

## **I-SEM Forwards and liquidity discussion Paper**

### **Moyle Interconnector Ltd response**

**March 2015**

We welcome the progress of the regulatory authorities towards delivering the future electricity market on the island of Ireland by publishing this discussion paper. As is our usual approach, this response focuses on the questions posed in relation to cross border financial instruments as these directly concern our business. As far as within zone and spot market forward liquidity is concerned, we have answered the questions posed where they are considered most relevant to cross border trade - our key concern is that forward products should be designed with a link to the day ahead market price to ensure high levels of participation in the latter market to facilitate economically correct pricing of FTRs.

### **Within zone and spot market forward liquidity**

#### *Specification/nature of forward products*

- *Should development of appropriate products be left to the market or is specification from the RAs required?*
- *What role should Directed Contracts play under I-SEM? What form should they take?*

The RAs should take the lead in developing appropriate products, at least in the early days of I-SEM as the market may not deliver what is required. There is a clear link to market power concerns so we expect that regulatory intervention will be necessary in this area e.g. through continuation of Directed Contracts in a suitable form. It does not seem like there will be less of a requirement for Directed Contracts under I-SEM than in SEM as the market fundamentals (in terms of the market size and characteristics of its participants, rather than market arrangements) do not change as a result of I-SEM.

#### *Interactions with market power mitigation, including Directed Contracts*

- *Are market power mitigation measures needed in the forward market? If so, what options are available and how could they be applied?*

As per question above, we expect market power mitigation will be needed to ensure forwards liquidity within zone.

#### *Mediums for trade and trading Institutions*

- *Is an I-SEM specific exchange or an I-SEM screen on an existing exchange preferable?*
- *What conditions are needed to support effective functioning of an I-SEM exchange?*
- *Should development of an exchange be left to the market or is specification from the RAs required?*

An I-SEM screen on an existing exchange would seem preferable. If there are existing exchanges that have the functionality needed by I-SEM one would expect to benefit from leveraging the experience and systems from these. There is also the potential that using an existing exchange could encourage, or at least easier facilitate, new market entrants offering financial hedging products. If participants don't have to seek out the I-SEM exchange or familiarise themselves with a new system, they will be more likely to play in the market.

While development of an exchange should mainly be left to the market, there should be robust regulatory oversight to ensure appropriate products are facilitated, that transactions charges aren't excessive etc.

## **Cross border financial instruments**

### *Design of I-SEM Financial Transmission Rights*

- *What are the advantages and disadvantages of FTR Options or FTR Obligations? What is your preferred approach?*
- *How should transmission losses be factored into FTR design?*

In discussion of the advantages and disadvantages of FTR options and obligations it is important to note that there are no cross-zonal allocation rules available for FTR obligations so our assessment is based on assumptions of what those rules might be. In contrast, FTR options are more clearly understood as they would be subject to the harmonised "Allocation Rules for Forward Capacity Allocation" ("HAR") produced by ENTSOE and expected to apply for FTR allocations in I-SEM in line with the Forwards Capacity Allocation network code. We discuss the advantages and disadvantages of both products below.

#### Providing suppliers with an effective hedge

Looking at it from the perspective of suppliers on the island of Ireland both FTR options and obligations are able to be used to provide an effective hedge against the risk of a high day-ahead market ("DAM") price in I-SEM by purchasing power in GB. On this key point there is no difference between the two alternatives in hedging downside risk.

Where there is a difference is that FTR obligations remove the potential for 'upside' to be earned by the supplier if the DAM price moves in their favour. Assuming that a supplier is purchasing energy in the DAM to supply their end customers and holds a GB-SEM FTR; if the I-SEM DAM price is high relative to the GB price both products would result in a payout to the supplier thus hedging the risk of that high price. If the DAM price is low relative to the GB price FTR option payouts will be zero, resulting in the supplier benefitting from the low I-SEM price. With an FTR obligation, the supplier would pay out the 'adverse' market spread caused by the low-I-SEM DAM price and could only earn their forecast and hedged profit.

