National Audit Office

Report
by the Comptroller
and Auditor General

Department for Business, Energy & Industrial Strategy

Investigation into the 2017 auction for low-carbon electricity generation contracts

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What this investigation is about

1 In September 2017, the Department for Business, Energy & Industrial Strategy (the Department) awarded through an auction 11 Contracts for Difference (CfDs) to low-carbon electricity generation projects. CfDs fix the price that generators receive for the electricity they generate for a set period, typically 15 years. Consumer-funded top-up payments make up the difference between the fixed price in the contract, known as the 'strike price', and the prevailing market price. The 2017 auction resulted in lower costs for new offshore wind farms than the government expected. This continued the recent trajectory of reductions in the costs of this technology. The government has awarded more than 40 CfDs since 2014, mostly through auctions.

2 Following the 2017 auction, Rt Hon Dame Margaret Hodge MP raised concerns with us, based on correspondence she had received from a project developer that had bid unsuccessfully. The developer was unsuccessful because its project would provide more generating capacity than was permitted under the rules of the auction. This was despite the fact it had bid at a lower unit price than some competing projects that won contracts.

3 This situation occurred because of changes the Department made to the auction design before the 2017 auction. The Department decided to cap the amount of generating capacity that projects using certain technologies could be awarded, and adjusted the way this cap would apply compared with the previous auction rules. These changes meant that some projects that were too large to fit within the capacity cap did not win contracts, while some projects that were smaller but more expensive per unit of electricity did win contracts. The decision not to award a contract to the project mentioned above was therefore in line with the rules the Department had set for the auction.

4 Projects make bids into CfD auctions on the understanding that those bids will be kept confidential. The Department does not have access to information about projects' bids, and we have not shared this information with the Department during our investigation. We are aware of the sensitivities around us using bid information to report on the impact of the Department's design change and the risk that this reveals more about some projects' bids than is already in the public domain. However, we have decided that it is in the public interest to publish a broad estimate of the impact of the Department's decisions, in order to hold the Department to account. We have aimed to strike a balance between protecting commercially confidential bid information with making clear the potential additional costs to consumers as a result of the Department's design change. We have therefore only included rounded, total cost figures, and omitted detailed information that could allow readers to infer more information on specific bids than is necessary.

5 This report sets out:

- the history of CfDs, including how and when they have been awarded (Part One); and
- how the Department designed the 2017 auction, including the changes it made to the rules related to the capacity cap, and the impact these changes had (Part Two).

Summary

Key findings

Contracts for Difference

1 Contracts for Difference (CfDs) are the government's main policy mechanism to encourage investment in new, low-carbon electricity generation. The Department for Business, Energy & Industrial Strategy (the Department) introduced CfDs as part of its 2012 Electricity Market Reform programme. CfDs fix the 'strike price' that generators receive for their electricity for a set period, typically 15 years. A government company, the Low Carbon Contracts Company (LCCC), pays generators the difference between the CfD's strike price and the reference price (a measure of the average market price). LCCC then recovers these costs through a levy on electricity suppliers. Should the reference price rise above the strike price, generators will pay LCCC the difference, which it then passes on to suppliers. The government expects that these costs and benefits will be passed through to electricity consumers. Since 2012, the Department has awarded 47 CfDs to projects that use technologies such as wind, solar and nuclear power (paragraphs 1.1 to 1.2, Figures 1 and 2).

2 The Department awards CfDs primarily through auctions to reduce the costs to consumers of low-carbon electricity. When auctions are used to allocate CfDs, projects using eligible technologies submit sealed bids that include the technology type, generating capacity, start date and strike price. National Grid, which administers the auctions, ranks the projects according to their strike price and the projects are awarded CfDs on a 'pay as clear' basis. The project with the lowest strike price is awarded a contract first. Each subsequent project wins a contract if its expected cost, when added to the cost of the previous winning projects in the auction, comes below an overall budget cap. Projects that have already won a contract have their strike price raised to that of the latest project being assessed and the revised overall cost of the auction is reassessed against the budget cap. The auction stops once a project's cost breaches the budget cap when added to the costs of projects that have already won. The Department uses the auction format as it creates competition between projects, and should result in strike prices just high enough to enable construction without leading to excessive profits (paragraphs 1.3 to 1.7 and Figure 3).

