

## 1 CONSULTATION QUESTIONS

### 1.1 RESPONDENT DETAILS

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MAIN INTEREST IN CONSULTATION	Ensuring the market design is suitable for wind energy projects.

## 1.2 GENERAL COMMENTS

### Executive Summary

IWEA welcomes the opportunity to respond to the I-SEM ETA Markets Consultation. The new market design brings a number of challenges to market participants, and in particular to renewable generators, given the increased focus on day ahead trading and balancing responsibility. IWEA has supported the variation of Option 3 in the High Level Design consultation as we believe, among other things, it represents the best opportunity for more effective operation of interconnection and therefore reduction of curtailment. A trade-off in the selection of Option 3 has been increased complexity of trading relative to the Single Electricity Market. This consultation, and our response to it, outline the increased levels of complexity and the need for more robust analysis to be carried out in advance of reaching a decision.

In this response, IWEA first sets out its principle concerns in relation to the Energy Trading Arrangement matters raised within this consultation. We then set out the design principles that address these concerns, and these principles in turn lead to particular design choices. This general comments section contains this developed flow. Specific comments are replicated within the template provided as an annex. There is no further information contained within the template, and we note that we have intentionally not commented on all areas of the consultation so as to emphasise the areas of importance for wind.

We would like to draw attention to our previous response to the I-SEM Building Blocks consultation which outlined, in considerable detail, our positions in relation policy matters in I-SEM such as the treatment of constraint and curtailment, priority dispatch generation, De-Minimis generation, treatment of losses and treatment of non-firm projects. This submission should be read in conjunction with the previous submission.

IWEA is principally concerned with any market design that creates non-economic balancing prices, and the potential for the TSO to limit intraday liquidity by taking early balancing actions.

The design proposals predominantly focus on the potential implication for TSO operations without sufficient regard to other criteria essential to the proper function of energy markets. The provisions which are being considered, and which are assumed necessary for TSO operation of the system, have not been rigorously assessed and primarily rely on a position advocated by the TSO without consideration of the impact on TSO behaviours or market incentives.

IWEA also recognises that non-economic depression of balancing market prices will result in the balancing market becoming pay-as-bid (reducing DS3 System Service provider incentives) and potentially undermining the wider functioning of the market. In contrast, a highly constrained balancing market, i.e. one which includes many system constraints in price formation, may influence ex-ante bidding behaviour, raising costs and making the I-SEM less competitive for renewables export. It is important to strike an appropriate balance of the level of constraint within the balancing market design. It should be at a sufficient level to encourage ex ante trading, but only that the necessary level required to do so, otherwise the efficiencies of the ex-ante markets may be

compromised. IWEA finds that the consultation of the various options has focussed on their description and implementation, rather than impact. This has made the formation of a definitive opinion on the appropriate balancing pricing mechanism difficult.

In terms of principles, however, IWEA believes that the balancing market design should include generator characteristics in price formation (therefore excluding the Price-based Method 1a), but should exclude to the greatest degree possible any system-level constraints. This leads to either utilising the Unconstrained Stack with Plant Dynamics (Price-based method 1-b) or Flagging and Tagging (Cause-based pricing method). Note that IWEA still has detailed queries and concerns with both approaches, particularly with regard to:

- the management of start-up costs in both options;
- the importance of delivering dependable pricing quickly after each balancing settlement period to inform intraday trades (Price-based method 1-b);
- the method of reclassifying non-energy actions as energy actions if they are within the Net Imbalance Volume (Cause-based pricing method); and
- previous concerns raised with the Price-based method 1-b (which IWEA is interpreting as the Net Imbalance Pool under Option 2 within the High Level Design consultation), including implementation, and the stability of the algorithm within the SEM context.

These issues are complex; the incentives created in the ex ante markets, the impact on the I-SEM's competitiveness to export (and therefore reduce curtailment), and so forth need to be considered before proceeding exclusively with one option over another. If, for example, SNSP limits were fed into the balancing pricing arrangements (Unconstrained Unit from Actual Dispatch – not IWEA's preferred Option), there is a possibility that such constraints could bleed forward into the day-ahead market price, making export less likely<sup>1</sup>.

IWEA strongly suggests that the decision on the balancing pricing arrangements should be made with the support of substantial qualitative analysis and quantitative modelling of outcomes against a number of criteria, including whether the resulting prices are economic, and the influence on ex ante markets and curtailment. While we do acknowledge the tight timelines associated with this process we believe that a proposed decision would be appropriate to allow stakeholders comment on the preferred direction of the RAs. The ongoing uncertainties combined with the concurrent redesign of energy, capacity, and ancillary service markets requires detailed analysis to ensure the interest of I-SEM customers, in terms of cost and continuity of supply, in the short, medium and long term are protected.

At a minimum we request that the Rules Liaison Group is re-established to assess the contents of the decision. The benefit of working groups is evident from the EUPHEMIA trial which has helped inform the debate. IWEA would support the establishment of a modelling workstream as part of the I-SEM

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<sup>1</sup> This is extra to the structural design decisions, such as exposing generators to imbalance pricing when curtailed (one option which was proposed in the Building Blocks consultation) which might also require generators to self-curtail in the balancing market.

project to integrate modelling work into the design decisions and ensure inter-dependencies are considered. The learning from the modelling should be published.

Acknowledging the importance of economic balancing prices, IWEA does believe that some regulation of price volatility in the balancing market is sensible. Whether this takes the form of a PAR or some other mechanism is dependent on the pricing approach taken. The issue is two-fold. First, the market will move to balance responsibility with only a short summer-time market trial being made available. The industry will be moving immediately into the I-SEM's first winter period, with no knowledge as to the performance of the balancing market in such circumstances. It is simply not prudent to commence a market design without any control over whether the out-turn prices are economic or not. There are significant risks associated with implementing new energy, capacity and DS3 arrangements at the same time. Transitional arrangements are therefore important to manage implementation risks for participants and customers. Finally, such tools remain important to maintain in operation, if unforeseen outcomes of the balancing market design expose customers and generators to unrealistic imbalance prices.

IWEA also believes that the TSO early balancing action should not influence or impede a generators' decision to participate in the Intraday Market. Such actions should be restricted to commitment/de-commitment decisions, should not influence balancing market pricing, and should occur within the framework of a public balancing principles document, with reporting on all balancing trades. This – among other elements of detailed design – implies a Substitutive approach for the treatment of balancing and intraday actions.

An interconnector-coupled Intraday Market must be present for the start of the market. We suggest an intraday auction should be explored between designated NEMOs. Any work in this area should be ensured to have ongoing value, and costs should be recovered appropriately between both Bidding Zones (in I-SEM and BETTA). IWEA proposes industry workshops in this area – of similar scope and style to the EUPHEMIA market – to ensure market requirements are met.

IWEA welcomes the proposed treatment of constraints within the paper, but remains disappointed with the consultation process around the treatment of curtailment. As per our Building Block's consultation response, we believe it is necessary to reopen the non-compensation for curtailment decision, not least because of the requirements of the Electricity Balancing Network Code. We are somewhat frustrated that the energy trading arrangements consultations did not address these concerns, and as a result an opportunity to consult on whether the decision is still correct has been lost.

We have other detailed comments covering the need to submit Physical Notifications, the calculation of the Net Imbalance Volume, the Settlement of Curtailment and Constraint, and the treatment of hourly ex-ante trades with half-hourly imbalance settlement. Items which were not covered in the consultation, including the treatment of portfolios (and potential interactions with the aggregation of last resort), assetless traders, price maker wind generation, coordination of Grid Code rules to implement some new constructs (such as dispatching demand on), and the treatment of storage and energy limits in imbalance pricing, are all important and therefore need to be addressed. IWEA has included some initial thinking in these areas.

Finally, IWEA notes that the interaction of renewable support schemes, in particular REFIT and the successor to ROCs, with the I-SEM design remains undeveloped. We appreciate that this is a matter for the Departments, but we urge that the design of these schemes are not influenced by perceived lack of incentives within the Energy Trading Arrangement design. If there are concerns about market behaviours for subsidised generation, it is down to the market incentives to resolve those issues and not to rely or require changes to the support mechanisms. If renewable support mechanisms are fundamentally changed for the start of the I-SEM, it will add risk to the entire I-SEM implementation. All impacted PPAs will need to be renegotiated, placing an unnecessary burden on participant readiness.

Given the fundamental issues raised by this consultation which require further industry engagement and qualitative and quantitative analysis we suggest that the SEM Committee moves to a proposed decision in advance of a final decision.

