

Irish and British electricity prices: what recent history implies for future prices

Paul Deane,^a John FitzGerald,^{b,c} Laura Malaguzzi Valeri,^{b,c,e} Aidan Tuohy^d and Darragh

Walsh^{b,c}

- a. Energy Policy and Modelling Group, Environmental Research Institute, University College Cork
- b. Economic and Social Research Institute, Dublin
- c. Department of Economics, Trinity College Dublin
- d. Electric Power Research Institute, Knoxville, TN
- e. Corresponding author: Economic and Social Research Institute; Whitaker Square, Sir John Rogerson's Quay; Dublin 2; Ireland. laura.malaguzzivaleri@esri.ie; tel. +353 1 863 2000.

Executive summary

This paper investigates wholesale and retail electricity prices in Ireland and Great Britain between 2008 and 2011, focusing on structural, technological and regulatory drivers of price differences. We determine how these factors are likely to affect future electricity prices, taking account of the move to increase the deployment of renewables and of the EU's drive to integrate electricity markets through the Target Model.

Ireland and Northern Ireland are part of the Single Electricity Market (SEM), a compulsory pool system, where generators bid in their energy costs, and receive capacity payments reflecting their availability. This provides a transparent market (most of the market data are published) and delivers returns to generators that approximate the long-run cost of generating.

The British electricity system is governed by the British Electricity Trading and Transmission Arrangements (BETTA) and is based on bilateral contracts. BETTA consists of firms that are, for the most part, vertically integrated and therefore have both a generating and

a retail function. Because most of the transactions occur between (and within) firms at prices that are not public, wholesale prices in Great Britain (GB) are not transparent.

We first estimate true costs and prices for the British market. The wholesale costs of BETTA are estimated through a simulation model that commits and dispatches generating plants optimally. Wholesale prices are derived from published balancing price information and information on the price of electricity futures.

Our findings strongly suggest that the wholesale price in Great Britain is much lower than in Ireland. We argue that the difference between wholesale prices in SEM and BETTA is not driven by technological factors and that the BETTA wholesale price is, in fact, too low to cover long run generation costs. The BETTA model is thus not a sustainable long-term model.

Our analysis shows that firms in BETTA are not making losses due to the low wholesale price, as they are compensated by large retail margins. This favours incumbents with established customer bases and makes entry of new generators difficult.

We also estimate that the cost of supporting renewables per megawatt hour of electricity consumed is much higher in GB than in Ireland, even though renewables account for a smaller share of overall consumption.

In the SEM there has been extensive new entry resulting in significant construction of thermal generating plants without ad-hoc intervention by the regulatory authorities. In BETTA, on the other hand, there has been a dearth of new thermal plants coming on line. In fact special provision had to be made to ensure new investment in a nuclear plant at Hinkley Point to maintain sufficient capacity. To encourage new generating plants to come on board, incentives for investment in BETTA must grow, suggesting that the gap between SEM and BETTA wholesale prices will narrow in the future. Some form of remuneration for capacity

seems inevitable. However, this does not imply that retail prices will have to increase in equal proportion. Our analysis indicates that total electricity prices in BETTA are sufficient (or close to being sufficient) to remunerate all aspects of providing electricity, but currently all the profits are extracted at the retail stage.

The GB market could (and should) be restructured to allow generators to be fairly remunerated for their costs while simultaneously decreasing retail margins to avoid overburdening final consumers. It is difficult to envisage how this can be achieved without changing a system that is currently based on vertically integrated firms, bilateral contracts and limited regulation. The example of the SEM shows that strong regulatory oversight can work well with appropriately structured liberalised markets.

Upward pressure on prices is likely in the future in both jurisdictions, as both aim to increase the share of renewables in electricity generation. Ireland remunerates renewables with a feed in tariff, resulting in lower subsidy costs when compared to the system of renewable obligation certificates used historically in GB. As GB moves towards its own system of feed in tariffs, the disparity in subsidy costs across jurisdictions should gradually reduce in size.