. All three elements of the SCP framework will be considered as part of ongoing market monitoring in I-SEM, including the proposed structural, conduct and performance metrics, as well as other indicators and information deemed relevant by the RAs.

Balancing Market (BM)

- 6.3.12 The SEM Committee recognises that modelling carried out on this segment of the market is a simplification of actual market conditions that are likely to occur.
- 6.3.13 The modelling undertaken in the consultation focused on part loaded plant, and effectively looked at market concentration for energy actions in the BM. The SEM Committee are of the view that whilst this analysis was important it did not take into account non energy actions and might not necessarily be reflective of all units that can partake in this segment.
- 6.3.14 Based on generator SEM TOD data there is around 1.5GW of generation capacity that can be dispatched from cold in the 1 hour timeframe. A breakdown of the ownership of these units is provided below

Figure 6- 3



6.3.15 Ownership shares of units that would be expected to participate in the BM are more diverse than in the DAM and IDM. Whilst ESB continues to be the largest player, its capacity share has reduced significantly to 37%. When part loaded plant is added to the 1.5GW of plant there seems to be a significant amount of generation in this segment.

6.3.16 The SEM Committee has reassessed the modelling analysis undertaken for the Consultation Paper in response to comments that the approach and assumptions used may have been overly conservative. In particular, the analysis may have used a conservative estimate of the supply available to meet a balancing need at short notice by not taking account of the entire capacity of peaking plants capable of providing fast response services in addition to part loaded plants. The modelling shows that some of these peaking plants are expected to be in the merit order for a very limited number of periods or not at all during the year. If these plants secure ROs in the CRM auctions, they will have to guarantee their availability in the physical markets, or else face penalties.

6.3.17 The RAs have therefore carried out a second set of analysis of the balancing market to include the capacity provided by peaking plant. This means that the supply available to meet the balancing need at gate closure consists of:

- capacity of quick-start peaking plants;
- remaining capacity of part-loaded plants subject to ramping constraints; and
- a portion of interconnector capacity (if the interconnector capacity is not fully utilised based on the dispatch schedule).

6.3.18 Based on these assumptions, the modelling shows that there is sufficient supply in the market to ensure that the balancing need (ranging between 220

MW and 620 MW) is met, and the RSI thresholds based on the largest capacity provider are rarely breached. Based on a two pivotal supplier test (2PS), the RSI is below the 1.2 threshold 4.3% of the time in 2019, but 9.1% of the time in 2024. ESB is the largest capacity provider in the balancing market in almost every period in all three years modelled.

Table 6-4 Revised analysis - Expected percentage of time when RSI is below 1 and 1.2 thresholds and largest capacity holders in BM (base case scenarios)

Market participant	2016		2019		2024	
	RSI < 1	RSI < 1.2	RSI < 1	RSI < 1.2	RSI < 1	RSI < 1.2
1PS	0.0%	0.2%	0.0%	0.1%	0.3%	1.0%
2PS	3.4%	8.4%	1.2%	4.3%	3.1%	9.1%
<i>Largest capacity providers (% of half hourly periods)</i>						
ESB	95%		94%		99.6%	
SSE	3%		2%		0.4%	
AES	2%		3%		-	
BGE	-		-		-	
POWERNI	-		-		-	
Tynagh	-		-		-	
Viridian	-		-		-	
GB Gen	-		-		-	

6.3.19 The SEM Committee is of the view that whilst analysis undertaken for the Consultation Paper may be quite conservative, the results of this new analysis may also be overly optimistic, and may understate the potential for the exercise of market power in the balancing market (unconstrained energy actions).

6.3.20 One reason is that operational constraints in the SEM/I-SEM system mean that market conditions in the balancing timeframe may be tighter than suggested by the updated modelling. For example, information taken from the TSOs' Operational Constraints report highlights the several constraints which may affect market conditions in the balancing market.⁵

6.3.21 First, not all peaking plant capacity may be available for dispatch as a proportion of this capacity is required to be available for replacement reserve as follows:

- combined output of OCGTs must be less than 493 MW (out of a total of 793 MW) in Ireland at all times;

⁵ Operational Constraints Update, 21 October 2015 (accessible [here](#))

- combined output of OCGTs must be less than 211 MW (out of a total of 311 MW) in Northern Ireland at all times.

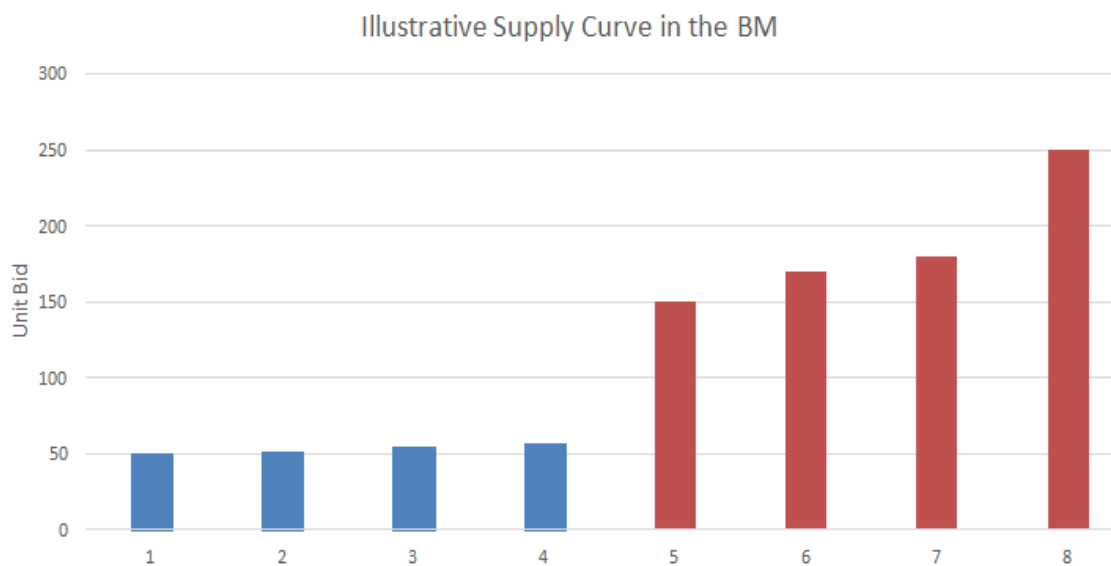
Second, the System Non-Synchronous Penetration (SNSP)— i.e., wind generation and interconnector imports—at any given time must currently be kept below 55% (under DS3 services the TSOs are looking to increase this to 70-75%). This may affect available capacity in the Balancing Market in the following ways:

- current modelling assumes a portion of the IC capacity will be available in the BM—due to limits on SNSP, this capacity may not be available at times;
- increasing wind capacity means that the limit on SNSP may be reached more frequently in the future. This may result in a higher balancing need than assumed in the current modelling if wind generation needs to be curtailed at short notice in order not to violate the SNSP constraint.

6.3.22 Another reason why the updated analysis may underestimate the potential ability to exercise market power is that competitive pressures in the BM depends not only on available supplies, but also on the price at which this additional supply is made available.

6.3.23 The incremental cost of providing additional generation for a part-loaded plant (for example a mid-merit CCGT plant that cleared only partially in the DAM) might be much lower than the incremental cost of a quick-start peaking unit that does not have a physical schedule following the ex-ante markets. This stepped supply curve is illustrated in the figure below where the part-loaded plants are depicted in blue and the peaking units in red.

Figure 6- 4



6.3.24 The step in the supply curve is a potential source of uncompetitive behaviour in the I-SEM BM. The analysis presented in the Consultation Paper shows

that there is likely to be high concentration of capacity of part-loaded plants. This could then result in market participants submitting incremental bids for part-loaded plants which are just below the incremental bids of peaking units allowing these units to earn excessive revenues compared to the marginal cost of providing additional generation.

Other SEM Committee Comment

- 6.3.25 The SEM Committee has noted that modelling carried out in the DAM & IDM is based upon a forecast demand, which itself is based upon a number of demand assumptions.
- 6.3.26 Modelling of forecasted demand in the BM has been calculated as a percentage of the expected demand used to model the DAM and IDM. All assumptions contained in both sets of demand forecast are identical.
- 6.3.27 The SEM Committee is of the view that the approach to forecasting demand used in the analysis may be too conservative, in particular for the DAM and IDM. Dispatching 100% of forecasted demand through these markets and then adding on a further percentage for the BM results in more than 100% of expected demand being met in all periods.
- 6.3.28 The impact of this is RSI and HHI metrics for the DAM and IDM are being based on generation meeting a higher volume of demand that would be expected. Results, based on this assumption, will display greater levels of structural market power, as reflected in the RSI metrics.
- 6.3.29 If a percentage of forecasted demand that would be expected to be traded in the DAM and IDM was modelled (taking into account balancing market volumes), levels of HHI and RSI will be lower than what was observed in the modelling. This is because there will be greater excess capacity across the generation fleet, and less instances of certain generation owners being required to service demand.
- 6.3.30 The complex nature of operational and transmission constraints that the TSOs have to manage are not possible to capture fully in a simulation model. The modelling undertaken for the Consultation Paper effectively looked at market concentration for energy actions only in the Balancing Market. While non-energy actions and local market power were not explicitly modelled, by definition these markets tend to display higher concentrations, and thus higher potential for the exercise of market power than the unconstrained market. The analysis undertaken by the TSOs in relation to provision of DS3 services highlights that market concentration is likely to be very high for some system services products. Thus the SEM Committee believes that market power mitigation in the balancing market for non-energy actions merits particular attention, which is reflected in the decision laid out in Section 8.
- 6.3.31 In relation to potential plant closures suggested by some market participants, the SEM Committee notes that, based on the RSI calculation, this would not

affect the conclusions of the market power assessment concerning that particular market player.⁶

6.3.32 The SEM Committee also notes that impact of potential market entry, such as additional interconnector and independent generation capacity, has been included as part of the sensitivity analysis. The results show that, while such additional capacity reduces structural market power, it does not sufficiently do so to allow a conclusion that structural market power will not be a concern in the I-SEM.

⁶ For example capacity divestment by ESB would reduce ESB's share of installed capacity but not necessarily its pivotality indicators, which depend on the available non-ESB generation capacity. It may or may not affect generation market shares depending on where in the merit order the plants assumed close are situated.

7.1 INTRODUCTION

7.1.1 To date there have been a number of market power mitigation measures in operation in SEM, which formed a backdrop for the measures proposed for the I-SEM.

7.1.2 The SEM Committee's view with respect to the current market power mitigation measures in SEM as stated in the Consultation Paper is:

- **Market Monitoring Unit (MMU)** - the MMU function has worked well in the SEM, especially in monitoring and enforcing Bidding Code of Practice.
- **Bidding Code of Practice (BCoP)** - the current BCoP has been effectively enforced through monitoring and investigations, and it has likely prevented market power abuses, especially where local market power arises due to system constraints, despite the fact the formal local market power mitigation measures have not been formulated.
- **Directed Contracts (DCs)** - DCs have reduced ESB's and PPB's (when applicable) incentive to exercise market power in the spot market and have therefore been an effective measure to address concerns about structural market power.
- **Vertical ring-fencing of the incumbents** - the view of the SEM Committee is that vertical ring-fencing has been an appropriate responses to the existence of market power concerns and has ensured that there is no perception of discriminatory treatment of market participants. It has been effectively supported by the range of market power mitigation measures set out above.

7.2 SUMMARY OF RESPONSES RECEIVED

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

7.2.1 A majority of respondents agreed with the SEM Committee's view that the SEM market power mitigation measures were largely effective, providing transparent pricing and a liquid spot market, which in turn contributed to greater levels of competition.

7.2.2 However, some respondents argued that whilst these measures have been largely effective, they have had a dampening impact on the structural signals for market entry and exit.

