



Integrated Single Electricity Market (I-SEM)

**Measures to promote liquidity in the I-SEM
forward market**

Decision Paper

SEM-17-015

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1 EXECUTIVE SUMMARY

In June 2016, The SEM Committee published a consultation paper on Measures to Promote Liquidity in the I-SEM Forward Market (SEM-16-030). This reviewed possible reasons for the lack of liquidity in forward energy contracts and the role of existing regulatory interventions, including Directed Contracts and ring-fencing of particular vertically integrated market participants. Options for further intervention focused on enhancing volumes offered for trading and price transparency, to be carried out through two suggested mechanisms:

- Forward Contract Selling Obligation (FCSO) and or
- Market Making Obligation (MMO)

This Decision Paper sets out the SEM Committee's decisions on the measures to promote liquidity that were consulted upon.

In relation to the FCSO and MMO interventions, the SEM Committee has opted not to intervene in the I-SEM Forward Market from its inception. This decision was taken in light of information received from the consultation responses which have informed the SEM Committee's views on the cost and benefits of such interventions. Further information was also received from the Request for Information on the range of current hedging options used by Market Participants. Furthermore, the SEM Committee would like to make a decision on any intervention based on actual experience in the forwards market following the introduction of the new energy, capacity and FTR trading arrangements. The SEM Committee will also take account of upcoming reviews from Ofgem on the effectiveness of their intervention in the GB forward market (Secure and Promote Licence Conditions). Hence the SEM Committee will re-assess the liquidity of the I-SEM forward market 18 – 24 months from the entry into force of the new trading arrangements.

Notwithstanding this, the SEM Committee will facilitate the removal of some barriers to trading in the forward market. To that end, the RAs will engage with industry to establish whether there are actions that can be taken in relation to harmonisation of terms and conditions of Master Agreements, adequacy of collateral requirements and product granularity that facilitate access to forward contracts, particularly for small independent suppliers and generators.

The Consultation Paper (SEM-16-030) also consulted upon the mechanism to allocate Directed Contracts (administratively set prices vs. auctioning mechanism). The SEM Committee will further consider this topic by publishing a consultation paper during the summer of 2017. Finally, some of the interventions consulted upon involved the removal of ESB's ring-fencing. The SEM Committee has decided absent experience of

the new I-SEM markets (energy, capacity and FTRs), it is not opportune to make changes to the existing ring-fencing requirement on ESB's at this point in time.

The text box below outlines the SEM Committee's decisions on this Consultation Paper.

Decision 1: Intervention on the I-SEM Forward Market

- i. At this point in time, the SEM Committee will not intervene in the I-SEM Forward Market via the introduction of a Market Making Obligation or Forward Contract Selling Obligation.
- ii. Notwithstanding this, the RAs encourage voluntary provision of these services and will engage with industry as necessary to facilitate such initiatives.
- iii. The RAs will undertake a review of liquidity in the I-SEM Forward Market 18 – 24 months after the I-SEM energy market starts operation. The SEM Committee will then assess the functioning of the forward energy market and consult on any necessary policies.

Decision 2: Policies to reduce barriers to Forward Energy Transactions

- iv. The RAs consider that there are benefits in reducing the barriers to forward energy transactions, including the following:
 - a. Transaction costs for smaller players of entering into forward contracts, particularly with regards to credit terms.
 - b. Mix of Forward Products (Duration, Clip Sizes, Shape, etc.)
 - c. Further harmonisation of product definition between I-SEM and other market zones.
- v. The RAs will engage with industry on further coverage and harmonisation of existing Master Agreements that could facilitate trading and reduce costs where possible.

Decision 3: ESB's ring-fencing arrangements

The SEM Committee has decided that absent experience of the new I-SEM markets (energy, capacity and FTRs), it is not opportune to make changes to the existing ring-fencing requirement on ESB at this point in time.

- vi. The RAs will under-take a review of ESB's ring-fencing requirement 18 – 24 months after the I-SEM energy market starts operation.

Decision 4: Consultation on Directed Contracts Allocation Process

- vii. The SEM Committee will consult upon alternatives to the current allocation process for Directed Contracts. During the consultation process the merits of the current process will be benchmarked against a competitive mechanism to allocate volumes.
- viii. The Consultation Paper covering this area will be published during the summer of 2017.

2 INTRODUCTION

2.1 BACKGROUND

The philosophy of the I-SEM, according to the I-SEM High Level Design Decision Paper (SEM-14-085a), is characterised by a number of features including:

- Preference for a competitive approach that is in the interests of consumers
- Access to all I-SEM market places for participants of all sizes and technologies and
- Liquid trading of financial forward contracts for effective hedging of short term prices, which is particularly important for independent generators and suppliers.

In the I-SEM HLD Decision paper, the SEM Committee decided that it would encourage forward market financial liquidity, including facilitation of a centralised forward trading platform.

This decision led to an initial assessment of issues that may have hampered operation of the SEM forward market for energy. These issues were discussed with industry through publication of the Forwards and Liquidity Discussion Paper (SEM-15-010) issued in February 2015. In their responses, market participants generally had a common recognition of the problem; however there was no consensus over the causes of low liquidity in the forward timeframe or the measures needed to address it.

In June 2016, The SEM Committee published a consultation paper on Measures to Promote Liquidity in the I-SEM Forward Market (SEM-16-030). This reviewed possible reasons for the lack of liquidity in forward energy contracts and the role of existing regulatory interventions, including Directed Contracts and ring-fencing of particular vertically integrated market participants. Options for further intervention focused on enhancing volumes offered for trading and price transparency, to be carried out through two suggested mechanisms:

- i. Forward Contract Selling Obligation (FCSO) and or
- ii. Market Making Obligation (MMO)

The SEM Committee also consulted on an option that involved a set of actions around reducing barriers to transactions. The SEM Committee also sought views from market participants on options which would allow for a different mechanism to set Directed Contract prices. In this context the SEM Committee asked the question whether particular interventions would work more effectively with ESB being vertically integrated.

In October 2016 the SEM Committee issued a 'Request for Information on Hedging Strategy' (SEM-16-062) which sought information from market participants on their current and future hedging strategies. 16 responses were received which have further informed the thinking of the SEM Committee and the development of the Decision Paper. These responses were requested and submitted as commercial in confidence and will not be set out in detail. This paper sets out key decisions arising from both the consultation and information received on hedging strategies.

2.2 CONSULTATION

As noted, the SEM Committee published its Consultation Paper on 17 June 2016. Written responses were received from:

AES	EirGrid/SONI	Moyle
Aughinish	Vayu	Confidential response
Bord Gáis	Energia	PPB
Bord na Móna	ESB	PrePayPower
Brookfield	Gaelectric	SSE
CEWEP	Indaver	Tynagh
Covanta	IWEA	Power NI
EIL	Confidential response	

Of the 23 responses, two have been marked confidential. We note that most of the arguments raised in the confidential responses were a subset of the points made in the non-confidential responses, and the SEM Committee has not relied on any evidence presented in the confidential responses which is not available to all stakeholders. Non-confidential responses are published on the SEM Committee website. The RAs also hosted a number of bilateral meetings with market participants during the consultation period.

In addition, an open forum to discuss the RAs proposals was held in Dundalk on 6 July. In this document we discuss the issues under consideration, summarise the comments made by respondents, the SEM Committee's views on the issues and the SEM Committee decisions. In the Consultation Paper the SEM Committee sought specific views from market participants on the following questions:

1. Does the Consultation Paper correctly set out the nature of the problem to be solved? Is it correct that the lack of liquidity characteristic of the SEM will not be satisfactorily rectified through incentives inherent in the I-SEM design?

2. Does the scope of the Consultation Paper set out the full range of potential liquidity promotion measures that should be considered for implementation? If other regulatory interventions are considered appropriate please set out the nature, rationale and parameters of such intervention.
3. Respondents are asked to provide their views on the rationale, parameters and potential effectiveness of each of the regulatory interventions described and explained in the Consultation Paper. What are the important issues to be considered in each of the options? In what way might the options be made more effective? Please set out your views on the rationale for, and value of the parameters employed to determine, the quantity of the obligation in each option.
4. What is the preferred option and why do you consider it preferable?
5. What parameters of the regulatory intervention option should be determined by the Regulatory Authorities and which should be left to market participants to determine?

The decisions in this document take into account the views expressed by respondents to the consultation and remain consistent with the guiding principles set out in the High Level Design.

In the 'Request for Information on Hedging Strategy' among the questions asked were:

1. What volume and percentage of your load do you seek to contract forward?
2. What type of products do you use to hedge market price risk?
3. Why do you use the different types of products?
4. To what extent your hedging strategy is constrained by lack of hedging options or other constraints.
5. In what way do you think your hedging needs and strategy will change in I-SEM?

The responses to these and other questions have played an important part in informing the views and decisions of the SEM Committee.

2.3 STRUCTURE OF THIS PAPER

This paper has been structured to address the key topics to which the SEM Committee committed to considering and taking forward. These topics are as follows:

- Assessment of whether regulatory interventions are appropriate
- Forward Contract Sell Obligation (FCSO)
- Market Maker Obligation (MMO)
- Options Consulted Upon
- Treatment of sale of directed contracts
- Ring-fencing implications and its potential removal
- Removal of barriers to efficient trading
- SEM Committee's Conclusions and Decisions.

For each of these topics, this paper will sum up the views from the industry and present the SEM Committee's views and ultimate decision.

3 ASSESSMENT OF WHETHER REGULATORY INTERVENTIONS ARE APPROPRIATE

In the consultation, respondents were asked:

Does the Consultation Paper correctly set out the nature of the problem to be solved? Is it correct that the lack of liquidity characteristic of the SEM will not be satisfactorily rectified through incentives inherent in the I-SEM design?

Does the scope of the Consultation Paper set out the full range of potential liquidity promotion measures that should be considered for implementation? If other regulatory interventions are considered appropriate please set out the nature, rationale and parameters of such intervention.

3.1 SUMMARY OF RESPONSES RECEIVED

In addressing the issues raised in this consultation, the SEM Committee has acknowledged the widely-held view that the liquidity of the forwards markets in the SEM to date has been less than ideal, and that while there are aspects of the I-SEM that should facilitate greater forward liquidity and robustness of forward market prices, driven by market coupling with the larger, more liquid GB market, this may not provide for as much liquidity as desired by market participants.

These concerns are mostly expressed in the context of the retail Supply side of the industry.¹ Consultation responses and feedback to the RAs in general has affirmed that it is natural for Suppliers to have this concern to a greater extent than Generators. Suppliers tend to have thin capitalisation compared to Generators, since Suppliers don't have significant fixed assets in the form of generating equipment and the associated balance sheet weight. This means that Suppliers' balance sheets are proportionately more exposed to short and medium-term volatility in wholesale prices than Generators. Further, it is evident that the retail price commitment period that Suppliers seek to hedge is much shorter than the cost commitment period of a generation investment. This means that the forward contracts, which tend to be short to medium-term (months to a few years at most) are typically more relevant as hedging instruments to Suppliers than they are to Generators.

Of the 23 responses received, four believed that there is not a problem that the market could not resolve, eleven believed there is a liquidity problem requiring attention and the remainder made no clear statement either way; although their responses did highlight concerns regarding the current levels of liquidity in the SEM.

¹ In the terminology of the market for forward contracts, the "Supplier" is the natural buyer in the market. The Generator is the natural seller.

Of the respondents who identified liquidity as an issue, several suggested that the consultation paper had misdiagnosed the causes of the problem or else that the analysis did not fully diagnose the problem:

- six respondents believed that the problem was structural with ESB/Electric Ireland dominance being the real issue; of these some further disagreed with the Market Power Decision paper conclusions that the case for market power in the forward timeframe was not clear;
- three respondents suggested that the Consultation paper was erroneously defining liquidity as a requirement for churn, neglecting other aspects of liquidity measurement;
- four respondents considered there had been inadequate attention to liquidity in other timeframes, primarily the intraday timeframe;
- three respondents mentioned that attention needed to be given to access to forward contracts for new entrants in the retail markets;
- four respondents mentioned the difficulties of providing forward liquidity when already contracted under REFIT, although other respondents suggested that wind farms, for example, would be interested in contracting forward, pointing out the growing volumes of wind not under the RoI REFIT schemes (either because REFIT is time limited or else because different support mechanisms such as NIROC applied);
- two respondents suggested that inadequate attention had been given to future developments including the expected increase in the share of intermittent generation in the supply mix;
- one respondent believed insufficient attention was given to an increase in dispatch risk on generators under the EUPHEMIA algorithm for day-ahead market (DAM) clearing; and
- two respondents suggested that there was insufficient attention given to the interaction with CRM Reliability Options.

