Response to Consultation on

Proposals for Implementation of the European Target Model for the Single Electricity Market

(SEM-12-004)

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Executive Summary

The SEM has been successful. Within the objectives underpinning it, considerable progress has been made since inception. As a single all-island wholesale electricity market, the SEM has facilitated greater economies of scale and scope in system dispatch operations; created liquidity and transparency in spot prices; provided a stable and predictable trading system for participants; attracted new generation investments as well as enabled market entry for new suppliers.

Despite its achievements however, the SEM was designed primarily to facilitate more efficient dispatch of plant on the two electricity systems across the island of Ireland. The EU Target Model on the other hand seeks the adoption across Europe of electricity markets that stimulate economic benefits accruing from more flexible and frequent cross-border trading. Under the criterion of more efficient trading as envisaged under the Target Model, the SEM fails to measure up. Issues include lack of incentives for generators to operate flexibly; to reduce long start times; to reduce minimum generation levels to make room for priority dispatch generation.

To deliver an efficient, Target Model compliant electricity market by 2016, the starting point ought not to be the selection of options for new features that could be adopted into the SEM to make it 'look like' the Target Model. The fundamental problem with such an approach is that it anchors discussions around the current SEM design without allowing for a more expansive exploration of all underlying issues as well as obligatory legislative requirements. It also fails to ensure that the final market design is internally consistent.

For effective delivery of the 2016 market, the project must follow best practice principles in the project process. The starting point must establish clear principles of electricity market design that analyse the requirements of the applicable Network Codes to derive business and operational requirements on which market processes and rules can be developed. This type of approach was used in the design of the SEM and is essential for design of a market that is internally consistent and minimises the cost of major, late-stage design changes when design flaws are revealed.

One of the guiding principles of market delivery must be the need to deliver value for money. By this we mean that implementation of the Target Model should deliver efficiency in pricing and seek to maximise total economic surplus, rather than just aim for the cheapest cost for implementing central market systems. Adherence to this principle, means that the benchmark for measuring value for money should be the differential cost of developing a new market design for the island, compared with the cost of adopting or licensing another market design.

Background

Policy Context at SEM Inception

The challenge faced on the island at the time the SEM was conceived related to the small size of the island's electricity system, generation that is "lumpy" in relation to demand, limited interconnection, limited demand side participation and a high concentration of market power. Given those circumstances, the overriding policy consideration was the need to further develop already existing co-operation on common energy issues by implementing and operating joint market structures to realise benefits such as economies of scale and efficiencies from harmonised dispatch of the two electricity systems.

With that policy consideration providing the contextual backdrop and essentially delineating elemental issues such as where the market boundary was – who the market participants and customers were for example – the process then proceeded to outline the economic principles and design themes against which specific options would be considered.

The recognition of the prevailing conditions and the distillation of high level principles to guide the design of trading arrangements formed the basis for the creation of the SEM.

Context at Present and to 2016

At this juncture and leading up to 2016, the transitional challenge the island market faces stems from the legal requirement to have an electricity market that complies with the EU Target Model. This challenge cannot be met simply by bolting on extra features to the current SEM design.

The current consultation has been based on a feature-by-feature comparison of the SEM on one hand, and the European Target Model, as well as other existing European electricity markets. In our contention this could only be realistic under the assumption that electricity markets exhibit 'Plug-and-Play' characteristics – that their elemental aspects were easily interchangeable.

In our view the focus of the transitional process at this stage should not directed at options for amending the SEM to align to the Target Model on a feature-by-feature basis. There is a need to step backwards and adopt a structured process that commences with a re-examination of the principles that would underpin any market design adopted to ensure compliance with the European Target Model.

Evolving Electricity Systems

In addition to policy considerations, the significant changes to the island electricity systems as well as the developing trends also need to be taken into account. Thermal generation sits squarely at the heart of the current market design, with every other type of generator classed and treated as special units. At SEM inception this would have been a more or less accurate reflection of the electricity systems on the island.

However increasingly and as progress to the 2016 target year is made, this is clearly no longer the case. The increasing interconnection to GB stemming from relaxed capacity on the Moyle and impending commencement of operations on the East-West; increasing deployment of wind generation with targets of 40% of electricity generation for both jurisdictions by 2020; and increasing efforts to ensure more active participation of the demand side, all indicate the need for market redesign to proceed from first principles.

To illustrate, price formation in the SEM requires a rising marginal cost curve from generators, which reflects the transition of generator cost ratios from lower to higher fuel costs. With a significantly increasing proportion of essentially zero marginal cost plants constituted primarily of wind units, it is not clear how the current SEM model can deliver adequate revenues still to all generator types required by the market.

Market Integration Process – Principles-Led

With the context discussed above, the market integration process needs to move away from the current focus on options for amending the SEM to 'look like' the Target Model. Focus at this stage must be directed at the principles that will underpin a compliant market.

As we stated earlier one of these key principles ought to ensure that implementation of the Target Model should deliver efficiency in pricing and seek to maximise total economic surplus, rather than just aim for the cheapest central market systems' implementation costs.