7.2.3 In contrast, another respondent stated that the current 'pancaking' of market power mitigation measures are disproportionate to the level of risk. A third respondent argued that the SEM Committee's review of the SEM measures

lacked a comprehensive analysis of the actual results of DCs (especially an assessment of the OTC market) and a full review of the effectiveness of ring-fencing.

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?

- 7.2.4 Respondents had varied views in relation to the applicability of current measures in I-SEM.
- 7.2.5 In relation to DCs, several respondents argued for continuing these types of contracts or creating a similar mechanism to promote forward market liquidity.
- 7.2.6 With regards to ring-fencing, a number of respondents argued for maintaining this measure, while one respondent went even further arguing that ring-fencing should be expanded to include other players in order to promote forward market liquidity. On the other hand, one respondent argued for the removal of vertical ring-fencing.
- 7.2.7 Several respondents noted that consideration should be given to the format of the current BCoP into I-SEM, by allowing it to have greater flexibility to better account for the increased complexity in the new market.

7.3 SEM COMMITTEE RESPONSE

- 7.3.1 The SEM Committee welcomes the wide support for the relevance of the SEM measures to the I-SEM.

Vertical ring-fencing

- 7.3.2 Vertical ring-fencing is addressed in Section 8.

BCoP

- 7.3.3 Some respondents expressed the opinion that the proposed bidding principles need to be more flexible for I-SEM than the current BCoP due to increased complexity in the new market, while others suggested that the proposed bidding principles seemed less flexible than the current BCoP.
- 7.3.4 The SEM Committee is of the view that the introduction of I-SEM provides an opportunity to make any bidding controls more targeted. This is facilitated by the existence of a number of market timeframes in the new market. Given their unconstrained nature, the DAM/IDM for example might warrant less direct controls on participants than the balancing market which can cover constrained plant etc. This is discussed further in Section 8.

Other measures

7.3.5 In terms of the range of market power mitigation measures dampening the signals for market entry/exit, there has been no evidence that such distortions have occurred. Although in theory it is possible that measures may dampen market signals, in practice new generators may not have entered the market because the capacity was not needed. In the development of the I-SEM HLD the SEM Committee noted that the design of the capacity payment mechanism may not have provided a significant exit signal. However, this is not directly related to the market power mitigation measures in place.

8.1 INTRODUCTION

8.1.1 Competitive spot markets are of great importance in I-SEM. The DAM is critical given that many forward contracts and FTRs will be settled against it while the balancing market is the market of last resort for participants that are long or short in the ex-ante markets. Therefore, it is of critical importance that the SEM Committee puts in place all required measures to ensure that the spot markets are competitive and that the wider market has complete confidence in their integrity. The SEM Committee is committed to delivering competitive spot markets and will take any necessary actions to ensure this.

8.1.2 The Consultation Paper set out a number of potential market power mitigation measures in Section 8 which would form the I-SEM Market Power Mitigation Strategy. These potential measures covered the ex-ante markets (DAM and IDM) and the BM. The Consultation Paper also set out proposals for the inclusion of a forward contracting obligation and also discussed the continuation of ring-fencing provisions in the licences of some market participants.

8.1.3 This section of the Consultation Paper was extensively commented upon by respondents with quite a broad range of views put forward. The following sections set out a summary of respondents views on the substantive issues, a response from the SEM Committee on those issues and then sets out the SEM Committee's decisions.

8.2 SUMMARY OF THE FIVE KEY PRINCIPLES FOR ASSESSING MARKET POWER MITIGATION POLICIES

8.2.1 The market power Consultation Paper laid out five key principles that would form the basis for assessing market power mitigation policies. An overview of these is provided below.

Effective: the proposed measure should be effective in mitigating potential market power conduct (behaviour) or outcomes.

Targeted: the proposed measure should interfere with the operation of the market to the minimum extent necessary

Flexible: the measure should be sufficiently flexible and robust to account for changes in market fundamentals and changes to the generation mix. Flexible also implies the ability to remove the measure should it no longer be required.

Practical: the measure should allow the RAs to have readily understood, predictable and reasonable administrative processes to implement the mitigation measure and facilitate enforcement in a short timeframe. The measure should also be cost effective and should be implementable within the scope of the regulatory framework.

Transparent: compliance should be easily achievable and transparent for all existing and potential participants to view

- 8.2.2 The Consultation Paper acknowledged that there may be some conflict among the principles, for example publishing some detection measures may score well on transparency but may render the measures less effective.
- 8.2.3 The measures may also introduce two types of error, type one or over mitigation, or type 2 or under mitigation.
- 8.2.4 Respondents were asked if they agreed with the principles, and whether they felt there should be alternative measures considered.

8.3 SUMMARY OF RESPONSES RECEIVED - FIVE KEY PRINCIPLES

- 8.3.1 The vast majority of respondents supported using the five principles to assess market power mitigation policies, albeit some respondents recommended some amendments to the principles. Responses also acknowledged and agreed with the assumption that some of the principles could conflict each other in some circumstances.
- 8.3.2 One respondent stated that introducing such targeted measures will help the regulators in their stated aim of interfering with the market to least extent necessary. Another respondent stated that whilst they generally agreed with the key principles, there was a potential they could conflict in some circumstances.
- 8.3.3 Other responses suggested that further principles could be introduced. It was suggested that the RAs consider introducing principles such as “Practicality”, “Cost Proportionate” and one that would assess whether each option will minimise distortion in participant trading behaviour.
- 8.3.4 One respondent also stated that principles need to have a greater focus on the Forward Market. For this reason this respondent did not support the five principles identified by the RAs.

8.4 SEM COMMITTEE RESPONSE – FIVE KEY PRINCIPLES

- 8.4.1 The SEM Committee acknowledges participant responses and notes the agreement among the vast majority of respondents that the five principles are appropriate.
- 8.4.2 Respondents also agreed that there are instances where some of the principles may conflict and the SEM Committee is also of this view. When having principles that are broad, there is always the risk that this can happen but the SEM Committee does not view this as a reason to amend the principles.
- 8.4.3 The SEM Committee also acknowledges and welcomes suggestions put forward by some respondents as to further principles that could be considered. The SEM Committee is of the view that principles such as cost proportionality and a principle that would consider the distortion in participant behaviour are appropriate but are already covered by the broad principles.

8.5 SEM COMMITTEE DECISION – FIVE KEY PRINCIPLES

- 8.5.1 The SEM Committee believes that the key principles outlined in the Consultation Paper are appropriate.
- 8.5.2 No changes to these principles are recommended.

8.6 FORWARD CONTRACTING OBLIGATION (FCO)

- 8.6.1 The Consultation Paper stated that market participants who contract prior to the day-ahead market timeframe lack an incentive to exploit market power in the I-SEM physical markets, for the volumes that are contracted. A forward contract obligation (FCO) is an ex-ante market power mitigation measure which was suggested by the SEM Committee with respect to the I-SEM physical market, given that, among other issues, the modelling results indicate that there is likely to be at least one participant with a level of market power potential out to 2024.
- 8.6.2 An FCO would require one or more market participants to contract before the day-ahead market. It would form another ex-ante market power mitigation measure with respect to the physical market. The form this measure would take, its applicability, etc. is considered further below.

8.7 SUMMARY OF RESPONSES RECEIVED - FCO

- 8.7.1 There was broad support from respondents for the development of FCOs. However responses were varied as to the threshold for application that should apply, whether to make it mandatory and how the FCO could be applied.
- 8.7.2 A number of responses supported the RAs developing some form of market power metric and applying a threshold to determine if any generator owner has market power. Various responses stated that this threshold should be a “generation market share of x%”, whilst others supported a measure of structural market power being measured by capacity market share or by a pivotal nature of their capacity such as “25% market share and a forecast RSI below 1.2 for above 10% of the time across the year”.
- 8.7.3 Another respondent argued that a scenario analysis should be undertaken to inform the position of the regulators with target RSI and HHI metrics set for the physical market. FCO’s could then be applied to generators who exceed the pre-defined market power thresholds up to the volume such that market power in the physical markets is below the target benchmark.
- 8.7.4 Another respondent stated their belief that a market participant’s inclusion under the FCO should be determined with reference to their capability to exert market power in both the I-SEM spot markets and the I-SEM forward contract market.
- 8.7.5 Finally and against the RA proposal, one respondent argued that the development of an FCO to mitigate market power is unnecessary and could damage the development of a liquid forward market, depending on its form. The respondent described that the potential for exercising market power in the forward market is likely to be very limited. It was also argued that a wider holistic solution for liquidity would be a far more effective means for promoting a competitive market than a FCO.

8.8 SEM COMMITTEE RESPONSE - FCO

- 8.8.1 The SEM Committee welcomes the general support from respondents for the inclusion of an FCO in the I-SEM framework. This section addresses the general concept of including an FCO within I-SEM.
- 8.8.2 There was a theme among a number of respondents that the FCO was linked to market power potential in the spot market and in the forward market. The SEM Committee is of the view that the primary market power reason for implementing an FCO in I-SEM is to mitigate the exercise of market power in the spot market. Forward contracting requirements in the form of Directed

Contracts are a key part of the market power mitigation strategy for the SEM market and in 2006 the RAs stated that “these contracts will mitigate market power by reducing the incentive for the market participants to submit bids above competitive levels in order to influence current spot prices or future contract prices” (AIP/SEM//31/06).

8.8.3 In 2006, the RAs also stated that “these contracts are a cornerstone of the preferred market power mitigation plan and provide the opportunity and ability to place greater reliance on competitive forces”.

8.8.4 The SEM Committee continues to see merit in the implementation of an FCO condition. In terms of market power however, the SEM Committee is of the view that the requirement would be implemented because of a market power potential in the spot market(s). The SEM Committee also acknowledges that the FCO will also address some concerns with the forwards market, including lack of liquidity.

8.8.5 The SEM Committee agrees that there are links between the FCO discussion in this paper and discussion in the forwards and liquidity workstream. The upcoming F&L consultation may suggest implementing an FCO for the market wide promotion of forward liquidity that will impact on questions of market power.

8.8.6 The solutions put forward in the forwards and liquidity workstream will address forward market issues as well as mitigate market power in the spot market.

8.8.7 The Consultation Paper asked questions of respondents on what an appropriate trigger might be for mandating forward contracts on participants. The SEM Committee is of the view that no specific triggers should be set out within this Decision Paper for the introduction of mandated contracts.

8.8.8 It might be argued that inserting such a condition in a generators licence without any information on when it might be triggered could be seen as intrusive and disproportionate. However the SEM Committee is of the view that this is the most appropriate approach to allow the proper future functioning of the market. The SEM Committee must act in a proportional, non-discriminatory and consistent manner in considering whether to activate any FCO measures. In particular, the SEM Committee recognises that imposing an FCO on a volume of a generation company’s capacity/output is significant and would not seek to do so without adequate justification. With this in mind it considers that the consultation and decision-making process within the F&L workstream will help inform the nature of an FCO.

8.8.9 The SEM Committee is of the view that putting in place ex-ante indicators of FCO triggers in licences is not appropriate and could under certain conditions

hinder the efficient operation of the energy market. For example, putting in place a trigger which stated that an FCO would be in place once a company's output is more than 30% of the market could act as a barrier to a merger which saw a player with increase their share to just above 30%. This is not to say that an FCO wouldn't be imposed but there would be a number of metrics to be considered before deciding whether to impose it.

8.8.10 However, recognising that participants in the market may seek a level of certainty regarding the level at which an FCO obligation might be triggered, the SEM Committee is willing to provide guidance on triggers that might be applied. The SEM Committee is of the view that there is no urgency on this guidance and that it isn't required for Go Live. Moreover, it is more appropriate to wait to develop such guidance after Go-Live once there is greater clarity on the functioning of the market. Adopting this approach will result in a general FCO obligation in generators licence with any guidance provided in a regulatory document. As discussed later in this section, any form of FCO will be obligated on ESB Power generation from Go-Live.