### ***Main areas of Concern***

Four areas of concern in this consultation are identified. Our concerns are:

- Imbalance market settlement pricing is cost reflective of the balancing actions required. We are cognisant that the SEM is a highly constrained market, and IWEA does not believe it is appropriate that balance responsible parties should be exposed to costs which are more reflective of algorithmic pricing artefacts, or down to the discretion of the TSO;
- As the SEM is a physically constrained market in comparison to its neighbouring markets, a balancing market design that reflects those constraints will raise prices more pro-rata compared to neighbouring jurisdictions that share a similar philosophy. This is likely to have trading impacts in the ex-ante timeframes, raising prices for consumers, making renewable export less likely, and increasing curtailment unnecessarily. The appropriate level of constraints should be present in the balancing market to reflect supply-demand issues, and provide sufficient signals to more flexible balance service providers;
- Dispatchable balance service providers will have two markets simultaneously open to them: an Intraday Market and the Balancing Market. Once the day-ahead market closes, wind generation will only have access to the Intraday Market to manage its position. It is important that wind generation (and indeed demand) does not have liquidity in the Intraday Market removed through early balancing actions taken by the TSO. Intraday market liquidity should be promoted, and the inclusion of assetless traders is an important element of this; and
- The potential for the I-SEM to commence without a liquid operational Intraday Market, with exposure to an imbalance mechanism would be deeply unfair. It would be a commercial penalty placed on wind generation, rather than a signal that wind can respond – and trade appropriately – to.

Further to these concerns, IWEA continues to support compensation for curtailment at a minimum where there is ex ante trading of wind power in ex ante timeframes which promotes export on Interconnectors.

### ***Principles of Market Design***

We now set out a number of principles before responding to the specific questions within the Energy Trading Arrangements Detailed Design consultation. These principles are at a lower level than the six principles identified within Section 2.2, I-SEM Philosophy. Our principles and ultimately our recommended options (where necessary) speak to the concerns above:

- Early balancing market actions – in particular commitment decisions – are necessary for the TSO to take to ensure, along with a secure dispatch, a “curtailment optimised” portfolio of conventional generation is synchronised;
- Such early balancing actions, however, should be limited to those necessary and sufficient, and where prudent, should in normal I-SEM operation, be restricted to commitment / de-commitment decisions to minimum stable generation (Grid Code compliant machines should be able to ramp across 90% of registered capacity within an hour);
- The TSO should publish an approved Balancing Principles document to describe the ex-ante policy, and should report on the taken actions ex post in line with the publication of balancing market prices. It is imperative that the objective of the TSO in relation to dispatch (the objective function of the balancing market) is defined and consulted upon by the SEM Committee. The Balancing Principles document must ensure it satisfies the objective function of the balancing market. This is important to promote new participants into the market to improve market liquidity;
- The early commitment / de-commitment decisions should be excluded from price formation within the balancing market;
- Early balancing actions should have zero impact on the decisions and ability of generators to trade in the Intraday Market. This will increase the liquidity in the Intraday Market – the only short-term market to which wind industry has access.
- The design of the balancing market should guarantee recovery of start-up costs. Explicit start-up costs would facilitate flexibility in dispatch decisions for the TSO to manage the constrained system. Commercially, however, the inclusion of balancing costs into the cleared balancing market price (which can be managed in through a variety of manners, everything from related block offer pricing through to out-of-market payments for explicit start costs) is something which requires careful consideration. This entire area – the inclusion of start-up costs within the market design – requires further discussion and potentially consultation.
- The design of the balance market pricing has implications not only for the signal to be balance responsible, but for the price of energy more generally for consumers and the profitability of generators. Acknowledging the tight project timelines that the SEM Committee face, IWEA urges that the decision in this area is made based not just on qualitative analysis, and should include a quantitative analysis of outcomes for different sectors of the industry (wind, supply, generation, etc.). Further engagement is also required with stakeholders.
- The results for the imbalance pricing should be available soon after real-time, as each settlement period passes to facilitate ongoing adjustment of trading strategies. This has important interactions with the possible options for the consideration of start-up costs.

- The market design (and supporting regulatory framework, such as licences, Grid Codes, and procedures) should support demand side participation and storage, and this should be a feature at market go-live (noting the interaction of the Network Codes with the jurisdictional Grid Codes).
- IWEA believe that traders' participation (both assetless traders and utilities) remain an important element of the market, and further discussion in this area is important particularly around the area of balance responsibility and the degree to which these traders can facilitate independent windfarms within the market design. Related to this area is discussion around portfolio trading of wind power.

### ***Approach***

Due to the considerable length of the consultation paper, and the time available to respond, IWEA has focussed this response on areas that impact wind generation specifically. To that end, much of the detail within the paper is left for suppliers and conventional generators in particular to best determine the outcomes for themselves.

Our response is broken down into two sections. The first section is a principled discussion around the interaction of the balancing market and intraday market. This section will implicitly and strongly influence design on several areas within the consultation.

Finally, the last section will cover off a more detailed response on the following areas:

- Imbalance Pricing, Net Imbalance Volume, PAR
- Start costs \*
- Need to submit PNs
- Settlement of Curtailment and Constraint
- Day-Ahead Market (assetless traders, portfolios) \*
- Form of IDM, with reference to Transition
- Price maker wind \*
- Hourly ex ante trades allocated to HH/QH generated volumes
- Demand Side Unit – Dispatch Increase \*
- Storage/Energy Limits in Balancing Market \*

We believe items marked with an asterisk are not addressed, or adequately addressed in the consultation paper. As such they need either coordination with other ongoing work, or further workshops and consultation.

## The Interaction of Intraday Market and Balancing Market

To reiterate the relevant principles stated above:

- Early balancing actions should be limited to those necessary and sufficient, and, where prudent, should, in normal I-SEM operation, be restricted to commitment / de-commitment decisions to minimum stable generation (Grid Code compliant machines should be able to ramp across 90% of registered capacity within an hour);
- The TSO should publish an approved Balancing Principles document to describe the ex-ante policy, and should report on the taken actions ex post in line with the publication of balancing market prices. It is imperative that the objective of the TSO in relation to dispatch (the objective function of the balancing market) is defined and consulted upon by the SEM Committee. The Balancing Principles document must ensure it satisfies the objective function of the balancing market. This is important to promote new participants into the market to improve market liquidity;
- The early commitment / de-commitment decisions should be excluded from price formation within the balancing market;
- Early balancing actions should have zero impact on the decisions and ability of generators to trade in the Intraday Market. This will increase the liquidity in the Intraday Market – the only short-term market to which wind industry has access.
- The design of the balancing market should guarantee recovery of start-up costs. Explicit start-up costs would facilitate flexibility in dispatch decisions for the TSO to manage the constrained system. Commercially, however, the inclusion of balancing costs into the cleared balancing market price (which can be managed in through a variety of manners, everything from related block offer pricing through to out-of-market payments for explicit start costs) is something which requires careful consideration. This entire area – the inclusion of start-up costs within the market design – requires further discussion and potentially consultation.

In line with the above principles, this would appear to favour the “substitutive approach” outlined in the consultation paper. Generators should be as dispatch-indifferent as possible to early balancing actions when taking intraday market trades. Furthermore, IWEA believes that intraday market trades should not have the potential to be subsidised by early balancing market actions.

For example, if a generator is committed on in an early balancing action, it knows that its start-up cost has been recovered, and can compete with conferred advantage against a more flexible, lower start-up generator that was not synchronised by the TSO, for intraday market trades. While the early balancing market actions can only subsidise the generators that are called, reducing their offer price, increasing chances for export intraday, it is a cross-market subsidy to the class of inflexible, high start-up cost, long-start up time generators that in the long-term will not support a renewable portfolio of generation. This, therefore, means that generators are only likely to take an intraday market trade if the price receivable is preferable to the accepted balancing market price. This raises important issues that the TSO takes early balancing actions which are value-for-money, i.e. at a non-inflated price, as that could impact intraday market liquidity.



In terms of limiting TSO actions for early balancing actions, IWEA believes that it should be restricted to commitment decisions only, i.e. it should be sufficient for the TSO to have the appropriate machines synchronised with one-hour before delivery to manage secure, curtailment-minimised delivery of power on the system. We do not propose any further restriction on early TSO balancing market activities, e.g. a prescriptive time-based rule set, or based on a reserve target. The TSO should produce a Balancing Principles document, and should of course report on all energy commitment decisions and non-energy balancing actions under that document, at the same time as the publication of balancing market prices.

IWEA also believes there is an issue regarding the method by which start-up costs could be recovered in the balancing market in that early balancing actions should have been pay-as-bid within the intraday market if they were contracted with another intraday market participant. To have such early balancing market accepted offers in general (both start-up costs and INC/DEC elements of the bid are included here) part of energy price formation therefore appears incorrect and an undue inclusion in the balancing market price.