#### Effect on interconnector capacity revenue

In *theory*, we believe that both FTR options and obligations should result in the same level of capacity income generated by interconnectors. Where the two differ is the level of risk and timing

attached to collecting this revenue. The simple numerical example below attempts to demonstrate this point. This example assumes that, at the time of a capacity auction, a trader forecasts that the total positive market spreads in the GB-SEM direction will be £6, and £10 in the SEM-GB direction. The value of an FTR option in each direction is thus £6 and £10, as shown in the left hand column, since this equates to the level of payout that an FTR option would entitle the holder to.

On the other hand, an FTR obligation in the GB-SEM direction would entitle the holder to receive £6 and pay out £10 meaning it has a negative intrinsic value so is not expected to be sold at auction. In this case, assuming this FTR is not allocated, the interconnector owner (“IO”) would be expected to retain £6 of congestion rent from the DAM. Continuing the example, an FTR obligation in the SEM-GB direction would entitle the holder to receive £10 and pay out £6 meaning it has an intrinsic value of £4 which it would be sold for at auction. In this case, the IO would expect to collect a further £6 from the FTR obligation holder in respect of the adverse DAM spread. As can be seen from the right hand column, the theoretical IO capacity revenue eventually ends up the same whether it allocates FTR options or obligations.

	<b>Option revenue earned by IO (£)</b>	<b>Obligation auction value (£)</b>	<b>Adverse spread paid to IO (£)</b>	<b>Congestion rent retained by IO (£)</b>	<b>Obligation revenue earned by IO (£)</b>
GB-SEM (£)	6	0	0	6	6
SEM-GB (£)	10	4	6	0	10

However this ignores additional risks:

- The theoretical revenue below looks at a forecast at a point in time. With FTR obligations, in reality the IO would only have clarity on its revenue as it collects congestion rents after the DAM each day. With FTR options the revenue is fixed in advance and congestion revenues simply pass through the IOs hands rather than being a direct income stream. IO income under FTR obligations would therefore be more volatile and unpredictable with knock on effects on consumer tariffs.
- Because the adverse spread is being paid to the IO by FTR obligation holders there would be additional credit risk requiring additional collateral. Again, in theory the credit risk should be equal to that under FTR options (if the full value of the market spreads was captured in auctions) but it is unlikely that reality would match forecasts. A significant price event could result in an FTR obligation holder being unable to pay the adverse spread as required, ultimately creating additional cost for consumers.

It seems that FTR obligations would be unattractive to arbitrage traders which would reduce the number of participants in I-SEM FTR auctions. In addition, it is our experience that doing things differently to the rest of Europe tends to be a barrier to market entry which will further reduce auction participation. From an academic point of view, an FTR has a calculated value at a point in time. From a real world perspective, different traders will place different values on FTRs depending on their view of the world so it is beneficial to attract as many auction participants as possible to maximise the auction revenue and its contribution to interconnector costs. Therefore, while RAs may be less concerned with the interests of arbitrage traders, their presence can be to the benefit of consumers.

#### How well understood at the two alternatives?

As stated above, understanding of FTR options is greatly assisted by the fact that, for the most part, we know the allocations rules that would apply to them. This is not the case for FTR obligations for which new rules would need to be drafted. In addition, FTR options closely resemble “PTRs with UIOSI” which are the main method of allocating cross-zonal capacity in Europe today so are relatively well understood. Further, it is our understanding that a number of borders in the CWE region plan to introduce FTR options in the near future so I-SEM would be in alignment with these borders and closely aligned with those utilising PTRs with UIOSI, if it was to adopt FTR options. We are not aware of any European borders with plans to introduce FTR obligations.

#### Are the differing levels of implementation risk?

FTR obligations are clearly more difficult to implement given that allocation rules would need to be drafted for them and these would be markedly more complex than any existing allocation rules. By way of illustration, the project to develop the HAR will have taken approximately 18 months by the time it is completed and that project drew on existing allocation rules.

In addition, IT requirements would be more complex due to the two-way nature of the payouts and the fact that there are no existing IT solutions we could draw on. With FTR options, there are existing IT systems in use for HVDC interconnectors allocating PTRs with UIOSI so it is expected that the existence of this would ease the implementation process.

These two factors combined raise doubts as to whether FTR obligations could be delivered for I-SEM go-live.