8.8.11 For the avoidance of doubt, the SEM Committee is not of the view that guidance on the FCO trigger is essential but would be willing to define some guiding principles after Go-Live if participants view it as being desirable.

8.9 SEM COMMITTEE DECISION - FCO

8.9.1 The SEM Committee's decision is that an obligation should be placed in all generators licences, which will be subject to a public consultation that allows for the imposition of a forward contracting obligation for the reasons of mitigating market power in the spot market(s) and for supporting effective market competition.

8.9.2 FCOs are needed to reduce or remove the incentive to exercise market power in the spot markets:

1. FCOs are an effective measure to mitigate exercise of market power in the spot markets
2. No single measure/metric warrants introduction of FCO

8.9.3 The triggers to impose an FCO will not be specified in the generator licence but rather the SEM Committee will consider the imposition on a case by case basis taking relevant metrics into account and will consult with the licensee in question. The SEM Committee must act in a proportionate, non-discriminatory and consistent manner in considering whether to activate any FCO measures.

8.9.4 The Forwards and Liquidity work stream will examine the justification for imposing an FCO obligation for reasons of increasing liquidity in the forwards

market. Such justification will take into account concerns over market power and any subsequent generator licence condition considered necessary will be directed to the objectives of liquidity promotion and market power mitigation.

8.10 DAY AHEAD AND INTRADAY MARKETS

8.10.1 The Day Ahead and Intraday Markets (DAM and IDM) will be key market timeframes in the I-SEM. The DAM and IDM designs are decided at a pan EU level. The DAM is currently operational across most European markets. The enduring IDM design is currently under development at EU level and will be implemented through the merging of a number of local implementation projects.

8.10.2 The DAM is a two sided one shot auction where all generators that participate submit offers for each trading period for the next day. Suppliers also submit an order to buy or sell at a certain volume and price for each trading period. These will then be matched by the Euphemia market coupling algorithm. Euphemia is a single price coupling algorithm that has been used to calculate energy allocation and electricity prices across Europe in a way which maximises consumer surplus.

8.10.3 Whereas the DAM will take the form of a one shot auction, the enduring IDM design will facilitate continuous trading between buyers and sellers. The enduring intraday project is known as XBID. However, the EU target model does allow for complimentary regional auctions to be held along with the continuous trading. It is likely that at I-SEM Go Live, cross border capacity will be allocated through periodic actions rather than in a continuous trading mechanism.

8.10.4 The Market Power Consultation Paper outlined four bid mitigation options for consideration by respondents. Respondents were asked which of the options they favoured and where feasible to relate their preferred approach to the five key principles for the workstream - effective, targeted, flexible, practical and transparent.

8.10.5 An overview of the Consultation Paper options are detailed below;

Option 1 – Prescriptive Bidding Controls

- Under Option 1 all generator unit bids would be set mandatorily at formulaic SRMC levels. Any deviation from these levels would be considered a violation of the bidding rules.

Option 2 – Bidding Principles and Ex-Post Enforcement

- Option 2 proposes introducing bidding principles along with ex post enforcement enforced by the RAs. Bidding principles would consist of ex ante guidelines that would generally apply at each unit's SRMC.
- However this would not apply in all trading periods, and the RAs would review bids to check for the exercise of market power using various metrics including an SRMC benchmark.

Option 3 – Ex-Post Enforcement Only

- Under Option 3 there would be no explicit bidding regime set by the SEM Committee for the DAM and IDM. The RAs would review bids ex post and ascertain if any unit has exercised market power by using various metrics including an SRMC benchmark.

Option 4 – Market Abuse Condition

- In Option 4 there would be no ex ante bidding controls or principles in the ex ante markets. A licence condition would be introduced preventing market abuse. No specific bidding regime would then apply in these markets. Participants deemed to have structural market power would have additional reporting requirements placed upon them.

8.10.6 One feature that will augment all the Options is that the RAs would monitor and review participant behaviour and market outcomes. This is on top of the monitoring carried out by other bodies such as ACER, and the power exchange that will operate in the I-SEM.

8.11 SUMMARY OF RESPONSES RECEIVED – DAM & IDM

8.11.1 In general, the responses to this section of the Consultation Paper were varied, with considerable support received for Options 2, 3 and 4.

Regarding Option 1

8.11.2 There was little support for Option 1. This is unsurprising given that the Consultation Paper stated that the option could be overly intrusive and that it likely wouldn't be taken forward.

8.11.3 One respondent stated their view that prescriptive rules on SRMC pricing would not promote efficient competition, and are wholly inconsistent with applicable legal requirements including constitutionally protected rights of property.

Respondents favouring Option 2

8.11.4 Respondents that gave their support for Option 2 felt that bidding principles and ex post enforcement struck the correct balance between protection and allowing competitive price formation.

8.11.5 One respondent that favoured this option stated that this approach should also be considered for mitigating market power in the BM. One respondent that favoured Option 2, stated that if this option was to be implemented then in the interest of transparency and fairness all participants will need to have an understanding of the monitoring principles that they would be operating under.

8.11.6 Lastly, a supplier that stated their support for this option supported a focus more on the ex-post assessment as being more compatible with a principle based system of regulation. They felt that Option 2 is inherently flexible and can be made effective and targeted where there is an appropriate system of sanctions on those that exercise market power and compensation for those affected.

Respondents favouring Option 3

8.11.7 A number of respondents also reasoned that Option 3 was the optimal solution for mitigating Market Power in the ex-ante markets.

8.11.8 One supporter of Option 3 felt that REMIT would provide the RAs with sufficient enforcement powers and therefore Option 3: Ex-Post Enforcement Only would be an appropriate option. Another respondent felt that Option 3 is a much more focused approach and is likely to be the least distortive to the wider market dynamics and should result in the most efficient cross-border coupling as all trading parties would be operating on a common basis.

8.11.9 A theme, also picked up by some responses that favoured Option 2, was that clarity is important and that a clearly defined set of guidelines on bidding behaviour would aid market participants greatly.

Respondents favouring Option 4

8.11.10 A number of respondents also favoured Option 4. These respondents generally argued that day-ahead and intra-day markets have a greater potential for competitive outcomes and believed there is less need for prescriptive bidding controls.

8.11.11 One respondent that favoured Option 4 stated that this Option was targeted as it only applies to the participants with significant market shares and would be effective in combination with an FCO as the FCO would remove the incentive to raise prices in the DAM; it would be practical as it would enable RAs to focus resources where they are most effective, and transparent as it recognises the fact that Euphemia bids will not facilitate offers that reflect strict reflection of SRMC at all times and generators should be free to structure their bids accordingly. Another response stated their belief that Option 4 also provides market participants with the greatest flexibility to

innovate with respect to their bidding strategies in order to manage their risks

8.11.12 Another respondent that favoured Option 4 argued that they would prefer transparent definitions of acceptable market practice to be outlined by the RAs (focusing on behaviour rather than price) rather than an additional licence condition as envisaged in the Option.

8.11.13 There were a number of general comments from respondents on this section and on market power more generally who suggested that the SEM Committee needs to take greater cognisance of the differences between the current SEM design and the I-SEM.

8.11.14 In particular participants suggested that the introduction of REMIT is very important and that it seeks to address market abuse at an EU level. Another respondent stated that the detailed design of the I-SEM has some inherent features which limit the potential to exert market power. Examples given include the design of the reliability option and the restrictions on trading in the opposite direction to the TSO.

8.12 SEM COMMITTEE RESPONSE – DAM & IDM

Changes since SEM Development

8.12.1 As mentioned above, there was a degree of support for Options 2, 3 and 4 for the Consultation Paper. However, a key theme among respondents has been the assertion that things have changed since SEM was developed and that the SEM Committee must develop a regime, particularly for the ex-ante markets, that reflects this changed world.

8.12.2 One key initiative which has been implemented at EU level is the enactment and commencement of the Regulation on Energy Market Integrity and Transparency (REMIT). REMIT introduces a sector-specific legal framework for the monitoring of wholesale energy markets. The objective is to detect and to deter market manipulation. REMIT consists of three pillars:

1. The prohibition of market abuse/manipulation and trading on inside information. Market Abuse includes insider trading, misleading transactions, price positioning, transactions involving deception/fictions devices, and dissemination of false information.
2. The implementation of a transaction and data reporting framework to allow for EU wide market monitoring by ACER. Market participants are required to provide records of transactions, including orders to trade.
3. Provision to ensure that where market monitoring indicates potential market abuse, the incidents are investigated and action is taken. National Regulatory Authorities (NRAs) are responsible for ensuring REMIT is enforced.

8.12.3 Appendix A contains further explanatory information on REMIT

8.12.4 In addition, the design of the ex-ante markets is different to the current market. The current market is a one sided auction where demand is represented as a vertical supply curve. As mentioned above, the DAM and IDM will be two sided where demand will be empowered to express its willingness to pay as opposed to be forced to be a price taker as today.

8.12.5 The DAM will be coupled with the GB market and also with the wider EU. Market coupling should provide a much more integrated solution to best utilising the interconnector and determining optimum flows.

8.12.6 In addition, there are other measures which have been implemented in the I-SEM design which will help to avoid/detect market power exertion. The requirement that participants bid on a per unit basis will continue. In particular, a portfolio will not be able to represent their entire portfolio as a single supply curve but instead must bid separately for each unit and from a market monitoring perspective will be required to detail each unit's bids if requested.

8.12.7 The SEM Committee decision that units' FPNs must represent their traded ex-ante position means that to the extent that any participant is engaging in asset-less trading they must do this through a separate account as opposed to adding or subtracting from a units volumes.

Competition in the Ex-Ante Markets

8.12.8 The Consultation Paper presented modelling for the DAM and IDM based on the unconstrained Plexos model. The modelling was presented for a 2016, 2021 and 2024 and included a number of scenarios in the later years. The figure below shows the 2016 results.

Table 8- 1

Market participant	Capacity market share	Generation market share
ESB	44.4%	46.6%
SSE	13.5%	14.1%
AES	13.2%	7.2%
BGE	4.7%	7.0%
BnM	2.5%	4.3%
Aughinish	1.8%	3.8%
Viridian	8.1%	1.9%
Power NI	6.3%	1.3%
Tynagh	4.1%	0.4%

Market participant	Capacity market share	Generation market share
GB import	n/a	5.9%
Independent wind	n/a	6.7%
Others	1.3%	0.8%
HHI	2,484	2,617

8.12.9 The SEM Committee is of the view that it's instructive to look mainly at the early years as these are years where market power must be addressed, with immediate decisions by the SEM Committee. Results in later years are useful but perhaps their key use is in deciding on what sunset provisions should be included in any mitigation measures or whether there needs to be an ability to include measures on any player that doesn't have market power potential now.

8.12.10 When considering the modelling results for 2016, the key issue to note is that there is one big player and a large number of much smaller players. The HHI for the market is 2,617 which does imply a concentrated market. However, one player's market share contributes 2,171 to that HHI. This of itself would appear to suggest that there is a market power potential issue with one player but that the rest of the market displays competitive attributes.

Forward Contracting Obligation

8.12.11 The above assessment is an important consideration in the SEM Committee's decision on dealing with market power in the DAM and IDM and it is the SEM Committee's view that the market power potential of the largest player, ESB Power Generation, must be addressed.

8.12.12 In dealing with ESB Power Generation, the SEM Committee is of the view that the most appropriate measure is to impose a Forward Contracting Obligation (FCO). ESB Power Generation has had an FCO imposed on them since the start of the SEM in the form of Directed Contracts (DCs). The intent of the FCO is to require ESB Power Generation to offer sufficient forward contracts non-discriminately to the market to take the remaining share of their non-contracted generation to a competitive level.