Start-up costs for energy balancing actions incurred after the intraday gate closure should only be included within the cleared balancing market energy price if it does not add undue unpredictability in the resulting imbalance price, and also as long it does not occur in a manner which delays publication of the price. We discuss this further with our specific comments on the pricing mechanism later around the inclusion of explicitly provided start-up costs in the balancing market price and delivery of quick transparent imbalance prices shortly after real-time. In general, this is an area which requires further consideration and workshops across the range of pricing mechanisms, noting that dependable prices should be delivered quickly after real-time.

We believe that conventional generators are best placed to discuss the form of offer within the balancing market, as wind generation has simpler cost characteristics that can live within all the proposed bidding structures. The detail of rebidding, multiple acceptances, and the form of instruction types in the balancing market should be designed to minimise any regulatory arbitrage opportunities. It is also reasonable to question whether the level of complexity in this part of the market design is a mechanism to manage market power and predatory pricing. These elements of the market design should be considered within the market power workstream.

We agree with the principle that the procurement of ancillary services should have minimal impact on ongoing trade from those service providers, unless future reserve contracts require “firm” provision of ancillary services.

Finally, while we believe that it is important that the Intraday market remains as attractive to a balance service provider as the balancing market arrangements, IWEA is of the view that having identical offer forms in both markets (simple block orders, as per the Intraday market design) is too restrictive for the TSO’s selection of efficient Balancing Market actions. The fundamental difference is that a generator can choose to accept or create any intraday market trade, whereas the balancing market design has mandatory participation activated by an external TSO, which should not be confused or restricted by delivery-duration-specific offers. . Balancing market offers should be of the necessary and sufficient complexity to make a central commitment mandatory participation market operate smoothly. More complex generator characteristics should therefore be submitted

alongside the balancing market INC/DECs for the TSOs to make their decisions. The price formation, however, arising from the fixed price element of offers remains an open item requiring further discussion.

The commercial treatment of these offers does have a bearing on the pricing design, which we come to next.

## Other Consultation Considerations

### Imbalance Pricing, Start-Up Costs

To reiterate the relevant principles stated above:

- The design of the balance market pricing has implications not only for the signal to be balance responsible, but for the price of energy more generally for consumers and the profitability of generators. Acknowledging the tight project timelines that the SEM Committee face, IWEA urges that the decision in this area is made based not just on qualitative analysis, and should include a quantitative analysis of outcomes for different sectors of the industry (wind, supply, generation, etc.).
- *(And as above, in relation to balancing market start-up costs)* The design of the balancing market should guarantee recovery of start-up costs. Explicit start-up costs would facilitate flexibility in dispatch decisions for the TSO to manage the constrained system. Commercially, however, the inclusion of balancing costs into the cleared balancing market price (which can be managed in through a variety of manners, everything from related block offer pricing through to out-of-market payments for explicit start costs) is something which requires careful consideration. This entire area – the inclusion of start-up costs within the market design – requires further discussion and potentially consultation.
- The results for the imbalance pricing should be available soon after real-time, as each settlement period passes to facilitate ongoing adjustment of trading strategies within day.

IWEA had raised concerns last year during the high-level design on the level of consultation on the decisions in relation to the balancing market pricing. We welcome the questions now raised in this consultation paper. If anything the questions and range of potential outcomes demonstrate the size and importance of the task at hand.

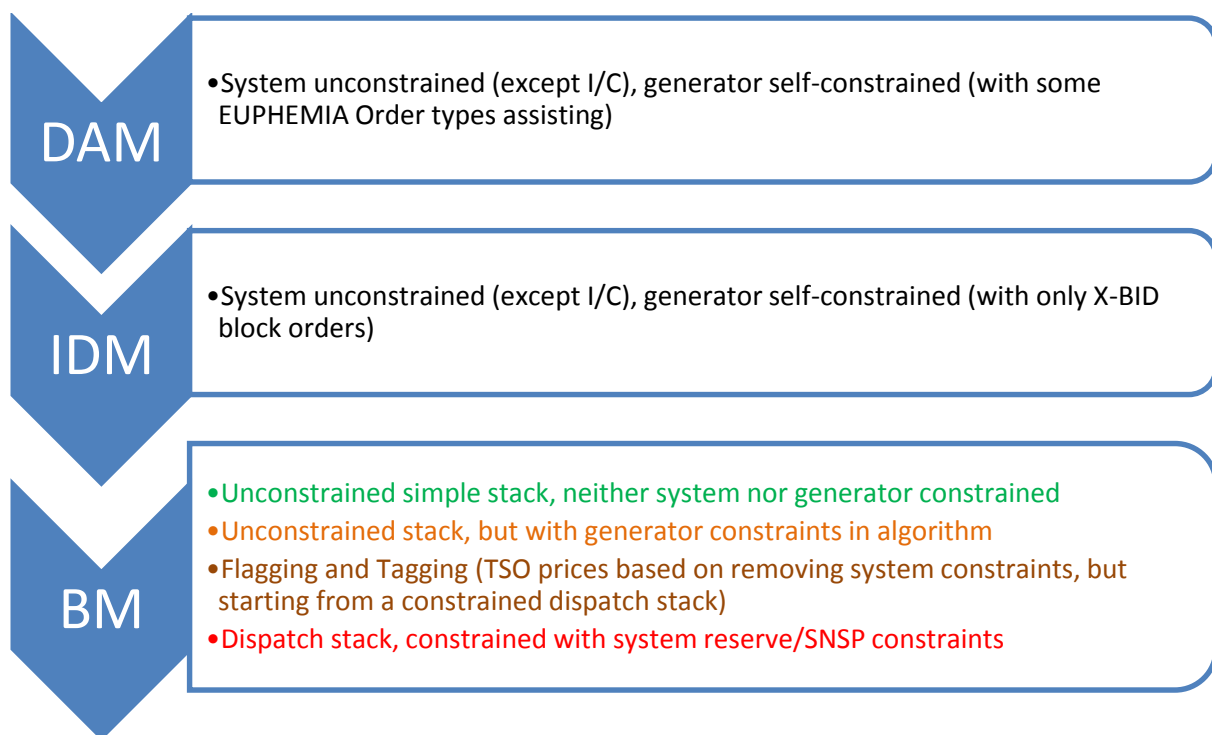
### Prices and Constraints

In general, the more constraints considered within market pricing design, the higher the out-turn price, and the less reliance on out-of-market “constraint” payments and flat charges to recover those costs on consumers. We also agree with the general statements in the paper that the SEM is a highly constrained system. Therefore, a large market with, for example, 50% gas generation and 50% wind with low constraints, should set a lower price than a market with the same technologies but with higher constraints, if the pricing algorithm considers many of these constraints. This could be important for us in I-SEM for two reasons:

- High balancing market prices encourage participation in ex ante markets, driving prices upwards in those markets. If the marginal generator that sets in the price in the day-ahead market at €50/MWh is excluded due to a constraint in setting the price in the balancing market, the price in the balancing market is higher. This sends a signal to participants to buy power in the day-ahead timeframe (low price), and sell back in the intraday or balancing (higher price). This is likely to result in higher prices in the ex ante markets.
- The higher prices in ex ante markets make export less likely, leading to curtailment.

Of course, this is within the context of striking an appropriate balance of the level of constraint within the balancing market design. It should be at a sufficient level to encourage ex ante trading, but only at the necessary level required to do so, otherwise the efficiencies of the ex-ante markets may be compromised.

The following diagram represents our observations on the ex-ante market designs, and the range of consulted-on designs within the balancing market design. We draw distinction between “system constraints”, i.e. thermal transmission constraints, operational reserves, SNSP, must-run generation sets, and “generation constraint”, i.e. those which arise from ramp-rate, minimum stable generation, minimum on-times, etc., in our description. IWEA’s view is that the balancing market should contain the appropriate level of SEM constraint in price formation, so not to render our market uncompetitive in the European context.



It is clear that the day-ahead market and intraday market are system unconstrained and generator constrained. While there are obligations on each market to have regard for the future harmonisation of balancing arrangements within the Electricity Balancing Network Code, at this moment there is a large degree of discretion left to the individual market to set the appropriate level of constraints which influence price in the Balancing Market. We have listed the balancing market designs in order of increasing constraint. All market designs involve pricing the net imbalance volume.

#### Unconstrained Imbalance Simple Price Stack

While the unconstrained simple stack has benefits in terms of lower pricing due to lower constraint and simplicity of implementation, it will result in more called generators in the balancing market having costs greater than the clearing price. It would appear that the pricing used for settlement could be sufficiently low to make even energy balancing actions pay-as-bid. This appears to be

contrary to the I-SEM high-level decision, and would lose any balancing market signal appropriate to support more flexible balancing service providers. If the options were evaluated on the narrow criteria of exposure of wind generation to imbalances, this would be the favoured option, but it appears to be unsuitable when wider considerations are taken into account.

