

A SUBMISSION TO THE COMMISSION FOR ENERGY REGULATION AND THE UTILITY REGULATOR ON  
THE SEM COMMITTEE'S NEXT STEPS PROPOSED DECISION PAPER, *IMPLEMENTATION OF THE  
EUROPEAN TARGET MODEL FOR THE SINGLE ELECTRICITY MARKET* (SEM-12-105a).

BY

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## 1. Introduction

The implementation of the European Target Model (the Target Model) on an all-island basis is an ongoing process. However, it has to be completed by 31 December 2016.<sup>1</sup> The latest stage in this process is the Single Electricity Market (SEM) Committee's proposed decision on recommendations as to the next steps to the Department of Communications, Energy and Natural Resources (DCENR) in Ireland and the Department of Enterprise, Trade and Investment (DETI) in Northern Ireland.<sup>2</sup> The proposed decision builds on the earlier consultation paper by the SEM Committee (2012a), in which options and proposals for implementing the Target Model were presented, together with a background paper providing an elaboration of the evolutionary variants by EirGrid *et al* (2012). The SEM Committee (2012b, p. 2) is now seeking comments on its proposed decision, "in particular on the SEM Committee's recommendation to government on High Level Principles for redesign of the SEM to implement the Target Model."

The major thrust of the proposed decision is that there should be a top down redesign of the SEM. The proposed decision sets out the reasoning behind this and a number of broad parameters that will guide and inform the top down process. These parameters include, for example, the criteria that should be used to judge the redesigned system. However, the proposed decision goes beyond the Target Model by considering a number of other issues relevant to the design of wholesale electricity markets, such as renewables and capacity payment mechanisms. In our response we comment on several of the issues raised in the proposed decision, together with some concluding comments.

## 2. Evolutionary vs Revolutionary Approach

The SEM Committee (2012a) consultation paper set out two broad approaches for ensuring SEM compliance with the Target Model: evolutionary (or bottom-up) approach, represented by four variants of the current SEM model; and, a clean slate (or top-down) approach, a fundamental overhaul of the SEM model. In the parlance of the proposed decision the latter approach is referred to as the redesign of SEM, the term that will be used in this submission. After considering the responses to the consultation paper the SEM Committee (2012c) in its proposed decision rejects all of the evolutionary options and instead opts for a redesign of the SEM. The remainder of the proposed decision is concerned with setting out the steps or procedures required to redesign the SEM.

In reaching its proposed decision the SEM Committee acknowledges that its earlier consultation paper failed to consider and identify certain important features or characteristics of the evolutionary variants, including facilitating renewable energy and a capacity payments mechanism. As a result market participants did not have sufficient clarity to be "able to assess and evaluate how their business strategies and investment plans would be affected" (SEM Committee, 2012c, p. 5). In addition to the lack of clarity, the SEM Committee (2012c, p. 6) also felt that evolutionary approach

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<sup>1</sup> All other Member States are required to comply by 2014, the deadline for completion of the internal market in electricity. The European Commission (2012b, pp. 2-3) has expressed some concerns that the deadline will be met.

<sup>2</sup> SEM Committee (2012c).

“is not in the interests of consumers and risks overcomplicating and compromising the principles of the SEM.” However, it is not clear on what basis this latter conclusion was reached.

In view of these shortcomings in the evolutionary approach the SEM Committee in its proposed decision opts for a system redesign. The SEM Committee (2012c, p. 6) note that this approach is favoured by the majority of respondents to the consultation paper. The proposed decision then sets out the order in which the redesign will take place starting with an agreement on principles and objectives, with implementation of the redesigned SEM by the end of 2016. The working assumption is the SEM redesign will “take place under the aegis of the existing” frameworks between Ireland and the UK (*ibid*, p. 6). A regulatory impact statement will be necessary and perhaps a cost benefit analysis (*op cit*, p. 18).

It is not clear that the proposed decision’s dismissal of the evolutionary approach because the consultation paper did not flesh out certain important attributes of the four variants of the SEM is persuasive. This is particularly the case since the SEM Committee (2012c, p. 5) notes that respondents agreed that “the SEM has performed well to date and met its statutory objectives by delivering cost reflective prices to consumers that are reflective of the long run cost of producing electricity.” Furthermore the important problems that the SEM was designed to solve, such as mitigating market power, are likely to be as relevant for the foreseeable future as they were when the SEM came on stream in 2007.<sup>3</sup> An alternative course of action for the SEM Committee would have been to select the most promising of the evolutionary variants and provide sufficient clarity on the missing attributes such that participants would be in a position to provide a complete assessment. We return to this issue in Section 5.