8.12.13 In the development of the DCs the Regulators stated the following in the decision to impose directed contracts on large players.

8.12.14 The intent of these contracts is effectively to reduce the amount of generation that such entities will be offering to the market and receiving market-based prices for. The quantity of generation that the entities will offer to the market and receive market based prices for will be the difference between the generation that they control and the directed contract quantities

- i.e., the “uncontracted generation position”. The quantity of contracts directed by the Regulatory Authorities will be determined so that the concentration of the uncontracted generating position is likely to result in a competitive market outcome given the other elements of the mitigation package, the design features of the SEM, effectiveness of ringfencing measures, normal long-run economic incentives and the resulting concentration of the uncontracted generation position⁷.

8.12.15 The FCO is the key market power mitigation measure in the DAM/IDM and BM.

8.12.16 The nature, quantification, price form and allocation of the FCO on ESB Power Generation should be decided upon and implemented before Go-Live. The SEM Committee is of the view that this is best dealt with holistically through the forwards and liquidity workstream, which will consider the market power and liquidity implications of any FCO proposed. It would therefore appear appropriate that the FCO on ESB Power Generation is best considered there.

8.12.17 Pending the framing and implementation of concrete proposals regarding requirements for forward contracting volumes in light of the F&L consultation, it is expected that the RAs would roll over the current DC methodologies for quantification, price form and allocation for I-SEM subject to any changes specifically required for the transition from SEM to I-SEM.

Wider DAM and IDM Market Power Mitigation Measures

8.12.18 As mentioned above, the SEM Committee is of the view that subject to effective mitigation measures being placed on the largest player, ESB Power Generation, the DAM and IDM (and unconstrained incremental offers and decremental bids in the BM) markets should display competitive attributes and therefore is minded to allow competition to develop in these market places without ex-ante intervention.

8.12.19 The Consultation Paper contained an assessment of the four proposed options against the evaluation criteria and this isn't repeated here. The SEM Committee decision is best described as incorporating Option 3 and Option 4 from the Consultation Paper. The essence of the decision is that no ex-ante bidding controls will be applied to the DAM and IDM.

8.12.20 The specific licence framework will be developed and considered in the coming months to support this decision. In particular, the RAs will consider whether any specific measures are required to complement and /or reinforce REMIT.

⁷ AIP/SEM/02/06 Market Power Mitigation in the SEM

8.12.21 With this approach, the SEM Committee will rely on ex-post monitoring and enforcement to address market power. REMIT will be a key part of the regulators toolkit.

8.12.22 The market monitoring and enforcement function within the RAs will be a very important part of the I-SEM. The importance of this function is likely heightened given the less regulated nature of intervention in the DAM and also by virtue of the fact that there is likely to be less transparency to the wider market in I-SEM. For example, all bids and offers in the current SEM are published within a number of days to the wider market. It is likely that only anonymised aggregate bid curves for the ex-ante markets in I-SEM but greater clarity will be forthcoming on this in the coming months.

8.12.23 In terms of the evaluation criteria, the below section evaluates the Decision of the SEM Committee against the principles.

Effective

8.12.24 The effectiveness of the chosen measures will depend on the effectiveness of the RAs ability to monitor the market, to carry out investigations as appropriate and to take enforcement actions if required. The SEM Committee will implement a licensing regime and internal procedures prior to Go-Live which will support the effective oversight of the market.

8.12.25 In addition, it should be pointed out that the decision on the approach reflects the underlying analysis of the market and the fact that the market does appear largely competitive once appropriate mitigation measures are applied to the one large player.

Targeted

8.12.26 The chosen approach to addressing market power in the DAM and IDM is particularly targeted in that ex-ante measures are only applied to those with market power potential. Any ex-post actions will also be targeted at suspected unacceptable behaviour.

Flexible

8.12.27 The chosen approach should be flexible in that it allows the DAM and IDM to operate competitively. The FCO measure should also be flexible taking into account the level of contracting required for market power reasons and for reasons of promotion of liquidity.

Practical

8.12.28 The chosen approach should be practical to implement but as mentioned above does reinforce the requirement to have a strong well-resourced

market monitoring and enforcement function in place as well as the requirement to ensure that the Regulatory Authorities have a strong enforcement regime and processes which can supported actions to be taken in a timely manner.

8.12.29 For the participants in the DAM and IDM the chosen approach should be practical and the in formulating their bids for each unit in the DAM and IDM they should be considering their own costs etc. as opposed to bidding in line with a centrally mandated requirement.

8.12.30 Any FCO should be practical to implement and in designing the FCO the RAs will be cognisant of ease of implementation and impact on affected players. However, the level of effort will reflect the concerns over the potential exercise of market power in the various markets and market failure in the forward timeframe.

Transparent

8.12.31 The chosen approach for the FCO should be transparent once the allocation, price form and allocation methodologies are known. Therefore it should fare well under the transparency principle.

8.12.32 In terms of the absence of an ex-ante bidding control there may be a reduction in transparency compared to having one. However, the SEM Committee believes this should be viewed in a positive light in that the market will be deciding what constitutes competitive behaviour as opposed to what is written in a regulatory document. This should of course be viewed in the context of the competitive attributes displayed by the unconstrained DAM and IDM timeframes.

8.13 SEM COMMITTEE DECISION – DAM & IDM

8.13.1 The SEM Committee's decision is that no ex-ante bidding controls will be applied to the bids and offers submitted by market participants in the DAM and IDM. The specific licence framework will be developed and considered in the coming months to support this decision.

8.13.2 The SEM Committee's decision is that a Forward Contracting Obligation (FCO) should be placed on ESB Power Generation from I-SEM Go-Live. This imposition reflects the contribution of ESB Power Generation to the level of concentration in the spot market as reflected in modelling for the Consultation Paper.

8.13.3 The quantification, price form and allocation of the FCO that impact on ESB Power Generation and potentially others will need to be decided upon and implemented before Go-Live. The SEM Committee is of the view that this is best dealt with holistically through the forwards and liquidity workstream.

The F&L workstream is considering a number associated with engendering liquidity in the forward market and it would appear appropriate that the FCO on ESB Power Generation is best considered there.

8.14 MARKET POWER IN THE BALANCING MARKET

8.14.1 The Balancing Market (BM) is a key market that will operate in the I-SEM. Balancing Service Providers (BSPs) will be able to participate in this market to the extent they have physical resources available, taking into account any earlier commitments made with respect to those resources in the Day-Ahead Market (DAM) and Intra-Day Market (IDM). BSPs will be able to provide bids and offers into the balancing market, and update these bids and offers if required, up until Gate Closure. Gate Closure is expected to be one hour prior to real-time.

8.14.2 Conceptually, there are two timeframes relevant to BSPs:

1. **The time period from the moment the Day-Ahead Market (DAM) has closed until Gate Closure.** BSPs will be required to provide costs and technical information to the TSOs after the completion of the DAM. For this purpose the TSOs will require what are known as three-part offers from the generators for each generating unit concerned. A three-part offer may consist of:
 - A. A start-up cost
 - B. A no-load cost; and
 - C. Curves of incremental and decremental costs and quantities for incremental energy production.

Importantly, these costs will be required to represent *actual* costs, in much the same way that the existing SEM applies the Bidding Code of Practice (BCoP) to require that offers reflect actual costs.

Prior to Gate closure, these three-part offers will be used by the TSOs for their system reliability software runs (known as Reserve Constrained Unit Commitment (RCUC) in the current market but likely changing for I-SEM). This reliability assessment process may schedule additional energy and/or reserve, beyond that already scheduled in the DAM and the IDM to date, if the TSOs deem it to be necessary for system reliability purposes. This process may also schedule additional energy and/or reserve for the purpose of solving specific localised reliability situations. The reliability assessment will consider the TSOs' forecasts of wind, demand and system constraints (e.g. voltage constraints). It will consider the Physical Notification (PNs) already established by market participants. And it will use the three-part offers as they stand at the time the assessment is made to determine what, if any, additional resources should be scheduled.

The timeframe of this process, and for which the three-part offers are applicable, has been referred to in a number of i-SEM documents as the re-dispatch timeframe.

2. **The time period after Gate Closure (until real-time).** The second timeframe relevant to BSPs occurs after Gate Closure and up until the time of dispatch. This is the time period in which the balancing market operates. In this timeframe the three-part offers no longer apply. Instead, a BSP is required to provide an Inc. curve of monotonically increasing prices and quantities for increased net production from each resource, and a Dec. curve of monotonically decreasing prices and quantities for decreased net production from each resource. The balancing market will provide the TSOs with the bids and offers of generators at the end of the intraday market in these formats. In general, three types of plants will be participating in the balancing market:

- A. Plants with PNs providing headroom;
- B. Plants with an early TSO action taken which has some headroom; and
- C. Plants still available to start within an hour.

Plants may also participate which have “floor room” – i.e. the ability to reduce output by moving down the Dec curve. The TSOs may take advantage of floor room to lower overall costs where the Inc. and Dec. costs of alternative resources overlap, and where necessary to accommodate system constraints.

The last hour has been referred to elsewhere as the energy balancing timeframe. In this timeframe, the bids and offers are only incremental and decremental – with no explicit separate statement of start costs or no load costs.

- 8.14.3 The Market Power Consultation Paper detailed four BM bid mitigation options for consideration by respondents. Respondents were asked to state which option they considered most appropriate. Respondents were also asked, where feasible, to relate their preferred approach to the five key principles of the workstream - effective, targeted, flexible, practical and transparent.

- 8.14.4 An overview of the Consultation Paper options are detailed below;

Option 1: RA/MMU Triggered Intervention

- 8.14.5 The RAs will monitor generator offers and identify any unit bids in excess of their SRMC. Under Option 1, any unit bidding above its SRMC would be deemed to be exercising local market power. If any bids in excess of a units SRMC was observed, the TSOs would be instructed to replace those offers with an explicit SRMC based offer curve for a set number of future periods.

8.14.6 This approach would apply not only to local market power issues but also energy balancing actions in the BM, as it will by definition apply to both energy and non-energy actions, as the same bids are used by the TSO.

Option 2a: Automated Intervention involving particular software and a PST test

8.14.7 The TSOs would develop a fully automated ex-ante mechanism that would be employed to identify market power in the BM. Identification of potential exercise of market power via structural metrics such as a PST would be carried out by the mechanism and switch participant's offers to SRMC using a prescriptive offer curve, in advance of market clearing in the BM. This process would only occur in the event they were identified to have market power.

Option 2b: Automated Intervention involving the "flagging and tagging" process

8.14.8 In Option 2b, regulated 3-part offers would be applied to all balancing actions taken that were tagged to be non-energy. For energy actions there would be no ex ante bidding controls.

8.14.9 As set out above, current Energy Trading Arrangements (ETA) proposals set out that units have the option to submit three part offers to the BM before gate closure. All units will submit 3-part offers that are "evergreen" in the sense that they shall apply to all future periods but can be updated at any stage. All early dispatch actions, i.e. those taken by the TSOs before the BM opens, will be settled at the units 3-part offer.

8.14.10 In the I-SEM BM the TSOs will be required to identify all energy and non-energy actions via a "flagging and tagging" process. All actions of units deemed to be non-energy for the purposes of the market power mitigation functionality as part of imbalance pricing will be settled based on its complex 3-part offer that is reflective of its SRMC at its output level. As per the ETA detailed design however, the unit would get the greater of its three part offers and the imbalance price for increasing output and would get the lower of their bid and the imbalance price for reducing output.

8.14.11 All actions that have been tagged as "energy" will have their bid price kept at their simple all in bid price.

Option 3: Prescriptive Bidding Controls

8.14.12 Option 3 would mandate all participants to submit bids into the BM at their formulaic SRMC level.

This option is broader than the variants in Option 2 and would set all unit bids at their prescriptive formulaic SRMC levels with the aim of not only mitigating local market power but also any short term market power for all energy and non-energy actions.

