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Jean Pierre Miura
Utility Regulator
Queens House
14 Queen Street
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Our Ref: GS-003390

25 July 2014

Dear Jean Pierre Miura,

Re: RES Response to Integrated Single Electricity Market (I-SEM) High Level Design Draft Decision Paper

RES is one of the world's leading renewable energy developers, working across the globe to develop, construct and operate projects that contribute to our goal of a sustainable future. We have a portfolio of low carbon energy technologies and a range of services which together can meet demand from the industrial, public and commercial sectors on whatever scale.

RES has been an established presence at the forefront of the wind energy industry for more than three decades. Our core activity is the development, design, construction, financing and operation of wind farm projects worldwide. RES has developed or built more than 8GW of wind energy worldwide and we have several thousand megawatts under construction and in development - we continue to play a leading role in what is now the world's fastest growing energy sector. RES is also involved in the dedicated biomass, solar, offshore wind, wave and tidal sectors.

RES welcomes the opportunity to respond to the Integrated Single Electricity Market (I-SEM) High Level Design Draft Decision Paper. As active members of IWEA and NIRIG we are fully supportive of their joint response. We have attached a detailed response on the I-SEM energy trading arrangements proposed and our key areas of concern but the key points to note in our response are:

1. RES welcome that a variation to option 3 (Mandatory Centralised Market) is the option being taken forward but we have some concerns with the new market design.

2. RES welcome the SEM Committee's proposal to implement a mechanism for renewable generators to access the market. However, we have strong concerns that the proposal is for the mechanism to be transitional only and that "any mechanism implemented must ensure that it does not inhibit creation of a market solution for aggregation". Therefore, we are concerned that the aggregator of last resort could be priced at an unviable level for generators, potentially creating a disincentive for its use from the outset. As raised in our response to the previous consultation, it is very important that a central aggregation service is in place and that generators are able to access this service cost-effectively. Further consultation on the aggregator of last resort is needed.

3. RES agrees that a Capacity Remuneration Mechanism (CRM) is required as we outlined in our response to the previous consultation but the CRM should be a long-term price-based option with wind generation earning its capacity credit at the market rate so that wind is treated equitably with other generation. The CRM design chosen needs to reflect the importance of security of supply in the I-SEM not just the "missing money problem". We believe the proposed Reliability Option (RelO) to be discriminatory against wind due to the risks and penalties associated with it.

4. We have strong concerns with the proposed imbalance calculation and believe the whole imbalance arrangements have been inadequately considered by the SEM Committee. Applying marginal imbalance prices will have a specifically detrimental impact on wind and intermittent generation. Furthermore, there is potential for the system to be abused if one generator can set the imbalance price for the whole market.

We look forward to the publication of Final Decision Paper in September and welcome any further contact in relation to this submission. To do so, please contact Sarah Husband at Sarah.Husband@res-ltd.com or 01923 299 454.

Yours sincerely,

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Detailed Response to I-SEM High Level Design Draft Decision Paper

Comments on Decision 1: I-SEM Energy Trading Arrangements

We responded to the previous I-SEM consultation in support of a variation to the proposed redesign Option 3 (Mandatory Centralised Market). Therefore we welcome that a variation on option 3 is the option which is being taken forward. We supported IWEA's proposed Option, Option 3b. The principle behind the Option 3b design is that the market requires participation of physically generated and consumed energy within a publicly traded market that influences interconnector flows.

Below we have compared our Option 3b requirements from our response to the previous consultation to the draft decisions put forward in the current I-SEM High Level Design Draft Decision Paper.