System redesign is likely to be a major and lengthy undertaking. This is apparent from the SEM Committee’s (2012c, pp. 31-35) proposed decision which deals with issues of governance and project management. This four year process is likely to generate considerable uncertainty for investors. There is no indication as to the structure of the SEM redesign, except that central dispatch will be retained, an issue we return to in Section 6. Furthermore the uncertainty is likely to last beyond 31 December 2016. The SEM Committee (2012c, p. 13) state that there will be no change to SEM until after that date. While investor uncertainty will undoubtedly be reduced once the final SEM redesign has been decided,<sup>4</sup> such uncertainty will not be completely dissipated until the new model is operational and all of the problems and glitches have been removed.

### **3. High Level Principles**

In redesigning the wholesale electricity market it is important that there is an objective, together with a set of model selection criteria which are consistent with achieving that objective. This will inform and guide those responsible for redesigning the SEM. In the proposed decision nine criteria are proposed. These are the eight criteria which were used to assess the current SEM market design, with the addition of a ninth which relates to the implementation of the Target Model. These criteria will be viewed in the light of the statutory objectives which are reflected in the principal objective of the SEM Committee which is to “protect the interests of consumers of electricity ...

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<sup>3</sup> Gorecki (2012a; 2012b). These relate to mitigating market power, facilitating entry and ensuring adequate generating capacity.

<sup>4</sup> An indicative timetable included as Annex 2 of the SEM Committee (2012c, p. 49) proposed decision which sees the high level redesign of SEM completed by the end of 2013.

supplied by authorised persons, where appropriate by promoting effective competition ... “ (SEM Committee, 2012c, p. 9).

Given the decision to redesign the SEM, the reaffirmation of the eight criteria plus the addition of the ninth is a sensible approach. The application of the eight led to the creation of the SEM in its current format which is generally considered to have been a success in meeting its objectives. As noted above, the issues of concern in designing the current SEM model are still relevant today. Some new issues have arisen since 2005, principally the greater importance attached to renewable energy. However, as the SEM Committee (2012c, p. 10) correctly point out one of the eight criteria, that relating to environmental issues, is sufficient to take cognisance of the growing importance of renewable electricity.

#### **4. Clarity and the Target Model**

In complying with the Target Model it is vital that the Target Model is well specified. If there is lack of clarity or uncertainty then it is difficult to determine the optimal manner of compliance. Under such conditions it may not be appropriate to recommend a SEM redesign, but instead either wait for the required level of clarity or select one of the evolutionary options. In other words, a two stage approach might be best: adopt a low cost evolutionary variant until matters are clarified; and then, when that situation has been clarified, consider whether a SEM redesign is appropriate.<sup>5</sup>

In the proposed decision the SEM Committee (2012c, pp. 13-17) outline five main features of the Target Model: capacity calculation and zones; forward markets; day ahead market; intra-day market; and balancing market. It is clear from the discussion of these five features by the SEM Committee that some important aspects still have to be resolved, although it appears that in many cases this will be accomplished by 2013/2014. However, there are issues – which the SEM Committee (2012c, p. 17) recognises - that although outside of the purview of the Target Model, on which no consensus has been reached including the introduction of capacity payment mechanisms, harmonising support schemes for renewable energy and accommodating high levels of wind. These are important issues that are likely to influence the redesign of the SEM.<sup>6</sup>

#### **5. Options for the SEM**

In the consultation paper, as noted above, various options were explored. These were divided into four evolutionary variants of the current SEM and a revolutionary or clean slate (i.e. SEM redesign). Although the four variants of the current SEM were characterised as evolutionary, only variant #4 offered modest/small changes, with two involving very significant changes. In the discussion of the SEM redesign approach, the consultation paper paid attention the key characteristics of the two broad classifications of wholesale electricity market design - centralised vs decentralised, before turning attention to specific alternative models: the British Electricity Trading and Transmission Arrangements (BETTA): the Iberian model, MIBEL; and the Nordic electricity market, Nord Pool. The consultation paper did not express a view as which approach/variant/option should be selected.

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<sup>5</sup> This was argued in my submission to the consultation paper, Gorecki (2012a).

<sup>6</sup> SONI and EirGrid (2012, p. 34) note this, for example, with respect to the intra-day market and the pricing of capacity.

