

Third capacity market auction

Is there space for new gas?

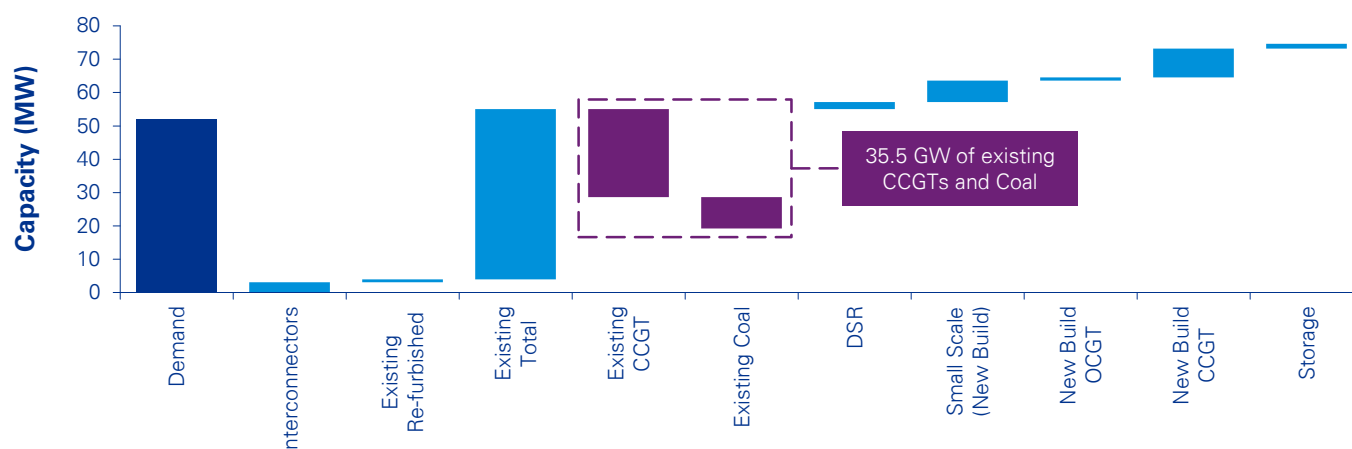
Summary

- On Friday 14th October 2016, the much awaited pre-qualification results for the T-4 2016 Capacity Market auction were published.
- In the months leading up to this announcement, there was much speculation on the prospect of a new dash for gas. This was due to Capacity Market (CM) reforms, the looming spectre of an embedded benefits review and an increased capacity demand of 52 GW (an increase of 8 GW compared to the last CM auction).
- The release of Friday's results is likely to be a cause for concern for some large-scale gas developers.
- There will be 74.67 GW of de-rated (pre-qualified and conditionally pre-qualified) capacity, yet the 52 GW of demand can be fulfilled by existing plants, interconnectors and existing refurbishments.
- However, we estimate that about 1 to 1.5 GW of new-build large gas could secure capacity agreements at a level reflective of reasonable project economics.
- Of this new-build, Open Cycle Gas Turbines (OCGTs) are more likely to secure agreements based on the capital cost differentials to CCGTs. However, we note that some planned Combined Cycle Gas Turbines (CCGTs) have strategic advantages such as location, access to cheaper financing and a cost-effective route to market.
- Our analysis also suggests that about 1 to 1.5 GW of new-build distribution-connected generation could secure capacity agreements.
- The overall outcome of the T-4 capacity auction will depend on bidding behaviour by market participants:
 - How aggressive will coal be when bidding? Over 9 GW of coal currently holds the balance of power.
 - How aggressive will existing CCGT plants (not in receipt of previous T-4 agreements) be when bidding?
 - How will the appetite of small-engine technology developers be affected by the ongoing embedded benefits review?



Detailed analysis

The following chart illustrates the bidders that have come forward for participating in the Capacity Auction, split by technology.



As illustrated, the demand of 52 GW can be met via existing plants, interconnectors and existing refurbishments, including 26 GW from CCGTs and 9.5 GW from coal. The ability for the auction to bring forward investment in new-build will be heavily dependent on the bidding behaviour of these two large categories of plants.

Coal

The recent and ongoing collapse of dark spreads due to a rising carbon tax has increased pressure on coal plant operators. This is exemplified by EDF's decision to forgo the 3-year CM agreements for Cottam and West Burton rather than incur the required capital investment. Furthermore, due to the low CM clearing prices, some coal plants (e.g. Fiddlers Ferry) were considering forfeiting their capacity agreements and thereby incurring penalties earlier in the year to avoid suffering losses. However, the decision was reversed with the introduction of the T-1 auction.

Together, this indicates that coal plants may bid at higher prices in the upcoming auction rather than passively accept lower cleared prices. This could push existing coal further upwards on the bid curve, creating room for larger amounts of new-build capacity.

CCGT

Existing CCGT plants will likewise have a considerable impact on how much new-build generation is brought forward. With the recent improvement in clean spark spreads (both for this winter and on the forward markets), most existing CCGT plants may feel somewhat less reliant on securing a higher clearing price from the capacity market to preserve plant economics.

Most existing CCGT plants may therefore place greater value on securing a capacity agreement and thus exhibit price-taking behaviour. However, not all existing CCGT plants are equal. Even with improving spark spreads, our analysis suggests that about 5 GW of existing CCGT plants may not be as comfortable with a purely price-taking bidding strategy. This is due to factors including plant location and efficiencies.

Our analysis suggests that the mix of the new-build plants brought forward (i.e. large-scale vs. small-scale new-build) will depend on how aggressively this 5 GW of existing CCGT bids in the auction.

New small-scale distribution-connected generation

A key issue that will influence the bidding behaviour of new small-scale distribution-connected generation participants in the CM auction is Defra's proposed changes in air quality regulations¹ and the ongoing review on embedded benefits,² in particular Triad avoidance. The bidding behaviour of small-scale distributed-generation developers will reflect their view on the outcome of this review, as well as the pace at which recommendations from these two policy developments are implemented.

Thus, a bullish developer could be undeterred by the ongoing reviews and thereby continue to displace new large-scale gas plants, in particular CCGT, in the bidding curve. Others, however, may adopt a more cautious strategy.

Bringing it all together

We have analysed the pre-qualified list of bidders into the upcoming T-4 auction and taken a view on potential bidding behaviour in our above analysis. This has resulted in a supply curve that suggests successful bids for circa 49 to 50 GW of existing capacity (including all existing CCGT and some coal), leaving a gap of 2 to 3 GW for new-build power stations to meet the 52 GW target capacity.

While some of this capacity gap will be filled by optimistic small-scale developers (circa 1 to 1.5 GW), our internal analysis shows that OCGTs (circa 0.5 to 1 GW) are more likely to be brought forward in this year's auction. However, as mentioned, strategic bidding by new-build CCGTs cannot be ruled out.

What now?

The auction is due to begin on 6th December 2016, with results to be approved by the Secretary of State for BEIS by 21st December 2016.



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¹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/504217/March_2016_Consultation_Document.pdf

² https://www.ofgem.gov.uk/system/files/docs/2016/07/open_letter_-_charging_arrangements_for_embedded_generation.pdf

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