Although some respondents suggested variations of the options discussed in the Consultation, there were no suggestions for liquidity promotion measures in addition to those discussed in the Consultation (although, as noted, several suggested that the problem was structural, implying or stating that structural remedies were needed). One respondent did propose an alternative to an FCSO but with a similar effect, based on the assumption that the problem with low liquidity was due to market power. Some respondents suggested improved monitoring of the forward energy market and publication of the information that would be required.

3.2 SEM COMMITTEE RESPONSE

The SEM Committee recognises the view expressed by many market participants that the liquidity of the forwards markets of the SEM to date has been less than ideal. The SEM Committee also recognises that the process of transitioning from the SEM to the I-SEM may not make fundamental changes to the incentives to enter into forward energy contracts although it does acknowledge the potential for more options for hedging across the interconnector, as prices in I-SEM converge with those in GB, following market coupling.

Based on the responses received, the SEM Committee did not identify any different regulatory intervention options from those consulted upon that warranted further consideration.

The SEM Committee acknowledges that liquidity can mean different things to different market participants. Forward price transparency is naturally important. For many stakeholders – particularly Suppliers – liquidity is related to their ability to contract forward for the products they want at an acceptable price. In identifying the appropriate policy options, three questions in particular are pertinent to the SEM Committee analysis:

- Are current forward prices unreasonably high, and likely to continue at this level in I-SEM?
- Why would there be a significant percentage of any Suppliers' retail sales not being hedged?
- To what extent would an intervention increase a Supplier or Generator's access to hedging options?

Forward premia

The SEM Committee examined the issue of whether or not the level of historic forward prices in SEM indicated a lack of competition in forward energy markets. In general there has been a pattern of positive premia within SEM non-directed contracts (NDCs), compared to the resultant spot prices. (Directed Contract prices have been quite consistent with resultant spot prices, which is the intention of the DC pricing methodology.)

Consultation responses suggest that forward contracts of a short and medium-term nature are generally of greater value as hedging instruments to Suppliers than to generators, and as a result it is not surprising that the premia of NDC prices above spot prices observed have generally been positive. This relationship between forward and spot prices for electrical energy is also often observed internationally.

The forward NDC price is a market-derived price and a number of participants have stated that the administrative DC pricing methodology – by not including any forward premia – can contribute to unrealistic forward price expectations on the part of some Suppliers. While the SEM Committee acknowledges that point, it considers that the appropriate metric to examine is the premia of NDC prices over spot prices.

The simplest method of investigating the level of forward premia is simply to analyse CfD difference payments, since a CfD payment is by definition the difference between the forward price (the agreed strike price) and the subsequent market spot price.

These can be compared across the different forms of forward contracts.² On that measure, on average over the 5-year period of 2011 to 2015 inclusive (the latest full year data available), the average CfD payment for NDCs was a €12.19/MWh payment from Suppliers to Generators. By way of comparison, the PSO average was a €2.44/MWh payment from Suppliers to Generators, and the DC average was a €5.08/MWh] payment from Suppliers to Generators.

To put these values in perspective, the NDC premium as measured in CfD terms corresponds to a 20% premium in percentage terms over these years.

The SEM Committee has not conducted a detailed analysis to establish what level of premium might be deemed “excessive”, however we note that this level of premium is not uncommon in similarly structured markets. For example New Zealand is a market of similar size and this level of premium generally falls within the level observed there.³ In sum, the SEM Committee does not have evidence that the current level of the forward premium is excessive.

Supply and Demand for Hedging Options

The SEM Committee examined whether or not there was a mismatch between supply of and demand for hedging options. In 2015 Suppliers managed their forward positions as follows (based on data provided to the SEM Committee from the Request for Information):

² It should be remembered that the forward premia for electricity prices can, by derivation, include any forward premia for fuel (gas) and environmental costs (CO₂) since forward price uncertainty for these elements are component elements of the forward price.

³ The average margin over spot in New Zealand for the years 2010 to 2013 was circa 15%, with the caveat that meteorological conditions present in those years have depressed that figure. See pp20-21 in <https://www.ea.govt.nz/dmsdocument/18124>

Type of Forward Management	TWh
CfDs ⁴	11.2
Transactions across the interconnectors	3.8
Internal hedges	8.7
Pass-through customers	2.5
Acceptable price risk	3.7
Total	29.9

Total load in 2015 was 32.9 TWh. The table above therefore illustrates that approximately 72% of total load was covered by either internal or external hedges. A further 19% was accounted for by Suppliers whose business strategy supported taking on some price risk, or because customers opted for a spot price pass through tariff. This does not include consideration of proxy (gas) hedges, which were to the tune of 3.74 TWh in 2015.⁵

The SEM Committee agrees that most suppliers, where they have not opted to vertically integrate, prefer to hedge via forward electricity contracts. The evidence from the RFI which reflects the situation in the current SEM suggests that market participants prefer clean hedging, but also see value in proxy hedges, where clean hedges are not available. At the same time the SEM Committee considers that there exists a competitive spot market with measures such as DCs to limit ESB's generation market power and an increase in the potential for forward market hedges via the interconnectors. There also exists the possibility of using indirect hedges (such as proxy hedges from gas), which should provide hedging opportunities for suppliers whose retail demand is not covered by either forward contracts or vertically integrated generation sources. The SEM Committee in acknowledging this also notes that not all retail demand is fully hedged, with 72% of total load in 2015 being covered by either internal or external hedges (along with a further 19% being met by suppliers own business strategies). In deciding not to take the significant measures to improve liquidity in this paper the SEM Committee intends to monitor the availability and demand for hedging products in the I-SEM energy market.

In sum, while the level of forward contracting could certainly be higher, Suppliers have matched their supply and demand for hedging options through a number of approaches. Thus where there is a lack of forward electricity contracts available, Suppliers have adapted their business strategies to either use proxy gas hedges, or

⁴ Comprising: DCs – 3.9 TWh; PSO - ROI – 2.5 TWh; and NDCs – 4.8 TWh.

⁵ Further, additional bilateral contracts may have existed but were unreported. In any case, the SEMC believes that for the years in question, those volumes are marginal.

adapted their business strategies for retail market offerings involving acceptance of price risk or pass-through customers, or choosing to vertically integrate into the generation sector. The SEM Committee recognises however that this information is reported in the context of the current SEM.

Capability to supply addition hedges

The SEM Committee also examined whether there were barriers to the supply of forward contracts from existing market participants.

The Consultation Paper estimated that the MSQ of dispatchable generators in 2015 was 24.2 TWh, compared to the 32.9 TWh of total load. A main reason for the difference is the level of non-dispatchable generators. In particular a large number of wind generators in the SEM are already effectively hedged through the REFIT mechanism, and so are not natural sources of hedges to the Supply sector. The table above shows that 19.9 TWh of these dispatchable generators are already hedged either with CfDs (DCs, PSO – RoI, or NDCs) or with internal hedges. This leaves 4.3 TWh of potential residual hedges from Generators, which is only 13% of total load. While the SEM Committee did not identify any structural barriers to these Generators offering forward contracts, measures designed to reduce transaction costs would be of benefit.

In sum, while it appears there is some scope for increased supply of forward contracts by Generators, the evidence shows the scope is limited.

3.3 SEM COMMITTEE VIEWS

The SEM Committee's view therefore is that there is general agreement that the level of liquidity in forward electricity contracts is less than ideal. However the SEM Committee does not have evidence that the current premium of the forward price relative to the spot price is excessive. Additionally, if we take into account the current market mix of Suppliers with CfDs of various forms, hedging across the interconnector, internal hedging, 72% of Suppliers' forward needs are covered by either internal or external hedging products, with a further 19% being met by suppliers business strategies. Further, there do not appear to be barriers to any currently un-hedged generator offering a forward contract, but additional volumes from this source would be limited.

4 FORWARD CONTRACT SELL OBLIGATION (FCSO)

The FCSO consulted upon by the SEM Committee, would extend the forward contract sell obligation currently placed on ESB in the form of Directed Contracts to other generators, based on their available modelled expected sales in the DAM from dispatchable generation. The FCSO would require such generation to be sold in periodic auctions in the form of standardised CfD products. Respondents were asked to provide views on the rationale, parameters and effectiveness of this regulatory intervention.

4.1 SUMMARY OF RESPONSES RECEIVED

Of the responses received, seven were in favour of introducing an FCSO in some form and a further two appeared to be in favour but were not clear in this respect. Five were against in principle while the remainder of responses were unclear. Of those that opposed the FCSO in principle, two explicitly stated that it would stifle innovation and another opposed it on the grounds that it ran contrary to its risk management arrangements. Others stated that they were in favour provided the obligation was placed on ESB only.

Calculation of the FCSO and obligation eligibility

Two respondents were not satisfied with the analysis based on an assessment of 2015 MSQ data, arguing the need to see projections forward to later years. Several respondents mentioned the calculation and eligibility of different generation types for the obligation. This included that vertically integrated portfolios should be allowed to have the FCSO calculated based on net generation. Three suggested adjustments based on the specifics of the generator forward position, citing amongst other points the risks attendant on non-firm access. One noted expected volatility in dispatch volumes especially for mid-merit plants, noting that a portfolio generator with mixed plant would have a significantly greater chance of their forward MSQ being accurately forecast than a single-site generator operating at mid-merit. One suggested that forward MSQ be modelled under multiple scenarios with the allocated FCSO being based on a 95% probability of it being exceeded.

Setting the FCSO volume and product

Three respondents specifically mentioned this, although from different perspectives; one thought the supplier need for hedging product had been underestimated, querying whether there would be any wish to leave any demand unhedged. There were also a number of responses that queried whether any supplier would use a proxy hedge. There were others who queried the volumes allocated to interconnector hedging believing that only a proportion of imports should be used. One response

suggested that there would be restrictions on export using Moyle; another queried the formula applied for interconnector hedging based on interconnector loss factors, which the respondent viewed as not yet resolved. Another criticism was that the percentage was focussed on demand for hedging product and paid insufficient attention to generator capacity to supply.

Two suppliers alluded either directly or indirectly to the need for some of the product to be sold two years ahead to match with supplier sales in the business customer market where two-year fixed price contracts are common. Related to this is the issue of product mix in the auction. Of the six respondents who discussed the issue, five were in favour of relaxation of the restriction while one believed that this allocation was correct. A particular issue for mid-merit plant was the risk that the strike price at auction on some products would be below their own variable cost, leading to net loss of income. One respondent queried the volume allocated to peaking CfDs pointing out that they are currently only sold for half the year.

Allocation of FCSO to non-baseload plant

Five respondents expressed the view that acceptance of a baseload-type CfD obligation would lead them to be exposed because either their demand was profiled or else their generation was mid-merit or peaking.

Treatment of single plants under FCSO

Three parties expressed the view that, as a single-site generator, they should have a lower (or zero) FCSO because the risks when tripping are higher than the risks faced by portfolio generators. One of the respondents suggested that new entrants should get a long period of exemption from FCSO in order to work through a standard new entrant project development plan before facing the risk.

Treatment of dispatchable generators with REFIT

Five respondents pointed out that certain dispatchable technologies are eligible for REFIT and, as such, are already fully price-hedged and so should not have a FCSO as they would not normally offer or seek other hedging against the DAM price. In contrast, one respondent queried the exclusion of non-dispatchable generation (whether REFIT or otherwise).

Interaction between FCSO and the Reliability Option

Three respondents mentioned that the Reliability Option was a capped option covering the same price spreads between the capped price and the reference price as the CfDs to be traded in the energy forward markets (and uncapped when reference prices are high) and that suppliers were therefore being asked to buy (and generators

asked to sell) products covering the same price risk. No specific solutions were proposed.