A. We requested Financial Transmission Rights in forwards timeframe and no long-term physical contracts in forwards timeframe in Option 3b:

  - We welcome the draft decision that the I-SEM will have only financial trading instruments for within zone trading and subject to further discussions and agreement with other neighbouring markets, Cross-Zonal trading will be supported only by Financial Transmission Rights.
  - This will leave interconnectors free for physical export as required. It also promotes liquidity of physically traded power in other market timeframes. It should prevent generation and demand "disappearing" from price formation in the market by notifying physical positions to the TSO in advance of the Day Ahead market.
  - For the avoidance of doubt, the right to physically contract a generator to a supplier (or other counterparty) should not be prohibited; the supplier (Intermediary in the current design terminology) should then be able to participate with the generator in the market arrangements. This is the basis for the REFIT PPAs which are currently in place where wind generators are contracted to suppliers. The retention of intermediaries is something that needs to be clarified in the decision paper as it could have a significant impact on REFIT PPAs. It should still be possible under the new market design for a party to act on behalf of a generator in the market. It is still possible for offtakers to manage independent generators output in other EU markets e.g. GB. This is important for smaller generators who do not have the resources to actively trade in the market themselves. It is also important that there is transparency in relation to the revenues earned by the intermediary on behalf of the generator, the HLD Criteria states:

    > *"Competition: the trading arrangements should promote competition between participants; incentivise appropriate investment and operation within the market; and should not inhibit efficient entry or exit, all in a transparent and objective manner."*

    This is to ensure that generators are getting a fair price and this transparency could potentially be used for the operation of support mechanisms.

B. We requested an exclusive Day Ahead market (not mandatory):

  - We welcome the draft decision that the European Day Ahead Market will be the 'exclusive' route to a physical contract nomination and that there will be unit-based participation for generation in general, with (gross portfolio) aggregation arrangements for demand side units (DSU), demand and (some) variable renewable generation.
  - This design feature is read as a prohibition of trading physical power in the Day Ahead timeframe except within the interconnector coupled European PCR market via the Euphemia algorithm. This is to promote liquidity and price formation in a public market, also ensuring transparency. We also welcome that the SEM Committee has considered the potential difficulties relating to the

enforcement of mandatory participation in the Day Ahead Market and is now proposing to relax the requirement for mandatory participation in the Day Ahead Market. Please see further discussion below on the detrimental impact a fully mandatory Day Ahead Market would have on wind generators (Point 3).

- We welcome the prohibition on the netting of consumption and generation in a single traded unit. This promotes market liquidity and price formation.
- The decisions states that “some” variable renewable generation will be allowed gross portfolio aggregation arrangements. Clarification is required as to what it meant by this. We believe that aggregation should be available to all variable renewable generation as the same issues of forecasting and overheads would be faced by all and any restriction on generator types would be arbitrary and could be discriminatory.

C. We also requested an exclusive within-day market:

- We welcome continuous intraday trading will be the exclusive route to intraday physical contract nominations (with scope to introduce periodic implicit auctions as/if these develop at the European level) and unit-based participation for generation in general, with (gross portfolio) aggregation arrangements for DSU, demand and (some) variable renewable generation.
- As for the Day Ahead market, physical power must be traded within the interconnector coupled Shared Order Book Function (SOBF) intraday market.
- Again clarification is required to what is meant by “some” variable renewable generation.

D. We also called for mandatory provision of Incremental (INCs) / Detrimental (DECs) bids into Balancing Market for all generation:

- We welcome the draft decision that the starting point for dispatch is detailed and feasible production plans required for all market participants following the Day Ahead Market and participation in the Balancing Mechanism after the Day Ahead stage will be mandatory. We also welcome unit-based participation in the Balancing Mechanism for generation in general apart from wind which should be able to submit on INC/DEC for each portfolio of wind traded.
- The I-SEM is likely to continue to have a high reserve requirement relative to other markets. Constraint dispatch and scheduling is likely to be needed before intraday market gate closure. To that end, the TSO should have access to appropriate prices for such early actions. All generators (and not just those who are technically capable to deliver INC/DECs to the balancing market one-hour out) should be required to submit INCs/DECs and this should be priced accordingly. For the avoidance of doubt there would be one INC/DEC provided for each portfolio of wind traded in the market.
- Please see comments on priority dispatch below, Point 6.

