



IWEA comments on the Integration of the SEM with the European Target Market Model

20th April 2012

1. Executive Summary

IWEA welcomes this opportunity to comment on the initial proposals on the implementation of the European Target Model. Given the apparent complexity of the issues it appears that implementing the Target Model on the all-island system will be a significant project. IWEA looks forward to continuing to engage fully with this process as it develops.

1.1 The Need for Explicit Design Objectives

The consultation documents to date have discussed issues which relate to every facet of the market. In order to clarify further the goals of this consultative process IWEA believes that the RAs should, at the commencement of the next phase of the process, explicitly state the design principles and objectives that will apply during the market redesign process. In absence of such explicitly stated governing objectives there will continue to be ambiguity surrounding the priorities underpinning the project design process which will confuse and delay the overall project. An exercise to specifically distil and map the requirements of the Network Code on Capacity Allocation and Congestion Management (NCCACM) should be undertaken and consideration should be given to the validity of deriving any market redesign plan in the absence of the specific requirements of the Target Model in the forward and balancing timeframes.

1.2 Retention of Key Attributes of the SEM Market

IWEA believes the existing SEM market has delivered on many of its stated objectives and that the retention of these attributes is important in any redesign of the market. In particular any new market design must ensure:

- The provision of guaranteed market liquidity
- Control of market power
- The provision of a stable, transparent and systematic platform for participants
- Equity across participant types delivered through the use of a single market price.

It should be noted that IWEA is not opposed in principle to the idea of the SEM being replaced entirely by another set of market arrangements if required, provided these arrangements are robust, well designed and are not detrimental for wind energy.

1.3 Ensuring a Stable Future for Renewables

Given the significant and vital role that renewables will play in the future of the all-island electricity system it is important that careful recognition is given to the nature of renewable energy assets as part of any market redesign process. Key issues in this regard include:

- **Imbalance Pricing** – IWEA believes that any attempt to reintroduce penal imbalance pricing as part of this redesign process would be significantly detrimental for the renewable sector and an unnecessary step for the market as a whole.
- **Efficient Market Signals for Import and Export** – Any new market design should emphasise and incentivise means for delivering efficient import and export of electricity in a manner that will reduce the overall level of renewable generation curtailed.
- **Reference Price** - Any redesigned market must provide a clear market reference price which renewables generation can access in a systematic way and which can be referenced by support schemes such as REFIT.
- **Priority Dispatch** - Any suggested market redesign options should explicitly outline how priority dispatch for renewable generation will be facilitated. Additionally, any new market should ensure ease of access for independent and unsupported renewable projects.
- **Modern Settlement and Credit Practices** – To assist the growing number of smaller and independent market participants, it is important that the settlement and credit practices in the SEM are modernised to best international standards.

2. Introduction

IWEA welcomes the opportunity to express its views on the proposals for Implementation of the European Target Model on the island of Ireland. Significant thought has been given to many of the issues outlined within the preliminary consultation documents. The consultation process thus far has been conducted in an open and inclusive manner; this is most welcome and has helped stakeholders begin to understand the various related issues. However, given the present nature of the SEM market, IWEA believes that achieving compliance with the target model will present a significant challenge and workload. IWEA looks forward to engaging fully in this process as it develops.

This response aims to outline the key elements of IWEA's position in relation to this consultation. It must be recognised that the following comments are compiled against a backdrop of significant uncertainty as many parts of the consultation and suggested design options have yet to be explored in a sufficient level of detail. These comments have been compiled after review of the relevant material, attendance at both public and bilateral meetings with the Regulatory Authorities. Although some elements of the consultation specifically ask stakeholders to state their preferred market design choice, IWEA believes at this relatively early stage of the process that insufficient details exist to state such a preference. Instead this response aims to highlight the issues that are considered of greatest importance to the renewable sector and the efficient operation of a market in a general sense.