4.2 SEM COMMITTEE RESPONSE

The SEM Committee notes that the strongest support for the FCSO came from suppliers without a generation arm while those least in favour of the FCSO were independent generators.

The SEM Committee considers that it is important that any regulatory intervention introduced to promote liquidity in the forward electricity market is proportionate and addresses any market inefficiency. In this context a FCSO addresses the problem of lack of externally traded forward electricity products through obliging the sale of forward electricity products on a range of generators. While this would constitute a significant de-risking for suppliers vis-à-vis the status-quo (for those Suppliers that did not have their own generation plants) and would reduce barriers to entry in the retail markets, it would also shift risk onto generation. The responses to the consultation reflect this shift consequent on introduction of a FCSO.

4.3 SEM COMMITTEE VIEWS

The SEM Committee considers that while FCSOs may have the benefit of increasing the volume of externally traded forward energy contracts, the SEM Committee considers that this is not an appropriate policy fit, given the analysis presented in this Section and Section 6 below. The issues that arise impact upon the balance of risk between generators and suppliers that the obligation would impose and consideration of the proportionality of the intervention. The intervention would impose increased risks to all market participants in a new market that itself presents new challenges while not addressing all the requirements for the creation of a liquid market, particularly the need for price discovery. Given the limitations to the intervention the SEM Committee does not consider the introduction of FCSO would be a proportionate and effective intervention at this point in time. Responses to specific issues raised by the respondents are set out below:

Calculation of the FCSO and obligation eligibility

The SEM Committee recognises that, with the expected increase in non-dispatchable generation, the capacity of dispatchable generation to provide forward hedging products reflecting dispatchable generation would diminish. This demonstrates both the limits of such an intervention and that the market would require alternative interventions even if the FCSO was implemented.

The SEM Committee recognises the difficulty of predicting volumes for a mid-merit plant given the uncertainty of dispatch volumes in the day ahead market for this class

of generator, with significantly different outcomes occurring due to variations in average weather conditions. While this might be addressed through the suggestion made that the MSQ for each plant be modelled on a variety of scenarios, this would load more of the obligation onto baseload plants rather than onto mid-merit plants because the MSQ of a baseload plant is more predictable, and was considered by the SEM Committee as disproportionate

Setting the FCSO volume and product

The SEM Committee acknowledges that the estimates of supplier volume requirement were approximate and, as already noted, the supplier demand for CfDs will not in future be satisfied from dispatchable generation alone because of the increasing penetration of intermittent generation.

With regard to the use of interconnector volumes, the SEM Committee considers that the use of FTRs will be to establish a price based on the GB day ahead price and, as such, the full volume of import FTRs will apply for supplier hedging.

Allocation of FCSO to non-baseload plant

It is accepted that CfDs will not always match the profile of sales or offtake in terms of the volume of the CfD. Experience from across Europe – and indeed from the SEM itself – does not bear out the respondents' view that all CfDs should exactly match the generation profile; the overwhelming majority of forward contracts sold are of the baseload type, despite this clearly not matching the MW profiles of either consumption or generation in most cases.

Given that the properties of cash flow volatility containment in a forward contract are primarily based on a daily cycle of payments, parties would be more likely to target a degree of financial protection by adjusting the volume of forward product to match their average daily energy throughput and not their peak energy throughput.

However the SEM Committee recognises that for mid-merit and peaking plant an FCSO may assume that their variable costs will be below the CfD strike price when they may not. These plants will only sell in the DAM when the clearing price exceeds their costs, creating a risk that they could be compelled to sell CfDs at a loss.

This might be addressed by modelling the reserve price for each product, the expected DAM clearing price at different times of day, by taking into account the cost structure of the marginal plant.

Introduction of an FCSO would thus face challenges that would require further work to be undertaken on the optimal product mix.

Treatment of single plants under FCSO

The SEM Committee sees the trip risks that a generator takes on when selling forward (the risk being the inability in the DAM to net off a forward sale of a CfD with revenues derived from sales for physical delivery) as being inherently the same regardless of whether the generator is standalone or part of a portfolio. If a unit trips, that unit does not have a DAM income but still has to pay out for the FCSO. It must be emphasised that the generator trip only has an impact on FCSO pay out if it moves the DAM price. This means that units with equal size and outage rate have the same risk exposure to FCSOs, independent of the portfolio. The SEM Committee therefore considers that single site generators face no different risk to portfolio generators due to a FCSO.

5 MARKET MAKER OBLIGATION (MMO)

Voluntary market making is common in many physical and financial markets (energy and other), with the market maker given an incentive in terms of trading fee discounts in exchange for agreeing to post prices during several trading windows. In GB, a market making obligation has been placed on certain large trading parties in order to ensure that other players in the forward markets would have a visible price across the forward curve against which they could trade. A market maker (MM) has also been introduced into the New Zealand energy market.

The reasons for a market making obligation will vary depending on specific market circumstances. In the case of I-SEM, the SEM Committee has considered this regulatory intervention in the context of the existing deficiency in liquidity in the current forward market and potential continuation into I-SEM. A MMO will depend crucially on the terms under which a MM must trade and the necessary safeguards in place to control risk. In the case of I-SEM, the safeguards proposed were:

- Imposition on the 3 or 4 largest participants in the market
- Limits to net exposure of each MM proportional to its measured financial strength
- Suspension of trade when prices move too violently in a trading window
- A price spread cap broader than those imposed in GB.

The obligation parameters include a requirement to post prices for each product (baseload, mid merit and peaking)⁶ in each trading window (one for each working day of the year) for each of the next 12 forward months. Whenever a price is taken in a trading window, the MM can immediately adjust the trading prices. By price adjustment during a window, a MM has the ability to trade into a broadly neutral position (unless it wishes to deliberately take a long or short position) so that the exposure limits would not be breached.

There were fewer comments on the MMO than on the FCSO, with only one explicitly stating it as the best option although others implicitly accepted it as a valid option and commented accordingly. Two respondents explicitly stated that it was a bad option. Respondents were asked to provide views on the rationale, parameters and effectiveness of this regulatory intervention.

⁶ Absent the existence of 'sleeve' traders as in the GB OTC market, who can have credit arrangements with both parties to a trade without those parties needing to have direct credit arrangements with each other, there is a probable requirement for central clearing; the actual product requirement should fit with a central clearer's ability to clear the different product types and may be limited to baseload and peaking.

5.1 SUMMARY OF RESPONSES RECEIVED

Market maker risk

The question of the additional risk arising from the obligation was raised with one respondent stating that this was disproportionate and two stating that the increase in risk would raise the cost of capital. Another respondent stated that the obligation would be inconsistent with their risk management policy.

All the market participants who were potential market makers considered that insufficient attention had been given to the risks faced by a market maker that had a physical portfolio balanced towards offtake when in competition with another market maker who was balanced or else long on generation. However, several other respondents who supported retention of ring-fencing also proposed that ESB should have a MMO.

Market making and vertical integration

Although it was suggested in the Consultation document that companies which were vertically integrated could be considered better placed to be market makers, several respondents implicitly rejected this requirement, in that they suggested that ESB should be a market maker but that ring-fencing should be retained. Two respondents suggested that the MM obligation be placed solely on ESB but that ring-fencing should be retained. One respondent expressed the view that selection criteria needed to be broader than just balance sheet capacity, suggesting that explicit attention be paid to a company's trading resources, its customer base (presumably as a supplier) and its portfolio structure.

Other points

One potential market maker believed that, as their supply-demand risk profile might be different to another market maker, they should be allowed a wider cap to their bid-offer price spread. Another suggested there could be a trade-off between allowed spread of an individual MM and their exposure cap.

A number of other points were made including that the GB and New Zealand experience is not applicable to the SEM, with another respondent saying it would be ineffective at increasing liquidity and would worsen competition. A number of points on the specific design of the obligation were also made - on the need for a reduced price movement cap; the need to reduce the volume exposure cap; the volumes to be sold at auction and reduction in trading windows to concentrate liquidity. One respondent stated that it was inappropriate to include wind volumes within selection criteria, with one respondent questioning why this was treated differently as compared to the FCSO.

5.2 SEM COMMITTEE RESPONSE

Market maker risk

Risks are a function of chance of a risk event occurring and severity of impact should the risk event occur. Both chance of occurring and severity of impact can be mitigated and the design of the obligation consulted upon includes mechanisms that achieve both objectives. These include caps on net sell and buy positions and suspension of the obligation if there were significant price movements in a trading window. The obligation also permits the obligated parties to trade with each other in order to achieve a desired position.

The ability to manage the severity of the risk depends primarily on the balance sheet and not on the portfolio. It is therefore reasonable to conclude that portfolio balance reduces the risks of a market maker but may not be a necessary requirement. In the consultation, the SEM Committee considered that the current vertically integrated companies are in the best position to be subject to the obligation.

While the design of the obligation includes mitigation of risks the SEM Committee recognises that market making is an obligation that would increase the market risk of those on which it would be imposed, and that those market participants best placed to fulfil the responsibility were not in favour in their responses to the consultation due to the increased risks involved. The SEM Committee has a responsibility to consider these risks, to ensure that any obligation is non-discriminatory and proportionate and that the latter includes that the benefits to the market as a whole (and also to the obligated parties) are justified by these additional risks.

I-SEM involves a significant redesign of the market with an expectation that prices may be more volatile in the early months of operation. This involves additional risk for market participants and particularly for those assuming a market making obligation. The I-SEM also includes incentives to seek hedging in the forward timeframe albeit it is recognised that the demand for forward electricity contracts will exceed supply, and the strength of the incentives to trade may still be different between generators and suppliers. Given the significance of the intervention the SEM Committee must be assured that the risks and benefits of the intervention justify the obligation before it would make such a decision.

The absence of experience of the operation of the energy market, including its operation and outcomes is a risk factor that the SEM Committee has considered and it is recognised that the imposition of a MMO would introduce an additional risk on market participants. Experience of the I-SEM would mitigate this risk over time, and the SEM Committee will take this into account to inform any future policy decisions in its review of liquidity issues 18 – 24 months of go live of the energy markets.

Other points

A market maker will not normally use its market making operation to either buy or sell large volumes of energy. The underlying position of the MM operation should tend towards neutral with the MM quoting prices to encourage the market to buy or sell to it to maintain that neutrality.

There are several factors affecting the spread in market making operations. A major factor will be number of market makers with more market makers leading to a reduced spread because prices are generally more robust. Allowing one obligated party to have a wider spread would be inappropriate because a market maker with a wider spread can use this position to avoid trading, forcing all the risk onto market makers with narrower spreads.

The SEM Committee understands that the experience of GB and New Zealand is not going to be fully applicable to the circumstances of the I-SEM but rejects the view that the MMO is purely based on the experiences of those two markets. Voluntary MM operations are common across many markets and many countries. Ofgem will review the operation of the MMO in the GB market, and the SEM Committee will take this analysis into consideration when examining future policy decisions in this area.

The SEM Committee is grateful to those respondents who offered suggestions on parameters for the obligation and confirms that implementation of a MMO would require further consultations on these before introduction.

5.3 SEM COMMITTEE VIEWS

The SEM Committee notes that the risk management assessment of all parties will need to change under I-SEM, with new risks arising out of intraday and balancing markets and with generators also seeing a change in the capacity payments regime. The SEM Committee recognises that introduction of the I-SEM will involve new processes and risks with increased incentive for participation in forward markets. It understands that introduction of a MMO will impose additional risk that otherwise would not be voluntarily undertaken and that a regulatory intervention must therefore be proportionate.

The current SEM Committee view is that market makers would not primarily deliver extra CfDs into the market, although it would involve an obligation to offer volumes on the market at certain prices and may indirectly encourage generation to seek to offer more hedging products if these offer the ability of the generator to trade out of positions. The SEM Committee therefore continues to view this intervention as potentially valid for inclusion in any package of measures designed to improve liquidity in the I-SEM.