E. We believed that further consideration should be given to imbalance pricing and settlement than was reflected in the consultation paper:

- We have strong concerns over the draft decision for Marginal pricing for unconstrained energy balancing actions, please see comments to Point 4 below.
- We welcome that the imbalance market will be unit based and based on a single imbalance price.
- Please see further comments in response to Point 2 and 4 below.
- For the avoidance of doubt the imbalance arrangements should not be seen as a viable “route to market for smaller players”, this will be a very penal and volatile market. No generator will want to solely use this market to sell their genereation or be able to finance a project based on this market.

- We welcome the proposed mechanism to support renewables access to the market. However, we have real concerns with the proposed option put forward. Please see further comments under Point 2 below.

<u>Areas of Concern and Requested Changes</u>

1. <u>Capacity Remuneration Mechanism (CRM)</u>

We agree that a CRM is required as we outlined in our response to the previous consultation but the CRM should be a long-term price-based option with wind generation earning its capacity credit at the market rate, so that wind is treated equitably with other generation. The CRM design chosen needs to reflect the importance of security of supply in the I-SEM not just the "missing money problem". We believe the proposed Reliability Option (RelO) to be discriminatory against wind due to the risks and penalties associated with it.

IWEA have received legal advice and proclaim that should the proposed RelO be adopted, there is a case to make that participants in the wind sector have a legitimate expectation of receiving remuneration payments under the existing CRM. We would also argue that the proposed RelO discriminates against participants in the wind sector in contravention of overarching European policy aims of preventing discrimination against renewables in the I-SEM, on the basis of a lack of cost-reflectiveness. There may also be a case to make for a disproportionate interference with property rights contrary to Article 1 of the First Protocol of the European Convention on Human Rights ("ECHR").

Wind generation should receive fair capacity payments for its capacity credit contribution to system security. Any other outcome would be discriminatory and would not comply with the new state aid guidelines as currently drafted. The State Aid Guidelines[1] state that:

- *"Aid for generation adequacy may contradict the objective of phasing out environmentally harmful subsidies including for fossil fuels. Member States should therefore primarily consider alternative ways of achieving generation adequacy which do not have a negative impact on the objective of phasing out environmentally or economically harmful subsidies" (220).*
- *"The measure should be designed in a way so as to make it possible for any capacity which can effectively contribute to addressing the generation adequacy problem to participate in the measure, in particular, taking into account the following factors: (a) the participation of generators using different technologies" (232a).*
- *The measure should "give preference to low-carbon generators in case of equivalent technical and economic parameters." (233e)*

Therefore, we believe the CRM as currently proposed would not meet some of the State Guidelines and could struggle to receive state aid approval from the European Commission.

The design of the RelO makes it practically impossible for wind to participate in the CRM. The RelO proposed creates implicit penalties when market prices go high in the reference market. By definition, zero cost variable generation drives prices low when it is available. Therefore, penalties occur during periods of high demand AND low wind. Therefore, wind will be punished most severely out of any technology class by the RelO. Wind would have to account for this unfair implicit penalty in its RelO offer, likely making it uncompetitive. Defining the penalties in this manner, i.e. implicitly saying that periods when wind contributes to a high demand requirement are not periods where there may be a requirement for security of supply, is clearly discriminatory. Wind has an established capacity credit.

[1] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52014XC0628(01)

We do not support the RelO proposed and continue to support a long-term price-based option. A CRM should be designed to provide a balance of risks and rewards which incentivise the provision of capacity. The ability of generators to respond to those incentives varies, as does their ability to shoulder the risks of potential penalties. CRMs that remunerate intermittent generators, for example, must recognise the fact that their availability varies with time. Currently, intermittent generators in the SEM receive a capacity payment based on their production in a given period (since wind generators, for example, dispatch their entire available capacity). An alternative model, as used in the ISO New England capacity mechanism, is to make a payment to intermittent generators based on their de-rated capacity. For the purposes of the capacity market, intermittent capacity is de-rated to the median output level observed in the previous five years, during certain “reliability hours” in summer and winter. There is also no penalty in the New England CRM associated with intermittent generators failing to fulfil the obligation.