It is also unclear how start-up costs would (if they should) be appropriately placed into the marginal clearing price of such a simple stack, unless the start-up costs was incurred in the hour the start incurred, the costs were internalised in the INC/DEC, or the costs were paid outside of the market. Recovery of the start-up costs within the hour could create over-recovery of revenues for generators at the expense of consumers (and imbalanced parties). It would, however, generate prices quickly, and not likely to be prone to unrealistic balancing price calculations.

#### Unconstrained Imbalance Price Stack with Plant Dynamics

The generator constrained stack option optimises the unconstrained generator schedule over a time horizon, taking into account generator constraints. In that regard it appears to have similar principles to the day-ahead market and the intraday market, i.e. generator constraints are included, but system constraints are not. There does seem to be some merit in including this level of constraint within the balancing market, i.e. it is effectively unconstrained in relation to reserves and SNSP. It also could deliver prices quickly at the end of each settlement period – if the optimisation horizon looked backwards over a number of hours, only pricing the last hour most recently passed.

There are some issues with this option. In effect, this is the balancing market arrangement which was consulted on in Option 2 during the High Level Design consultation. IWEA raised concern around the algebraic stability of this algorithm, and also noted its apparent newness, also a disadvantage in light of challenging project timelines. IWEA is happy to explore the development of this option, but before exclusively proceeding with this option, there would be need to evaluate whether the above concerns are surmountable. There is also a question as to whether start-up costs should be recovered within the balancing market price as before.

#### Flagging and Tagging

Flagging and tagging can operate well, but as the SEM Committee note, flagging any action in the SEM context as purely energy will be difficult. We draw reference, however, to stages 4 (Classification) and stage 5 (NIV Tagging) of the BETTA approach. These steps could be merged in the SEM context, whereby all actions (whether “energy” or “non-energy”) up to the volume of the NIV could simply be identified as price effecting. This approach has been presented by the SEM Committee at certain workshops. In effect, this becomes a pricing from unconstrained unit from the actual dispatch stack, without a TSO or algorithm identifying non-energy actions within the Net Imbalance Volume (as this is accepted to be a difficult process within the SEM context), but maintaining flexibility in removing tagging de minimis small actions and allowing for a PAR.

It is noteworthy that the Flagging and Tagging approach starts with the actions taken by the TSO, and excludes those non-dispatched generation. Then it attempts to remove those actions which were “non-energy”, but the pricing will always contain an element of constraint. For example, due to a transmission constraint group minimum inertia requirement, a cheaper generator may not be dispatched in favour of a generator with high inertia in the correct location. Therefore, irrespective

of the success in stripping out non-energy constraints from price formation, this mechanism should yield a more expensive clearing price than the above pricing stacks based on available generation. It is also subject to TSO discretion as to what generators they may dispatch.

This option, with some softening of the marginal price and TSO influence on the price through a PAR would also be a possible option.

#### Unconstrained Unit from Actual Dispatch

This mechanism is another dispatch-based stack, but now includes wider system constraints within the balancing market price. This is as close to a fully constrained balancing market as possible, taking not only TSO discretion in dispatch as a starting point, but algebraically further restricting the available prices with SNSP and reserves. IWEA cautions against pursuing this approach without full understanding of the impacts. It appears that an already constrained dispatch is subject to an ex post algorithmic analysis that reinterprets the reasons for dispatch already taken by a TSO. It is difficult to see how an algorithm will fare much better than the TSO creating cause-based tagging and flagging (which we note is something that would need to be addressed in the flagging and tagging approach). The benefits of removing generation dispatch for a few MW may also be lost under this approach. For example, could the dynamics of curtailment within such an algorithm drive balancing market prices up during curtailment event as curtailed wind limited by SNSP might not be able to impact the price? Would this have a follow-on impact on ex-ante pricing, driving interconnector imports and exacerbating curtailment? In general, the inclusion of SNSP limitations either explicitly in the calculation of balance prices, or implicitly (through exposure to imbalance prices if curtailed, as consulted on in the Building Blocks consultation paper) will undermine the true unconstrained value of the I-SEM portfolio.

#### Summary and Further Discussion on Start-Up Costs

Overall, IWEA believes that the Unconstrained Imbalance Price Stack with Plant Dynamics has some favourable characteristics, but there are large concerns around its implementation. These (algorithmic stability, deliverability) would need to be resolved before proceeding exclusively on this route. Flagging and Tagging, with some adjustment for the highly constrained SEM, i.e. lower/no emphasis on TSO ex-ante identification of energy or non-energy actions, could also deliver a reasonably unconstrained price into the market.

IWEA believes that both of these mechanisms can deliver stable predictable pricing, without unduly reflecting the constrained nature of the SEM into the imbalance price. Further comments on PAR, particularly on the transition into the ISEM, are given below.

The recovery of start-up costs within either of these imbalance mechanisms within the imbalance price, however, is problematic unless it is accepted that there is a long delay to the publication of the imbalance price. Such a long delay would impact the ability of generators to make a decision regarding intraday trades. Furthermore, uplift algorithms can lead to hard-to-predict pricing events, due to the constrained nature of the SEM. Block balancing market offers equivalently require participants to estimate the duration of their called offer by the TSO.

IWEA requests further discussion and consultation on the area of the inclusion of start-up costs in the imbalance price. While economically pure to include them, and their inclusion minimises impact on intraday trading, there is an open question as to whether they can be appropriately allocated in a predictable manner into the balancing market price. It is important that imbalance prices are published quickly. It is inappropriate that the market should wait for 30-hour optimisation windows to pass before realising whether the intraday trading strategy is correct. A delay to publication of the balancing price is an equivalent disincentive to trade intraday, as would be a balancing price with no start-up costs included.

As above, we believe this requires further workshops and discussion before a decision is made in this area, and most likely it merits further consultation.

### Net Imbalance Volume

IWEA believes that net imbalance volume should be calculated from the difference of ex ante trades and delivery. We believe this is close to the physical notifications option presented in the paper, but we have difficulty with physical notifications being used for two reasons:

- A 400MW generator that is predictably constrained, or is constrained by an early balancing action to 350MW (but is firm), trades 400MW in the DAM. The TSO always dispatches the generator to 350MW. If physical notifications are allowed to deviate from ex ante trades, the generator can name any physical notification between 350MW and 400MW with no commercial consequence to the generator. If pricing is based on physical notifications, it is clearly inappropriate for a generator to have access to a commercially irrelevant submission that impacts the price for the wider market.
- Assetless traders are unlikely to have any physical notification. In the event that there is some imbalance issue within the market and the assetless trader seeks to manage that by trading between day-ahead and imbalance arrangements, their activities impact on price would not be seen in the imbalance arrangements if the NIV was based on physical notifications, and their ex ante trade counterparty was a windfarm or supplier.

The ambiguity of the whether or not PNs should reflect ex-ante contract positions has a very material implication for the energy trading arrangements and it is difficult to assess proposals in the paper in the absence of a decision on this matter.

### PAR

The consultation question asks the specific question regarding why the industry views a PAR as necessary. Going back to an early concern, until the market pricing structure is determined, there is no certainty regarding the rationality of the imbalance price. In the early days of the SEM, there were price spikes due to expensive generation being scheduled for a fraction of a MWh, requiring the entire market to pay these prices. These issues resolved themselves with new generator entry and demand destruction from the recession.

The concern IWEA has is that these pricing arrangements are new, the industry requires time to bed down trading capability, and within that context some form of softening of the last MWh price setting is prudent and sensible. If, over time, it is demonstrated that the PAR is excessive, unnecessary, or is limiting activity in the intraday market, it can be relaxed.

The concept of a PAR is also useful to blunt system operator discretion feeding into pricing arrangements under flagging and tagging.

In relation to how a “PAR” is implemented within an algorithmic stack-based approach, sanity checks on the imbalance pricing outputs should be performed. For example, if the day-ahead price clears at €45/MWh, the market is only short by a small number of MWh, but the imbalance price clears at a substantially different price, e.g. €400/MWh, some form of regulatory price cap would give an effect to a PAR.

If there is no active EU intraday market at the time of market go-live, PAR-like concepts are vital to control exposure of participants to unmanageable risk. Finally, PAR-like concepts can also act to change the relative costs of the clearing price in SEM relative to other markets. Such a tuneable parameter could be vital to ensure appropriate activity on interconnectors during curtailment events.

In summary, the desire for a PAR is not a desire to avoid cost reflective imbalance pricing. It reflects a desire to manage the uncertainty of whether new pricing arrangements will actually deliver prices that are not a result of algorithmic stress or TSO discretion in a highly constrained market. This is a transitional issue unless it is shown that the pricing in the balance market demonstrates out-turn prices not reflective of supply and demand, in which case a PAR-like concept should remain until the market is corrected.

### [Need to submit PNs](#)

IWEA is firmly of the view that there is no rationale for wind to submit forecast PNs.

In terms of dispatch and the requirement for PNs ahead of time, the TSO will be relying on its own forecasts.