3. Design Objectives and Design Constraints

The consultation documents released to date touch on a wide and varied range of market aspects. The features discussed impact on every facet of the market, its commercial operation and the electricity industry as a whole. Given the breadth of these topics IWEA believes that there is a risk that the actual objectives of this specific consultation and redesign process will remain ambiguous. This would seriously impact the effectiveness with which stakeholders can engage with the consultative process. To aid in this regard IWEA believes that, at the start of the next phase of this project, it is most important that the RAs specifically outline:

1. The objectives that will govern the redesign process
2. The constraints that will apply to this redesign process.

3.1 Design Objectives

The RAs must specifically state the key high level design objectives that will apply during this market redesign process. IWEA believes that these objectives have not been set out in sufficient detail. If the overriding principle is simply to comply with the Network Code on Capacity Allocation and Congestion Management (NCCACM) with minimum systems costs then this should be stated explicitly. If other higher level or commercial principles are to govern the redesign process then these should be outlined with careful consideration. Much of the suggested design options presented so far have been discussed in terms of evolutionary or revolutionary options. Further to this, reference is made to concepts such as EA 1 and EA 2 in the design options. IWEA believes that these terms and references are misnomers, inappropriate and may confuse the process. It would be more appropriate to focus on the importance of achieving a final market design that functions both consistently and efficiently from a commercial perspective for all industry participants and the consumer. IWEA believes that the explicit objectives of any market redesign process should include:

- Maximum compliance with the Directive on the Promotion of Electricity from Renewable Sources (2009/28/EC)
- Compliance with any legally binding elements of the EU Target Model as given effect through network codes, including future network codes on operational security, forward markets and balancing
- A market which maximises economic surplus (social welfare)
- A market that is systematic and equitable across all participant types
- A market that controls market power of dominant participants
- A market that does not arbitrarily penalise renewable generation for variations in output
- A market which maximises liquidity in so far as is possible at each stage
- A market which incentivises efficient import and export between markets cognisant of possible constrained renewable energy
- A market which reflects the physical reality of the system as closely as possible

- A market which ensures security of supply with minimum market intervention from the system operator
- A market with a functional and practical settlements and credit structure to reduce operational costs and risks for participants.

IWEA would like to note that we are open to the idea of the SEM being replaced by another set of market arrangements if needed and provided the new market fulfils the above objectives.

3.2 Design Constraints

Along with the design principles it would be helpful if the RAs could outline the constraints that restrict the redesign process. Now that the NCCACM have been published it would be useful to distil specifically what constraints they impose on the design, especially in terms of the minimum features required for compliance. Similarly, if it is the intention to implement the redesigned market within the space currently allowed for by the relevant legislation in both jurisdictions then this should be specifically stated as a design constraint and the impact of such a constraint should be assessed in terms of permissible market designs. Likewise, if it is deemed that central dispatch of some minimum level is an absolute requirement then this should also be specifically detailed so assessments can be made as to the viable options that meet such a requirement.

IWEA believes that it is only by being explicit on the details of the constraints that apply to this redesign exercise that non-viable options can be efficiently eliminated. Carefully thought out design objectives are central to the process and to help stakeholders to arrive at the design that best meets the needs of the system within the relevant constraints.

4. Views on the Existing SEM Market

The regulatory authorities have sought views regarding the operation of the SEM market to date. IWEA believes that, although not perfect, the SEM has delivered on many of its stated objectives including:

- The provision of increased liquidity
- Control of market power
- Provision of a stable, transparent and systematic platform for participants
- Fairness across participants types through the use of a single market price

Over the past few years, it has also proven capable of attracting investment in generation assets. As a gross mandatory pool with central dispatch the SEM design has negated the need for a penalising imbalance market which is favourable for systems with ambitious renewable and wind energy targets. IWEA is of the opinion that the original attributes of the SEM listed above are still very much relevant and must continue to be taken into consideration in the design of any future market.

The requirement to comply with the European Target Model presents opportunities to address shortfalls in the existing SEM market structure particularly in the areas of alignment of trade between the SEM and adjoining markets, the incentivisation of efficient export of energy and in fostering the formation of liquid and less fractured forwards markets.

5. Key Priorities for Renewable Energy

Both jurisdictions in SEM have ambitious Renewable Energy Targets. As part of the redesign process it is important to consider the key market aspects that are required to ensure that these Renewable Energy Targets can be met.