Additionally, it is important that the design of the CRM should be such that impacts on interconnector flows are minimised and imports on the interconnector are not rewarded at times of high wind, resulting in wind curtailment.

2. Route to Market and Balancing Responsibility

The draft decision is that generators in the I-SEM will now be directly exposed to balancing costs and that an aggregator of last resort will be available for some generators. We welcome the SEM Committee’s proposal to implement a mechanism for renewable generators to access the market. However, we have strong concerns that the proposal is for the mechanism to be transitional only and that “any mechanism implemented must ensure that it does not inhibit creation of a market solution for aggregation”. Therefore, we are concerned that the aggregator of last resort could be priced at an unviable level for generators, potentially creating a disincentive for its use from the outset. As raised in our response to the previous consultation, it is very important that a central aggregation service/counterparty of last resort is in place and that generators are able to access this service cost-effectively.

The SEM Committee have a responsibility towards licensed entities first and foremost, including recognition that there should be an efficient functioning market. Placing emphasis on developing secondary markets of “market interface services/aggregation” without providing regulatory support for an enduring trading arrangement is an inappropriate emphasis of the SEM Committee’s statutory functions. Developers need to be supported in wholesale market interactions. Therefore, the aggregator of last resort should be an enduring feature of the market.

The draft decision places more emphasis on developing a market for market services companies rather than providing certainty of a route to market for independents. We believe that the importance of these last resort arrangements requires the mechanism to be enduring, investors need certainty of these arrangements. The existence of the central aggregator in itself alone will be a strong driver of market liquidity and that any subsequent termination of the mechanism could damage these dynamics and undermine investor confidence. We feel that the central aggregator should be mechanism which should be here to stay, even if it appears significantly underused.

It is important that a central aggregation service/counterparty of last resort is in place. We support the benefits that central aggregation could bring including efficiencies of scale over arrangements with individual off-takers. However, the largest benefit to be gained from this proposal would be a clear indication of the balancing cost of intermittent renewable generators which can then be fairly reflected in PPA agreements and support levels. Therefore, as raised above we are concerned by the comments in the consultation that “any mechanism implemented must ensure that it does not inhibit creation of a market solution for aggregation”. The aggregator of last resort should be considered a mechanism to enable intermittent renewable generators to fairly access the market from the outset of the I-SEM before commercial entities are unlikely to be established and should not be priced at disincentive for its use from the outset.

As raised in our previous consultation response it is of vital importance that under the redesigned market independent generators, particularly intermittent renewable generators, are able to have access to the market and not just through a Power Purchase Agreement (PPA). We are particularly concerned of the potential exposure of intermittent renewable generation in the I-SEM to imbalance prices. Imbalance pricing is a key reason for the difficulties in obtaining bankable PPAs in the GB market. Imbalance prices are factored into PPAs with a significant variation for error (risk) as there are real difficulties in predicting imbalance prices far in advance under a long term PPA. This often makes PPA offers unbankable in GB. Imbalance pricing will also be additionally problematic for intermittent renewable generators on the Island of Ireland when they are curtailed or constrained.

While conventional generators can be incentivised by the TSOs to make the process easier by generating more at peak times and vice-versa, the idea of giving renewable generators an incentive to generate in response to market demands is academic. How wind and solar generators can respond to such incentives at all is unclear. If and when technology improvements allow efficient storage of green electricity this could become a useful mechanism, but as renewable generators cannot “save up” energy production for times of high demand (like a gas plant can, by burning more gas at peak times), as long as prices are positive there cannot be an incentive for renewable generators to self-regulate at source to match market trends. Any potential not fulfilled when the wind is blowing or the sun is shining is potential lost, so renewable generators will always be incentivised to maximise generation as long as prices are positive.

