



Ibec policy brief

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Ireland's electricity market re-design

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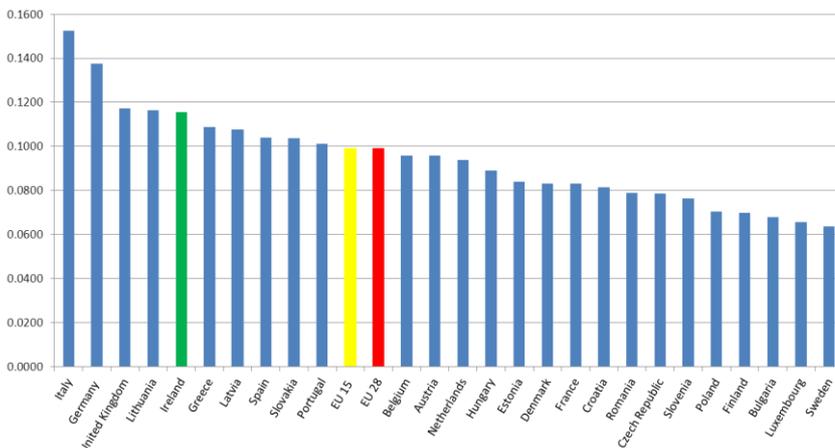
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Figure 1.
Electricity Prices for
Medium/Large Industrial
Users in 2011



Ireland's electricity market is being re-designed. Should you be concerned?

In a word, yes. Even minor changes to the wholesale market rules can impact on the energy cost competitiveness of business and industry. The reforms now being proposed will change our market beyond recognition.

The purpose of this briefing paper is to inform you about the proposed changes, and to encourage you to support Ibec's Infrastructure team in seeking to mitigate the risks for business. To do so, we explain how the market works today, and why it isn't fit for purpose. We also sketch out a few high-level design options that were previously considered, as well as the decision that was eventually made. Finally, we consider some of the business consequences of the chosen market design.

Why are changes needed, and what are our members' concerns?

Structural reform of the Single Electricity Market (SEM) is necessary in order for it to comply with a new European initiative for regional market integration. The European Commission hopes that member states whose electricity is more expensive than the EU average (see Figure 1) will benefit from more effective cross-border trading.

However, the scale of reform required for the SEM has turned out to be far greater than originally envisaged. The so-called I-SEM project

(which commenced more than two years ago) will not be completed until late in 2017. We don't yet know what the detailed design will look like but a substantial number of our members are concerned about the distinct possibility of unintended or undesirable outcomes, including:

- greater complexity of operation, driving up administrative costs;
- commercial uncertainty, particularly for renewable energy suppliers;
- a weakening of the link between fuel costs and electricity prices;
- power flows across the interconnectors to Britain continuing to be inefficient; and
- Irish electricity prices therefore moving further above the EU average, rather than converging towards it.

How the all-island market currently works

The Single Electricity Market was established in 2007 under the regulatory oversight of a SEM Committee. It was designed to ensure managed competition between generators in Ireland and Northern Ireland, while also allowing power to be traded across the Irish Sea. There are two sources of market revenue, namely a Gross Pool (worth roughly €2 billion annually of energy supplied) and a Capacity Payments Mechanism (CPM) worth in the region of €550 million.

All generators, including those trading across the Interconnectors, must sell their electricity into the pool. This involves submitting bids to a central agent known as the Single Electricity Market Operator. Bidders located on the island are subject to strict rules that allow only direct costs such as fuel to be priced in. Because of these bidding rules, the pool generally does not provide enough annual revenue to cover indirect fixed costs such as financing and depreciation. The CPM is therefore intended to cover the fixed costs of each generator, thereby ensuring adequate capacity on the system for the expected winter peak. At the start of each year, the SEM Committee calculates the total amount of revenue required, using the fixed costs of a hypothetical *Best New Entrant* power plant. This 'price-based' revenue pot is then shared out among all generators by a published formula.