The SEM Committee however does not consider it appropriate to introduce a market making obligation now. Respondents have noted the risks involved, which are increased with an obligation to quote prices in a market with no price history or market experience of its operation and performance. It is recognised that the I-SEM may involve increased volatility which both increases the incentive to seek hedges but also increases risk of trading and therefore of a MMO. While the SEM Committee considers that there are advantages to the market of a MMO, it is not convinced that such advantages would accrue at this stage. The SEM Committee will therefore defer consideration of introduction of a MMO until after I-SEM go-live in order to evaluate the potential benefits and risks of an obligation in light of the operation of the new market. Deferral of a decision also allows further consideration of the experience of the introduction of a MMO in the GB market, including a review of the operation of the GB MMO by Ofgem.

At the same time, the SEM Committee is supportive of any individual market participants who wish to act as a market maker on a voluntary basis, as this would enhance the robustness of price setting in the I-SEM forward market and provide liquidity benefits.

6 OPTIONS FOR CONSULTATION

Respondents were asked what the important issues for consideration were in each of the options set out in the Consultation paper and to indicate their preference. They were also asked which parameters of each option should be determined by the Regulatory Authorities and which should be left to the market. Responses did not always fully cover the complete range of options or the issues raised and some options were rejected on the grounds that they might involve removal of ring-fencing on ESB.

6.1 OVERVIEW OF OPTIONS

In the consultation document, the options proposed were summarised in line with the graphic shown in Figure 1.

	Option1	Option 2	Option 3	Option 4	Option 5
	Clearing House and Exchange Trading or Tullett Prebon				
Direct contracts	Directed Contracts volumes and prices determined as per current arrangements	Directed Contracts volumes and prices determined as per current arrangements	Directed Contracts volumes determined as per current arrangements sold to non-ESB parties only.	Directed Contracts volumes determined as per current arrangements sold to non-ESB parties only	Directed Contracts volumes determined as per current arrangements sold to non-ESB parties only
Ring-fencing	No Change in the current ring-fencing arrangements of ESB	No Change in the current ring-fencing arrangements of ESB	Integrated ESB GWM and Electric Ireland	Integrated ESB GWM and Electric Ireland	Integrated ESB GWM and Electric Ireland
Forward Contract Obligation	No Forward Contracting Obligation	Forward contract sell obligation on selected generators	Forward contract sell obligation on selected generators	Market Maker Obligation on selected companies (ESB, SSE, Energia and BG Energy)	Market Maker Obligation on selected companies (ESB, SSE, Energia and BG Energy) <i>Plus</i> Forward contract sell obligation on selected generators

Figure 1: Summary of options

Option 1

This option relied solely on reduction of trading barriers, which might facilitate trading by reducing costs. Respondents were asked to evaluate this option in the context of the possibility that sufficient liquidity would be introduced to facilitate provision of central trading services by commercial operators on a voluntary basis.

Option 2

This option would rely on obligations placed on all dispatchable generation to offer a certain volume of CfD products at periodic auctions. The option would be facilitated if trading barriers were removed, as envisaged in option 1, so that secondary trading could more easily take place.

The option targets both concerns over market power and those best able to address possible market failure that is expressed by, and arises from, poor liquidity in the forward timeframe. It seeks to address this primarily through provision of additional volumes of hedging products.

Option 3

This option built on the removal of trading barriers discussed in Option 1 and involved introduction of a FCSO on generators in a similar fashion to Option 2.

This option also proposed the removal of ESB's ring-fencing arrangements. To offset potential foreclosure of volumes available for trading caused by potential internalisation of hedging within the ESB group, this option proposed that ESB Generation should sell 90% of its forecasted dispatchable volume compared to 70% (approximately) under option 2. All other generators would continue to offer contracts for 70% of their dispatchable volumes, as in option 2. In addition, DC volumes currently allocated to Electric Ireland would be made available for other suppliers.

Option 4

This Option introduced a Market Making Obligation on the largest market participants. It addressed two fundamental requirements of a liquid market: the ability of parties to easily trade out of positions taken and the offering of prices across the forward curve in trading that is essentially continuous. Given the two sided obligation (buy and sell) on market participants, the SEM Committee considered that this type of obligation may be a more proportionate intervention measure if applied to vertically integrated entities; hence this option also proposed the removal of ESB's ring-fencing arrangements.

Option 5

The three key features of this option were: Introduction of FCSO, MMO and removal of ESB's ring-fencing. Volumes of FCSO and MMO exposure cap were set 50% lower than the ones assigned to the "pure" options 3 and 4. This option was considered because it offered a more sophisticated framework to promote liquidity in the market and although more complex to implement may present the most comprehensive response to the liquidity problem. This is because while the MMO would provide prices continually, the FCSO would ensure that a volume of forward products would be available to the market from a broad range of market participants. Hence these two mechanisms were considered to complement each other giving the most comprehensive answer to the issue being addressed.

Other Options

Respondents were asked if the consultation had set out the full range of potential liquidity promotion measures and the nature, rationale, and parameters of any additional intervention.

6.2 SUMMARY OF RESPONSES RECEIVED RELATING TO APPROACH AND ANALYSIS

Cost Benefit Analysis of the options

One respondent requested that the SEM Committee make available its full CBA relating to each option, or else justify why such analysis had not been undertaken. Others indicated a wish to see more analysis in some cases.

Treatment of competition issues in the assessment

Some respondents believed that the assessment used for the options was deficient in not explicitly covering competition issues.

Comments on option one

There were several general comments on removal of trading barriers, which are discussed below in Section 9. There were fewer comments explicitly on this as a specific option. Of the responses specific to the option, three preferred this as the only option while another three described it as important but insufficient. Several other responses were positive in general but some were sceptical regarding potential costs, especially with regard to central clearing.

Comments on option two

Of the responses received specific to this option, six favoured this as an option and one rejected it. Of those in favour, one thought it should be implemented as an interim

measure but with lower obligations placed on market participants (but a higher obligation on ESB). One of those in favour thought a hybrid might be more suitable. The party rejecting the option remained concerned about market power that could be exerted by Electric Ireland and believed it was not well targeted. One respondent favoured this option but suggested removal of ring-fencing of ESB as well. The dissenting respondent also noted the market would only be liquid if a secondary market in CfDs were to develop, which they considered as not a likely occurrence. Taking into account the comments also discussed in Section 4, seven responses were in favour and another two appeared to be in favour while five were against.

Comments on option three

Of those that explicitly commented on this option, three rejected it due to the issue of ring-fencing removal and one was in favour provided ESB's share was not increased above those of others. There was more general implicit rejection of this option due to the issue of ring-fencing. Of those rejecting the option, some were in favour of the reallocation of DCs away from Electric Ireland but still wished to retain ring-fencing.

Comments on option four

Although there were comments more generally on the principle as discussed in Section 5, there were few comments specifically on this option. The views which were expressed were coloured by whether the respondent expected to be obligated as a market maker. One respondent was firmly in favour of this as the best option, one respondent suggested that the obligation be placed only on ESB while another suggested that there should be a minimum of three Market Makers.

Comments on option five

Of the responses received, five believed this was the best option while three rejected it. Other responses would have opposed the option due to it including removal of ring-fencing. Two of the responses that explicitly rejected the option did so on the basis that it contained both the FCSO and MMO options, both of which they opposed. The other party opposed the option because it reduced the volume of product in the market and this respondent favoured option four. Others expressed reservations as to whether it would be implementable before I-SEM go-live.

Detailed comments on the components of this option were given in Sections 4 and 5.

Comments on Other Options

Various additional comments and suggestions were received; some related to details and modifications of existing proposals but others were specific variants in need of separate discussion. These are listed as follows:

- **Impose Ofgem liquidity measures.** In addition to the MMO, the Ofgem Secure and Promote licence condition imposed various conduct measures on licensees designed to promote market access for smaller parties. It was suggested that these conditions be imposed on larger parties, particularly on ESB.
- **Standardised CfD Contracts and trading terms.** It was suggested that a standardised contract, specific to OTC trading and particularly as regards collaterals should be imposed.
- **Socialisation of credit losses.** It was suggested that a general fund could be used to indemnify contracted parties against bad debts on CfDs.
- **Reserve FTRs for suppliers to buy.** It was suggested that smaller suppliers could have some FTRs reserved in the auction for them to avoid larger parties taking all available FTRs.
- **Variant of Virtual Power Plant (VPP).** It was suggested that a one-off sale of CfDs be carried out that would effectively role over as a supplier's right.
- **Choice of whether to be a MMO or have an FCSO.** One party suggested that vertically integrated generators should have an MMO while other generators would face an FCSO; another party suggested that a choice to be a Market Maker should be accompanied by a reduction in FCSO.
- **New risk contracts for intermittent generation.** Innovative contracts based on wind forecasting could provide effective additional hedges against price volatility caused by wind variation.

These are considered in turn below.

6.3 SEM COMMITTEE RESPONSE

Consideration of the FCSO and MMO

The Forward Contract Sell Obligation (FCSO) and Market Maker Obligation (MMO) mechanisms contained within Options 2, 3, 4 and 5 of the Consultation Paper each have the key characteristic that they impose obligations on *Generators*. While the level of cost associated with these obligations can be debated, it is clear that the FCSO or the MMO would impose risk-related costs and other costs on the generation sector, or more specifically on the individual generation companies that the mechanisms would target.

A threshold question then is whether the benefits of one or both of these mechanisms (largely to the Supply sector but also to the market as a whole) would exceed the costs (largely to specific participants in the Generation sector).

Benefits of the FCSO and/or MMO

The potential benefits to Suppliers of the FCSO and MMO were initially described in the Consultation Paper, and comprehensive feedback on this subject has been received via formal consultation responses, bilateral meetings with market participants, and through an open forum meeting. Supporting information was also received by way of responses to a Request for Information (RFI) in late 2016. As a result, the SEM Committee believes that a clearer understanding has emerged of who would be the potential beneficiaries of either or both of these mechanisms, and how the potential benefits would present themselves. In short, Suppliers would tend to be the main beneficiaries,⁷ with the best potential for reduced consumer bills coming from:

- Reduced Supplier risk being passed through to consumers in the form of a lower implicit risk premium being included in their retail price offering; and
- Potentially more competition among Suppliers if either the FCSO and/or the MMO meant that costs of new entry to the Supply sector were reduced, and additional Suppliers entered the market as a result.⁸

However, the strength of the link between the imposition of a FCSO and/or MMO and the achievement of these benefits to consumers needs to be considered alongside the following points:

- For reasons described above it is understandable that Suppliers place a higher value on short to medium-term hedges than Generators. For that reason it is not surprising that a forward contract price premium exists (i.e. that forward contract prices tend to be higher than the corresponding spot prices.)
- There is inherently a lower level of potential supply of forward contracts, compared to the potential demand for forward contracts, given the structural shortage of dispatchable generation and specifically the extent of the penetration of wind and the nature of the REFIT mechanism.
- Given the existing levels of internal hedging (via vertical integration and legacy contracts), the existing contracted volumes under DCs, NDC and PSO CfDs,

⁷ Non-obligated generators may also be net beneficiaries, albeit to a lesser degree.

⁸ These points are expanded upon in Section 4 and Section 5.

there are further limits on the potential market supply of additional forward contracts from generators on the island of Ireland. In 2015 the potential residual hedging capability of Generators was only 13% of load.⁹ From the demand side, if we take into account the current market mix of Suppliers with CfDs of various forms, hedging across the interconnector, internal hedging, Suppliers with pass-through tariffs, and acceptable price risk (defined as Suppliers purchasing in the spot market to meet their retail sales obligations), over 90% of Suppliers' forward needs are covered.¹⁰ Given this structure of the industry, it is not clear that implementation of either the FCSO or MMO mechanisms would make a fundamental change to the degree of hedging that takes place, albeit such intervention would increase the price transparency in the market, particularly in relation to internal hedges.

