



SINGLE ELECTRICITY MARKET COMMITTEE

Integrated Single Electricity Market (I-SEM) Non-technical summary

SEM-14-085d

17 September 2014

1 INTRODUCTION

- 1.1 In June the regulatory authorities in Northern Ireland and Ireland published a draft Decision Paper on the redesign of the wholesale electricity market, known as the Single Electricity Market (SEM), which covers the island of Ireland. The paper contained proposed changes to the wholesale electricity market and was issued to solicit the views of industry stakeholders and consumer representatives. The changes are required because of European legislation intended to harmonise cross border trading arrangements across European electricity markets, which is to be achieved through compliance with a European 'Target Model'. This will link the separate markets and is designed to promote movement towards a single competitive market across Europe. The redesigned wholesale market on the island will be known as the Integrated Single Electricity Market (I-SEM).
- 1.2 Compliance with the European Target Model and development of new market arrangements that will be compliant with it are the responsibility of the member states. The Department of Enterprise Trade and Investment (DETI) and the Irish Department of Communications, Energy and Natural Resources (DCENR) charged the SEM Committee with developing these new market arrangements. The SEM Committee was created as the governing body of the current Single Electricity Market and its membership is drawn from the Commission for Energy Regulation (CER) in Ireland, the Utility Regulator (UR) in Northern Ireland and expert independent members.
- 1.3 Following receipt of responses to the Draft Decision paper the SEM Committee is now publishing a final Decision Paper. It is also publishing an Impact Assessment, which includes a cost-benefit and qualitative assessment of the new design and this should be read in conjunction with the Decision Paper. A further paper summarising the responses to the Draft Decision paper and Initial Impact Assessment, including the views of the SEM Committee, is also published.
- 1.4 The purpose of the decision of the SEM Committee is to lay out a series of recommendations which the authorities in Dublin and Belfast will be able to consider and, if they agree, to incorporate into legislation should that be required. References in this document to 'decision' should be read and understood accordingly.

- 1.5 Prior to the publication of these decision documents, The Departments have jointly endorsed the SEM Committee's recommendations and requested the SEM Committee to proceed with the development and implementation of the Detailed Market Design Phase.
- 1.6 This Non-Technical Summary introduces the rationale and the SEM Committee's decisions on the I-SEM Energy Trading Arrangements and Capacity Remuneration Mechanism.
- 1.7 Three additional documents are published alongside the final High Level Design Decision Paper, they are:
 - The impact assessment which reflects the Cost and Benefit Analysis (CBA) carried out;
 - The Summary of Responses to the Draft Decision Paper (alongside the SEMC views) and
 - The Next Steps Paper which outlines the key work streams which will form part of the Detailed Design and Implementation phases of the I-SEM.