As shown in Figure 2, all electricity delivered into the pool during each half-hour trading period is sold at a common spot price. The Market Operator ranks generators with the lowest bids first until the quantity needed for the demand is met. The marginal (i.e. most expensive) generator that is needed to meet the demand

sets the market price for that trading period. Spot prices typically vary during the day in response to changes in customer demand and/or natural gas prices.

Certain aspects of the current SEM design have been criticised. Firstly, the SEM Committee believes that the method for sharing out Capacity Payments has discouraged older, less efficient plants from exiting the market at a time of over-capacity. There is indeed surplus generating capacity on the system at present, although this has not discouraged investment by wind farm developers, whose projects are underpinned by financial supports (known as REFITs) that are funded through a Public Service Obligation Levy. Secondly, it can be commercially risky for suppliers to sell forward their electricity at a fixed price for more than a few days ahead. They would typically charge a risk premium for doing so, thereby increasing the purchase costs for energy users wishing to lock in a fixed contract price for longer periods. Nevertheless, Ireland's Economic and Social Research Institute in its 2011 *Review of Energy Policy* concluded that the SEM is operating as intended, and that the market prices are efficient - albeit higher than in neighbouring markets.

However, by far the biggest drawback of the current SEM is that it is incompatible with the European Commission's *Target Model*. The European Commission aims to harmonise electricity prices as far as possible across Europe by means of more efficient cross-border trading wherever price differentials are predicted for the next day, or during the trading day itself. The Irish market, in contrast to virtually every other European country, lacks any mechanism for physical trading of power at an agreed price in advance of the day. In fact, sellers and buyers don't know the market prices for certain until some days after the trades have taken place. The European Commission, quite understandably, views this arrangement as unacceptable. It has effectively ordered the SEM Committee to remedy the deficiency.

The long journey to a workable solution: are we there yet?

Early in 2013, that Committee expressed to Ibec its hope that an 'evolutionary' approach with

minimal design changes might be possible. However, it gradually came to the view that a more radical reform would be needed. It therefore consulted on a shortlist of high-level designs, each of which could in principle be made compliant with the Target Model.

- Some respondents favoured a so-called *Decentralised Market* model, which bore similarity to the current British market, although adapted to Irish circumstances. Electricity could be bilaterally traded without limitation and there would be no pool.
- Other respondents favoured a *Gross Pool, Net Settlement* model that would allow for limited bilateral trading in advance of the day but would employ a pool for pricing residual trades on the day.
- Yet others favoured the *Mandatory Centralised Market* model. By maximising liquidity in the day-ahead market, it would encourage efficient interconnector operation.

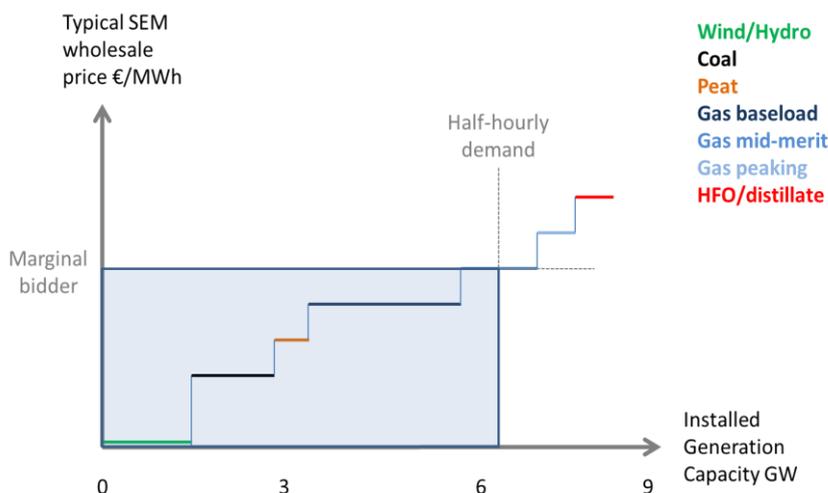
In parallel, the Committee asked stakeholders whether a capacity payment mechanism should be retained and, if so, what form it should take. The majority of respondents argued that one would indeed be needed for security of supply, and that it ought to be similar to the current CPM.