The important issue is to minimise the cost to the consumer by ensuring that incentives are most appropriately placed with actors who are able to respond to those signals. Incentives for helping balancing need to be available throughout the system (not just placed on individual generators) to encourage innovation and competition throughout the market. In GB because of the structure of the current market, the Big Six enjoy a competitive advantage in managing balancing exposure compared to other actors. It needs to be ensured that this does not happen in the I-SEM. The advantage enjoyed by the Big 6 in GB creates a barrier for new entrants and innovation, undermining market plurality. If the incentives are placed correctly however, the market should be open to innovation and challenge.

Further consultation on the aggregator of last resort is needed to fully assess what is required from the mechanism and therefore how it should be structured. For example, who needs access to this market? What incentives need to placed on the aggregator to manage the arrangements? In what markets will the aggregator trade e.g. Forward, Day Ahead, Intraday?

3. Day Ahead Market

As discussed above we welcome the draft decision in the consultation that:

> *“the SEM Committee now proposes relaxation of the requirement for mandatory participation in the Day Ahead Market. Participation in the centralised markets (Day Ahead and Intraday) will be exclusive but not mandatory”.*

As discussed in our response to the previous I-SEM consultation we do not believe mandatory participation in the Day Ahead market is appropriate for wind. A mandatory Day Ahead Market would be a volatile market for all market participants but particularly for wind. A mandatory Day Ahead Market would force wind generation to trade and take a position earlier than an accurate forecast would be available. This position would change within day and they may not be able to balance effectively. This would leave the generator exposed to (potentially costly) imbalance prices if the wind generator is then short or may not receive the full value for the power if the wind generator then turns out to be long. This is problematic for the whole market when renewable generation makes up 40% of the market in 2020.

We welcome the proposal for liquidity promoting measures in the Day Ahead Market such as mandatory requirements on larger market participants. It is vitally important for the operation of the I-SEM that the Day Ahead market is sufficiently liquid. The liquidity required in the Day Ahead Market may not occur voluntarily at least from the outset. However, we are concerned about how mandatory volumes could be set and enforced on variable renewable generation if the "mandatory for some volumes from all generators" option is taken forward and are not supportive of this option. Additionally, we warn against the temptation that may exist for the SEM Committee to influence the design of jurisdictional support schemes (such as a change in REFIT or the future renewable CfDs) to enforce mandatory participation through the back door.

4. Imbalance Cost

We have strong concerns with the proposed imbalance calculation and believe the whole imbalance arrangements have been inadequately considered by the SEM Committee. Applying marginal imbalance prices will have a specifically detrimental impact on wind and intermittent generation, given the nature of intermittent generation and the likelihood of a low wind event coincide with a high energy balancing action cost occurring. Marginal imbalance prices will also increase both the volatility and spread between imbalance prices. This will not only deter new market entrants, it will also make it more difficult for them to participate in the market. Additionally, more marginal imbalance prices will in all likelihood lead to larger credit requirements for participants in the balancing market to cover the sharper imbalance prices which could become a barrier to entry.

The consultation is unclear whether the proposal is for the last unit employed to provide balancing energy will set the price for all activated balancing energy or the last MWh. Either way this proposal will lead to very high balancing costs, for example in GB, the balancing price is currently set using the last 500MWh dispatched to balance the system but Ofgem are moving to reduce this gradually to 250MWh, then 50MWh to 1MWh by 2018-19. We are deeply concerned about choosing to set the imbalance price in the I-SEM as the marginal energy balancing action from the outset. Furthermore, there is potential for the system to be abused if one generator can set the imbalance price for the whole market.