- In short, the evidence shows there is very limited scope to get new forward coverage volumes into the market, and mandatory forward contracting requirements might primarily result instead in reshuffling existing internal hedges towards a market based mechanism. In the case of the FCSO, there would likely be some increase in the availability of hedging products but it is not clear that it would be transformative. In the case of the MMO, greater price transparency would be expected, but not necessarily an increase in the availability of forward contracts.¹¹
- There is evidence that new Supplier entrants and existing Suppliers have access to substitute hedging products, including proxy (gas) hedges. Hedges from these sources are additional to the sources listed in the point above, i.e. they are not sourced from Generators on the island of Ireland or across the interconnector with Generators in Great Britain. While not perfect substitutes, these alternatives do contribute significantly to reducing the price risk of some Suppliers. This means that even if a higher level of I-SEM CfDs were mandated (for example through the FCSO) then the benefit of those extra hedges for some Suppliers should be compared to the most relevant substitute product (for example the proxy hedge).

⁹ From the Consultation Paper, for 2015, total load is 32.9 TWh, MSQ of dispatchable Generators is 24.2 TWh. Of this a total of 19.9 TWh is already hedged (via CfDs – 11.2 TWh, and internal hedges 8.7 TWh). This leaves 4.3 TWh of potential residual hedges from Generators, which is only 13% of total load.

¹⁰ For 2015, total load is 32.9 TWh, and 29.9 TWh of that (approximately 91%) is comprised of CfDs – 11.2 TWh, interconnectors – 3.8 TWh, internal hedges – 8.7 TWh, pass-through customers 2.5 TWh, and acceptable price risk – 3.7 TWh. The last two categories are ones in which either the customer or the Supplier currently accepts spot risk.

¹¹ Section 3 elaborates on the estimate of the limited extent to which sources for additional hedges might exist from local Generators, relative to the status quo. Section 3 also elaborates on the estimate of the extent of Suppliers' forward needs that are already covered.

- It is also evident from RFI responses that many independent Suppliers are operating in the market, seemingly adequately, with either no hedges at all, or with insignificant volumes of hedges. This is despite the fact that at least some hedges are currently available in the SEM. For some Suppliers with fixed retail price commitments it appears then that a viable strategy is to not hedge, although it must be noted that one small Supplier in Northern Ireland has recently been forced to exit the market. Some other Suppliers have pass-through price arrangements with their customers, and similarly it appears that these customers are effectively signalling that they prefer to be unhedged. For these Suppliers and consumers it is possible that the imposition of mandatory forward contract obligations on Generators would yield only small benefits, or perhaps no benefits at all. However, the I-SEM spot market could lead to additional incentives for market participants to seek forward hedging.
- It is not clear that the costs and difficulties of new entry to the Supply sector are excessive. Given the relatively small size of the overall market, a large number of small Suppliers have entered in recent years. Twelve Suppliers are now active in the Republic of Ireland and Northern Ireland, many having joined in recent years. While a number of Suppliers have expressed a desire for greater availability of forward contracts and at lower prices, there is no evidence that entry to the retail market has been unduly suppressed by non-availability or excessive prices of forward contracts.

Costs of the FCSO and/or MMO

The costs to the obligated generators of imposing either the FCSO or the MMO are also difficult to quantify, albeit the SEM Committee has received some feedback on the nature of these costs from the generating sector. The costs fall into two categories: risk-related costs; and administrative costs.

The risk-related costs are the most significant. The FCSO would impose prescriptions on how Generators could sell their output. It would require the obligated Generators to be price-takers, in short to medium-term regulatory-defined auctions, for pre-determined and potentially relatively significant energy volumes. The MMO would be less prescriptive on the business model of Generators, but would nevertheless require obligated participants to take both buy and sell positions in the market – positions they would evidently not take unless obligated. The obligated MMO participants would face the risk of losses each time they priced it “wrong” – either by offering to buy at a price too high, or by offering to sell at a price too low. While we believe the MMO should be less costly to obligated participants in this respect than the FCSO, it is clear that either mechanism would be a significant intervention in the market, the FCSO particularly so, and could significantly impact on the obligated participants.

Several market participants provided estimates of administrative costs as part of the RFI process. While it appears these costs could be material, we would expect risk-related costs to be the dominant cost consideration.

Costs vs. Benefits

The RAs have made significant interventions in the market when necessary in the past. For example, by imposing the Directed Contract obligation on market participants deemed to have market power, and by establishing that a capacity payment mechanism shall remunerate capacity separately from energy payments. Each significant intervention has been in response to what would otherwise be a clearly-defined market failure. For example, without market power mitigation the SEM would simply not have been a competitive market. Without the capacity payment mechanism, and given the requirement on cost reflective bidding, the SEM would not have addressed the “missing money” issue and the SEM would have been incapable of providing necessary investment signals for new generating capacity. However, in light of the consultation responses (to the Consultation Paper and additional requests for information), the SEM Committee is not convinced that intervention on the scale of the FCSO or MMO mechanisms is justifiable at this point in time.

Response on option one

Option 1 of the Consultation Paper was the Removal of Trading Barriers. The Consultation Paper described that one of the main barriers to trade appeared to be the cost of setting up bilateral trading arrangements and the collateral that must be provided for each trade. By reducing the transaction costs of trading, market participants will be able to adjust their trading positions more easily. Option 1 involved a trading platform, a central counterparty for trading and a central credit provider to allow multilateral trading and netting of collaterals. This option was aimed at reducing the cost and other barriers to trading, thus facilitating liquidity.

Since publishing the Consultation Paper the RAs have collected a considerable amount of relevant information on this subject. With regards to the question of whether there are barriers to transactions, RFI responses indicated that there is in fact a quite heavily-populated Master Agreement landscape in place between market participants.¹² This indicates that, possibly, concerns in this regard were over-stated.

¹² RFI responses highlighted that a significant number of Master Agreements have been agreed by market participants, although a clear pattern emerges that the number of Master Agreements agreed by independent Suppliers is less than that of the supply affiliates of Vertically-Integrated Utilities. This situation also appears to be the case with regards to independent Generators in comparison with the generation affiliates of Vertically-Integrated Utilities.

Although there is a standardised Master Agreement in existence, in the form of the DCs and PSOs, this is not to say that conditions are harmonised across the contractual relationships (NDCs) between market participants. In particular, it does not mean there is harmonisation with regards to credit terms. In relation to credit terms, it is clear that more work could be done to have those conditions harmonised across all participants. The SEM Committee has no evidence that transaction costs are excessive, but it is clear that the collateral arrangements can be challenging for smaller players.

Possible approaches to improving access to the forward contract market include the use of a standardised Master Agreement for bilateral trading, or the use of a Central Clearing Counterparty (CCC). Either would involve standardised credit terms. These are discussed in more detail in Section 9.

Response on option two

The SEM Committee notes the preference for this as an option by some parties and the opposition of a number of parties, mainly generators, to the option. The decision arrived at follows consideration of the detailed responses on the specifics of the mechanism discussed in Section 4 above.

The SEM Committee has noted the dissenting responses and these have helped inform the final decision. The SEM Committee also shares the concern expressed as to whether this option would necessarily lead to liquid secondary trading and therefore would improve the overall level of market churn.

Response on option three

The SEM Committee notes the comments made regarding ring-fencing, which are discussed below in Section 8. The proposed increase in ESB's obligation under this option was designed to address the risk of foreclosure of the market and could not be justified if ring-fencing were retained.

Response on option four

The SEM Committee notes the limited response received to this option. It also notes that one aspect of the proposed option, removal of ring fencing of ESB, coloured acceptability of the option for many parties. It is noted that one party believed that putting the obligation only on ESB would still produce robust prices but the SEM Committee considers that a number of market makers would provide more robust price discovery and minimise risk. The SEM Committee has relied on practical experience from other markets, where there is a general view that prices are more robust when there are multiple Market Makers, not least because the MMs

themselves are less exposed to pricing risk when they can trade with each other. Other aspects of this option were discussed in Section 5.

Response on option five

The SEM Committee notes some positive response to this hybrid that has elements of both FCSO and MMO, while two other respondents saw this as a combination of the negatives of each. Of the specific comments made, it is noted that one believed it could not be implemented before I-SEM Go-live and the SEM Committee has recognised the challenging nature of the intervention.

Other Considerations

Notwithstanding the decision above regarding the FCSO and MMO, the SEM Committee is eager to address common concerns that have been evidenced by the consultation and RFI process, and to develop policy options tailored to the evidence collected, if possible and practicable. In particular:

- *Access to the Forward Contract Market:* Concerns have continued to be raised regarding access to the forward contract market and the perceived high transaction costs for smaller players of entering into forward contracts, particularly with regards to credit terms.
- *The Mix of Forward Products:* Concerns have been raised regarding a perception of a poor mix of forward products (for example, regarding duration and shape) currently being traded.
- *Promoting Increased Liquidity and Forward Price-Transparency without Major Intervention:* In addition, the SEM Committee will continue to consider policy options to promote increased liquidity and forward price-transparency to the extent that incremental improvements without major intervention are possible at this time.

Impose Ofgem liquidity measures

The RAs have reviewed the GB Secure and Promote licence condition as part of the work of preparing the consultation and decision papers. As noted in section 9 the SEM Committee sees merit in collaborating with industry on further coverage and harmonisation of existing Master Agreements that could facilitate trading and reduce costs where possible for smaller parties.

Socialisation of credit losses

While this sort of arrangement is common in balancing mechanisms where the TSO is the effective counter-party to the Balance Responsible Parties, this is difficult to justify in a voluntary market where parties can choose not to trade.

Reserve FTRs for suppliers to buy

This would be difficult to justify in a market governed by EU rules where freedom to participate is important. Additionally, TSOs selling FTRs would risk potential loss of revenue, which would be borne by different sets of tariff customers.

Variant of VPP

The thinking is to impose a proxy for physical divestment of assets, presumably just on ESB. However, this is already done to the extent required under market dominance assessments in the form of DCs. This 'divestment' would still require regular repricing of the contract strike prices and would effectively be an FCSO just on ESB. The SEM Committee is of the view that this would only be justifiable on market power grounds and the justification over and beyond DCs would need to be more firmly made.

New risk contracts for intermittent generation.

The SEM Committee notes that innovative contracts can be offered and that a new contract in Germany may mitigate price risk inherent in large quantities of intermittent generation appearing or not in the day ahead market. The SEM Committee would welcome such contracts in the current market.

The Mix of Forward Products

RFI responses indicated a tendency for disconnect, between the requirements of the buyer on one hand and the products available for sale on the other hand, with regards to shape and duration of forward contracts. This can occur particularly with regards to peaking and mid-merit products.

The RAs have influence on the mix of regulatory-imposed contracts, and thus on the residual position that participants can trade. Potentially then, an adjustment to an existing mechanism could be achieved which would improve the mix of available forward contracts. The SEM Committee believes that proportionate policy options should be investigated further to address this issue.

6.4 SEM COMMITTEE VIEWS

Regarding the MMO and the question of price-transparency: As described earlier, although the MMO approach is considered a lesser intervention than the FCSO

approach, the MMO is not considered appropriate at this point in time. The SEM Committee does believe however that an MMO mechanism could potentially improve price transparency, in the forward markets, much like auctioning Directed Contracts, and for that reason the suitability of a MMO approach might be revisited in the future. The SEM Committee is therefore of the view that a “wait and see” approach is called for. Specifically, we plan to *wait* until:

- The I-SEM is implemented;¹³
- The Ofgem review on the MMO in Great Britain has released its findings on the MMO approach there;¹⁴ and
- The outcome of the decision on Directed Contracts auctioning has been reached, and if that outcome is to implement an auctioning methodology, then we may wait until that methodology has been implemented and there is sufficient market history.

We will then look to see outcomes in terms of new information on forward market price transparency, as of that time. We will consider re-evaluating the MMO approach if it appears that the value of improved forward market price transparency from an MMO approach would outweigh the costs at that time. This review will form part of the more general review of liquidity in the forward market to be undertaken 18 – 24 months of the commencement of operation of the I-SEM energy markets.

¹³ The RAs will gather evidence of the state of forward contracting in the initial period of I-SEM with an annual request for information on forward hedging on the lines of the RFI recently issued. As part of the evidence for this review, the RAs will monitor the following factors:

- Forward churn;
- Composition and premia of CfDs;
- Rate of entry/exit and expansion of existing players;
- The Master Agreement landscape; and
- The percentage of pass-through tariffs.

¹⁴ The RAs will monitor closely Ofgem’s review of the Secure and Promote intervention in GB to be conducted during 2017.

