

Strategic behaviour in a capacity market?

The new Irish electricity market design

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Abstract The transition to a low-carbon power system requires growing the share of generation from (intermittent) renewables while ensuring security of supply. Policy-makers and economists increasingly see a capacity mechanism as a way to deal with this challenge. Yet this raises new concerns about the exercise of market power by large players via the capacity auction. We present a new modelling approach that captures such strategic behaviour together with a set of *ex ante* empirical estimates for the new Irish electricity market design (I-SEM) – in which a single firm controls 44% of generation capacity (excluding wind). We find significant costs of strategic behaviour, even with new entry: In our baseline scenarios, procurement costs in the capacity auction are around 150-400 million EUR (or 40-100%) above the competitive least-cost solution. From a policy perspective, we also examine how market power can be measured and mitigated through auction design.

Keywords capacity market, strategic behaviour, competitive benchmark analysis, restructured electricity market, auction design

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