Bearing in mind however the primary reason for considering change to the SEM, which on its own merit is a functioning market, it is vital that at the core those principles be derived and delimited by the requirements of the Target Model as specified with the recently published draft Network Code for Capacity Allocation and Congestion Management (NC-CACM). On that basis it is now essential for the current process to shift to rigorous analysis of the NC-CACM requirements.

Requirements of NC-CACM

The NC-CACM, which requirements will be binding when adopted, sets out the pan-European rules for the design of Day Ahead and Intraday markets and common arrangements for defining bidding zones and calculating capacities between those zones. The next stage of the integration process needs to be about analysing and identifying issues arising from each requirement of the NC-CACM.

We discuss some of these requirements and implications below.

Bidding Zones

The draft rules on bidding zones require that, on the basis of rigorous technical analysis by TSOs, congestions within grids are reflected, by splitting, merging current zones, or adjusting location of borders. Significant implications arise with this requirement within our context in light of the North-South tie-line capacity limitation. If finalised such that an obligation arises to have two bidding zones on the island would we be able to retain a single electricity market, a fundamental aspect of the current market which has been beneficial to all stakeholders? Would it imply a redefinition of single market in our context?

It is crucial that the project commences thorough analysis on requirements such as this. If the rules on bidding zones imply that the Target Market will lead to a single, Europe-wide market with a patchwork of bidding zones that don't necessarily match existing market boundaries, then the RAs need to start flagging the need for safeguards for smaller markets. Else the benefits achievable from scale economies would come under threat.

The Single Price Coupling Algorithm

With the centrality of the Price Coupling Algorithm to the Day Ahead Market stage of the Target Model, the nature of market offers needs to be fully re-examined. In discussions to date the focus has been on whether the complex bids in SEM are convertible to the simple bids required under the Target Model. However even if this is operationally feasible, issues as to whether the outcomes of such conversions would reflect the commercial intent of traders will have to be addressed. This again highlights the need to outline principles against which competing design conflicts will be evaluated.

Continuous Intra-Day Trading

This requires the continuous trading of energy as close to real-time as possible to facilitate optimisation of trading positions, particularly for generators with variable output profiles such as renewables. This requirement poses perhaps the greatest challenge to any view that adopting the European Target Model would simply be a case of bolting on extra features to the current SEM.

In light of the significant challenges posed by the adoption of the intra-day trading mechanism (currently under implementation) in the SEM given issues such the timeline requirements of market operations and the long notice periods required for some generators, it is hard to see how the version required under the Target Model can just be bolted onto the SEM without seriously compromising its internal consistency. Once again this indicates the need for a market design process from first principles.

Other Crucial Design Issues

Market Model

A fundamental issue that needs an early decision relates to the market model to adopt for the market redesign. Underpinning this has to be results from analysis of the NC-CACM requirements, particularly those for continuous intra-day trading. It is a generally acknowledged view that the Target Model, while not explicit on the matter, is based on a bilateral trading model. This conjecture has to be subjected to full analytical rigour. However if results from thorough analysis of the network code requirements confirm that view, it may be the case that for a market to be compliant with the Target Model and at the same time be internally consistent, it would need to be based on a bilateral trading.

Implementation Costs

While the cost of implementing central market systems are of important consideration, sight should not be lost of the actual total costs to consumers, which would include market participants' implementation costs, but more crucially the costs implicated in inefficient trading patterns to the extent that those arise from inefficient market design. As references implementation costs associated with previous market design experiences such as those relating to the introductions of SEM, NETA and BETTA would be useful comparators. Irrespective of those costs however, a robust CBA should be carried out do demonstrate the value to consumers for every additional cost. This would of necessity have to account for any economic surpluses arising from more efficient trading.

Adopting/Joining BETTA

The current consultation raises the options of adopting or joining BETTA. While it discusses advantages and disadvantages, it offers a preliminary view that legal, practical and economic problems would limit the feasibility of such options. It is instructive that in forming the SEM significant legal, practical and economic issues were successfully addressed, not the least dual-currency and VAT issues. We would argue that these should not preclude the further consideration of these options. Furthermore in the SEM High Level Design document an allusion was made to a future possibility 'to align the all-island market with the UK market to develop a British Isles market'.

Given that the island market would eventually have to be price-coupled to GB, these options ought to be progressed for further consideration. At the very least a benchmark for measuring this project's benefits should be the differential cost of developing a new island market design, compared with the cost of adopting or licensing another market design. Given that linkages to GB, physical and commercial, are only likely to increase, serious consideration should be given to the implications of being part of a much larger market.

Conclusion

While the SEM has been a success, the challenge facing the island market in adopting the EU Target Model cannot be addressed by merely identifying and choosing between options that make the SEM 'look like' the Target Model. That challenge needs a more fundamental approach that establishes clear principles of electricity market design based on analysis of the requirements of the applicable Network Codes and takes into account the evolving nature of the electricity systems on the island.

Following such analysis, the business and operational requirements on which market processes and rules will be developed can then be derived. This is the same approach that was used in the SEM design and is essential for designing markets that maintain internal consistency and minimise chances of major, late-stage changes arising from fundamental design flaws.

We recommend that the RAs now adopt such an approach for the market integration project.