In terms of pricing, we suggest – as above – that PNs are abandoned in favour of ex ante trade in calculation of the net imbalance volume.

It is assumed for the avoidance of doubt, that the quantity of ex ante trades is different to PNs, and that this will be provided automatically from the centralised trading arrangements to the imbalance market settlement.

Finally, for the settlement of constraint and curtailment, we believe that ex post SCADA readings over availability (as delivered currently) can replace the need for a submitted PN for the calculation of constraint/curtailment compensation. See section immediately below.



### Settlement of Curtailment and Constraint

IWEA supports the concept of the Price Taker in the Balancing Market presented in the consultation paper. Instead, however, of each windfarm submitting a forecasted PN (and the issues with forecast inaccuracy that arise), the balancing settlement should use the ex post availability signal derived from recorded SCADA to determine the PN, or what could have been generated were it not for the constraint. We will stress, as per our building blocks consultation, that there remains good incentive to trade day-ahead for wind generation, as the balancing price received by windfarms with no ex-ante trades for what could have been generated is likely to be low.

IWEA notes that with the market go-live in 2017, there remains a number of months where the market systems must be capable of compensating curtailment. We believe this should endure at a minimum where generators have traded in ex ante timeframes. Please see our response to the Building Blocks consultation for further discussion in this area.

### Day-Ahead Market (assetless traders, portfolios) \*

IWEA would like further detail around the operation of assetless traders in the market. For example, IWEA believes that assetless traders should not in all circumstances be obliged to ensure a zero balanced position by the end of the intraday market.

Assetless traders can also play a role within the concept of a wind portfolio. For example, an assetless trader could sell 400MW in the day-ahead market, only to buy it at the imbalance price, effectively from their managed portfolio of 400MW of imbalanced wind selling at the imbalance price. A subsequent financial reconciliation between trader and wind portfolio (wind pays trader imbalance settlement, trader pays wind day-ahead trade) would yield the same commercial outcome as if the windfarms in the portfolio had all accurately traded in the day-ahead market.

Further discussion in this area, beyond that of the activities of assetless traders, however, is merited. This ties into the implementation of the aggregator of last resort and has implications for the implementation and procurement of market systems. There are some benefits to the central market systems directly managing and allocating trades amongst the registered generators within a portfolio. The one main benefit of this is that the control over cash flow remains solely with the individual portfolio. This would allow such a structure (generator registered in the market under its own name, part of a portfolio managed by a third party) to be more readily financed without discussion around the creditworthiness of the aggregator, i.e. the money would never pass directly through the aggregator's accounts.

IWEA believes, therefore, that a definitive statement within the Energy Trading Arrangements decision regarding permission for assetless traders is warranted at this time, and furthermore a wider discussion around the degree to which portfolio trading (perhaps linked to the functionality supporting an aggregator of last resort) is facilitated by central market systems is also required before systems go out for tender.

### Form of IDM, with reference to Transition

IWEA strongly recommends that an intraday trading arrangement with BETTA should be in play for market go-live. We believe that auctions are a suitable transitional approach for two reasons:

- The level of bilateral coordination between SEM and BETTA TSOs to implement a continuous trading mechanism with updates on Interconnector Flows appears in the first instance to be too onerous; and
- An auction will provide for an established market place for small quantity trades to coalesce and gather while intraday market liquidity establishes itself. To support this benefit implies that the transitional intraday trading arrangements should also be exclusive.

The auctions are of course subject to agreement and negotiation with the market operators within BETTA, but this should be pursued as part of the programme. IWEA cautions that the cost of development of such an auction is borne fairly between I-SEM and BETTA, and requests that working group – with a terms of reference comparable to the Euphemia working group – is created to ensure that the transitional intraday market meets participants’ requirements, and will have ongoing benefit to the market design. If auctions do not come to pass, the existing interconnector coupled intraday market will need to be maintained in some form.

Finally, we note the interaction of PAR-type mechanisms and the intraday market. It is unreasonable to ask wind participants to be balance responsible if there is no feasible intraday trading of any form. Imbalance settlement will move away from being an incentive to trade ex-ante, to an unavoidable penalty enshrined within the market design, until intraday market trading becomes available.

### Price Maker Wind \*

We wish to seek clarification regarding the possibility – and implications – of price maker wind within the new market design. Currently, only the proposed constraint mechanism in the imbalance market appears to define price taker priority plant. If a wind generator wished to submit prices into the imbalance arrangement, will that mean that the windfarm loses its priority status and it would require an ex ante trade for a physical position? Furthermore, do the TSOs currently have the dispatch tools for a windfarm traded in such a manner? Again, further discussion in this area is warranted.

Overall, this also ties into the discussion around Simple, Relative and Absolute MWh offers. It is important that wind – and non-subsidised wind in particular – could choose to alter its mode of operation to take account of new opportunities, such as new System Services under the DS3 Programme. There are several comments made within the paper in Section 9.5 regarding TSO limitations in dispatching wind, that solely a Price Taker option would be required in the balancing market, and that negative decremental prices would not be likely to be allowed. These comments appear premature. TSO technical systems appear to be restricting market design, there is no consultation on the need for Price Maker wind, but an early position is formed, and there are early comments on what appear to be bidding code of practice / market power considerations for bidding behaviours for wind.

### Hourly ex ante trades allocated to HH/QH generated volumes

IWEA supports the principle that if ex-ante traded volumes of the minimum market-defined duration (currently hourly) match the sum of the delivered energy over that same period, the traded entity should not face any imbalance prices. Furthermore, if a participant is short on trades, its imbalance should be calculated as the minimum amount payable, and if a participant is long on trades, its imbalance should be calculated as the maximum receivable. It is understood that this will result in a net cash shortfall in the market, but any cash-balanced mechanisms are discriminatory to wind, which tends to have an imbalance position correlated with market price.

### Demand Side Unit – Dispatch Increase \*

We note and welcome the algebra in the decision paper that allows for demand side units to be dispatched up (consume more) as well as down (consume less) within the market. We would like the SEM Committee to coordinate carefully with Network Code developments that impact the Grid Codes, and ensure that the technical infrastructure and rules for such a DSU dispatch up mechanism – which is important for the reduction of curtailment – are fully present in the Grid Codes by the time of market go-live.

### Storage/Energy Limits in Balancing Market \*

If there is an algorithmic generator-constrained system-unconstrained approach to imbalance market pricing, the impact of storage or energy limited plant need to be further considered within the formulation of the pricing algorithm.

## Conclusion

Once again, IWEA welcomes the opportunity to respond to this hugely important consultation. Our response has highlighted our concerns in relation to the formation of the price in the Balancing Market and the need for more analysis to be carried out in advance of reaching a final decision. At a minimum there should be additional industry workshops considered, for example through the Rules Liaison Group, however we are also of the view that more detailed quantitative analysis is required. This analysis should look at the impact of different pricing mechanisms on the different market timeframes and on different market participants. IWEA looks forward to continued engagement in this process and is at the disposal of the SEM Committee and the Project Team should you wish to discuss our submission in further detail.

## 1.3 SYSTEM OPERATION IN THE I-SEM (CHAPTER 2)

Question	Answer
<p>1. What are the impacts of early action by the TSOs on the Intraday Market?</p>	<p>Early balancing market actions – in particular commitment decisions – are necessary for the TSO to take to ensure, along with a secure dispatch, a “curtailment optimised” portfolio of conventional generation is synchronised.</p> <p>Early balancing actions should have zero impact on the decisions and ability of generators to trade in the Intraday Market. This will increase the liquidity in the Intraday Market – the only short-term market to which wind industry has access.</p>
<p>2. What measures can be taken to minimise early actions by the TSOs?</p>	<p>The TSO should publish an approved Balancing Principles document to describe the ex-ante policy, and should report on the taken actions ex post in line with the publication of balancing market prices. It is imperative that the objective of the TSO in relation to dispatch (the objective function of the balancing market) is defined and consulted upon by the SEM Committee. The Balancing Principles document must ensure it satisfies the objective function of the balancing market. This is important to promote new participants into the market to improve market liquidity.</p> <p>Such early balancing actions, however, should be limited to those necessary and sufficient, and where prudent, should in normal I-SEM operation, be restricted to commitment / de-commitment decisions to minimum stable generation (Grid Code compliant machines should be able to ramp across 90% of registered capacity within an hour).</p> <p>The early commitment / de-commitment decisions should be excluded from price formation within the balancing market.</p>