5.1 Imbalance Market

IWEA is of the strong opinion that a balancing mechanism with asymmetric prices is entirely inappropriate for the Irish market given the levels of renewable generation planned for the system. Any new market design must include a single price as a balancing price for variable renewable generation, if not the market as a whole. Further views on the balancing element of the market are contained in section 7 below.

5.2 Incentivising Efficient Export

IWEA believes that a market structure that facilitates efficient export of renewable energy is required if renewable targets are to be met by 2020. Efficient and timely exports from the SEM will have a role in terms of stabilising prices in the market and in avoiding curtailment of renewable generation, resulting in a more cost-efficient dispatch, which will ultimately benefit consumers. If the new market contains elements which are cleared on a pool type basis with a single price then steps should be taken to ensure that any such prices provide cost reflective signals as to the appropriate time to import and export from the market. If there are elements of bilateral trading arrangements in day-ahead and intra-day market stages then these arrangements should allow parties wishing to export, including parties who may be subject to curtailment, to participate and price their trading activities accordingly.

5.3 Single Market Reference Price

For renewable generation, or indeed any participant who utilises an external support scheme which references the market prices (e.g. REFIT), it is important that a single applicable market reference price or index exists. The Target Model allows for various prices in its respective stages. It is important that renewable assets can systematically access the relevant market sections which relate to the reference price in its support scheme. If there is a discrepancy between the market price which would ultimately apply to a renewable project in the market and the market price which is referenced in the relevant support scheme, then the basis risk presented in this scenario would cause difficulties in efficient establishment of PPAs and increase the perception of risk in the market. In order for this reference price to be relevant for the purposes of underpinning investments, it must relate to a liquid market.

5.4 Treatment of Priority Dispatch

As the regulatory authorities are aware there is a legal requirement to facilitate priority dispatch for certain types of assets. IWEA requests that the regulatory authorities outline exactly how priority dispatch will be facilitated in any market option it presents as part of the on-going design process. Similarly, IWEA believes that any new market should ensure ease of access for independent and unsupported renewable projects, and that these projects should not be placed at any market disadvantage.

5.5 Settlement and Credit

IWEA believes that this market redesign process presents an excellent opportunity to modernise the settlement practices currently employed in the market to the benefit of all participants. Settlement occurs up to 3 weeks after the trading day for energy and up to 6 weeks after the trading day in the case of capacity payments. This hugely inefficient system can place onerous credit and cash flow burdens on participants and presents a barrier to entry in the market especially for smaller generators and participants. This outdated practice is at odds with many modern international markets and exchanges some of which finalise settlement with participants the next working day.

With 4 distinct trading stages to the Target Model within which a participant may choose to trade some or all of its volume on a particular day it is important that collateral requirements are calculated on an aggregate basis and a participant's posted credit acts as collateral across all 4 stages of the market. Separate credit or collateral requirements for each stage of the market will lead to significant inefficiencies in the market, increased cost to participants and ultimately a stifling of competition.

6. Design Issues

6.1 Central Dispatch

One of the most fundamental market redesign issues is the possible requirement for the system operators to retain central control over the dispatch of units. EirGrid have presented arguments in favour of the retention of a significant degree of central dispatch particularly in light of an increasing renewable energy penetration. However, many aspects of the Target Model as outlined appear to be implicitly (if not explicitly) designed for a market in which generators are free to self-dispatch. The regulatory authorities have not made it sufficiently clear whether self-dispatch, in all or some elements of the market, is considered an explicit requirement of the Target Model. Similarly it is unclear to what extent a market that fully retains central dispatch can comply efficiently with the Target Model. IWEA believes that the consultation process would benefit greatly if the regulatory authorities brought clarity to this specific issue. Additionally, the RA's have outlined that additional work is to be conducted on capacity payments, bidding practice, facilitation of renewables and the compatibility of the SEM with the PCR algorithm. IWEA also looks forward to seeing the output of these investigations.