8.15 SUMMARY OF RESPONSES RECEIVED – BALANCING MARKET

- 8.15.1 A wide range of responses were received, with the majority of respondents favouring none of the options presented in the Consultation Paper. Support for each of the options outlined in the consultation was limited.
- 8.15.2 The majority of respondents did not agree with using prescriptive bidding controls and some stated their belief that the RAs should consider implementing a licence condition prohibiting market abuse akin to Option 4 for the DAM/ID markets.
- 8.15.3 Of the Options presented in the Consultation Paper, Option 1 received the greatest level of support from respondents. Support was given for having a market monitoring role, with one respondent stating its preference for Option 1 provided the RAs have sufficient resources to analyse the market and participants' behaviour. The majority of respondents who favoured Option 1 also stated that they did not support any form of prescriptive bidding. One respondent stated that they do not “support prescriptive bidding controls based on SRMC formulae.”
- 8.15.4 One respondent stated that Option 2a represented the most appropriate mitigation option. This respondent cited the effectiveness of the approach due to its transparency and effectiveness, as it will only apply to units with actual market power.
- 8.15.5 A respondent that supported Option 2b stated that given Flagging and Tagging will be used in the Balancing Market to identify non energy actions, it may be expedient to incorporate this approach to manage market power.
- 8.15.6 There was also limited support for the implementation of Option 3. A respondent that favoured Option 3 stated that this approach “will be effective and targeted as it is applied universally”. However this assumption was not universally accepted, with another response stating their concerns around Option 3. The respondent explained that Option 3 was “the least inflexible, targeted and effective at preventing/mitigating the abuse of market power.” The same respondent voiced concerns around Option 2b, stating that it “is heavily dependent on the publication of TSO flagging and tagging”.
- 8.15.7 As mentioned above, a majority of respondents did not favour any of the proposed Options presented in the Consultation Paper. A number stated their support for the implementation of an option akin to Option 4 in the Day Ahead/Intra Day market. One respondent who favoured this Option 4 type approach stated that Option 1, 2 and 3 “all act to restrict competition and strongly favour the incumbent generator” and that if the RAs are to intervene in the Balancing market then a “lighter touch regime is required.” Another

stated that development of a market abuse option would “achieve a balance between the risk of over-regulation whilst also ensuring participants are faced with examination of irregular outcomes”.

- 8.15.8 All the respondents that rejected the Options laid out in the Consultation Paper stated their strong opposition to the implementation of any form of prescriptive bidding in the Balancing Market. One response concluded that prescriptive bidding controls, if implemented, may prevent certain plant categories from recovering their full fixed and incremental costs, potentially forcing exit and leaving the TSO without a significant amount of balancing market flexibility. Another stated that the BCOP has been a very effective tool in SEM, and is consistent with the objectives of each of the key principles for assessing market power.
- 8.15.9 One response believed that any prescriptive intervention in balancing cannot meet the SEM Committee’s own criteria – targeted or flexible.
- 8.15.10 The TSOs’ opined that imposition of prescriptive bidding could be a very heavy handed approach.
- 8.15.11 One respondent, who also rejected all of the Options, stated their concern that any formulaic approach that causes revenue shortfalls in the BM would be expected to result in higher prices in the CRM as generators would seek to recover any loss. They further stated that the net impact on overall costs for consumers would therefore be unclear.
- 8.15.12 There seemed to be differing views as to what “bidding principles” and “prescriptive bidding” meant among respondents. One respondent that favoured the retention of prescriptive bidding controls also stated that BCOP has been a very effective tool in SEM consistent with the objectives of each of the key principles.
- 8.15.13 With regard to the definition of bidding principles some respondents seem to believe that these could be loose principles, that don’t place strict bidding controls on generators. One respondent who stated its preference for an option akin to Option 4 in the DAM and ID stated that “only a principles-based approach to mitigating market power holds any prospect of promoting competition in the Balancing Market.”
- 8.15.14 One respondent who did not favour any of the Options believed that the RAs were incorrect in considering the markets separately. They stated their belief that the markets should be viewed as a continuum. This respondent explained that a set of clear bidding principles should be established and applied across all markets. These principles would not go as far as dictating the calculation of bids but would indicate factors that would be taken into account in assessing the competitiveness of bids, and the metrics which would be applied.

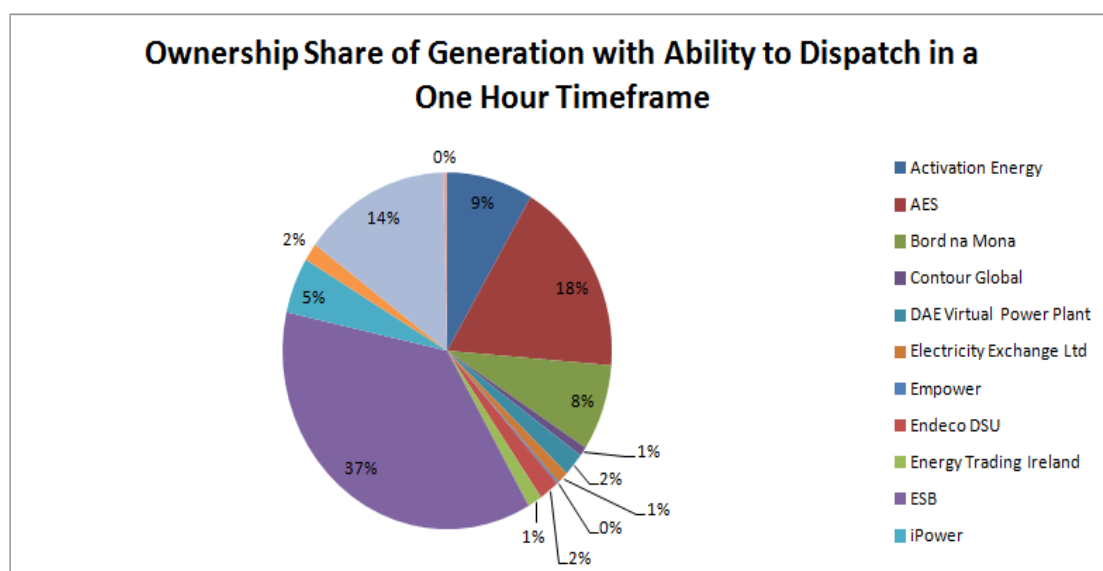
8.16 SEM COMMITTEE RESPONSE – BALANCING MARKET

8.16.1 The SEM Committee acknowledges responses received on the treatment of generator bidding in the BM and notes the diverse range of responses, in particular respondent's opposition to bidding controls in the BM.

Simple Incremental and Decremental bids and offers

8.16.2 The SEM Committee is of the view that explicit bidding controls are not required for incremental and decremental bids and offers from Go Live. The SEM Committee is of the view that competition can exist for unconstrained energy actions in the BM and that it is appropriate that there will be no ex ante bidding controls at the outset. This is consistent with the decision for the DAM and IDM. Based on data observed in 2015 there are currently many unit owners capable of operating in this market segment. The total capacity of these players will also likely be considerably more than what is required in many periods. A breakdown is provided below of the ownership share of units expected to compete in the BM. The data is based on submitted TOD and consists of units that can dispatch from cold in a one hour timeframe.

Figure 8- 1



8.16.3 In general the SEM Committee is of the view that this timeframe displays sufficient competitive attributes to operate in a competitive manner.

8.16.4 The SEM Committee has carried out some analysis of the BM and acknowledge that there might be a significant step change in the supply curve in the BM where the part loaded plants will likely have lower incremental costs while the peaking plants are likely to be higher. However, the SEM Committee believes there should be sufficient competition between part loaded plants to lead to competitive outcomes. Also, any manipulative behaviour would be addressed through REMIT.

8.16.5 If however, the behaviour observed in I-SEM is that the part loaded units can always successfully bid up to peaker plant levels, the SEM Committee would give the issue consideration as to whether such behaviour would be providing misleading signals as to the supply demand balance . If intervention

was deemed to be warranted it could be through the application of Option 3 from the Consultation Paper in addition to Option 2b.

- If for example the imbalance price was always set at the price of a peaker regardless of the tightness of the system there would be a direct signal for short suppliers to trade more ex-ante or indeed for assetless traders to arbitrage across timeframes.
- If participants withhold generation or demand from the earlier ex-ante positions to create a position in the BM that they can benefit from then this would need to be considered with reference to the definition of market manipulation in REMIT.
- The emerging system services arrangements may well result in greater volumes of part loaded plant seeking to provide system services to the TSOs. As part of that there may be requirements on what the service providers can bid based on the remuneration through system service contracts. One proposal was that they must submit offers at their incremental costs.
- Finally, the reliability option provides a hedge to suppliers in the BM which they will pay for through capacity charges. This hedge will ensure that where the imbalance price goes above the RO strike price they will be insulated from this price through their mandated RO hedge.
- As per the sections below, actions of units deemed to be non-energy for the purposes of the market power mitigation functionality as part of imbalance pricing will be settled based on the higher of the imbalance price or the three part offers for incremental actions or the lower of their three part offer and the imbalance price for decremental actions.

Review of Consultation Paper Options

Option 1 – RA/MMU Triggered Intervention

8.16.6 At a conceptual level, the SEM Committee is of the view that there could be merit to the implementation of Option 1 in the BM. Option 1 would see the RA market monitoring function, which has carried out its role successfully in the SEM, analyse unit bids and offers against a predetermined benchmark and where unacceptable or unjustified deviations are observed the unit or participant in question would be directed to offer as per a pre-determined methodology for a period of time into the future.

8.16.7 An approach like Option 1 would start with the assumption that the market is competitive and would only intervene where an unacceptable behaviour is observed. Such an approach would however, require very efficient process and timelines to allow the RAs to protect consumers from any unwarranted behaviour as soon as possible.

8.16.8 The SEM Committee agrees with respondents that successful implementation of Option 1 would require an extensively resourced market monitoring and enforcement function. The RAs would need to ensure that all bids are analysed across all trading periods and across different timeframes and would need to be able to open and complete investigations in a very timely fashion.

8.16.9 Option 1 scores favourably against the effective and targeted criteria. In particular, the measure would be particularly targeted to participants whose behaviour has been deemed to not be acceptable. The option should be effective as it makes clear to the market what the outcomes will be if behaviour is not in line with what is expected.

8.16.10 In terms of transparency, Option 1 can be seen in two ways. Firstly, the option could be seen to be transparent as participants know the consequences of any actions that lead to abuse. However, it may not always be transparent across the whole market as to why participants have bidding controls imposed upon them and there could be seen to be an element of discretion in deciding when to impose controls. The option should also be reasonably flexible.

8.16.11 The SEM Committee is of the view that Option 1 scores less well on the practical criterion. The option relies on being able to open and close investigations very quickly and to take swift decisive action. On the one hand, this should be possible with a well resourced market monitoring and enforcement function within the RAs. However, the investigation and the potential remedies at the end of the investigation might be seen as difficult for a participant and they will of course deserve due process before any decision is made. This would likely extend the time that any enforcement action would take. If an enforcement action took a number of months, the underlying concerning behaviour that is being investigated would potentially continue to occur until the end of the enforcement and this could in the extreme give perverse incentives on some to extend the process. In the meantime the wider customer base would be exposed to the cost of the participant's action. Therefore, on the basis of this aspect of the assessment the SEM Committee is of the view that Option 1 should not be taken forward.

8.16.12 In addition, the SEM Committee is not convinced that this option would deliver any benefits that would not be provided by the other Options.

Option 2a – Automated Intervention involving particular software and a PST test

8.16.13 The SEM Committee is of the view that Option 2a has a number of key strengths. First of these is that the Option is both targeted in the sense that it will only apply in certain periods to units that have been identified to have Market Power. It is also flexible as it will allow the market to function as normal in periods where no Market Power exists. It is also effective,

provided the systems can be developed to accommodate the Option and transparent.