## 1.4 EX-ANTE MARKETS (SECTION 3)

Question	Answer
<p>1. Which of the three options put forward for interim IDM arrangements is most appropriate?</p>	<p>To reiterate the relevant principles stated above:</p> <ul style="list-style-type: none"> <li>• Such early balancing actions, however, should be limited to those necessary and sufficient, and where prudent, should in normal I-SEM operation, be restricted to commitment / de-commitment decisions to minimum stable generation (Grid Code compliant machines should be able to ramp across 90% of registered capacity within an hour);</li> <li>• The TSO should publish an approved Balancing Principles document to describe the ex-ante policy, and should report on the taken actions ex post in line with the publication of balancing market prices. It is imperative that the objective of the TSO in relation to dispatch (the objective function of the balancing market) is defined and consulted upon by the SEM Committee. The Balancing Principles document must ensure it satisfies the objective function of the balancing market. This is important to promote new participants into the market to improve market liquidity;</li> <li>• The early commitment / de-commitment decisions should be excluded from price formation within the balancing market;</li> <li>• Early balancing actions should have zero impact on the decisions and ability of generators to trade in the Intraday Market. This will increase the liquidity in the Intraday Market – the only short-term market to which wind industry has access.</li> <li>• The design of the balancing market should guarantee recovery of start-up costs. Explicit start-up costs would facilitate flexibility in dispatch decisions for the TSO to manage the constrained system. Commercially, however, the inclusion of balancing costs into the cleared balancing market price (which can be managed in through a variety of manners, everything from related block offer pricing through to out-of-market payments for explicit start costs) is something which requires careful consideration. This entire area – the inclusion of start-up costs within the market design – requires further discussion and potentially consultation.</li> </ul> <p>In line with the above principles, this would appear to favour the “substitutive approach” outlined in the consultation paper. Generators should be dispatch-indifferent to early balancing actions when taking intraday market trades. Furthermore, IWEA believes that intraday market trades should not have the potential to be subsidised</p>

	<p>by early balancing market actions.</p> <p>For example, if a generator is committed on in an early balancing action, it knows that its start-up cost has been recovered, and can compete with conferred advantage against a more flexible, lower start-up generator that was not synchronised by the TSO, for intraday market trades. While the early balancing market actions can only subsidise the generators that are called, reducing their offer price, increasing chances for export intraday, it is a cross-market subsidy to the class of inflexible, high start-up cost, long-start up time generators that in the long-term will not support a renewable portfolio of generation. This, therefore, means that generators are only likely to take an intraday market trade if the price receivable is preferable to the accepted balancing market price. This raises important issues that the TSO takes early balancing actions which are value-for-money, i.e. at a non-inflated price, as that could impact intraday market liquidity.</p>
<p>2. Should intraday auctions be implemented in I-SEM? Are there any advantages to those auctions not described in this paper?</p>	<p>IWEA strongly recommends that an intraday trading arrangement with BETTA should be in play for market go-live. We believe that auctions are a suitable transitional approach for two reasons:</p> <ul style="list-style-type: none"> <li>• The level of bilateral coordination between SEM and BETTA TSOs to implement a continuous trading mechanism with updates on Interconnector Flows appears in the first instance to be too onerous; and</li> <li>• An auction will provide for an established market place for small quantity trades to coalesce and gather while intraday market liquidity establishes itself. To support this benefit implies that the transitional intraday trading arrangements should also be exclusive.</li> </ul> <p>The auctions are of course subject to agreement and negotiation with the market operators within BETTA, but this should be pursued as part of the programme. IWEA cautions that the cost of development of such an auction is borne fairly between I-SEM and BETTA, and requests that working group – with a terms of reference comparable to the Euphemia working group – is created to ensure that the transitional intraday market meets participants’ requirements, and will have ongoing benefit to the market design.</p>

## 1.5 PHYSICAL NOTIFICATIONS (SECTION 4)

Question	Answer
1. What are your views on the timing of PN submissions to the TSO	No comment. See below.
2. What are your views on the removal of the requirement on wind generation and non-dispatchable demand to submit PNs	<p>IWEA is firmly of the view that there is no rationale for wind to submit forecast PNs.</p> <p>In terms of dispatch and the requirement for PNs ahead of time, the TSO will be relying on its own forecasts.</p> <p>In terms of pricing, we suggest – as above – that PNs are abandoned in favour of ex ante trade in calculation of the net imbalance volume.</p> <p>It is assumed for the avoidance of doubt, that the quantity of ex ante trades is different to PNs, and that this will be provided automatically from the centralised trading arrangements to the imbalance market settlement.</p> <p>Finally, for the settlement of constraint and curtailment, we believe that ex post SCADA readings over availability (as delivered currently) can replace the need for a submitted PN for the calculation of constraint/curtailment compensation.</p>
3. What are your views on how PNs from participants should be linked to their ex-ante trades and what are your opinions on which of the three options outlined in this chapter is optimal for I-SEM.	No comment – but note comments on calculation of Net Imbalance Volume utilising PNs, if there is deviation from ex-ante trades.
4. What are your views on the potential for the inclusion of an information imbalance charge. In addition, comment is sought as to whether this issue is best addressed under the generator	No comment.



performance incentives.	
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## 1.6 FORM OF OFFERS, BIDS AND ACCEPTANCES (SECTION 5)

Question	Answer
<p>1. Which of the proposed formats should be used for bids and offers for deviating from PNs?</p> <ul style="list-style-type: none"> <li>• Simple MWh</li> <li>• Relative MWh</li> <li>• Absolute MWh</li> </ul>	<p>Difficult to comment in the absence of a wider discussion on Price Maker Wind. Please refer to our general comments for further consideration.</p>
<p>2. How should fixed costs be represented within bids and offers?</p> <ul style="list-style-type: none"> <li>• Explicit start up contracts</li> <li>• Block bids</li> <li>• Explicit start-up (and no load) costs</li> </ul>	<p>The design of the balancing market should guarantee recovery of start-up costs. Explicit start-up costs would facilitate flexibility in dispatch decisions for the TSO to manage the constrained system. Commercially, however, the inclusion of balancing costs into the cleared balancing market price (which can be managed in through a variety of manners, everything from related block offer pricing through to out-of-market payments for explicit start costs) is something which requires careful consideration. This entire area – the inclusion of start-up costs within the market design – requires further discussion and potentially consultation.</p>
<p>3. Should it be possible to rebid offer and bid prices following an acceptance? Three options are proposed:</p> <ul style="list-style-type: none"> <li>• Fixing prices of accepted bids and offers</li> <li>• Undo prices</li> <li>• Freezing all prices</li> </ul>	<p>No comment.</p>
<p>4. Should open or closed instructions be used to move participants away from their PN?</p>	<p>No comment.</p>

## 1.7 INTERACTIONS BETWEEN THE BALANCING MARKET AND INTRADAY MARKET (SECTION 6)

Question	Answer
<p>1. Which of the options put forward should apply to participation in the IDM in the event that the TSOs take a balancing action pre-gate closure:</p> <ul style="list-style-type: none"> <li>• Freeze PNs</li> <li>• Additive PN Changes</li> <li>• Substitutive PN Changes</li> </ul>	<p>Early balancing actions should have zero impact on the decisions and ability of generators to trade in the Intraday Market. This will increase the liquidity in the Intraday Market – the only short-term market to which wind industry has access.</p> <p>This would favour the “substitutive approach” outlined in the consultation paper. Generators should be as dispatch-indifferent as possible to early balancing actions when taking intraday market trades. Furthermore, IWEA believes that intraday market trades should not have the potential to be subsidised by early balancing market actions.</p>
<p>2. If the substitutive PN Changes option is taken, there are two further options for swapping out or netting IDM trades against bid-offer acceptances:</p> <ul style="list-style-type: none"> <li>• If the participant wishes to trade in the IDM and substitute the bid-offer acceptance they will need to achieve a more advantageous price in the IDM than the bid-offer acceptance price</li> <li>• Implement a methodology which sees the unit lock in the premium above or below the imbalance price through the bid-offer acceptance</li> </ul>	<p>For example, if a generator is committed on in an early balancing action, it knows that its start-up cost has been recovered, and can compete with conferred advantage against a more flexible, lower start-up generator that was not synchronised by the TSO, for intraday market trades. While the early balancing market actions can only subsidise the generators that are called, reducing their offer price, increasing chances for export intraday, it is a cross-market subsidy to the class of inflexible, high start-up cost, long-start up time generators that in the long-term will not support a renewable portfolio of generation. This, therefore, means that generators are only likely to take an intraday market trade if the price receivable is preferable to the accepted balancing market price. This raises important issues that the TSO takes early balancing actions which are value-for-money, i.e. at a non-inflated price, as that could impact intraday market liquidity.</p>
<p>3. Which of the three options put forward for dealing with “Trading in the Opposite Direction” should be implemented:</p> <ul style="list-style-type: none"> <li>• No specific consideration of this would be reflected in</li> </ul>	<p>No comment.</p>