6.2 Diversity of Input and International Practice

While a brief summary of the operation of other international markets has been provided as part of this consultation IWEA strongly believes that significant benefits will arise from a greater involvement of international market consultants and power exchanges in this design process. IWEA believes that the current consultation and design options suffer from a lack of practical commercial perspective on the operation of the market and the needs of commercial participants. The input of EirGrid in the initial design exercises has been welcome, appropriate and useful. However, clearly EirGrid will have certain perspectives on the market design which stem naturally from its position as system operator, current market operator, and interconnector asset owner. IWEA feels that additional commercial input from advisors with international experience in parallel with constant engagement of all of the stakeholders in the SEM would help to give a fuller representation of the requirements of any new market design.

6.3 Market Complexity

The regulatory authorities must remain mindful that market design options which involve only minor system changes may result in significant and detrimental changes to the commercial operation of a functioning market. With the impending introduction of intra-day trading the operation of the SEM market is already significantly more complex than many of its international peers. IWEA believes that the regulatory authorities should be vigilant of the creeping cumulative complexity introduced as result of constant modification. While implementation of the target market model will not be straightforward, an overly complex market detracts from efficient operation and can prove to be a barrier to entry for new participants.

6.4 Cost of Implementation

Systems and implementation costs are an important consideration but should be considered secondary to the goal of achieving a consistent and efficient market design capable of fostering competition and delivering the required mix of generation plant. With an annual turnover of approximately 3 billion euros, efficiencies gained or lost for the consumer in the commercial operation of the market will easily outweigh the impact of any system or implementation costs. It may be useful to benchmark any estimates of implementation costs against previous experiences such as establishment of the SEM, the establishment of the NETA market and the expansion of the NETA market into Scotland to give a perspective on the value and costs levels involved in any particular solution.

6.5 Joining the BETTA Market

The consultation document discusses the possibility of joining the BETTA market. It is useful to consider this option in the general context of market redesign options not least because it may provide certain efficiencies in terms of central system and implementation costs. However, the BETTA market design does not appear to address any of the key design challenges that must be addressed in the all-island market. Facilitating sufficient central control over dispatch, ensuring adequate market liquidity, and

providing equality for renewable generation in balancing markets are among the many issues which would not be addressed by simply becoming part of the BETTA market in its current form. IWEA believes that while comparisons with BETTA style markets are useful as part of this design process, it should not distract from addressing the market design and target model compliance challenges in a fundamental way based on explicitly stated objectives and design principles. That is to say, while recognising that the market design must comply with the provisions of the target model it must, as a first principle, be fit for purpose for a small island market, with high levels of variable generation and limited interconnection.

6.6 Views on Evolutionary Market Design Options

The regulatory authorities have sought views regarding the possible design options presented within the consultation paper. As previously stated IWEA believes that the process of selecting a perceived evolutionary or revolutionary approach based solely on its impact on central systems is ill-conceived and that the efficient operation of the final design for all market participants should be the principal goal. In relation to the four evolutionary options presented, IWEA believes that none of the options have been designed or articulated sufficiently to communicate to stakeholders how they would practically operate or indeed if they are workable at all.

The outline of all 4 evolutionary options lacks commercial perspective to the extent that participants are unable to fully understand the operation and implications of each option. Much of the confusion stems from the apparent mix of bilateral (self-commitment) trading mechanisms at the Forward/Futures and Intraday stages with centrally dispatched elements. In particular it is unclear:

- To what extent bilateral trades will be deemed to be valid in a centrally dispatched context and the process by which this could take place
- If trades will be made physically firm or financially firm
- If trades are made financially firm what is the mechanisms for calculating infra-marginal rents and avoided costs etc.
- How various stages of trading interact with one another in terms of compensation payments, reference prices and cash flows.
- To what extent the process of physical or financial firmness will lead to inefficient dispatch outcomes or inefficient use or misuse of the complex system of financial compensations that would need to operate.
- How a concept of a net pool could operate in the context of separate recovery mechanisms for start-up and no load costs.
- If a net pool concept is viable in any context, and how the concept of a net pool could operate in the context of separate recovery mechanisms for start-up and no load costs.

Furthermore IWEA does not believe that the assessment conducted of the evolutionary design options is sufficiently comprehensive in light of the fact that further details of the potential designs and commercial consideration is needed before a proper assessment can take place.