#### Does one provide more benefits than the other?

From the discussion above it is clear that there are downsides to adoption of FTR obligations but the upsides are unclear. Previous regulatory papers have mentioned the benefit of being able to ‘super-impose’ FTR obligation sales on each other i.e. if we sell 100MW in one direction this creates a further 100MW to be sold in the opposite direction, funded by the payouts received from the initial 100MW. This pre-supposes that FTR obligations will be sold for both directions and market participants will take on an FTR obligation that is forecast to lose them money. We appreciate that this may be expected to occur in a highly integrated market where participants have generation and supply positions in various bidding zones and want to create a complex hedge against all these positions. However, it is important to remember that we are an island on the periphery of Europe which is dominated by ‘local’ participants. It is very difficult to imagine a large GB market participant

looking to I-SEM for its hedge against GB price movements, particularly given the historic lack of forward liquidity in SEM. This theoretical benefit is not that likely to materialise in our opinion.

### Preferred approach

As will be clear from the above, FTR options is our preferred approach. FTR obligations may have their merits but a relatively isolated market on the periphery of Europe is not an obvious candidate to be the first mover on these.

### Losses

Payouts under FTRs should reflect transmission losses. This should be done by incorporating both interconnectors' loss factors in Euphemia so that loss adjusted market spreads result. This approach would be in line with the draft Network Code on Forwards Capacity Allocation and the draft harmonised "Allocation Rules for Forward Capacity Allocation".

### *Allocation*

- *What are the I-SEM specific issues that need to be considered in development of Single Allocation Platform?*

The issues to be considered will only become clear when the I-SEM detailed design has been developed – the pertinent point is whether FTR options or obligations are selected as the preferred form of long term transmission rights. The latter introduce specific issues as existing allocation platforms that we are familiar with do not include FTR obligation functionality.

As the regulatory authorities should now be aware, the CASC and CAO merger is not necessarily the solution for a single allocation platform. It is a regional platform (albeit one covering a large region) and it is unclear how it will be decided to award or develop the role of single allocation platform at European level.

Given that the single allocation platform is a requirement of a network code that is not in force yet, it is unlikely that such a platform will exist in time for I-SEM go-live. As you will know, the interconnector owners are exploring options for delivering an appropriate platform for I-SEM.

- *Should development of allocation arrangements be left to the market or is specification from the RAs required?*

Allocation arrangements will be developed at European level in the form of the HAR produced by ENTSOE as required by the FCA – market participants will be consulted on development of these access rules which will be approved by the regulatory authorities.

### *Firmness*

- *What are the I-SEM specific issues that need to be considered in consideration of firmness?*

Firmness is an area that has been debated at length at European level and, when the relevant network codes come into force, it seems there will be limited flexibility on the level of firmness provided at local level - what we do have flexibility on is how this level of firmness is paid for.

Issues to be considered in respect of firmness are as follows:

- How is firmness underwritten? There is potential for interconnector owners to be unable to meet uncapped firmness liabilities in the event of a trip and spike in market prices. This risk is amplified by the fact that firmness will apply from go-live of a new market where teething issues are to be expected. This possibility of being unable to deliver on firmness commitments would undermine the whole purpose of providing financial firmness which is to remove outage risk from cross border trading and hedging activity.
  - Compensation for curtailment before the 'day ahead firmness deadline' is expected to be capped at a sum equal to monthly interconnector capacity auction revenue. Uncapped firmness costs are expected to materialise in the balancing market and through imbalance when there is curtailment after the day ahead firmness deadline. The difference between the two timeframes is that we move from 'financial firmness' to 'physical firmness' when we move beyond the day ahead firmness deadline. Given that interconnector owners are prohibited from trading energy under their licence conditions there seems little that they can do to mitigate this physical firmness cost. Consideration should therefore be given to how the interconnectors are treated in this timeframe and how these costs are borne. Given that the on-shore TSOs *can* trade energy perhaps they should manage these costs since they have the ability to reduce them.
  - Alternative compensation arrangement for outages of long duration are permitted in the draft network codes – these should be considered given that our interconnectors are subsea and repair times can be significant.
- Should treatment of firmness issues be left to the market or is input from the RAs required?

Input from the RAs is required as they will have to approve any firmness regime set in the allocation rules applicable on the I-SEM interconnectors. Dialogue between the TSOs and the RAs to discuss any regime before seeking approval would obviously be useful.

