

2016 Capacity market auction

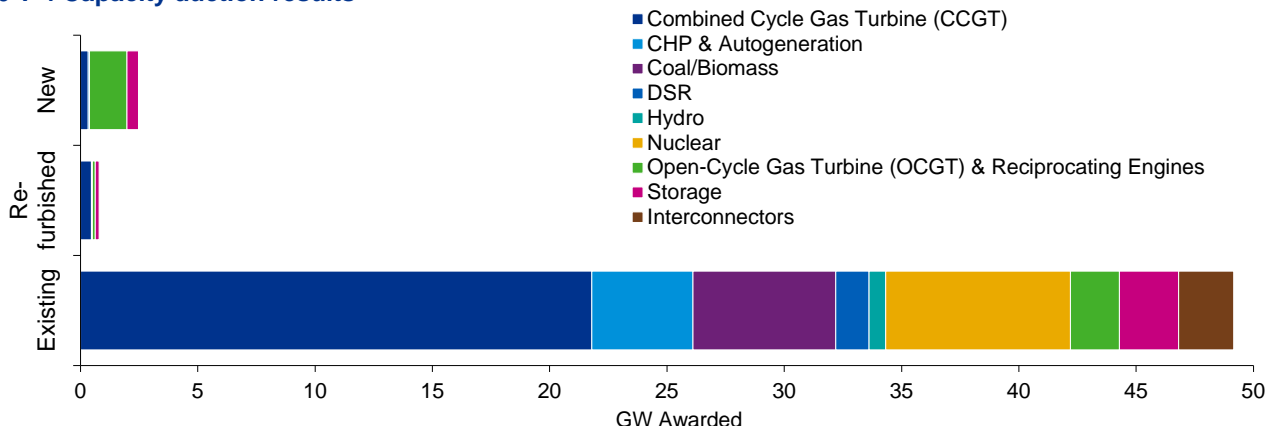
Dawn of a new electricity market?



Headline results

- The December 2016 T-4 auction cleared at £22.50/kW/year, slightly higher than in previous years, securing 52.4 GW of capacity for delivery in 2020-21. This was at a gross cost to consumers of around £1.2 billion in the first year (2020-21).
- Most notably, this year's auction has resulted in a diverse range of technologies winning capacity agreements:
 - Around 500 MW of new-build battery storage;
 - Over 1.4 GW of demand-side response (DSR), an eight-fold increase since the first T-4 Capacity Market auction in 2014.
- However, there was only one new Combined Cycle Gas Turbine (CCGT) – Centrica's re-powered 333 MW plant at Kings Lynn – with about 8 GW of new CCGTs dropping out earlier in the auction.
- The majority of contracts went to existing plants, including CCGTs, coal and nuclear.
- Limited small-scale diesel generation won contracts, reflecting the steps taken by the Department for Business, Energy & Industrial Strategy (BEIS) and Ofgem to deter diesel generators.

2016 T-4 Capacity auction results



Detailed analysis

A big boost for storage and DSR...

Secretary of State Greg Clark, in a speech in November, stated that the aim of his policy *"is to harness the potential of storage, demand side response and other technologies to create the most efficient, most productive electricity system in the world."*^(a) The 2016 Capacity Market auction has gone some way towards realising that vision. KPMG analysis shows that almost 2 GW of the capacity requirement in 2020-21 will be fulfilled by distributed flexible technology (namely battery storage and DSR), which the Government is seeking to encourage.

BEIS has stated that the results provide 'certainty' for businesses and consumers on security of supply. However, the 1.3 GW of DSR is 'unproven.' In addition, the current state of battery storage technology does not lend itself to sustained periods of discharge.

Furthermore, a question still remains on the revenue streams for distribution-connected storage and DSR, as well as the degree of their reliance on balancing services, embedded benefits and wholesale market revenues. If a significant amount of revenue for storage and DSR is attributable to embedded benefits, then the ongoing Embedded Benefits Review by Ofgem could have a significant bearing on the reliability of the projects actually delivering in 2020-21.

Either way, a large portion of security of supply in the winter of 2020-21 will be provided by new, and as yet untested, sources.

Diesels warned off...

The combination of Ofgem's Embedded Benefits Review and the Defra consultation on possible changes to Air Quality regulations appears to have deterred many diesel generators from either bidding, or bidding aggressively. While a full breakdown is not available, our estimates suggest that this year, diesel generation has secured a much lower share of the contracts (approximately 75 MW) than in previous years. By contrast, about 1.3 GW of gas engine technology secured 15-year contracts.

Limited success on new build CCGT...

The auction also brings to light the competition faced by CCGTs in the current auction structure. The only new-build CCGT to get a 15-year contract was Centrica's King's Lynn. This, however, is a repowering of a previously decommissioned plant, owned by a vertically-integrated utility with a secure route to market. Given these unusual circumstances, we still do not know the 'true' clearing price for a 'greenfield' CCGT project being developed by an independent power producer, as up to 10 GW of new CCGTs pulled out before the auction cleared. The Government highlighted in its press notice that it had secured two large-scale gas plants, but the other project is an OCGT, not a CCGT – a 299 MW peaking plant extension to Interger's existing Spalding gas plant.

Indeed, most of the new-build capacity is peaking and flexible, which brings to light the uncertainty over whether the current capacity market can encourage base-load gas-fired generation (i.e. CCGTs) to replace the decommissioning nuclear and coal plants.

Existing plant still dominates...

Despite the continuation of the Carbon Price Floor, approximately 6 GW of coal plants still see value in the wholesale market, and so accepted a clearing price less than their average annual fixed cost (which includes transmission charges and some maintenance costs).

However, like last year, Fiddler's Ferry, Cottam coal station and a unit of West Burton B power stations did not secure an agreement for the auction and their future post 2018-19 remains uncertain. Furthermore, approximately 1.7 GW of existing CCGTs (Peterhead, Barry and Peterborough) lost out on agreements in this year's auction too. Given that these CCGTs have not secured agreements in the previous two auctions, the early T-1 auction in January 2017 is likely to be key in determining the future of these plants.

Similarly, on interconnection, while 2.3 GW of existing interconnectors did secure agreements, there were no contracts for new interconnectors, like the NEMO project.

Costs to consumers uncertain...

BEIS have stated that the net cost to consumers from the contracts awarded will be approximately £2 per household. This assumes a significant offset from lower wholesale prices as a result of these contracts being awarded. The gross cost of the contracts is about £1.2 billion in 2020-21, or £13 per household (2015-16 real prices).

Conclusion and next steps...

This T-4 auction has illustrated the rapidly changing nature of the GB power market. In the future, we will be reliant on a much wider range of technologies, including storage, DSR and interconnection to keep the lights on, alongside existing large-scale power generation. Only time will tell if this more diverse and, as yet, unproven set of technologies proves to be reliable or not – and what the longer term role of new baseload plant, like a CCGT, will be – and thus the policy interventions needed to secure it.

The Auction Monitor Report should be available for the Secretary of State to review by 13 December. Subject to his approval, we expect the updated Capacity Market register to be available by 21 December. In the New Year, attention will turn to the T-1 auction for the winter of 2017-18, and the Transitional Arrangements auction for DSR due to be held in March 2017.



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