While a number of respondents to the consultation paper “argued strongly for preserving as much of the SEM as possible and indicated a preference for evolutionary” variant # 4 (SEM Committee, 2012c, p. 19), most respondents “did not support any of the ‘evolutionary options’” (*ibid*, p. 19). In terms of the SEM redesign approach, there was no consensus as to which was the best choice. One respondent favoured bilateral trading along the lines of BETTA. The other two wholesale models, MIBEL and Nord Pool, were not supported by any respondent, although many considered they should be included as part of the SEM redesign. In sum, the responses to the consultation paper, while apparently leading to some choices being ruled out, provide little guidance as to how the SEM should comply with the Target Model.

In the proposed decision the SEM Committee (2012, p. 20) recognise that variant #4 using the evolutionary approach “is not a fully coherent market design though some elements of this option may be worth revisiting” when considering SEM redesign. The proposed decision notes the evolution of centrally dispatched electricity markets in the US that incorporates features that encourage trade in electricity between different markets.<sup>7</sup> The SEM Committee (2012c, p. 20) conclude that these features would “in principle be compatible with the European Target Model.” As a result the SEM Committee (2012c, p. 20) observe that “some elements of this option may be worth revisiting during phase 2 of the project [i.e. SEM redesign].” Nevertheless, despite making this observation, the proposed decision states that the evolutionary variants “should not be pursued further” (*ibid*, p.21).

In terms of the models that would be consistent with the SEM redesign the proposed decision rejects, for good reason,<sup>8</sup> “either joining BETTA or adopting a similar market to BETTA does not necessarily arise *at this stage* as we are all working to implement a common European electricity market which facilitates efficient cross border trade” (*op cit*, p. 20, emphasis supplied). However, there will be a close working relationship between electricity regulators on the island of Ireland and the Office of Gas and Electricity Markets in Great Britain to ensure “efficient implementation of the Target Model in SEM and BETTA.” (*op cit*, p.21).

## 6. Central Dispatch

One of the differences between the current SEM design and the Target Model is the fact that the SEM is a central dispatch system whereas the Target Model is usually characterised as self dispatch.<sup>9</sup> Ensuring compliance of the SEM with the Target Model would thus require substantial revision and reform of SEM. Work undertaken by SONI & EirGrid (2012), however, suggests that there is no incompatibility between central dispatch and the Target Model. While the Target Model is often portrayed as self dispatch, what is important for securing compliance with the Target Model are the Network Codes relating to the various markets, referred to in Section 4, from the forward market to the balancing market. These Network Codes do not specify a model as such, but rather a set of conditions that must be satisfied in order that electricity can be traded across the EU.<sup>10</sup> Furthermore, SONI & EirGrid (2012) argue that not only is central dispatch consistent with the Target

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<sup>7</sup> See also Easter Bay (2012, p. 7, pp. 27-28).

<sup>8</sup> See Gorecki (2012b).

<sup>9</sup> See, for example, SEM Committee (2012a, Table 2, p. 24).

<sup>10</sup> This does not mean, of course, that the current SEM design does not require considerable modification to be consistent with the various Network Codes, as the SEM Committee (2012c, pp. 23-24) notes.

Model, but central dispatch is preferable for the island of Ireland compared with the alternative of self dispatch. This conclusion is reinforced by an independent review of SONI & EirGrid (2012) by Easter Bay (2012). As a result the proposed decision argues that any redesign of SEM will take as a working assumption the retention of central dispatch. It is an issue we will return in the conclusion.

## **7. Renewables**

Both Ireland and Northern Ireland have ambitious targets for the contribution of renewable sources of electricity, primarily wind. The respondents to the consultation paper highlighted three issues in relation to renewables: imbalance settlement; priority dispatch; and curtailment. It would seem sensible that to the extent possible the costs imposed by, for example, a disparity between *ex ante* and *ex post* wind projections, should be borne by wind generators rather than socialising the risk. More efficient investment decisions are likely to be made if such rules are followed. This is consistent with the SEM Committee (2012c, p. 27) view on curtailment when it argues that a “market design that accommodates renewable should therefore provide efficient signals for appropriate investment in flexible plant and demand side management.” However, the wording of the proposed SEM Committee (2012c, p. 28) decision states that “changes to the SEM High Level Design should promote, where appropriate, the use of energy from renewable energy sources, as set out in legislation.” There is no reference to economic efficiency or efficient market signals. It would be useful therefore if the proposed decision was reworded to take this into account: “changes to the SEM High Level Design should promote, where economically efficient, the use of energy from renewable energy sources, as set out in legislation.”