7 TREATMENT OF SALE OF DIRECTED CONTRACTS

As a core pillar of the SEM market power mitigation strategy, the RAs impose forward contracts (Directed Contracts or DCs) on ESB generation such that market concentration is reduced below a certain HHI (Herfindahl-Hirschman Index) threshold, thus mitigating the incentive on ESB to engage in market power in the spot market.

In the consultation paper, two potential designs were considered at a high level for application in the I-SEM:

1. The current approach with the price and volume of Directed Contracts determined by the RAs with replacement of the ex-post pool (SMP) by the Day Ahead Market as the reference price.
2. The price of Directed Contracts determined by auction of market participants with a reserve (minimum) price set by the Regulatory Authorities.

In relation to the auction-based DC allocation, the consultation paper set out particular considerations on the impact of allowing market participants to express a higher or lower value of Directed Contracts according to their preferred values. In addition, it delved into the impact on market power mitigation of any potential participation by Electric Ireland in these auctions.

With respect to the potential carrying over of the current allocation process to the I-SEM, the consultation set out a number of considerations, namely:

- *Forward Risk Premium.* The RAs methodology for DC pricing does not include a forward risk premium and as a result might not reflect a true market value of the forward contracts. A consequence of this could be lack of secondary trading of DCs and a market based allocation may correct this and potentially lead to reselling of DCs on secondary markets.
- *Allocation to New Entrants.* The current allocation process requires existing metered load in order to make a supplier eligible to get an allocation. This could potentially be seen as something of a barrier to entry for new suppliers, as they need to acquire a certain volume of load before they receive an allocation of DCs.

The Consultation Paper described how auctioning of Directed Contracts, rather than allocating them to Suppliers under the existing approach, could help improve price-transparency in the forwards markets. Auctioning DCs could have other advantages, as well as some disadvantages, and other impacts. For example, other potential advantages include:

- The ability of Suppliers to better target the mix of products required;
- The potential for reduced regulatory risk;¹⁵
- The ability to improve the access of very small and/or new Suppliers to DCs; and
- Removal of what some market participants have described as a process of creating an unrealistic NDC price expectation arising from the existing DC methodology, in which the DC price is based on a forecast of the spot price with no risk premium.

Potential disadvantages include:

- Market power issues; and
- A potential increase in both price and quantity risk for Suppliers, and increased price risk to ESB.

Another impact that would be expected, although not guaranteed, is that DC prices would be higher under an auctioning system, compared to the existing methodology. For reasons that have been described above, and consistent with what has been typically observed in SEM outcomes to date, the forward prices set by the market are expected to include a risk premium over and above the level of the spot price.

Against this background it should be recognised that auctioning would not increase the overall quantity of DCs available, and the quantity of DCs in any event is relatively small in proportion to the size of the market.

7.2 SUMMARY OF RESPONSES RECEIVED

Not all responses to the Consultation paper addressed the methodology for allocation of Directed Contracts. Of those that did, responses broadly fell into two categories:

Those who believed the current methodology should be maintained, mainly due to concerns over market power; and those who supported DCs allocated by auction, either on the grounds that this was most beneficial for liquidity, or alternatively because they considered that concerns about market power did not justify the current approach.

¹⁵ While the RAs' existing DC pricing methodology has proven robust in forecasting SEM spot prices, an auction-based system would reduce the potential regulatory risk associated with the current process. It is envisaged that a DC auction methodology would need to be accompanied by a regulated reserve price, with the likely auction clearing prices being above the regulated forecast price.

One respondent stated that ESB should be obliged to sell forward a proportion of contracts that would make it unprofitable for it to increase prices, as the payback under DCs would be greater than the profits earned for the remainder of its generation. The respondent argued that ESB's power generation business and Electric Ireland are part of the same financial Group and any payments under Electric Ireland's DCs are essentially internal between two financially integrated business units of the same Group and are therefore exactly offsetting. Internal DCs do not offset the financial incentives for ESB to exploit its generation position and the disincentive to price up in the spot market is only reduced but not eliminated by the volume of DCs that are sold to Electric Ireland, according to the respondent. The respondent argued that the DCs allocated to Electric Ireland should be allocated to third parties. It was further argued that without the largest buyer and seller of DCs being appropriately incentivised to trade efficiently the market will fail to deliver competitive trading outcomes.

In a similar vein, another respondent stated that DCs must continue to be priced independently on an analysis of expected spot price, given that they are an intervention for spot market power. This respondent also argued that if DCs were opened to an auction mechanism ESB could receive a higher price, there could be incentives on Electric Ireland to bid for larger volumes, and these would remove the positive effect that DCs currently have in the market. The respondent took the view that an auction mechanism therefore undermines the ability of DCs to mitigate market power and contracts between ESB Generation and Electric Ireland are merely a transfer price, with no implications for the profitability of the group as a whole.

However another respondent argued that while the volume of contracts should be determined by the RAs, prices should be left to market participants to determine with a price set by auction. This respondent argued that DC sales, with artificial prices, provide no evidence of the demand for hedging contracts, while allowing prices to be set by auction (or with reference to auction results from auctions held from the FCSO) would allow prices to be set with reference to consumer sale prices and would encourage more open and transparent competition between suppliers. The respondent recognised that allocating DC volumes guarantees that suppliers have access to some volume of hedging which allows them to compete in the retail market with an acceptable degree of risk. However the respondent argued that the pricing mechanism had been designed to maintain margins and eliminate risk for generators and should be abandoned. This respondent recommended that purchasers be given the option to draw down only part of any DC allocation, with smaller clip size and that any volumes that are not taken by the supplier should be moved into the FCSO or offered to other suppliers. This respondent also argued that DCs reduce and do not eliminate incentives on ESB to submit non-competitive bids. A further respondent asked how DCs would differ from the FCSO if they were to be auctioned. This

respondent suggested that potential price discrepancies and additional complexity should be avoided by putting them together.

This approach was supported by a respondent who considered that there were no grounds for concern about foreclosure of the market by a vertically integrated undertaking and that there is less concern about the potential for abuse in the forward market. It was argued that a better approach therefore would be to combine the FCO delivery mechanism with the chosen liquidity obligation delivery mechanism. In this view, discharging separate market power and liquidity obligations potentially hampers the development of a liquid forward market and places an unnecessary burden on market participants. Volumes not allocated competitively may reduce incentives suppliers have to invest in the means to participate in the forward market, may risk fragmentation of liquidity between delivery mechanisms and prevent potential cost efficiencies. Further, that once a market wide liquidity solution is determined any residual market power concerns should be continuously monitored and then and only then, should further mitigations be considered.

Another respondent supported allocation by auction with the volume set by the current methodology and allocation aligned more closely with any FCSO using a common auction timetable. This respondent argued that while regulated pricing acts as a spot market power mitigation measure it leads to passive subscription and does not encourage active trading. Another respondent suggested simplifying the process by stopping the allocation of DC contracts completely with the volumes covered by the market maker obligation. Another stated that from its experience administered pricing of DCs sets an unrealistic price expectation among buyers and inhibits generators selling to suppliers at a price which is equitable.

7.3 SEM COMMITTEE RESPONSE

The purpose of the DC volumes is to reduce market concentration below a certain HHI threshold to a level that is considered to represent the existence of an unconcentrated market. While the SEM Committee acknowledges the role that DCs serve in providing liquidity in the forward timeframe, it agrees with those respondents who argued that the main role of the instrument is market power mitigation in the spot market, and that without the largest buyer and seller of DCs being appropriately incentivised to trade efficiently the market will fail to deliver competitive trading outcomes.

Impact on Forward Market Liquidity

A key driver for possibly making changes to the allocation process of DCs may be the potential impact of the current administrative approach relating to the absence of a risk premium in the RAs' DC methodology, which in turn could drive market dynamics and distort buy side expectations in the unregulated forward contracts market. To the

extent that DC prices affect the demand for forward contracts in the SEM there may be a concern that low levels of liquidity in that timeframe are at least in part due to an unrealistic expectation of a risk free forward contract from Suppliers. Conversely it could be argued that Suppliers' behaviour in negotiating forward contracts is entirely independent of the price of Directed Contracts with no obvious rationale for one to affect other.

It is difficult to come to a firm conclusion as to the impact of DC pricing on the behaviour of market participation in the non-directed market. If there is a perception impact on liquidity from the current DC pricing methodology, it is possible this impact takes the form of suppressing the price level Suppliers are prepared to pay for forward hedges and therefore reducing demand for hedging contracts from generation. A market based allocation process could therefore have the benefit of removing the wedge between regulated and non-regulated forward prices and thereby provide a single and more consistent long term market price, improving the transparency of forward prices, which could reduce barriers to entry on the generation side.

Cost and Hedging Impacts to Suppliers

Conversely moving away from the regulated approach to DC pricing would likely impact negatively on Suppliers' costs as the auctioning process would only put upward pressure on the DC price, due to the expected inclusion of a risk premium, (assuming that the RAs set a reserve price and that this price is set in a similar manner as today as a forecast of the spot price).

In addition, moving to an auction system could introduce transaction costs for all market participants, (the current allocation process does not have any transaction cost for Suppliers) which needs to be weighed against the purported benefits of moving away from the current methodology. This is due to the fact that if DCs are charged any transaction cost for using a platform, only otherwise used for NDCs, then those transaction costs represent an increase in costs relative to the status quo.

Equitable Access for Suppliers

One of the driving themes from the consultation process and subsequent discussions within the RAs has been the importance of ensuring that smaller and new entrant suppliers have fair and equitable access to forward energy contracting and that access to forward market transactions is not a barrier to entry in the retail market. It would seem that the current administrative process where Suppliers are allocated based on Metered Import Capacity (MIC) may prevent new entrants or rapidly growing suppliers from acquiring DCs in excess of their current market share, hampering their ability to expand this market share, which could inhibit competition in the retail sector. In contrast, an auction based mechanism that provides market participants with the

opportunity to express their price preferences on the DC instruments, may help to preserve a healthy rate of entry into the market. While, the SEM Committee believe that at the current stage there is no evidence of unreasonable barriers to entry, it is cognisant of this aspect of the current process of DC allocation.

Market Power

As previously stated, the primary role of the DCs is to act as a market power mitigation tool. The SEM Committee has recognised the following considerations to be taken into account in any decision related to the allocation of DCs.

In principle, there should be no impact (at least in the short run) of the options for DC allocation on spot market power as the seller of the DC product will become indifferent to spot prices hence without incentives to exert market power in the spot (reference) market. However, there might be a concern with a potential market power strategy that leads to a loss in the day-ahead market through physical or financial withholding (which under the existing DC pricing regime would be less of an issue) that might possibly be a profitable strategy if it influences future DC auction prices.

A key measure in any auction based system would be a regulatory determined reserve price. The rationale for a reserve price in a potential DC auction is to guard against a forward DC price that is driven below its competitive level. Without a reserve price, there could be concerns of forcing generators to be price-takers. Even a competitive demand side of the market with sufficient disaggregation could lead to a market price at less than the competitive price under these circumstances.

7.4 SEM COMMITTEE VIEWS

Giving the relevance of this policy development, the SEM Committee would like to further discuss this topic with industry and has decided that a new Consultation Paper will specifically address the question of the best way to distribute DC volumes. This Consultation Paper will expand on the potential options, elaborate on the advantages and disadvantages of each option according to the SEM Committee's understanding at the time, and will invite detailed responses.

8 RING-FENCING IMPLICATIONS AND ITS POTENTIAL REMOVAL

8.1 BACKGROUND

Some of the measures consulted upon in the Consultation Paper (SEM-16-030) included the removal of ESB's ring-fencing within the context of policy options to increase the volumes of forward energy contracts, either via a FCSO or MMO.

Ring fencing has been used in the SEM as a market power mitigation measure that separates generation from supply and prevents vertically integrated companies from using their knowledge of commercial operations across both sides of the supply chain to their advantage

One justification for vertical ring fencing of supply and generation is preventing foreclosure of other entities from either market. If ESB is so dominant in generation that it could foreclose entities from the retail market or so dominant in the retail market that it could foreclose generators from being able to market generation and thereby discourage generation entry. Ultimately either of these conclusions would be based on an assessment of whether ESB has horizontal market power in either the generation or supply market.