8.16.14 The automated aspect of its design is also positive as it should improve the robustness of the option and consistency of its output. This should also reduce the human labour costs and the cost of the option over the lifetime of the I-SEM market.

8.16.15 The key drawback to the implementation of this option is its complexity. Implementation of this option could not be carried out successfully for I-SEM go-live. Developing this option would rely on the dispatch systems being put in place by the TSOs. The systems would need to look at every part of the system and decide whether each unit is must-run or has a must take action. There is already a significant complexity in developing the dispatch systems for Go-Live and adding this option would complicate things further.

8.16.16 Other markets, notably in the US, use these systems but they have been developed over time. In addition, these are used in very large systems where costs of very complex systems are spread over a very large consumer base. The costs for I-SEM for such an option are unknown and making a decision now which requires such complexity in the real-time dispatch systems could be seen as imprudent without fully understanding costs and implementability.

8.16.17 Finally, the TSOs have informed the RAs that this option would only be viable for a future market release and would likely not be available for go live. Therefore, should this option be desired at a future date it would be pursued through the modifications process within the market rules.

Option 2b: Automated Intervention involving the “flagging and tagging” process

8.16.18 The SEM Committee views Option 2b, along with Option 2a, as having the least intervention in the BM. The SEM Committee sees this as the most appropriate option for dealing with market power in the balancing market. The key features of Option 2b are;

- Bidding controls will be applied to all three-part offers submitted to the TSO. The form of the bidding control will be considered in the coming months but the SEM Committee sees greater merit in a bidding regime closer to the current SEM framework as opposed to put in place very detailed prescriptive bidding rulebooks.
- All actions of units deemed to be non-energy for the purposes of the market power mitigation functionality as part of imbalance pricing will be settled based on their three part offers, although they will be paid the greater of their three part offer and the imbalance price for incremental actions or will pay the lower of their three part offer and the imbalance price for decremental actions.

- Option 2b will be implemented through the SEMO settlement systems as opposed to developing real time systems to implement the option.

8.16.19 The SEM Committee believes that this option best meets the criteria set out in the Consultation Paper.

Effective

8.16.20 The SEM Committee is of the view that Option 2b is an effective way of mitigating market power in the balancing market. In particular, the balancing market, given that it runs from D-1 right up to real-time, will have a mix of competitive and non-competitive plants. For example, at times there may be plants that are out of merit but that the TSOs need for non-energy reasons and must call them. The plant might know that they are needed and might believe that whatever they bid, it must be accepted.

8.16.21 Requiring plants to bid a cost reflective three part offer will provide the best information into the TSOs scheduling decisions and will ensure that costs of re-dispatch actions are appropriate. As has been discussed previously, there are significant constraints on the SEM system and at any time there can be a number of plants who are must-run. In summary, this Option 2b provides an effective solution to mitigating local market power.

Targeted

8.16.22 Option 2b is well targeted towards non-energy actions which are the actions where the TSO is constrained as to which plants can be dispatched and hence subject to the least competition. In particular, Option 2b is targeted in that it doesn't affect a participant's behaviour in the ex-ante markets. Even though the generator will have submitted cost reflective offers to the TSO, they will be free to trade ex-ante in a competitive fashion. In addition, even where an early TSO action is taken, the participant will still be able to trade the same volume ex-ante up to gate closure using the substitutive PN approach available in the market rules where they can swap out an early TSO action for an ex-ante trade.

8.16.23 Option 2b still ensures that the generator is paid the greater of their three part offer and the imbalance price for incremental actions or pays the lower of their three part offer and the imbalance price for decremental actions. This ensures that the generator is not competitively disadvantaged by having a bidding principle applied to its offers.

8.16.24 In addition, this option is targeted in that it doesn't affect the incremental and decremental bids and offers submitted by units at Gate Closure. This will ensure that the imbalance price will be set based on competitive bids and offers.

8.16.25 In summary, the SEM Committee believes that Option 2b is suitably targeted to the area of the market where greatest potential to exert market power exists.

Flexible

8.16.26 The SEM Committee is of the view that this option can be very flexible. In particular, the key to how flexible will be in the flexibility allowed in the bidding controls. In addition, this option is flexible in that participants' ex-ante behaviour is not affected given that the simple incs and decs do not have bidding controls applied. There has been much comment through responses that the design of I-SEM is much different to SEM and that flexibility will be needed in how participants bid. This option does not encroach on that as it doesn't affect ex-ante behaviour.

Practical

8.16.27 This option should be quite practical both in terms of its implementation and its ongoing operation. For implementation, it requires measures in imbalance settlement calculations to ensure that actions of units deemed to be non-energy for the purposes of the market power mitigation functionality as part of imbalance pricing are paid based on three part offers rather than the imbalance price (unless the implied three part offer cost is less than the imbalance price for incremental actions or greater than the imbalance price for decremental actions). From the perspective of ongoing operation it should be practical and straightforward in that participants will submit their three part offers based on an ex-ante prescribed measure. In summary, the SEM Committee is of the view that Option 2b fares well on the practical criterion.

Transparent

8.16.28 Option 2b should be a transparent measure. From a market monitoring point of view there is significant transparency in the three part offers which include a bidding control. This will also be a useful protection in ensuring that the re-dispatch costs faced by the TSOs are reasonable. This is particularly important in the I-SEM context given that it is envisaged that all early TSO actions will be taken through the BM. In other European markets the TSO generally has the ability to negotiate contracts with service providers for non-energy actions.

8.16.29 From a market point of view the level of transparency with this option will depend on the level of information published to the market and the timing of such publication. For the ex-ante markets, there is likely to be less information on bids and offers published close to real-time or at all. For the balancing market a decision will need to be taken on this. A key tenet of the I-SEM is fostering competitive behaviour and that may or may not be served best by high levels of data publication. For the three part offers there is a strong case to publish as per now given that they have bidding controls applied but a decision will be taken on this before Go-Live

8.16.30 This Option is also implementable from a systems perspective. The TSOs have informed the RAs that, whilst moderately difficult to implement, this Options should be achievable within the I-SEM timeframe for Go Live. Option 2b does rely on a functioning imbalance pricing arrangements that adequately identifies non-energy actions. This was identified as a weakness of Option 2b by one respondent. The SEM Committee agrees that there is a reliance on the imbalance pricing arrangements but also puts forward the view that the less intrusive nature of the option means that the impacts on participants should be less. Even if actions were to be over tagged the participant affected would still be paid their costs or the imbalance price whichever is higher for incremental actions (or pay their costs or the imbalance price, whichever is lower, for decremental actions), as expressed through the three part offers so there is a high degree of comfort for the participant.

8.16.31 In summary, and based on the assessment above, the SEM Committee is of the view that option 2b from the Consultation Paper is the most appropriate market power mitigation measure in the balancing market, to address local market power/non-energy actions. Option 2b will only apply to instances where limited or no competition exists in the market. The SEM Committee views this as being elegant in that it fits in neatly with the Tagging and Flagging process developed within the ETA workstream. The exact definition for how a unit is deemed to be non-energy for the purposes of market power using the outputs of the imbalance pricing process will be detailed as part of the implementation through the rules working group.

8.16.32 The SEM Committee will consider further the specific ex-ante bidding requirement in the coming months ahead of proposing licence changes. The treatment of energy actions is addressed under DA/IDM options.

Option 3: Prescriptive Bidding Controls

8.16.33 The SEM Committee agrees with a number of respondents that Option 3 would be effective in that it would apply ex ante to all bids in the BM.

8.16.34 Other advantages offered by Option 3 would be that it is transparent, provided the ex-ante bidding controls are known, and would require the least on-going intervention from the TSOs/RAs outside of general monitoring. From a systems perspective the TSOs have informed us that they see no issues in the implementation of this option.

8.16.35 Overall, the SEM Committee is minded not to pursue Option 3 for I-SEM Go-Live. The key reason for this is that the option is less targeted than other options put forward. Option 3 would apply ex-ante bidding requirements to all bids and offers to the balancing market. This would include the three part offers and also the simple incremental and decremented offers. As discussed above, the key area where the SEM Committee believes ex-ante bidding

controls are required are in relation to the more constrained and must run plants.

8.16.36 The SEM Committee has decided not to implement Option 3 for I-SEM Go-Live on the basis that there should be sufficient competition within the unconstrained aspects of the BM.

8.16.37 The SEM Committee is clear however, that should the assumptions made on competition for the simple incremental and decremental bids and offers in the BM not come to hold true there would be an intervention to put in place more wide ranging controls. The SEM Committee is minded to include this provision within the framework set up for I-SEM rather than having to make significant prolonged changes after Go-Live. This for example could include inclusion of the provision within the licensing framework but not applying/activating it unless needed.

Options not in the Consultation Paper

8.16.38 The SEM Committee also acknowledges responses received that did not support the implementation of any of the Options put forward in the Consultation Paper. In particular, some respondents favoured the implementation of a market abuse licence condition, similar to Option 4 in the DAM/ID markets.

8.16.39 While it is the SEM Committees view that there may be merit in having such a condition, its not viewed to be a sufficient measure on its own. The reasoning for this is similar to the reasoning behind not proceeding with Option 1 from the Consultation Paper. A general market abuse condition would rely on effective ex-post enforcement powers so as to ensure that any wrong to consumers can be returned to them. It also relies on being able to carry out investigations very quickly which may not be sufficiently compatible with allowing due process.

8.16.40 In particular, the SEM Committee is of the view that for non-energy actions and in particular must run plants a market abuse condition would be wholly insufficient. There may well be ambiguity in what constitutes abuse. One respondent for example suggests that a generator bidding at the opportunity cost of the next best alternative would not be abusing the market.

8.16.41 The SEM Committee is of the view that there is a complexity of the constraints in the SEM system that may not generally exist in many other markets. The drive to maximise non-synchronous renewable penetration creates constraints of itself and the prevalence of absolute priority dispatch puts a series of complex pressures on the TSOs. Bidding the next best alternative may be a theoretically elegant solution but priority dispatch, which is mandated externally, to some extent ties an arm behind the TSOs back. If generators bid the next best alternative the TSO would need freedom

to re-dispatch the system in the most economically advantageous way which would include for example re-dispatching renewables. This not being allowed through priority dispatch would see a mismatch between a perfectly competitive economic construct put forward in the responds views and the real position faced by the TSOs. This of itself perhaps highlights the issues that the SEM Committee would have with the more general abuse condition.

8.17 SEM COMMITTEE DECISION – BALANCING MARKET

Non-Energy Actions

8.17.1 The SEM Committee has decided that Option 2b from the Consultation Paper be implemented in the I-SEM balancing market and is of the view that Option 2b represents the optimal solution to mitigate market power in the BM.

8.17.2 In Option 2b, all actions of units deemed to be non-energy for the purposes of the market power mitigation functionality as part of imbalance pricing will be settled based on 3-part offers submitted to the TSOs. The three part offers will have an explicit ex-ante bidding control applied to them. The form of the bidding control will be considered in the coming months by the SEM Committee and will be ultimately be proposed in a licence condition.

8.17.3 Option 2b scores well against the criteria set out in the Consultation Paper. The Option is targeted as it only targets area where Market Power exists and is flexible as it doesn't require specific additional systems and has a sun setting aspect to it. Should constraints be alleviated then areas will be opened up to competition and less non-energy actions would be required. It will be effective as it does not interfere with the energy market whilst also addressing market power in areas where it's most prevalent.

8.17.4 As a result of non-energy actions, units that would normally not be dispatched are scheduled to run by the TSOs. This could be due to a multitude of reasons such as network constraints. As there effectively exists no market under these conditions the generator can effectively act as a monopoly at times. The SEM Committee sees this as a considerable risk to consumers and believes that imposing bidding conditions is appropriate in these circumstances.