## **8. Capacity Payment Mechanism**

Capacity payment mechanism (CPM) are being considered for a number of electricity markets such as BETTA, while at the EU level the European Commission (2012a) recently issued a consultation paper on CPMs, stressing the need to incentivise flexible capacity. Hence the SEM Committee’s (2012c, pp. 28-30) view, while acknowledging the importance of CPM in the current SEM, sensibly argues that CPMs “must not provide double payments to generators,” “avoid distortions in the internal market” and “comply with relevant EU rules” (*ibid*, p. 30).

## **9. Conclusion**

The SEM Committee (2012c, pp. 39-40) after discussing the above topics as well as project management summarises the proposed decision under five headings. In general these seem sensible proposed decisions. Nevertheless, there are two instances where it is suggested that the SEM Committee might wish to reconsider its decision, one is a matter of emphasis, the other more substantial.

First, in the case of the proposed decision with respect to the promotion of renewable energy sources, serious consideration could be given by the SEM Committee to strengthening the proposed decision by reference to economic efficiency, as suggested in Section 7 above. Such a change is fully consistent with the discussion surrounding renewable energy by the SEM Committee (2012). Otherwise there is a danger that renewables will be promoted without due consideration being given to the wider implications for the electricity system.

Second, while I agree with the broad thrust of the proposed decision that the evolutionary variants should not be pursued, the SEM Committee could reconsider the proposed decision with respect to the variant # 4, which involves minimal or modest change. There are a number of reasons why this course of action is worth pursuing. The current SEM works well. The problems the current SEM was designed to address are likely to continue to be important. This is acknowledged by the SEM Committee (2012c, p. 39) when it states that “there will continue to be market power mitigation measures in the SEM.” A major feature of the SEM, central dispatch, is to be retained. Furthermore as noted by Easter Bay (2012, p. 26) switching from the status quo – in this case central dispatch, but the point applies more generally - is risky.<sup>11</sup> The SEM Committee refer to developments in the US which imply that the current SEM can be adapted to be consistent with the Target Model. Despite the extensive set of approaches/options put forward in the consultation paper no consensus has emerged as to the appropriate SEM model. Indeed, it seems as though the top down SEM redesign exercise might well end up with the current SEM with a few modifications – variant #4 fully fleshed out. In other words, while the expression SEM redesign seems to denote the possibility of radical change, it might equally lead to more modest change, with the major elements of the current SEM retained.

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<sup>11</sup> Easter Bay (2012, p. 6) also note that, “Central dispatch was evaluated five years ago as being the best choice for the island of Ireland at the outset of the SEM, and nothing appears to have changed in the meantime that would change this conclusion.”

## References

- Easter Bay Consultants Ltd. (Easter Bay). 2012. *Review of TSO Report on the Dispatch Model for All Island Market/Transmission System*. Final Report. London: Easter Bay.
- EirGrid, Single Electricity Market Operator, & System Operator for Northern Ireland. 2012. *Pathways to the Target Model*. SEM Integration Project. Dublin: EirGrid.
- European Commission. 2012a. *Consultation Paper on Generation Adequacy, Capacity Mechanisms and the Internal Market in Electricity*. Brussels: the Commission.
- European Commission. 2012b. *Making the Internal Market Work*. COM(2012) 663 Final. Brussels: the Commission.
- Gorecki, P. 2012a. *A Submission to the Commission for Energy Regulation and the Utility Regulator on the SEM Committee's Consultation Paper, Proposals for Implementation of the European Target Model for the Single Electricity Market (SEM-12-004)*. Submission 2012/3. Dublin: ESRI.
- Gorecki, P. 2012b. "Ensuring compatibility of the all-island electricity system with the target model: Fitting a square peg into a round hole?" *Energy Policy*. Published online 3 November.
- Single Electricity Market Committee (SEM Committee). 2012a. *Proposals for Implementation of the European Target Model for the Single Electricity Market*. Consultation Paper. SEM-12-004. Dublin: Commission for Energy Regulation.
- Single Electricity Market Committee (SEM Committee). 2012b. *Proposed Next Steps Decision - Implementation of the European Target Model for the Single Electricity Market*. Press Release. SEM-12-105. Dublin: Commission for Energy Regulation.
- Single Electricity Market Committee (SEM Committee). 2012c. *Implementation of the European Target Model for the Single Electricity Market*. Next Steps Proposed Decision Paper. SEM-12-105a. Dublin: Commission for Energy Regulation.
- System Operator for Northern Ireland (SONI) and EirGrid. 2012. *Dispatch Model for All Island Market/Transmission System*. Dublin: EirGrid.