Overall, IWEA is of the view that it is too early to delve into the operation of certain market design options at this stage, particularly as there are other elements of the target model which are yet to be defined in Network Codes, namely the balancing and forwards market.

7. Comments on 4 Stages of the Target Model

The following section outlines the thoughts of IWEA in relation to individual components of the Target Model: namely the Imbalance, Intra-Day, Day-Ahead and Futures/Forwards stages. While IWEA expresses views here on several aspects of the potential design of the market, given that the market design in totality would have to be fixed before any stakeholder could be clear on its support for any individual sub-component, none of these views should be construed as firm support for any of the features.

7.1 Balancing

Some of the high level evolutionary options presented suggest a balancing mechanism that may include “inc and dec” prices or asymmetric imbalance prices similar to the “Top-up and Spill” regime in force in Ireland before the SEM and similar to the system buy and sell prices currently in place in the GB BETTA market.

IWEA is of the strong opinion that a balancing mechanism with asymmetric prices is entirely inappropriate for the Irish market given the levels of renewable generation planned for the system. Asymmetric prices were originally designed to incentivise self-dispatch conventional generation to deliver upon their required contracted position in the market. Given the controllable nature of most types of thermal generation, only relatively small portions of participants’ energy were subject to imbalance prices. Variable renewable generation plant typically retains less ability to control output volumes, meaning that larger portions of participant volumes would be exposed to the imbalance mechanism. This would subject market participants with variable renewable assets to arbitrary imbalance penalties. Such arbitrary penalties would severely impact commercial arrangements for renewable energy projects such as PPA price levels and the perception of market risk. Policy objectives such as our 2020 renewables targets must be taken into account and balanced against the final market design chosen.

Market evidence from GB suggests that PPA price levels are discounted up to 10% due to the potential costs imposed by the imbalance mechanism. This discount exists despite the opportunity for PPA providers in GB to forecast and trade out variations in renewable output right up to 1 hour before delivery. Similarly the Top-up and Spill regime in Ireland placed an arbitrary balancing cost on wind projects of approximately 15% of the market price.

Given the proposal to retain central dispatch in the system the concept of imbalance pricing is entirely inappropriate and meaningless. Market incentives such as imbalance prices are only meaningful to participants that have the ability to respond to such signals. This is primarily not the case with variable renewable generation.

Variations in the system are best managed on an aggregate basis by a single agent i.e. the system operator. Wind forecast errors, load forecast errors, generation trips all contribute to variations on the system. Significant portfolio efficiencies are gained by having the resultant net variation of this managed by a single agent on an aggregate basis.

Any balancing market should utilise a single market price as is currently the case in the SEM, i.e. short run marginal costs plus uplift. One possibility for the new trading arrangements, as is allowed for in evolutionary options 2-4, would be to utilise some form of an Ex-Post dispatch and corresponding price setting mechanics as the balancing market. This may have the benefits of ensuring that a cost reflective and physically based single market price exists and this price would set a cost reflective precedent for other day ahead and forwards markets.

7.2 Intra-Day

IWEA believes that there is a significant amount of work required to establish how continuous intraday trading can be implemented in the context of central dispatch. Concepts of net pool arrangements, technical screening of bids and frequent counter trading by the system operators have all been suggested. It appears that each of these elements present their own challengers in term of effective implementation. The rapid timing involved in the operation of shared order books, the complex interdependencies between participants and the implications for the combined feasibility of any market wide set of bids and offers at any particular point in time looks to be a highly complex barrier.

IWEA believes however that an effective means of intraday trading should be established and that any such arrangement should allow clearly for efficient import and exports from the market. Good practice would suggest that efficient market processes and pricing should allow effective import and export by market participants with minimal remedial intervention in the market from the system operators. However, system operator intervention in the market may be required from time to time particularly to ensure the feasibility of the dispatch and to reduce overall curtailment for renewable generation. IWEA recognises that finding the correct balance in the design of the intra-day stage appears to one of the more significant challenges in complying with the Target Model. IWEA believes that there is still significant work to be conducted in this area and that none of the options presented are demonstrably viable at this point.