Simple Incremental offers and decremental bids

8.17.5 For energy actions, based on simple incremental and decremental bids and offers submitted into the balancing market at Gate Closure, there will be no explicit ex-ante bidding controls and ex-post enforcement will be applied, similar to the approach adopted for the DAM & IDM. However, the SEM Committee will implement ex-ante bidding controls either on individual participants or across the wider market if observed behaviour is deemed to

warrant this Additionally, were any issue to arise during the development of the process to identify non-energy for the purposes of the market power mitigation functionality as part of imbalance pricing, an explicit bidding principle could be considered. The SEM Committee will develop a framework that will allow for the implementation of bidding controls in an expedited manner should the need arise. For example, there could be a condition placed in licences but not activated.

8.18 FLEXIBILITY AND WORDING OF ANY EX-ANTE BIDDING PRINCIPLES

- 8.18.1 The Consultation Paper included the use of bidding principles or prescriptive bidding controls for in different options in the DA, ID and BM.
- 8.18.2 Bidding principles was proposed under option 2 of the proposed mitigation measures in the DA and ID markets. The Consultation Paper stated that these would be ex-ante guidelines requiring generators to bid generally at SRMC but not necessarily for all trading periods.
- 8.18.3 Respondents were asked if ex-ante bidding principles were to be adopted, how flexible should they be and how would this be facilitated/enshrined in their wording?

8.19 SUMMARY OF RESPONSES RECEIVED - EX-ANTE BIDDING PRINCIPLES

- 8.19.1 The majority of responses to this question favoured bidding principles that were flexible.
- 8.19.2 There was wide support for flexible bidding with one respondent stating “interpretation of any future bidding principles must be flexible enough to deal with all future cases and objective or transparent enough to give market participants clarity over what competitive behaviour is allowed, as well as what abuses are prohibited.” Another response concluded that plant, unsuccessful in securing a Reliability option in the CRM, should be allowed to bid to recover some of its fixed costs in scarcity periods such that if required to run either constrained or scheduled in the market full costs can be recovered.
- 8.19.3 Another respondent supported “clear bidding principles”. This respondent felt that defining set rules for the deterministic calculation of a competitive benchmark under I-SEM will be difficult. However, defining clear principles should be possible. They further stated that establishment of clear principles as to what a competitive benchmark would look like would ensure that participants are clear as to the expectations of the regulator, while permitting the scope for ongoing commercial optimisation and innovation.

8.19.4 Other respondents did not support the flexible approach. One supplier responded that rules should be clear and inflexible. Another response stated that ex ante bidding principles should not be adopted. The theme that ex ante principles should not be adopted was picked up upon by other responses with another stating they were “categorically against the adoption of market-wide ex-ante bidding principles in the energy market.”

8.20 SEM COMMITTEE RESPONSE – EX-ANTE BIDDING PRINCIPLES

8.20.1 The SEM Committee acknowledges participant responses and that a majority favoured the need to incorporate flexibility in the wording on the application of ex-ante bidding principles. This becomes a greater requirement in markets where simple offers are used instead of 3 part offers, as will be the case in I-SEM. The SEM Committee also acknowledge the need for a clarity in wording of bidding principles, so that both generators and other market participants can form an expectation of what is considered reasonable bidding behaviour.

8.20.2 Section 8.13 stated that the SEM Committee is not proposing to apply a bidding principle in the DA and ID markets.

8.20.3 Section 8.17 has outlined the SEM Committee proposal to utilise generators’ 3 part offers, which are submitted to the TSOs, as part of option 2b for actions of units deemed to be non-energy for the purposes of the market power mitigation functionality as part of imbalance pricing. The SEM Committee is proposing to apply a bidding principle to all of these offers, due to the largely uncompetitive nature to the non-energy services that the TSO will be seeking. In this case, the application of bidding principles does not require the same degree of flexibility as in the simple offers.

8.21 SEM COMMITTEE DECISION – EX-ANTE BIDDING PRINCIPLES

8.21.1 The SEM Committee believes that the application of a bidding principle to the 3 part offers for non-energy actions in the balancing market, will need to offer clarity and flexibility were appropriate.

8.21.2 The detailed wording of these bidding principles will be considered in the coming months, ahead of bring forward appropriate licence conditions to implement them.

8.22 VERTICAL RING-FENCING

8.22.1 In the Consultation Paper it was suggested that vertical ring-fencing of the former incumbent players (referred to as “incumbents” for ease of reading), ESB and Viridian, has been effective in SEM working alongside other market

power mitigating measures in ensuring that these companies do not gain any advantage in the broader market due to their overall size.

8.22.2 The Consultation Paper asked two questions in relation to market power and the conditions under which any relaxation of the ring fencing provisions might be considered.

- Under what structural conditions or in combination with other market power mitigation measures should vertical ring-fencing of the incumbents be relaxed?
- Under what circumstances and criteria (or metrics) the application of ring-fencing to other market participants should be considered?

8.23 SUMMARY OF RESPONSES RECEIVED – VERTICAL RING-FENCING

8.23.1 With the exception of ESB there was a unanimous view among respondents that vertical ring fencing arrangements should be maintained for ESB in the I-SEM.

8.23.2 A number of respondents stated their belief that appropriate metrics should be developed by the RAs and tested on all participants. One respondent, who favoured such an approach, stated that the RAs should impose ring-fencing obligations based on an assessment of appropriate metrics – e.g. market shares – rather than based on the status of a particular company as a legacy incumbent. However they also stated that taking these metrics into account they oppose any proposal to remove the ring-fencing obligation from ESB.

8.23.3 Another respondent felt that a market participant with a combination greater than 10% in one market and 20% in another for supply or generation should be considered for ring-fencing. This theme was picked up by another respondent who stated that any relaxation proposed must not treat the generation and supply arms of a business in isolation.

8.23.4 In their response ESB stated vertical ring fencing should be removed. ESB concluded that 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. They also considered the measure discriminatory.

8.24 SEM COMMITTEE RESPONSE – VERTICAL RING-FENCING

8.24.1 The SEM Committee notes the majority of respondents expressed the view that ring-fencing should not be removed from ring-fenced entities, in particular for ESB. The key reasoning behind this position appears to be in

relation to the functioning of the forwards market with a general view that any removal of ring-fencing on ESB could be detrimental for forward liquidity and transparency.

- 8.24.2 The vertical ring fencing of ESB's supply and generation functions at the initiation of the SEM in 2007 was put in place for a variety of reasons. At the time ESB Customer Supply was a regulated supplier and there had to be a transparent view of ESB Customer Supply's energy acquisition costs and a way to assure that such supply from ESB Power Generation was not being acquired at above or below "market" prices and being passed on to regulated customers.
- 8.24.3 Additionally, with the implementation of a new market, i.e. the SEM, there was concern over ESB's generation dominance – a concern that if ESB did not make forward hedges available to other entities those entities would be unable to make supply offerings to customers. At the time ESB Independent Energy (a supplier) was not ring fenced from ESB Coolkeeragh and Synergen (generators).
- 8.24.4 ESB argues in its response that imposing ring fencing on it would be discriminatory as other entities in the European market in similar positions are not ring fenced and it would be at a competitive disadvantage.
- 8.24.5 Vertical ring fencing of supply and generation is generally necessary to prevent foreclosure from either market. That is, due to ESB's market share in generation, ESB would be in a position to foreclose competition from the retail market because they would be forced to buy forward contracts from it or, due to ESB's market share in retail, it could foreclose non ESB generators from being able to make forward sale transactions.
- 8.24.6 Considering the spot markets, earlier in this section the SEM Committee has set out its approach to mitigating market power in the DAM, IDM and BM. In particular, there will be an FCO on ESB Power Generation, the purpose of which is to mitigate their ability to exert market power in any of those spot markets.
- 8.24.7 There are several aspects of the spot market that are designed to prevent or limit the ability of a vertically integrated entity from foreclosure in the spot market. The DAM, IDM and BM will all have unit based bidding and these are the exclusive route to physical dispatch of assets. That is to say there is no OTC or bilateral contract nomination process. In that sense all participants in the market will be in a similar position with no player being able to take advantage of their vertical integration in order to affect market outcomes. In addition, there are provisions in REMIT regulations prohibiting using pre-arranged trades to manipulate the market.

8.24.8 The SEM Committee has stated that it is satisfied that this is the appropriate and proportionate market power mitigation strategy for the I-SEM spot markets but stands ready to intervene should that be found not to be the case.

8.24.9 In light of the above discussion, perhaps the key issue is whether the SEM Committee are confident that a competitive spot market will result in competitive forward hedging opportunities. Many participants in responses to this Consultation Paper and other relevant papers in the past have strongly put forward the assertion that a liquid spot market does not invariably lead to a liquid forward market.

8.24.10 In particular, participants have pointed to the example of SEM where the spot market is mandatory for all market volumes, hence delivering a high level of liquidity, but the level of forward contracts still remains low. There are arguments on both sides with some suggesting that alternative proxy hedging can act as a valid alternative to forward electricity contracts, although this view isn't supported universally.

8.24.11 Given the above, the SEM Committee is of the view that the issue of whether any consideration should be given to amending ring-fencing arrangements for ESB and Viridian (or extending to other market participants) should be taken in the context of the work being carried out in the Forwards and Liquidity workstream alongside any other relevant factors.

8.24.12 In particular, the F&L workstream is considering many aspects of facilitating greater liquidity in forward markets. These are discussed briefly below.

Transaction Costs

8.24.13 In the responses received during the development of the I-SEM HLD and through interactions with participants it became clear that one key barrier to the development of a functioning forward market was the level or transaction costs associated with executing and settling forward trades. In particular, with the tools in place today, parties interested in entering into contracts must negotiate contract and credit terms with each potential counterparty before trading through the brokerage. This has been put forward as a key issue to be addressed.

8.24.14 To this end the F&L workstream is working with industry to explore ways to bring forward more streamlined processes possibly in the form of a clearing house where terms and conditions are only required with one central counterparty, which could reduce the transaction costs associated with forward market transactions.

Market Wide Liquidity Promotion/Mandating

8.24.15 Another key area that will be discussed in the F&L workstream relates to the promotion of liquidity in the forwards market in order to best utilise arrangements brought forward. Within this work it is likely that there will be consideration of whether market maker obligations should be placed on a number of participants in order to foster competition. Such measures were taken in GB and are referred to as the Secure and Promote initiative.

8.24.16 Also, and as discussed above, the F&L workstream will involve consideration of the nature of, quantification, price form and allocation of the FCO that will be applied to ESB Power Generation to mitigate market power in the spot market. While this is a measure whose primary purpose is to mitigate spot market power, it will invariably impact upon the volume of hedges available and the level of liquidity in the forward market.

Cross Border Liquidity Facilitation

8.24.17 The wider F&L workstream is giving consideration to the forward market liquidity offered through the cross border interconnectors. The interconnectors may operate at circa 1000MW import capacity at I-SEM Go-Live which is a notable portion of peak demand and even more of average demand. The availability of cross border hedging products means that forward contracts become an appropriate and robust hedging instrument for suppliers in I-SEM up to the capacity of the interconnectors and subject to successfully purchasing the product.

8.24.18 In December 2015, the SEM Committee made a decision that Financial Transmission Rights (FTR) Options will be offered on the Moyle and East West Interconnector from Go-Live. These instruments should afford significant levels of spot market liquidity to I-SEM participants as the FTRs will be struck against the DAM price. Prior to Go-Live the interconnector owners will develop revised access rules to offer the FTRs and these rules will set out positions with regard to issues such as allocation and firmness. In subsequent years, this will transition to an FTR design that is developed at EU level by ENTSOE, in accordance with the timelines set out in the Forward Capacity Allocation (FCA) guideline.