There are also advantages to vertical integration. It can provide a financial hedge against potentially volatile wholesale energy prices and a natural hedge against balancing risk. It can also mean that integrated suppliers may have stronger credit ratings that reduce the level of collateral that they may need to post, thereby reducing their costs of participating in the market. Vertical integration, therefore, can provide scope for efficiencies that may be passed on to consumers. In terms of its effect on liquidity it can reduce the incentive to trade with third parties and a limitation on such transactions would be problematic if it reduced the robustness of forward market prices.

Ring fencing predates the SEM and was introduced for a number of reasons, including that ESB Customer Supply was a regulated supplier in Ireland and it was necessary to assure that supply from ESB Power Generation was not being acquired at above or below "market" prices and passed on to regulated customers. When the SEM was established, there was a separate concern over ESB's generation dominance and the ability of a combined generation and supply business to be able to act in a coordinated manner to affect market outcomes. The provisions of the ring-fence were designed to enforce independent decision making on market activities between affected ESB business units. Since then, all segments of the retail market in Ireland have been price de-regulated.

Vertical ring fencing of ESB was last reviewed by the SEM Committee in 2012, on the back of a CEPA report commissioned by the SEM Committee in 2010, which stated that the main effect of the vertical ring fencing requirement was to prevent a natural hedge

within the group of companies. The report also recorded that there may have been an issue regarding lack of liquidity in the contract market, which vertical ring-fencing could in principle address by incentivising ESB to provide contract market liquidity.

In the Market Power & Liquidity Decision Paper in 2012 (SEM-12-002) the SEM Committee determined that it would not allow vertical integration and provided background and a number of reasons for this decision. It noted the high ESB share of generation at 46%, which has continued and was also 46% in 2015.

The SEMC noted the view of the CEPA report that vertical integration could damage competition, that ESB's generation arm would provide an automatic hedge for its retail arm and that this would reduce or eliminate the need to trade contracts unless mandated.

The 2012 Decision paper stated that it would not give a timescale for removal as this would depend on the circumstances, which would be considered at the time. In the context of promoting liquidity it did not consider it appropriate at the time to mandate volumes or introduce a market making obligation but considered that there may be a case for proceeding with such interventions in the context of the integration of SEM into European markets through market coupling. This is the context in which this decision paper has been developed.

In the context of overall I-SEM policy making, concerns over the impact vertical integration may have on competition were expressed in the I-SEM Market Power Mitigation Decision Paper (SEM-16-024) and the Forward Liquidity Consultation Paper (SEM-16-030). It was acknowledged that policy options regarding the relaxation of the existing ring-fencing obligations would be addressed in the context of policy measures addressing improving forward market liquidity.

The Consultation paper acknowledged the need to assess the advantages and drawbacks of vertical integration while also taking account of the competitive dynamics existing in the new spot markets and the market power mitigation tools already available, namely Directed Contracts and the role of REMIT in ex-post evaluation of market participant behaviour, as well as the pivotal role of the Market Monitoring Unit (MMU). The scope for enhanced volumes of FCOs and efficiencies achieved through vertical integration to be passed on to consumers was examined in the Consultation Paper against the likelihood that a vertically integrated ESB would be in a position to profitably withhold transactions in the forward market to the disadvantage of competition.

The Consultation Paper (SEM-16-024) noted in relation to the ring-fencing of the Viridian Group that the requirement for and limited nature of ring fencing within the Viridian Group had led the SEM Committee to conclude that further consideration of it was not relevant in the context of promoting liquidity. This Decision Paper confirms the view of the SEM Committee that it has not been necessary to review this ring-

fencing as part of the decision on liquidity promotion measures to be introduced or for any other reason that might arise from such reconsideration.

In developing the decisions on the appropriate liquidity intervention, including consideration of ring fencing of ESB, the RAs have reviewed the examination of liquidity by Ofgem in its 'Secure and Promote' intervention into the market and also the energy market investigation carried out by the Competition and Markets Authority.

8.2 SUMMARY OF RESPONSES RECEIVED

Reason for Intervention

Several respondents argued that wholesale competition had not significantly improved since the independent report commissioned by the RAs' Market Power and Liquidity review in 2010 that would justify the lifting of ring-fencing arrangements. In addition, another respondent argued for a strengthening of both the role and monitoring of ring-fencing of ESB's generation and supply business units.

One respondent argued that the case for the removal of vertical ring-fencing of ESB had not been made within the paper. According to this respondent, given the fundamental risk posed to the market, clear evidence must be presented as to why such a change is deemed necessary. In a similar vein, one respondent requested an impact analysis that vertical integration would have on the I-SEM Day-ahead, Intra-day and Balancing markets, expressing reservations that the removal of ring-fencing would be made in isolation without considering the impact across all timeframes in the market.

Need for a prudent approach

Some respondents argued that caution should be exercised in a context of a substantial redesign of the wholesale market, suggesting a more stepwise approach of implementing an option that does not require the change to ring-fencing arrangements for I-SEM go live. After observing behaviour in the new market, the SEM Committee may introduce criteria for liquidity in both forward and physical markets against which ring-fencing could be removed.

One respondent argued that there is a trade-off between the removal of ring-fencing to increase liquidity in the short term and the retention of a valid tool to prevent market power in the medium term. In this regard, were ring-fencing to be removed, the SEM Committee should closely monitor instances of market power in I-SEM. For example, regulations could be put in place around Electric Ireland's participation in any FCSO auction to prevent market power exertion in this liquidity enhancing tool.

Ring-fencing better than other solutions

Another respondent argued that while ring-fencing is an imperfect means of dealing with market power as opposed to asset divestment, the new measures proposed in the Consultation Paper do not represent a better solution. Therefore, the same respondent believes that ring-fencing should be maintained.

No case for continuation of ring-fencing

On the other hand, two respondents argued in favour of the removal of ring-fencing. ESB suggested that the issue of market power mitigation in the prompt market has been addressed by DCs and that, as the Market Power workstream had determined that there was no effective market power in the forward market then the case for maintaining ring-fencing was flawed.

The respondent which argued that ring-fencing of ESB is not justified presented a number of arguments to support this case, which related to both the spot market and the forward market. In the former case it was argued that the SEM Committee had satisfied the necessity to mitigate market power through the suite of measures, including an FCO, set out in the Market Power Decision Paper (SEM-16-024). It was also argued that this paper had provided no evidence that ring-fencing is necessary. In relation to the forward market it was argued that the Market Power Decision Paper had considered the potential for market power to be weaker and had drawn conclusions about the potential of market foreclosure without evidence.

Another respondent, who supported the introduction of a MMO, suggested that ESB's ring-fencing could be removed subject to appropriate market monitoring by the MMU, with the provision that the RAs could reinstitute ring fencing if recommended by this unit.

8.3 SEM COMMITTEE REPOSNSE

In the Market Power Consultation paper the SEM Committee asked under what conditions and circumstances vertical ring-fencing should be relaxed. In the Market Power Decision Paper, it determined that given the new design of I-SEM and the market power mitigation strategy endorsed in that Decision Paper, including the continued need for a Forward Contracting Obligation (FCO), consideration of amending ring-fencing should be taken in the context of the impact of vertical integration on the functioning of forward energy markets.

In the Forward Liquidity Consultation Paper (SEM-16-030) the SEM Committee stated that ring-fencing arrangements would be revisited in light of the options to promote liquidity that were set out in the paper and that the issue would be considered in this area of I-SEM policy development exclusively from the perspective of promotion of

liquidity. The paper noted that “a vertically integrated Group could internally hedge against potentially volatile wholesale energy prices and have a natural hedge against balancing risk. Additionally vertical integration would reduce the incentive to trade and help perpetuate the barriers to entry that result from an illiquid forward market. These would therefore have the effect of foreclosing the market to other market participants.” It stated that low liquidity can inhibit trading, price formation and enable barriers to exist that may limit new investment.

The SEM Committee has reviewed the experience with vertical integration in other markets, particularly in GB. In its ‘State of the Market Assessment’ published in 2014 Ofgem states that vertical integration has costs in terms of reduced competition in energy markets and that this includes lack of liquidity, noting that a vertically integrated firm may be less dependent on the liquidity of the wholesale market. In the GB context this applies to both the spot market and the forward market. Ofgem concluded that vertical integration does lead to a reduction in wholesale market liquidity and that low levels of liquidity could be self-reinforcing in that they increase incentives to self-supply.

In launching its statutory consultation on its ‘Secure and Promote’ proposals Ofgem noted that it had consistently stated its preference for industry-led action to improve liquidity and had given time for such action to take place. It noted that poor liquidity could encourage business models that reduce the need to trade in the wholesale market such as vertical integration and expressed concern that there were barriers to independent suppliers competing with large Vertically Integrated Utilities (VIUs), making it difficult for new independent suppliers to enter the market. Its ‘Secure and Promote’ intervention was aimed to secure existing positive developments in the market, specifically the progress made by some large vertically integrated companies to improve their approach to trading with smaller counterparties.

In its investigation of the energy retail and wholesale markets in GB, the Competition and Markets Authority found that foreclosure was unlikely to be an issue in the GB electricity market, even with vertically integrated companies¹⁶. It noted that Ofgem’s ‘Secure and Promote’ licence conditions had also served to further dampen concerns about the impact of vertical integration on liquidity, because they ensured the availability of the products that were most widely used for hedging by the Six Large Energy Firms. This assessment was carried out in the context of the GB market that has six large vertically integrated companies and the SEM Committee considers that vertical integration needs to be viewed within the context of the overall market structure of the I-SEM.

¹⁶ <https://www.gov.uk/cma-cases/energy-market-investigation>

Regarding the wholesale spot market, in the Market Power Decision paper the SEM Committee noted that it was ready to intervene should the market power mitigation strategy prove not to be appropriate or proportionate. (SEM-16-024). This Decision Paper also noted that an effective and well-resourced market monitoring and enforcement function will continue to regulate spot markets and effective enforcement of the EU Regulation on Market Integrity and Transparency (REMIT) will be an essential tool in ensuring market power mitigation. These would be combined with a Forward Contracting Obligation that would also mitigate power in the spot markets.

The Forward Liquidity Consultation Paper expressed the concerns of the RAs that removal of the current ring fencing arrangements on ESB would involve a significant increase in vertical integration that could impair liquidity absent further regulatory intervention such as that put forward through the options set out in the paper.

The SEM Committee acknowledges the arguments advanced by ESB as regards removal of the current ring fencing arrangements given the conclusions reached in the Market Power Decision paper and also recognises the importance (in light of those conclusions) of identifying a clear justification for retaining those arrangements. Moreover it notes that the conclusions eventually reached as to the availability of such a justification are likely to be relevant in identifying whether and how to implement any of the options canvassed in Forward Liquidity Consultation Paper.

As noted, a number of respondents argued caution in any step to remove ring-fencing in the context of a substantial redesign of the wholesale market. It was suggested that the SEM Committee observe the behaviour of the new market and look to criteria against which ring-fencing might be removed in light of how the new market performs. The SEM Committee is sympathetic to a cautious approach and does not consider it prudent to make significant interventions (including any removal of ring fencing) in advance of actual experience of the behaviour and outcomes of the new market without a clear rationale of how those interventions could affect competition in any of the market segments, based on evidence of the operation of these markets including any relevant considerations of scale of competition and overall market structure. In that context, the SEM Committee understands that the CER remains concerned about the level of competition in the retail market in Ireland in which ESB (through Electric Ireland) retains a significant market share.

The advantages of vertical integration have been advanced by ESB and include the efficiencies that could be passed to customers should the removal of ring-fencing allow their realisation. This has been taken into account by the SEM Committee in its deliberation. The SEM Committee has also taken into account the arguments of respondents that the removal of ring fencing would not be justified given the

pertaining overall market structure, the potential negative effect on liquidity and hence down-stream competition in the retail markets.