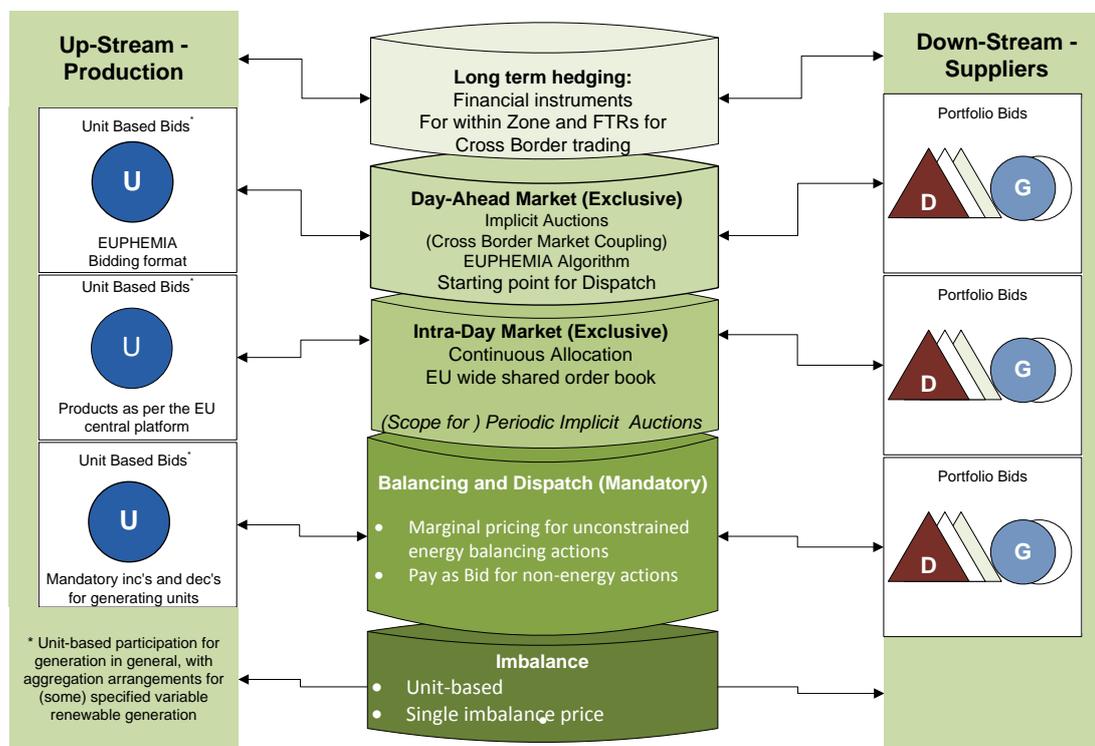
2 RATIONALE FOR I-SEM DESIGN

- 2.1 I-SEM will seek to generate maximum competition through concentrating trading in the day-ahead and intra-day markets. These short-term markets are directly linked to similar markets across Europe through the Target Model. This will provide efficient and transparent prices which will support trading in the forwards timeframe. Market participants will be financially responsible for ensuring that their actual physical generation and demand is in balance with their contracted position traded in the day-ahead and intra-day markets. This will encourage market participants to take part in the various markets to achieve a balanced position.
- 2.2 In order to ensure adequate levels of generation and security of electricity supply the SEM Committee has considered that a capacity remuneration mechanism (CRM) is required. This will deliver an additional revenue stream to providers of capacity on top of their energy sales. The SEM Committee considers that an energy only market poses significant risks to provision of the necessary revenue to market participants and would therefore not provide the necessary long-term generation adequacy.

3 DECISION 1 - ENERGY TRADING ARRANGEMENTS

3.1 Trading in the new I-SEM will take place in a number of different timeframes and the rules of the new market will set the framework within which this will take place as set out below.

Figure 1 I-SEM Energy Trading Arrangements



3.2 Only financial trading will be permitted in the **forwards timeframe** in order to support trading in the day-ahead and intra-day markets, which will support the formation of robust and transparent prices within these markets. This will ensure that liquidity in these markets is not reduced through physical trading in the forwards timeframe and tying up of physical interconnector capacity.

3.3 The **day-ahead and intra-day markets** will be 'exclusive', which means that the European coupling process will be the only route by which a market participant can participate in the market within this timeframe. Participation will be incentivised in order to provide robust reference prices for forward trading and to facilitate efficient trading across interconnection with the GB market. In general participation in both the day-ahead and intra-day markets will be by individual generation unit. This is in order to promote transparency in the market and prevent portfolio bidding by generation units or trading between generation and supply arms within the same group.

- 3.4 The starting point for dispatch of generation will be the detailed and feasible nominations required from all market participants following the day-ahead market. Market participants will be responsible for balancing their positions and will be mandated to participate in the **balancing market** through incremental and decremental bids which will determine the costs of balancing actions. Again, in general, participation will be by individual generation unit with aggregation arrangements allowed for demand response, for demand itself and for some variable renewable generation.
- 3.5 Balance responsibility for market participants will require the introduction of **imbalance pricing** and an imbalance settlement mechanism. This will apply to the difference between market participants contracted position and their actual generation or demand. The imbalance mechanism will reflect the marginal cost of actions required to balance the electricity system and will consist of a single imbalance price. This means, for example, that the same price will be received by those who generate more power than contracted as the price paid by those who generate less power than contracted.
- 3.6 The Decision paper also sets out areas where further work is required in order to provide a more complete market design. These include market power mitigation measures that may be implemented to ensure competition within the market is not unduly restricted. It will also include measures to promote liquidity, which allows market participants to buy and sell quickly without large price changes, and provision of clear routes to market that allow all those seeking to enter the market a clear means of joining and fully participating. These issues and others will be taken forward in the detailed design of the new market.