2017 auction results

3 **The September 2017 auction resulted in lower strike prices than the first auction in 2015, with offshore wind costs in particular falling sharply.** In total, the Department awarded 11 CfDs to projects with a total capacity of 3.3 GW, enough to meet the electricity needs of approximately 3.6 million homes. Some 3.2 GW of this was for three offshore wind projects. Two of these projects are expected to begin generating electricity in 2022-23 and will receive a strike price of £57.50 per megawatt hour (MWh, 2012 prices). The third project is expected to begin generating electricity a year earlier, receiving a strike price of £74.75/MWh (2012 prices). These strike prices were lower than those awarded in the 2015 auction, in which offshore wind projects received strike prices ranging between £114/MWh and £120/MWh (2012 prices), and were lower than the government had expected for the 2017 auction. The eight other CfDs in the 2017 auction were awarded to smaller 'fuelled-technology' projects. This includes biomass with combined heat and power, and advanced conversion technology (ACT) projects, which use waste to produce a gas that can be used for a variety of purposes including the generation of electricity (paragraphs 1.8 to 1.10, Figures 4, 5 and 6).

4 **National Grid forecasts that the cost to consumers of top-up payments for the winning projects will, over the four years assessed in the auction, peak at £176 million in 2023-24.** This is less than the annual budget cap for top-up payments that the Department had set of £290 million per year, even though the auction secured more generating capacity than the Department had expected (paragraph 1.11 and Figure 7).

Changes to the auction design

5 **Following the first CfD auction in 2015, the Department changed the auction rules relating to capacity caps, should they be used in a future auction. This made it possible for larger, cheaper-per-unit bids to be rejected in favour of smaller, more expensive-per-unit projects.** The rules for the first auction in February 2015 gave the Department the option to cap the generating capacity that a particular technology could be awarded. The Department chose not to do this, so that bids were only subject to the budget cap. In April 2015, the Department changed the auction rules so that a capacity cap would apply differently if it was used in a future auction. Rather than stopping the auction for projects covered by a capacity cap as soon as a bid breached that cap (as would have happened if there had been a capacity cap in the February 2015 auction), projects covered by the cap bidding at a higher strike price would still be considered. Such projects would be awarded a CfD if they came under the capacity cap and did not exceed the budget cap. This created the possibility that the auction would award contracts to projects that were more expensive per unit of electricity while rejecting cheaper projects because their generating capacity was too large (paragraphs 2.4 to 2.5 and Figure 8).

6 **The Department did not highlight this change to its programme management board or test whether it might lead to unintended consequences.** The Department changed the auction design in relation to the capacity cap as part of a wider change that enabled bidders to submit flexible bids. At the time, it recognised that the change could enable auction results that would go against its principle that more expensive projects should not be accepted if a larger project with a cheaper unit price is rejected. But the Department has not provided us with any evidence to show that it considered how likely this was to happen. It also did not notify its programme management board, which was in place to consider changes to the auction design (paragraphs 2.6 to 2.9).

7 **The Department subsequently decided to apply a capacity cap to 'fuelled technologies' in the 2017 auction.** At the time the Department announced the auction in March 2017, it was considering changes to the eligibility rules for subsequent auctions. The Department was unsure whether large-scale, long-term support of fuelled technologies (such as biomass and ACT) would contribute effectively to its broader strategic objectives, but had not reached a final decision by the time the 2017 auction was announced. It therefore decide to cap the capacity that could be awarded to fuelled technologies at 150 MW to avoid making significant commitments to fuelled technologies before a final decision was made. This cap would apply using the rule the Department set in April 2015. It expected this would reduce the risk of the auction closing prematurely to technologies subject to the cap and to prevent large projects covered by the cap from gaming the auction by closing the auction to smaller applicants (paragraphs 2.10 to 2.14).

Impact of the Department's changes

8 **We have found that the 2017 auction will cost consumers significantly more, relative to the additional capacity it secured, because of the Department's rule change.** We obtained the bid information from the auction to understand what the likely outcome would have been if the Department had capped fuelled technologies in line with the February 2015 auction rules. We found that the design changes enabled small fuelled-technology projects to raise the strike price of larger projects. This increased the cost to consumers by around £100 million each year, meaning a total additional cost of around £1.5 billion over the 15-year life of the contracts. Almost all of this cost increase is due to small projects pulling up strike prices for projects that had already been accepted, rather than due to additional capacity being secured. The Department recognises that this means the outcome of the auction was suboptimal and has stated it will not apply the capacity cap rule in the same form in future auctions (paragraphs 2.15 to 2.17).

9 **There were some bidding scenarios where the Department's design change would have meant better value for consumers, but it did not test the likelihood of these prior to making the change.** For example, ending the fuelled-technology auction early could have enabled enough space under the budget limit for a higher bid from another technology, such as tidal stream, to set the strike price at a higher level for all winning projects. The Department has also told us that the design change was made on the expectation, shared by a number of industry commentators, that wind projects would bid at a higher price than fuelled-technology projects. If this had transpired, the small fuelled-technologies projects able to win contracts because of the rule changes would not have pulled up the strike price for offshore wind projects, which would have reduced, but not eliminated, additional costs. However, the Department has been unable to provide any evidence from when it made the changes to the auction design to show that it assessed the potential risk of bid prices for offshore wind projects being different from this expectation (paragraphs 2.18 to 2.21).