<p>the market design</p> <ul style="list-style-type: none"><li>• Implementing a rule that would prohibit PN changes that increase the quantity of any offer or bid acceptances</li><li>• Permit PN changes in either direction but, in the settlement of the offer or bid acceptances, to limit the quantity on which the premium is payable, such that a change in PN cannot increase this quantity</li></ul>	
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## 1.8 TREATMENT OF SYSTEM SERVICES (SECTION 7)

Question	Answer
<p>1. What are your views on the proposal whereby a unit that is deployed for reserves should be constrained to the minimum extent possible in the IDM</p>	<p>We agree with the principle that the procurement of ancillary services should have minimal impact on ongoing trade from those service providers, unless future reserve contracts require “firm” provision of ancillary services.</p>
<p>2. Are there any market power issues that need to be specifically addressed in relation to System Services?</p>	<p>No comment. (IWEA will respond within the Market Power workstream and the System Services DS3 Programme to such issues).</p>
<p>3. Which of the two approaches should be utilised where the TSOs have to schedule a plant before the opening of the Balancing Market:</p> <ul style="list-style-type: none"> <li>• A system services framework would be used to contract with those generators that need to be scheduled prior to the BM opening.</li> <li>• The TSOs would use incremental offers and decremental bids from previous trading day to call a plant pre-BM.</li> </ul>	<p>No comment.</p>

## 1.9 IMBALANCE PRICING (SECTION 8)

Question	Answer
<p>1. What are your views on the Tagging and Flagging Approach. A “cause” based method for identifying energy and non-energy actions with the imbalance price being set only on energy actions.</p>	<p><u>Flagging and Tagging</u>, with some adjustment for the highly constrained SEM, could also deliver a reasonably unconstrained price into the market.</p> <p><u>Flagging and Tagging</u></p> <p>Flagging and tagging can operate well, but as the SEM Committee note, flagging any action in the SEM context as purely energy will be difficult. We draw reference, however, to stages 4 (Classification) and stage 5 (NIV Tagging) of the BETTA approach. These steps could be merged in the SEM context, whereby all actions (whether “energy” or “non-energy”) up to the volume of the NIV could simply be identified as price effecting. This approach has been presented by the SEM Committee at certain workshops. In effect, this becomes a pricing from unconstrained unit from the actual dispatch stack, without a TSO or algorithm identifying non-energy actions within the Net Imbalance Volume (as this is accepted to be a difficult process within the SEM context), but maintaining flexibility in removing tagging de minimis small actions and allowing for a PAR.</p> <p>It is noteworthy that the Flagging and Tagging approach starts with the actions taken by the TSO, and excludes those non-dispatched generation. Then it attempts to remove those actions which were “non-energy”, but the pricing will always contain an element of constraint. For example, due to a transmission constraint group minimum inertia requirement, a cheaper generator may not be dispatched in favour of a generator with high inertia in the correct location. Therefore, irrespective of the success in stripping out non-energy constraints from price formation, this mechanism should yield a more expensive clearing price than the above pricing stacks based on available generation. It is also subject to TSO discretion as to what generators they may dispatch.</p> <p>This option, with some softening of the marginal price and TSO influence on the price through a PAR would also be a possible option.</p>
<p>2. What are your views on the Simple Stack? With this approach there would be a simple stack of the available bids and offers and the price would be set based on the net</p>	<p>IWEA also recognises that non-economic depression of balancing market prices will result in the balancing market becoming pay-as-bid (reducing DS3 System Service provider incentives) and potentially undermining the wider functioning of the market.</p> <p>To that end, IWEA believes that the balancing market design should include generator characteristics in price formation (therefore excluding the Price-based Method 1a).</p>

<p>imbalance volume.</p>	<p><u>Unconstrained Imbalance Simple Price Stack</u></p> <p>While the unconstrained simple stack has benefits in terms of lower pricing due to lower constraint and simplicity of implementation, it will result in more called generators in the balancing market having costs greater than the clearing price. It would appear that the pricing used for settlement could be sufficiently low to make even energy balancing actions pay-as-bid. This appears to be contrary to the I-SEM high-level decision, and would lose any balancing market signal appropriate to support more flexible balancing service providers. If the options were evaluated on the narrow criteria of exposure of wind generation to imbalances, this would be the favoured option, but it appears to be unsuitable when wider considerations are taken into account.</p> <p>It is also unclear how start-up costs would (if they should) be appropriately placed into the marginal clearing price of such a simple stack, unless the start-up costs was incurred in the hour the start incurred, the costs were internalised in the INC/DEC, or the costs were paid outside of the market. Recovery of the start-up costs within the hour could create over-recovery of revenues for generators at the expense of consumers (and imbalanced parties). It would, however, generate prices quickly, and not likely to be prone to unrealistic balancing price calculations.</p>
<p>3. What are your views on the unconstrained stack with plant dynamics included. These are two additions that this option would have over the simple stack:</p> <ul style="list-style-type: none"> <li>• Plant Dynamics</li> <li>• An optimisation time horizon</li> </ul>	<p>IWEA believes that the balancing market design should include generator characteristics in price formation (therefore excluding the Price-based Method 1a), but should exclude to the greatest degree possible any system-level constraints. This leads to either utilising the Unconstrained Stack with Plant Dynamics (Price-based method 1-b) or Flagging and Tagging (Cause-based pricing method).</p> <p><u>Unconstrained Imbalance Price Stack with Plant Dynamics</u></p> <p>The generator constrained stack option optimises the unconstrained generator schedule over a time horizon, taking into account generator constraints. In that regard it appears to have similar principles to the day-ahead market and the intraday market, i.e. generator constraints are included, but system constraints are not. There does seem to be some merit in including this level of constraint within the balancing market, i.e. it is effectively unconstrained in relation to reserves and SNSP. It also could deliver prices quickly at the end of each settlement period – if the optimisation horizon looked backwards over a number of hours, only pricing the last hour most recently passed.</p>

	<p>There are some issues with this option. In effect, this is the balancing market arrangement which was consulted on in Option 2 during the High Level Design consultation. IWEA raised concern around the algebraic stability of this algorithm, and also noted its apparent newness, also a disadvantage in light of challenging project timelines. IWEA is happy to explore the development of this option, but before exclusively proceeding with this option, there would be need to evaluate whether the above concerns are surmountable. There is also a question as to whether start-up costs should be recovered within the balancing market price as before.</p>
<p>4. What are your views on the price based method – unconstrained unit from actual dispatch?</p>	<p>The incentives created in the ex ante markets, the impact on the I-SEM’s competitiveness to export (and therefore reduce curtailment), and so forth need to be considered before proceeding exclusively with one option over another. If, for example, SNSP limits were fed into the balancing pricing arrangements (Unconstrained Unit from Actual Dispatch – not IWEA’s preferred Option), there is a possibility that such constraints could bleed forward into the day-ahead market price, making export less likely.</p> <p><u>Unconstrained Unit from Actual Dispatch</u></p> <p>This mechanism is another dispatch-based stack, but now includes wider system constraints within the balancing market price. This is as close to a fully constrained balancing market as possible, taking not only TSO discretion in dispatch as a starting point, but algebraically further restricting the available prices with SNSP and reserves. IWEA cautions against pursuing this approach without full understanding of the impacts. It appears that an already constrained dispatch is subject to an ex post algorithmic analysis that reinterprets the reasons for dispatch already taken by a TSO. It is difficult to see how an algorithm will fare much better than the TSO creating cause-based tagging and flagging (which we note is something that would need to be addressed in the flagging and tagging approach). The benefits of removing generation dispatch for a few MW may also be lost under this approach. For example, could the dynamics of curtailment within such an algorithm drive balancing market prices up during curtailment event as curtailed wind limited by SNSP might not be able to impact the price? Would this have a follow-on impact on ex-ante pricing, driving interconnector imports and exacerbating curtailment? In general, the inclusion of SNSP limitations either explicitly in the calculation of balance prices, or implicitly (through exposure to imbalance prices if curtailed, as consulted on in the Building Blocks consultation paper) will undermine the true unconstrained value of the I-SEM portfolio.</p>