The Committee's draft decision to favour a Mandatory Centralised Market for the I-SEM was no surprise, given the fair degree of support this option had received from Ibec members. However, the decision to introduce an auction-based capacity payment mechanism was unexpected. It means that the total amount of capacity revenue would henceforth be determined by market forces rather than regulatory estimates of reasonable cost. The ESRI has questioned the wisdom of the latter decision, arguing that it may require intrusive regulation of the auction process.

Ibec's main concern about the overall design package relates to a key alteration made subsequent to publication of the draft decision. There had been strong protests from wind developers who were concerned about having to forecast their sales volumes at the day-ahead. Any forecasting error would create an imbalance between the quantity of energy they had been obliged to sell into the pool and the quantity that they were actually able to deliver in the relevant trading period. The prices at which such imbalances will be 'cashed out' are likely to be much more volatile than the respective pool price. Wind generators therefore faced the prospect of financial uncertainty over net revenues that would potentially undermine the financial viability of new and existing investments. In Ibec's view, this problem could and should have been addressed by establishing a market for imbalance quantities that would closely match the day-ahead pool prices. However, the SEM Committee instead decided to remove the requirement for bidding to be mandatory at the day-ahead stage for any generators. At the time, we argued that this change was effectively 'throwing out the baby with the bathwater'.

One of the widely-accepted benefits of wind

Figure 2. How the wholesale price is set for each trading period.





investment is the so called *Merit Order Effect*, by which renewables displace less efficient generators from the market, thereby reducing the marginal wholesale prices in the pool. We don't know what bidding rules will be put in place in the new I-SEM but it seems reasonable to expect that removing altogether the obligation to bid day-ahead will cause a weakening of this beneficial effect.

Furthermore, there may be a need to introduce bidding rules to prevent energy users being exposed to excessively high spot prices. It is difficult to see how these could be enforced in a non-mandatory market. In any case, it is questionable whether the SEM Committee could legitimately impose bidding rules based on fuel costs if the capacity payment mechanism ceased to be based on the recovery of fixed costs.

What are the consequences, and what can we do about it?

Our analysis suggests that the market will become less transparent because of the proposed reforms. I-SEM may well deliver a strong day-ahead price signal, but will it be the *right* price signal for planning efficient interconnector flows? There is a risk that it will fail to bring our day-ahead wholesale prices down towards the EU average. Indeed, it might even have the opposite effect.

Having read this far, you may well be worried

about the potential long-term impact on your organisation's competitiveness, but are unsure what to do about it. Over the coming weeks there will be a series of consultations on the detailed market design. Energy suppliers on the island are actively involved, but energy users by and large are not. Possibly this is because of the considerable technical complexity involved. We hope that this briefing helps to cut through some of that complexity, and that it convinces Irish industry of an urgent need to make its voice collectively heard.

We will continue to press the SEM Committee and the Energy Ministers in Dublin and Belfast to address the concerns outlined above. But we will need your support. If you aren't already engaging with Ibec's Energy Policy Committee, perhaps this is the time to start.

Ibec energy policy team



Dr. Neil Walker, Head of infrastructure, energy and environment

Neil Walker joined Ibec as Head of Energy and Environment Policy in 2010. Previously, he gained more than 25 years of senior management and consulting experience in a variety of energy-intensive industries. Neil holds a Master's Degree in Chemical Engineering from Cambridge University, an MBA from the London Business School, and a Doctorate in Environmental Economics from University College Dublin.



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Catherine started her career in the European Parliament, before working as a Parliamentary Researcher in the House of Commons. Catherine joined Ibec in 2008 as an Industrial Products Executive, before moving to the role of Senior Energy Policy Executive in 2012. Catherine holds a Master Degree in International and European Politics from the University of Edinburgh, and recently completed a Masters in European Law with King's College London.