### **Revenue Adequacy**

- *What are the issues relating to revenue adequacy that need to be considered?*

Revenue Adequacy is a principle introduced in drafts of the FCA network code stating that Long Term Transmission Right payouts should be "linked to the collected Day Ahead congestion income in order to mitigate the risk to Transmission System Operators of financial deficits due to specific design aspects of Day Ahead Capacity Allocation..." The paper makes mention of ramping under the heading of revenue adequacy - ramping constraints (and losses) should be reflected in the Euphemia algorithm and FTR payouts explicitly linked to the congestion income collected. If Euphemia takes account of the physical reality of ramping we would not expect to see flows in the 'wrong' direction as described in the paper.

We note that where the RAs refer to revenue adequacy in this paper it has a wider scope and seems to be referring to the ability of interconnectors to generate appropriate returns. Our view on this is linked to comments above on firmness. Interconnector operating costs are typically predictable so the asset owner can forecast with reasonable accuracy what their revenue requirement is. This predictability is lost with uncapped firmness risk after the day ahead firmness deadline - with the new regime, there is potential that revenue from capacity sales (or 'transmission rights allocations') could be negative due to firmness payouts and that the interconnector owner has a shortfall. This risk should be addressed by developing a methodology for how firmness in particular can be underwritten. Given that the interconnectors are already underwritten by I-SEM consumers this would simply be a different way of collecting these costs e.g. firmness costs after the day ahead firmness deadline could be treated like, or as, an imperfections cost in the current market, with these costs borne and charged by the on-shore TSOs.

The revenue adequacy section of the paper also mentions rules for the volume of FTRs to be sold both in absolute terms and in different timeframes. It is unclear what sort of rules are in mind here but the FCA network code requires TSOs to develop a proposal for splitting capacity between different timeframes for forwards capacity allocation – this proposal is what we would expect to determine the volume of FTRs sold in each timeframe. This paragraph also seems to raise the suggestion that the full capacity of the interconnectors may not necessarily have to be sold as FTRs – we would be interested in further thoughts on this from the RAs as this may be another way of mitigating firmness risk and ensuring that the interconnectors generate appropriate revenues.

### **Market Power**

- *What potential market power issues are linked to FTRs? How can they be dealt with?*

We do not see that FTRs introduce any new market power issues, compared to the current regime.

### **Interaction With CfDs, Reliability Options And Renewable Certificates**

- *What interactions with other CfDs need to be considered in development of FTRs? What potential implications does FTR design have on these areas of interaction?*

There is limited scope for RA decisions on FTR design (beyond options or obligations) given that the nature of these products is largely dictated at European level. FTR interaction with other instruments will therefore be dependent on how these other instruments are designed. As stated above, it is our view that the reference prices for these instruments should be the DAM price to foster participation in that market. This will help ensure that the DAM price reflects the balance of generation and demand on the island and that FTR value can be reasonably forecast.

### **Transitional Arrangements**

- *How should transition to FTRs be managed? What requirements are there during the transition phase?*

Detailed proposals for transitional arrangements will need to be developed by the interconnector owners in conjunction with the RAs. This will be aided by the fact that no transmission rights have been allocated for after I-SEM go-live to date.

For a time there will need to be a dual process where separate access rules and systems are in place governing auctions for FTRs and interconnector capacity prior to I-SEM go-live. For example, auctions for FTRs with product periods commencing 1<sup>st</sup> October 2017 could start in January 2017. Meanwhile, there will also be monthly auctions for February 2017 interconnector capacity (in the current product form) being held in January 2017 so there will be auctions under two different frameworks happening at the same time. There may be legal complications to this scenario where two sets of access/allocation rules are approved and in force which will need to be addressed by the interconnector owners and RAs.

We see that there are significant risks associated with issuing FTRs in respect of an entirely new market, the dynamics of which will not be fully understood until it is in operation, and these risks may need managing as part of the transitional arrangements:

- Market participants may have difficulty forecasting the value of FTRs so their auction price may be well below their true value, which is ultimately to the detriment of consumers.
- The absolute value of this risk could be mitigated by limiting the volume of FTRs issued until after I-SEM has been live for a period.
- Transitional, less stringent firmness rules may also be necessary until I-SEM has bedded in and pricing is relatively stable and understood across the market timeframes.