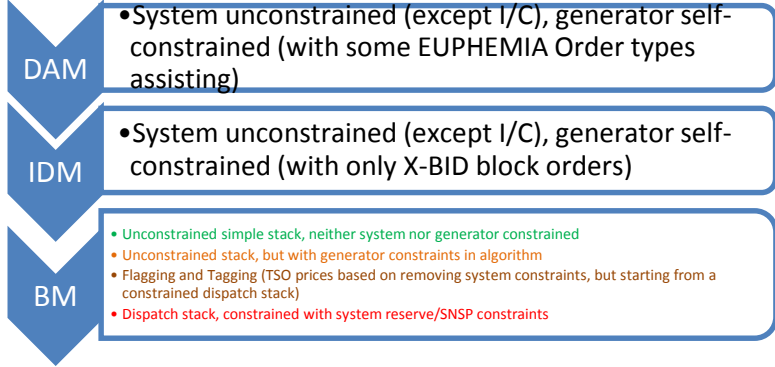


<p>5. What are your views on the sharpness of the marginal imbalance price? Do any concerns relate to the transition between SEM and I-SEM or are there other broader concerns?</p>	<p><b>PAR</b></p> <p>The consultation question asks the specific question regarding why the industry views a PAR as necessary. Going back to an early concern, until the market pricing structure is determined, there is no certainty regarding the rationality of the imbalance price. In the early days of the SEM, there were price spikes due to expensive generation being scheduled for a fraction of a MWh, requiring the entire market to pay these prices. These issues resolved themselves with new generator entry and demand destruction from the recession.</p> <p>The concern IWEA has is that these pricing arrangements are new, the industry requires time to bed down trading capability, and within that context some form of softening of the last MWh price setting is prudent and sensible. If, over time, it is demonstrated that the PAR is excessive, unnecessary, or is limiting activity in the intraday market, it can be relaxed.</p> <p>The concept of a PAR is also useful to blunt system operator discretion feeding into pricing arrangements under flagging and tagging.</p> <p>In relation to how a “PAR” is implemented within an algorithmic stack-based approach, sanity checks on the imbalance pricing outputs should be performed. For example, if the day-ahead price clears at €45/MWh, the market is only short by a small number of MWh, but the imbalance price clears at a substantially different price, e.g. €400/MWh, some form of regulatory price cap would give an effect to a PAR.</p> <p>If there is no active EU intraday market at the time of market go-live, PAR-like concepts are vital to control exposure of participants to unmanageable risk. Finally, PAR-like concepts can also act to change the relative costs of the clearing price in SEM relative to other markets. Such a tuneable parameter could be vital to ensure appropriate activity on interconnectors during curtailment events.</p> <p>In summary, the desire for a PAR is not a desire to avoid cost reflective imbalance pricing. It reflects a desire to manage the uncertainty of whether new pricing arrangements will actually deliver prices that are not a result of algorithmic stress or TSO discretion in a highly constrained market. This is a transitional issue unless it is shown that the pricing in the balance market demonstrates out-turn prices not reflective of supply and demand, in which case a PAR-like</p>
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	concept should remain until the market is corrected.
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## 1.10 IMBALANCE SETTLEMENT (SECTION 9)

Question	Answer
<p>1. What are your views on the issues set out in the imbalance settlement section?</p>	<p><u>Prices and Constraints</u></p> <p>In general, the more constraints considered within market pricing design, the higher the out-turn price, and the less reliance on out-of-market “constraint” payments and flat charges to recover those costs on consumers. We also agree with the general statements in the paper that the SEM is a highly constrained system. Therefore, a large market with, for example, 50% gas generation and 50% wind with low constraints, should set a lower price than a market with the same technologies but with higher constraints, if the pricing algorithm considers many of these constraints. This could be important for us in I-SEM for two reasons:</p> <ul style="list-style-type: none"> <li>• High balancing market prices encourage participation in ex ante markets, driving prices upwards in those markets. If the marginal generator that sets the price in the day-ahead market at €50/MWh is excluded due to a constraint in setting the price in the balancing market, the price in the balancing market is higher. This sends a signal to participants to buy power in the day-ahead timeframe (low price), and sell back in the intraday or balancing (higher price).</li> <li>• The higher prices in ex ante markets make export less likely, leading to curtailment.</li> </ul> <p>Of course, this is within the context of striking an appropriate balance of the level of constraint within the balancing market design. It should be at a sufficient level to encourage ex ante trading, but only that the necessary level required to do so, otherwise the efficiencies of the ex-ante markets may be compromised.</p> <p>The following diagram represents our observations on the ex-ante market designs, and the range of consulted-on designs within the balancing market design. We draw distinction between “system constraints”, i.e. thermal transmission constraints, operational reserves, SNSP, must-run generation sets, and “generation constraint”, i.e. those which arise from ramp-rate, minimum stable generation, minimum on-times, etc., in our description. IWEA’s view is that the balancing market should contain the appropriate level of SEM constraint in price formation, so not to render our market uncompetitive in the European context.</p>

	 <p>•System unconstrained (except I/C), generator self-constrained (with some EUPHEMIA Order types assisting)</p> <p>•System unconstrained (except I/C), generator self-constrained (with only X-BID block orders)</p> <ul style="list-style-type: none"> <li>• Unconstrained simple stack, neither system nor generator constrained</li> <li>• Unconstrained stack, but with generator constraints in algorithm</li> <li>• Flagging and Tagging (TSO prices based on removing system constraints, but starting from a constrained dispatch stack)</li> <li>• Dispatch stack, constrained with system reserve/SNSP constraints</li> </ul> <p>It is clear that the day-ahead market and intraday market are system unconstrained and generator constrained. While there are obligations on each market to have regard for the future harmonisation of balancing arrangements within the Electricity Balancing Network Code, at this moment there is a large degree of discretion left to the individual market to set the appropriate level of constraints which influence price in the Balancing Market. We have listed the balancing market designs in order of increasing constraint. All market designs involve pricing the net imbalance volume.</p> <p><b><u>Settlement of Curtailment and Constraint</u></b></p> <p>IWEA support the concept of the Price Taker in the Balancing Market presented in the consultation paper. Instead, however, of each windfarm submitting a forecasted PN (and the issues with forecast inaccuracy that arise), the balancing settlement should use the ex post availability signal derived from recorded SCADA to determine the PN, or what could have been generated were it not for the constraint. We will stress, as per our building blocks consultation, that there remains good incentive to trade day-ahead for wind generation, as the balancing price received by windfarms with no ex-ante trades for what could have been generated is likely to be low.</p> <p>IWEA note that with the market go-live in 2017, there remains a number of months where the market systems must be capable of compensating curtailment. We believe this should endure at a minimum where generators have traded in ex ante timeframes. Please see our response to the Building Blocks consultation for further discussion in this area.</p> <p><b><u>Net Imbalance Volume</u></b></p> <p>IWEA believes that net imbalance volume should be calculated from the difference of ex ante trades and delivery. We believe this is close to the physical notifications option presented in the paper, but we have difficulty with physical notifications being used for two reasons:</p>
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	<ul style="list-style-type: none"> <li>• A 400MW generator that is predictably constrained, or constrained by an early balancing action, to 350MW (but is firm), trades 400MW in the DAM. The TSO always dispatches the generator to 350MW. If physical notifications are allowed to deviate from ex ante trades, the generator can name any physical notification between 350MW and 400MW with no commercial consequence to the generator. If pricing is based on physical notifications, it is clearly inappropriate for a generator to have access to a commercially irrelevant submission that impacts the price for the wider market.</li> <li>• Assetless traders are unlikely to have any physical notification. In the event that there is some imbalance issue within the market and the assetless trader seeks to manage that by trading between day-ahead and imbalance arrangements, their activities impact on price would not be seen in the imbalance arrangements if the NIV was based on physical notifications, and their ex ante trade counterparty was a windfarm or supplier.</li> </ul>
<p>2. What are your views on the refined proposal whereby the payment rule applies only to incremental offer acceptance volumes above the PN and to decremental bid acceptance volumes below the PN?</p>	<p>No comment.</p>
<p>3. What are your views on the possible consequences of ex-ante</p>	<p><b>Hourly ex ante trades allocated to HH/QH generated volumes</b></p> <p>IWEA supports the principle that if ex-ante traded volumes of the minimum market-defined duration (currently hourly) match the sum of the delivered energy over that same period, the traded entity should not face any imbalance prices. Furthermore, if a participant is short on trades, its</p>

<p>trades based on trading periods of different duration to the Imbalance Settlement Period (ISP) and what are your views on the options put forward in the paper.</p>	<p>imbalance should be calculated as the minimum amount payable, and if a participant is long on trades, its imbalance should be calculated as the maximum receivable. It is understood that this will result in a net cash shortfall in the market, but any cash-balanced mechanisms are discriminatory to wind, which tends to have an imbalance position correlated with market price.</p>
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## 1.11 OTHER ISSUES (SECTION 10)

Question	Answer
1. Global Aggregation – what are your views on the current policy and the three alternative options put forward in the paper for dealing with global aggregation	No comment.
2. Local Market Power – What are your views on whether there are any specific issues in relation to local market power which need to be considered at this stage.	No comment. (IWEA will respond within the Market Power workstream).
3. Metering – What are your views on the proposal for metering put forward in the Consultation Paper.	No comment.
4. Instruction Profiling – What are your views on the instruction profiling section. In particular, is it feasible to more accurately model the precise loading of units and whether more technical characteristics need to be accommodated in the technical offer data.	No comment.
5. Units Under Test – What are your views on the two	No comment.

options put forward for units under test in I- SEM.	
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