8.4 SEM COMMITTEE VIEWS

The SEM Committee has considered changes in market conditions that have occurred since the last review of ESB ring-fencing, which could have impacted on a decision to change the policy. Since that review took place, a number of events have occurred which have influenced the SEM Committee review of ring-fencing, including the following:

- The East-West Interconnector has come on line;
- New CCGT plants at Whitegate, owned by BGE, and Great Island, owned by SSE, have become operational;
- In spite of these new sources of generation, the market share of ESB Power Gen has not declined as expected due to the decline in demand arising from the economic recession and an increase in the relative competitiveness of the coal plant at Moneypoint;
- New suppliers have entered the retail market in Ireland, although one supplier in Northern Ireland has recently exited the market.
- Market coupling with GB is due to take place in May 2018, with the go-live of the I-SEM energy market;
- The continuation of directed contracts as a policy option to mitigate the spot market power of ESB.

In relation to the generation market in I-SEM, the SEM Committee has concluded in the Market Power Decision Paper that market power in the spot market will continue to be mitigated with a combination of FCO, active market monitoring and the requirements of REMIT.

The Market Power Decision paper stated that the SEM Committee was of the view that any consideration of the merits or otherwise of amending the current framework with regards to vertical integration/ring-fencing would form part of the consideration of forwards and liquidity and the design of any measures brought forward within it. Within the Forward Liquidity consultation, options for removal of vertical ring-fencing from the ESB Group were predicated on the imposition of either an FCSO or MMO on ESB (as set out in Options 3, 4 and 5 of the Consultation Paper). The SEM Committee, having decided at this point in time not to impose an FCSO or MMO on relevant parties has also decided not to remove the vertical ring-fencing on ESB at this time. The SEM Committee does not consider it prudent to propose a significant increase in vertical integration that could have a materially adverse impact on liquidity in the absence of further evidence of the state of competition in the relevant markets and without any countervailing measures being taken such as those proposed in the Forward Liquidity Consultation. Given the decisions on the scope of regulatory intervention in relation

to forward liquidity and the overarching concern of the risks of taking action without sufficient evidence as to the impact on the state of competition in the relevant markets, the SEM Committee does not consider that there are sufficient grounds for reconsideration of removal of ring-fencing of ESB at this point in time.

The SEM Committee has however decided to undertake a review of liquidity in the I-SEM forward market 18 to 24 months of the I-SEM energy market coming into operation. The SEM Committee will then assess the functioning of the energy market and consult on any necessary policies at that time. At the same time, the SEM Committee will also review the appropriateness of ESB's ring-fencing arrangements in the context of the functioning of the ISEM markets.

The SEM Committee therefore remains concerned that any change in the existing market structure, in particular the ring-fencing requirements on ESB, would be premature in advance of actual evidence on market operation in I-SEM.

9 REMOVAL OF BARRIERS TO EFFICIENT TRADING

In the consultation paper, the SEM Committee identified several barriers to efficient trading that potentially needed addressing and therefore looked at interventions to facilitate it, including development of a central trading platform, a central clearing provider and a central credit provider. It was concluded that if introduced these would most effectively be provided on a voluntary basis. Respondents were asked to comment on issues such as the products that should be offered (both duration and time-of-day for which the product would be operable) and the type of trading (cleared or uncleared); period of trading (auction type or continuous trading) as well as the expected effectiveness of such services in facilitating liquidity in the forward market.

Respondents were therefore asked to provide views on the rationale, parameters and effectiveness of this regulatory intervention.

9.1 SUMMARY OF RESPONSES RECEIVED

Removal of barriers to trading effectively has three components: central platform, central clearing and central collateral provider, and to an extent these can operate in isolation from each other. It was not always clear from responses received what the views were of each of the components. Fifteen of the respondents made explicit mention of an aspect of the arrangements and approved of at least part of their implementation. One respondent believed that an exchange platform was a good idea but that central clearing may not; while in contrast another respondent believed that central clearing was a good idea and a platform was secondary. This respondent was also concerned that the central collateral provider should be explored and especially whether this was a service to be offered by the exchange/central clearer.

Five responses expressly mentioned a belief in the benefits of central clearing although one of these suggested that this would be contingent on accepting Letters of Credit as well as cash. Only one respondent explicitly opposed central clearing. One noted the current requirement for suppliers to post credit for contracting with generators on CfDs even though, as a two-way option, credit ought to be posted in both directions. This respondent proposed that a mark-to-market approach be applied throughout with no other collateralisation required.

Issues mentioned were as follows:

- **Exclusivity.** Of those who mentioned this issue, two believed it should be granted to a new exchange while four opposed this. Where there was explicit support for an OTC market, three respondents made mention of a need for standardisation of contractual and credit terms, noting the cost of negotiating separate agreements with specialist terms. It was also mentioned that there

are different contract and credit terms between DC, NDC and PSO contracts and that these should be unified.

- **Cost and credit terms.** Six respondents mentioned this as an issue. One mentioned that its support for this development was contingent on the initiative bringing down cost, especially for credit requirements. Another respondent expressed the view that credit costs would be no lower than at present under central clearing arrangements. One of the respondents who opposed central clearing believed that the cost would increase. Concern was expressed by a number of respondents that margining requirements could be onerous and require excessive working capital.
- **Netting.** Five responses made explicit mention of netting across timeframes, believing it would be beneficial in cutting costs. In contrast, one response stated that no exchange would allow netting between financial and physical products and the interconnector respondents believed that it would not be possible to net positions between CfDs and FTRs.
- **Implementation issues.** Four responses questioned the practical implementation of an exchange by I-SEM go live (or rather by the commencement of forward trading in I-SEM CfDs). One suggested that much time would be needed to implement contractual terms for exchange membership and trading and one respondent highlighted the need for a fall-back plan if no voluntary provider came forward. Another respondent believed that none of the central services would be implemented without regulatory intervention.
- **Cost Benefit Analysis.** Two respondents believed no exchange should be implemented without first undertaking a cost benefit analysis.

9.2 SEM COMMITTEE RESPONSE

The SEM Committee, along with the majority of respondents, agrees that central services could benefit liquidity in the forward market. However, in responding to comments, the Committee reiterates that the route it has consulted upon and explored with market participants, including potential service providers, has been one of voluntary provision and that many of the issues raised within the consultation responses are not within its control.

A Central Clearing Counterparty would take on responsibility for settlement of trades and would apply standardised credit requirements. The key issue is that, based on information made available to the RAs from international markets, data from clearing house organisations, and from consultation submissions and other feedback, it is not possible to state with confidence that this approach would be a lower-cost alternative.

The margining requirements and other transaction costs will differ between the current arrangements and a CCC, and total costs will also depend on the volatility of the market, which is not foreseeable. While market participants have pointed out the difficulty in striking Master Agreements with smaller non-asset backed Suppliers, it is unclear whether a CCC would cater for these types of Suppliers, or at what cost. In sum, while at face value it appears that a CCC would be attractive from a liquidity perspective and to reduce the cost of credit coverage, the SEM Committee's view as a result of this consultative process is that the establishment of a CCC may be unlikely to facilitate these outcomes.

Costs and credit terms

The tariffs and terms of a new voluntary exchange would be set by the exchange and clearing providers. Similarly, the credit terms would be determined by these bodies. The SEM Committee is aware of respondents' concerns regarding these costs but recognises that a likely provider will have established terms and will most likely create a new hub on its existing system. Any service provider will therefore be established on a commercial basis with corresponding terms and conditions.

Netting and central clearing

The possibility of netting is seen by the SEM Committee as a positive cost-cutting element of central service provision. A central counterparty will also assume the payment risk for all transactions, so that in the event of default it guarantees payment and delivery. The introduction of central clearing would therefore involve provision of a new service, reducing payment risk and adding certainty to trading. As stated above, any such option would need to be taken forward on a voluntary basis by market participants. Implementation of regulatory interventions, including for DCs, will continue and take account of the services required for implementation.

Master Agreements

In absence of a clearing facility, with its own requirements for collateral provision, the terms of trading between market participants, including credit terms, would be governed by Master Agreements between each market participant. Currently separate Master Agreements, based on a common template with specific amendments, are employed for DCs, NDCs and PSO contracts. Concerns have been raised by market participants that these can be hard to negotiate and impose excessive and one-sided credit requirements.

Master Agreements will require some amendments for the change of market from SEM to I-SEM and the DC MA and PSO MA are subject to direct amendment by both RAs and CER respectively. Direct amendment of the master agreement for NDCs is not possible by the RAs and the role of the RAs in affecting any change would be one of

facilitating agreement between the parties themselves (if at all). In the event that this could not be achieved, the RAs would consider an intervention along the lines of Ofgem's Supplier Market Access rules, which would be done via licence changes. The SEM Committee does wish to encourage or facilitate standardised Master Agreements, including improved and more transparent credit terms. In exploring this option, the RAs will aim to eliminate onerous conditions and reduce the cost of credit requirements currently present in the different instruments. Current collateral requirements are incorporated in SEM Master Agreements and require an initial 15% margin payable by the buyer and monthly mark-to-market margining, which increases the collateral required in order to maintain the 15% margin where price movements increase exposure. Price movements in favour of the buyer reduce their collateral provision. The 15% collateral requirement does not take account of the volatility of the SEM energy market but is a fixed percentage irrespective of volatility.

9.3 SEM COMMITTEE VIEWS

The SEM Committee recognises the benefits perceived by a majority of respondents arising from provision of central services but also recognises that, at this stage, costs are unknown. While netting off of correlated instruments could represent potential savings to market participants, contributions to the default fund and transaction costs required under central clearing would represent added costs not currently present in the SEM. A benefit of central clearing is that it will allow all parties to trade with each other on common terms without potentially onerous bilateral trading negotiations but it has not been possible for the RAs to conclude that costs for any market participant will be less under central clearing than under existing arrangements. The SEM Committee has therefore concluded that some progress can be made in collaboration with industry on further coverage and harmonisation of existing Master Agreements that could facilitate trading and reduce costs where possible.

9.4 NEXT STEPS

The SEM Committee has looked at the requirements of the new market as a whole and will review the performance of the I-SEM 18 – 24 months after its go-live, in order to determine what, if any, new interventions are required. The SEMC has also considered the particular challenges that will face small suppliers and looked at interventions that may facilitate their participation in forward trading and ability to hedge wholesale costs. The Committee has therefore undertaken to include a review of Master Agreements before I-SEM go-live, including the question of products available that might best facilitate small supplier entry to the market, such as small clip sizes. In addition, the follow on consultation will consider a level playing field for access to DCs, particularly for small supplier access.

10 SEM COMMITTEE'S DECISIONS

Decision 1: Intervention on the I-SEM Forward Market

- ix. At this point in time, the SEM Committee will not intervene in the I-SEM Forward Market via the introduction of a Market Making Obligation or Forward Contract Selling Obligation.
- x. Notwithstanding this, the RAs encourage voluntary provision of these services and will engage with industry as necessary to facilitate such initiatives.
- xi. The RAs will undertake a review of liquidity in the I-SEM Forward Market 18 – 24 months after the I-SEM energy market starts operation. The SEM Committee will then assess the functioning of the forward energy market and consult on any necessary policies.

Decision 2: Policies to reduce barriers to Forward Energy Transactions

- xii. The RAs consider that there are benefits in reducing the barriers to forward energy transactions, including the following:
 - a. Transaction costs for smaller players of entering into forward contracts, particularly with regards to credit terms.
 - b. Mix of Forward Products (Duration, Clip Sizes, Shape, etc.)
 - c. Further harmonisation of product definition between I-SEM and other market zones.
- xiii. The RAs will engage with industry on further coverage and harmonisation of existing Master Agreements that could facilitate trading and reduce costs where possible.

Decision 3: ESB's ring-fencing arrangements

- The SEM Committee has decided that absent experience of the new I-SEM markets (energy, capacity and FTRs), it is not opportune to make changes to the existing ring-fencing requirement on ESB at this point in time.
- xiv. The RAs will under-take a review of ESB's ring-fencing requirement 18 – 24 months after the I-SEM energy market starts operation.

Decision 4: Consultation on Directed Contracts Allocation Process

- xv. The SEM Committee will consult upon alternatives to the current allocation process for Directed Contracts. During the consultation process the merits of the current process will be benchmarked against a competitive mechanism to allocate volumes.
- xvi. The Consultation Paper covering this area will be published during the summer of 2017