Additionally, the SEM is highly constrained system and therefore the separating of energy and balancing actions in the balancing market will be difficult. In GB the flagging and tagging process for energy and grid actions has been thoroughly assessed, having first been introduced in 2009[2]. However many MWh's are used to set the imbalance price the potential for flagging errors is concerning and we would welcome the introduction of a process to address them ex-post. Generators will need a dispute process and TSO will have to be prepared to adjust retrospectively. Just having a single MWh places a lot of responsibility and therefore pressure on the accuracy of the TSO's actions.

5. Support Reference Price

For new renewable projects to be able to be developed the reference price for support needs to be appropriately set. However, it is for DCENR and DETI to set reference prices for support mechanisms not the SEM Committee. It is essential that the market design is compatible with support schemes: existing, incoming and future. These reference prices need to be at a timeframe where there is suitable liquidity and the price can be easily achieved. A reference price should be stable and representative of a liquid and efficient market. Generators also need to have equitable access to the market to achieve the reference price.

[2] https://www.ofgem.gov.uk/ofgem-publications/40803/p217a-preliminary-analysis.pdf

In order to ensure that REFIT and CfD payments are appropriate there is a need for market transparency of revenues. Generators under the REFIT and CfD schemes need to be able to show their market revenues in a clear and transparent manner. One of the benefits of the existing SEM is the level of transparency.

RES would like to stress the importance of the timelines for the market decision making and implementation. Ireland has a mandatory target for 40% of electricity generation to come from renewables in 2020. One of the main tools for implementing this policy is the REFIT support scheme. The current REFIT support scheme closes in 2017, with generators required to be generating at this stage. In order to reach this timeframe projects will be seeking financial close in early 2016.

Additionally, the current Renewables Obligation (RO) support mechanism in Northern Ireland is also due to close and the new support mechanism CfD FiTs due to start in 2017. It is essential that there is certainty in relation to the market framework as soon as possible so that project promoters, investors and financial institutions can understand the market in which they will be participating. All decisions in relation to the trading options of generators need to be tied down by 2016. If there is uncertainty remaining at this stage it will stifle investment and bring the development of the industry to a standstill. It is essential that there is no market uncertainty in 2016 as this will mean projects are unable to reach financial close ahead of the REFIT and RO deadline and the renewable energy targets will be missed. This is likely to have severe repercussions for Ireland through infringement proceedings.

6. Priority Dispatch

Priority dispatch for renewables should be retained regardless. It is clear that this market design has been chosen without impact assessing it against absolute priority dispatch, as priority dispatch has been listed as a "policy" which is incorrect:

> *"In approaching the Detailed Design Phase the SEM Committee considers that, where possible, the existing **SEM Committee policy** on specific matters such as losses, firm access, **priority dispatch** etc. will remain in place and would only be changed where material inconsistencies make it incompatible with the I-SEM design."*

The principles of priority dispatch and access are set out in Directive 2009/28/EC of 23 April 2009 (the "Directive", as transposed in Ireland by S.I. No. 147 of 2011). The RES-E Directive outlines a number of obligations on the member state to enable the integration of renewable energy and to minimise curtailment. Article 16.2(c) states:

> *"Member States shall ensure that when dispatching electricity generating installations, transmission system operators shall give priority to generating installations using renewable energy sources in so far as the secure operation of the national electricity system permits and based on transparent and non-discriminatory criteria. Member States shall ensure that appropriate grid and market-related operational measures are taken in order to minimise the curtailment of electricity produced from renewable energy sources. If significant measures are taken to curtail the renewable energy sources in order to guarantee the security of the national electricity system and security of energy supply, Members States shall ensure that the responsible system operators report to the competent regulatory authority on those measures and indicate which corrective measures they intend to take in order to prevent inappropriate curtailments.[3]"*

The new market design being developed needs to take these requirements fully onboard and ensure that the market works in such a way that absolute priority dispatch is maintained and curtailment is minimised.

[3] Renewable Energy Directive 2009, http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=Oj:L:2009:140:0016:0062:en:PDF