Non Asset Backed Forward Liquidity

8.24.19 Although not strictly within the scope of the F&L workstream, one issue that has become evident is that absent variable renewable generation, mainly wind, offering forward contracts, it is likely that a gap will exist in the market in terms of asset backed hedges. In particular, the expectation is that 40% of electricity demand will be satisfied by wind generation and if it doesn't offer hedges then suppliers will be short.

8.24.20 The F&L workstream through its industry working group has initiated discussion and sharing of ideas on this issue which should help the industry bring forward solutions to address the issue. These solutions could include

developing a greater shared understanding of proxy hedges and the potential for non-asset backed hedges.

8.24.21 As discussed above, the SEM Committee is of the view that any consideration of the merits or otherwise of amending the current framework with regards to vertical integration/ring-fencing will form part of the consideration of the forwards and liquidity workstream, which shall include the design of any measures to be brought forward.

8.24.22 It should be noted however, that the current position is that certain players in the market have ring-fencing restrictions applied to them and it is appropriate to address whether the transition from SEM to I-SEM should entail changes to this particularly arising from the effective functioning of the forwards market. This will be addressed in the context of proposed policy decisions related to forward market liquidity that are under development by the RAs.

8.25 SEM COMMITTEE DECISION – VERTICAL RING-FENCING

8.25.1 The SEM Committee has stated that it is satisfied that the market power mitigation measures for the spot market is the appropriate and proportionate market power mitigation strategy for I-SEM but stands ready to intervene should that be found not to be the case.

8.25.2 Key questions to be addressed in any consideration of ring-fencing arrangements is whether the argument can be accepted that a competitive spot market will result in competitive forward hedging opportunities; whether ring-fencing is effective and whether it is desirable and necessary for all FCOs.

8.25.3 The Forwards & Liquidity workstream is considering many aspects of facilitating greater liquidity in forward markets. Key areas include:

- Transaction Costs,
- Market Wide Liquidity Promotion/Mandating,
- Cross Border Liquidity Facilitation.

8.25.4 The SEM Committee is of the view that any consideration of the merits or otherwise of amending the current framework with regards to vertical integration/ring-fencing will form part of the consideration of forwards and liquidity and the design of any measures brought forward.

8.25.5 It should be noted however, that the current position is that certain players in the market have ring-fencing restrictions applied to them and it is appropriate to address whether the transition from SEM to I-SEM should entail changes to this particularly arising from the effective functioning of the

forwards market. This will be addressed in the context of proposed policy decisions related to forward market liquidity that are under development by the RAs.

8.25.6 In response to a comment that vertical ring-fencing should be expanded to other players, under the current market structure, the SEM Committee is of the view that this will be considered in the context of work being carried out in the Forwards and Liquidity workstream. Vertical ring-fencing aims to ensure that selected integrated companies do not provide preferential terms to their affiliates compared to other market participants. Should the market structure change and other integrated companies enter and exhibit a risk of market power abuse, the SEM Committee will re-evaluate the need for further vertical ring-fencing. This is linked to the concerns expressed by respondents about the entry of new integrated players. In terms of liquidity, the SEM Committee has not found evidence that vertical integration has resulted in low liquidity, and it is therefore unclear whether an expansion of vertical ring-fencing would improve forward market liquidity.

9.1 MARKET POWER POLICY TIMELINES

9.1.1 This Decision Paper sets out the key policy decisions for market power mitigation in I-SEM. There are a number of next steps that result from the decisions taken in this paper including:

9.1.2 Changes to generator licences:

1. Forward Contract Obligations (FCOs) – the obligation for all generators to offer FCOs, which will be subject to activation upon review by the SEMC for each market participant.
2. Ex-ante bidding Controls 1 – the obligation on all generators for offer their 3 part costs to the TSOs in accordance to a bid/offer principle.
3. Ex-ante bidding Controls 2 – the obligation on all generators for offer their incremental and decremental costs in the balancing market in accordance to a bid/offer principle, which will be subject to activation upon review by the SEMC for each market participant.
4. REMIT support – appropriate licence conditions and requirements to support the implementation of REMIT.

All generator licence changes will be subject to a public consultation, following the statutory requirements in both jurisdictions.

9.1.3 Bid/Offer principles – The development of guidance on generator bids and offers.

9.1.4 The exact definition for how a unit is deemed to be non-energy for the purposes of market power using the outputs of the imbalance pricing process will be detailed as part of the implementation project and will be taken forward through the market rules working group.

9.1.5 The forwards and liquidity workstream will consult and decide on the implementation of FCOs and the application and implementation of vertical ring-fencing.

APPENDIX A: REMIT INFORMATION

This appendix discusses Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency (**REMIT**). In it, we provide background information on REMIT and an overview of its provisions, in particular those concerned with market manipulation. We also discuss market monitoring in light of REMIT, along with the issues of compliance and enforcement.

Background and overview

REMIT, which entered into force on 28 December 2011, introduced, for the first time, a consistent EU-wide framework defining market abuse (in the form of market manipulation, attempted market manipulation and insider trading) in wholesale energy markets; introducing the explicit prohibition of market manipulation, attempted market manipulation and insider trading in such markets; establishing a new framework for the monitoring of wholesale energy markets to detect and deter market manipulation and insider trading; and providing the enforcement of the above prohibitions and the sanctioning of breaches of market abuse rules at national level.

The definitions of market manipulation and insider trading in REMIT are in line with those applying under EU legislation concerning market abuse in financial markets, though adapted for wholesale energy markets. There are provisions in REMIT and the corresponding financial markets legislation to determine which regime applies to particular conduct.

REMIT applies in relation to wholesale energy products, a concept which covers: (a) contracts for the supply of electricity or natural gas where delivery is in the EU; (b) derivatives relating to electricity or natural gas produced, traded or delivered in the EU; (c) contracts relating to the transportation of electricity or natural gas in the EU; and (d) derivatives relating to the transportation of electricity or natural gas in the EU.

REMIT is concerned with behaviour in relation to wholesale energy products which takes place in a variety of market contexts, including, but not limited to, balancing markets, intraday or within-day markets, day-ahead or two-day-ahead markets, physical markets (including markets for physical forward contracts and non-standardised long-term contracts), markets for the transportation capacities of electricity or natural gas and derivatives markets (including financial OTC markets). In addition, the Agency for the Cooperation of Energy Regulators (ACER) considers that generation capacity markets and capacity remuneration mechanisms may constitute wholesale energy markets for REMIT purposes.

REMIT affects everyone who participates in, or whose conduct affects, wholesale energy markets within the EU. Thus, REMIT applies to persons who may be involved in wholesale energy trading activities whether or not they hold a licence or other authorisation in respect of those activities. It also makes no difference whether or

not the person is resident within the EU or whether or not they are professional investors.

To help ensure consistent interpretation of REMIT, ACER has published non-binding guidance to the national regulatory authorities who are responsible for applying REMIT⁸. The Regulatory Authorities support this guidance and recommend that market participants take it into account when considering their approach to compliance with REMIT.

Market manipulation

Article 5 of REMIT provides that any engagement in, or attempt to engage in, market manipulation on wholesale energy markets shall be prohibited.

Article 2(2) of REMIT defines “market manipulation” as:

(a) entering into any transaction or issuing any order to trade in wholesale energy products which:

- (i) gives, or is likely to give, false or misleading signals as to the supply of, demand for, or price of wholesale energy products;
- (ii) secures or attempts to secure, by a person, or persons acting in collaboration, the price of one or several wholesale energy products at an artificial level, unless the person who entered into the transaction or issued the order to trade establishes that his reasons for doing so are legitimate and that that transaction or order to trade conforms to accepted market practices on the wholesale energy market concerned; or
- (iii) employs or attempts to employ a fictitious device or any other form of deception or contrivance which gives, or is likely to give, false or misleading signals regarding the supply of, demand for, or price of wholesale energy products;

or

(b) disseminating information through the media, including the internet, or by any other means, which gives, or is likely to give, false or misleading signals as to the supply of, demand for, or price of wholesale energy products, including the dissemination of rumours and false or misleading news, where the disseminating person knew, or ought to have known, that the information was false or misleading.

Article 2(3) of REMIT defines “attempt to manipulate the market” as (a) entering into any transaction, issuing any order to trade or taking any other action relating to a wholesale energy product with the intention of achieving any of (i), (ii) or (iii) above or (b) disseminating information through the media, including the internet, or by any

⁸ The most recent version of the guidance (updated 3rd edition of 3 June 2015) can be accessed at ACER’s website (for ease of reference, a link to the guidance can be accessed [here](#)).

other means with the intention of giving false or misleading signals as to the supply of, demand for, or price of wholesale energy products.

It will be noted that a person who engages in conduct falling within the scope of point (ii) above has the opportunity to establish that such conduct is nonetheless not prohibited by article 5 because, first of all, there were legitimate reasons for the conduct and, second, that the conduct conforms to accepted market practices on the wholesale energy market concerned.

As the ACER guidance makes clear, decisions on whether particular practices constitute accepted market practice (**AMPs**) depend upon national or regional specificities and are therefore primarily the responsibility of individual national regulatory authorities (**NRAs**). The guidance also states that each NRA has a duty to consult, both nationally and with other relevant NRAs, and to coordinate with ACER prior to disclosing any market practices that they have accepted. The guidance also refers to the obligation on ACER to coordinate and publish AMPs on its website in a standard ACER format.

The Regulatory Authorities would point out that they have not yet given AMP status to any market practices and that ACER has not published any AMPs of relevance to the SEM.

Market monitoring

REMIT provides that ACER has responsibility for monitoring trading activity in wholesale energy products to detect and prevent trading based on inside information and market manipulation and ACER is tasked with collecting the relevant data for monitoring purposes.

NRAs are required to cooperate at regional level and with ACER in carrying out the monitoring of wholesale energy markets. For this purpose NRAs are to have access (subject to satisfying ACER's requirements concerning data confidentiality, integrity and protection) to the information collected by ACER as discussed above. NRAs are also empowered to monitor trading activity in wholesale energy products at national level.

Under REMIT, details of a broad range of transactions in wholesale energy products must be reported to ACER by market participants. Market participants that enter into reportable transactions are required under REMIT to register with the NRA in the Member State in which they are established or resident or, if they are not established or resident in the Union, in a Member State in which they are active.

Where data is reported under EU financial market legislation, ACER will use existing reporting channels as much as possible for collecting the information required to effectively monitor the wholesale energy markets. ACER closely cooperates, and shares information, with EU financial regulators, both at EU level (with the European Securities and Markets Authority) and at national level (with national financial regulators as appropriate).

In addition, market participants must in various circumstances publicly disclose in an effective and timely manner inside information (for REMIT purposes) which they

possess. Persons professionally arranging transactions (e.g. energy exchanges and brokers) are also obliged to establish effective arrangements to identify breaches of REMIT and to notify NRAs in case of reasonable suspicion of market abuse.

Compliance and enforcement

The primary responsibility for compliance with applicable REMIT obligations lies, of course, with market participants and others whose conduct falls within the scope of those obligations.

The Regulatory Authorities have responsibility for ensuring that the prohibitions in articles 3 and 5 of REMIT (insider trading and market manipulation) are complied with. Each of the RAs has been given power⁹ to investigate suspected breaches of these prohibitions and, where breaches are established, to take enforcement action.

Mitigation measures

See section 8 for the market power mitigation measures proposed for I-SEM.

⁹ These investigation and enforcement powers are conferred on the Commission for Energy Regulation by SI 480/2014, the European Union (Wholesale Energy Market Integrity and Transparency) Regulations 2014, and on the Utility Regulator by SI 2013/208, the Electricity and Gas (Market Integrity and Transparency) (Enforcement etc.) Regulations (Northern Ireland) 2013.