

The Impact of the Early Capacity Market Auctions on Wholesale Electricity Prices and Revenues

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The context for this work is the recent growth of subsidised renewable generation with zero marginal cost of production. These have raised concerns that wholesale revenues from the sale of energy may become inadequate in ensuring the presence of conventional generation plant on the system when needed during the transition to a zero carbon energy system, and thereby present a threat to secure supplies. To address this risk, many European countries have considered the introduction of ‘Capacity Market’ auctions, with auctions held years in advance of delivery, to pay generators that make capacity available during delivery years.

A key factor influencing appraised net benefit for the consumer of capacity market introduction links to the extent to which wholesale market costs are reduced by a downward effect on energy prices during peak periods. Although the wholesale price in future may be lower, offsetting part of the cost borne by consumers, it is quite hard to persuade them that the costs are not as high as the apparent cost of the auction,

The size of the sums involved combined with the uncertainty over how and whether practice will play out according to theory therefore emphasise the importance of research in this area.

The objective of this analysis is to shed light on the impact – in terms of energy price and net cost to the consumer – of the introduction of the ‘Early Auction’ Capacity Market for winter 2017/18. It uses forward prices before and after the ‘surprise’ announcement of Capacity Market introduction for delivery year 2017/18 to assess the wholesale price impact using ‘difference-in-differences’ method.

Results suggest that the announcement of introduction of the Early Auction reduced the spread between peak and base prices by about £0.85/MWh. This may equate to a wholesale revenue reduction of about £170-£210 million. This suggests the net injection of funds for generators – paid for by consumers – resulting from introduction of the Early Auction could be around half of the £380 million paid to generators. In theory this additional payment purchases a higher level of security.

In terms of importance for government policy and more widely, the analysis provides ex post evidence of the transfer of value from wholesale market to Capacity Market, an interaction set out in many Capacity Market ex ante impact assessments. In particular, it suggests theory does to some extent materialise in practice, but that policy-makers may exercise caution in the size of the transfer effect they ‘bank’.

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