

A future auction mechanism for distributed generation

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Abstract Auction designs in current electricity markets will need to be adjusted to cope with massively increased small-scale distributed generation and demand response, as these are integrated into the electricity system. We present a VCG mechanism that addresses the two most important challenges facing future power systems, namely uncertainty of costs and complexity of bidding strategies. The mechanism is built up around heterogeneous goods, useful for different levels of response time of electricity or different Quality of Service agreements, package bidding and a proxy agent. The proxy agent will ensure optimal bids from non-professional suppliers. Our mechanism has the expected desirable properties by design.

Keywords Future electricity networks, electricity subscriptions, proxy agent, VCG auction mechanism

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