7.3 Day-Ahead Market

Pending clarity on the specifics of the design in relation to other elements of the market, IWEA are in principle in favour of price coupling at the day ahead stage. The gate closure time of the day ahead market may already be fixed as part of the requirements of the target model however, it should be pointed out that shorter gate closures do allow a greater degree of certainty and therefor efficiency when dispatching or trading systems with high wind penetrations. Clearly, details of how bids and offers are handled and how the pricing mechanism will work are required before any sound judgement can be made. It appears that the actual price coupling algorithms have not been developed to date and it is important that representatives from the SEM market have the opportunity to input into this process in

order to ensure that the mechanism is capable of handling the specific features required in the all-island market.

The draft NCCACM in article 74 allows for third party agents to be appointed in some of the market roles including that of shipping agent. The appointment process for such an agent may present an opportunity for the regulatory authorities to attract and involve a shipper or exchange operator with international commercial experience into the SEM marketplace. IWEA believes there may be benefits in widening the breadth of experience of the administrative agents actively present in the market.

The prior stated position regarding clear and efficient market export signals during possible periods of curtailment, as outlined in the Intra-Day section of this response, are equally applicable to the day-ahead stage of the market.

7.4 Forwards Market

IWEA is concerned regarding the level of design and lack of commercial understanding that has been applied to the market options in the forwards time frame. The forwards and futures timeframe represents the most commercially important stage of the market for most participants. The levels of competition in generation and supply, as well as market entry and exit decisions, may be impacted the most as a result of the operation of the forwards market.

Given that further details around the requirements of the target model in relation to forwards markets, and indeed balancing market are yet to be made available, it is worth considering if any market redesign process or implementation plan should be derived at all in the absence of such details.

From the details that are available, the Target Model seems to suggest that forwards markets should be fostered and should consist of liquid traded products from day-ahead, month, quarters, seasons and years. Of the options presented, Option 1 suggests that a bilateral market may be facilitated in this form. However, some options, for example Option 2, presents a forward market that simply runs a 1 day schedule 2 hours before the day ahead market. Until such time as the Network Code is published, it is difficult at this stage to understand what would actually constitute as a compliant forwards market. However, given evidence from other international markets it is questionable as to whether this could practically be considered an operational or indeed functional forwards market. This again emphasises the need for additional experienced commercial and economic advice in the design exercise.

This market redesign process presents an excellent opportunity for the regulatory authorities to try and foster an efficient forwards market. In light of the uncertainty that surrounds the redesign process as a whole, IWEA does not yet have firm view on desirable market elements in the forwards timeframe. However, it is worth noting features that have brought efficiencies to other international market include:

- Single trading platforms where liquidity can be concentrated
- Single registration to the trading platform where participants can access the products offered by all participants
- Central clearing and settlement through the platform in time frames significantly shortened from current SEM practice

- Central aggregation of credit provision across all trades and different stages of the market
- Scope for non-physical traders to participate to increase liquidity of products
- Allowing participants trade green certificates or power through same platform

7.5 Use of Financial Instruments

The use of financial instruments such as CFDs and FTRs has been suggested in some of the evolutionary design options. IWEA acknowledges that some financial instruments may have to be utilised depending on the outcome of elements in the design process. However, it should be noted that physical products are usually preferable over financial derivatives, as they are often more reflective of the reality of the system. Further details on the possible role of financial instruments and how such instruments might be incorporated into a future market design would be welcomed. It is very important that in whatever market design is ultimately adopted that sufficient clarity surrounds the liquidity of the market, who can access the market products and the final price that participants can expect to pay/ be paid in that market.

8. Conclusion

IWEA welcomes this opportunity to comment on the initial proposals on the implementation of the European Target Model. In particular IWEA believes that the RAs should explicitly state the design principles and objectives that will apply during the market redesign process. We have highlighted some of the key attributes of the current SEM market that should be retained and outlined some of the issues for consideration to ensure a stable future for renewables in the market integration process. It should be noted that IWEA is not opposed in principle to the idea of the SEM being replaced entirely by another set of market arrangements if required, provided these arrangements are robust, well designed and are not detrimental for wind energy. IWEA looks forward to continuing to engage fully with this process as it develops.