4 DECISION 2 - CAPACITY REMUNERATION MECHANISM

- 4.1 The SEM Committee has concluded that a supplemental revenue stream is required to address the risk of a lack of generating capacity in the market, particularly at times of system stress. The I-SEM will include an explicit capacity remuneration mechanism (CRM) in the form of centralised Reliability Options. This is a quantity-based CRM, in which up-front capacity payments are determined through a competitive mechanism, such as an auction.
- 4.2 This explicit CRM does not preclude targeted contracting mechanisms that are put in place as a back stop measure to address specific security of supply

concerns. However, this type of targeted mechanism on its own would not be sufficient to address the broader issues arising for generation adequacy in a small island system with high penetration of variable renewable generation.

- 4.3 In determining the form of CRM the SEM Committee recognises the importance of ensuring that the design of the new market is compatible with other policy measures designed to support generation adequacy. These include encouraging demand-side response, facilitating the development of interconnection with other markets and ensuring efficient cross-border trading.
- 4.4 The design of the CRM, in the form of reliability options, should deliver benefits to end consumers through promoting competition between market participants for receipt of the capacity payments. It can provide appropriate exit signals and can ensure that payments more closely reflect the value provided by capacity to the system. Reliability options have proved successful in delivering security of supply in a number of markets and are consistent with the underlying principles of the European Target Model and the I-SEM philosophy.
- 4.5 Reliability options involve market participants receiving a capacity payment in the form of an option fee which requires them to promise to provide capacity when demand is high, prices are rising and the system becomes tight. It involves setting a 'strike' price for energy so that when the market reference price is above this strike price all holders of the option have to make a payment equal to the difference between the market reference price and the strike price.
- 4.6 Any additional penalty arrangements for non-delivery of capacity when required will be developed in the detailed design phase of the market integration project, as will other detailed rules of the mechanism.

5 IMPACT ASSESSMENT

- 5.1 The SEM Committee has carried out an assessment of the trading arrangements, the need for a capacity remuneration mechanism and the type of CRM proposed. The impact assessment is a mixture of qualitative and quantitative evaluation and has informed the decisions taken. The assessment has considered the principles of Security of Supply, Competition, Equity, Adaptability, Stability, Efficiency, Practicality, promotion of generation from renewable energy sources and compliance with the EU Target Model. The quantitative assessment has included the costs of implementing and

maintaining different market arrangements as well as estimated wholesale electricity costs.

- 5.2 The proposed energy trading arrangements and CRM have been assessed as best delivering the benefits of European market integration. The new I-SEM should increase competition in the energy market, maximise the efficient use of interconnectors and therefore render benefits to the end consumer. Qualitative evidence is presented in the impact assessment showing that the proposed design of the I-SEM energy trading arrangements should increase the economic efficiency of cross border electricity flows and reduce the level of curtailment of variable renewable generation on the island.
- 5.3 The qualitative and quantitative assessments support the retention of a CRM and show that any additional costs arising from the form of CRM chosen will be significantly outweighed by the benefits of competition that accrue to consumers and the savings that arise.

6 NEXT STAGES OF MARKET INTEGRATION PROJECT

- 6.1 It is important to note that the Decision Paper on the high level design does not cover all the elements of the new market, which will be developed in the detailed design phase of the market integration project. Initial preferences on some of these have been outlined in the Draft Decision and Decision papers but the detailed design phase of the project will continue to involve full consultation with industry stakeholders and consumer representatives.

The Decision Paper, Impact Assessment, Summary of Responses to the consultation and a Next Steps paper, are published on the All Island web site at: <http://www.allislandproject.org/>