WHAT DO WE NEED FROM AR7 TO DELIVER ON 2030 AMBITIONS?

Reaction to Release of AR7 Parameters by DESNZ

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Date: 25/07/2025

AR7 PARAMETERS RELEASE

This week, the Department for Energy Security and Net Zero released its framework for the upcoming 7th Auction Round (AR7) of the Contracts for Difference (CfD) scheme. This framework includes parameters such as the 'administrative strike price' (ASP), which are used by eligible developers to set bids during the auction. Unlike previous auction rounds, the government has chosen to set the budget after bids are disclosed, meaning that they can more easily control the capacity of projects awarded CfDs.

The administrative strike price set out by government is the maximum that any developer can bid in to receive a guaranteed price for a generated MWh sold on the wholesale market. Developers are incentivised to outbid each other and bid in at the lowest price they can generate for, and all successful bidders are awarded the price of the highest bid in the stack of successful bidders. This auction round, the ASP (in 2012 terms) is £81/MWh.

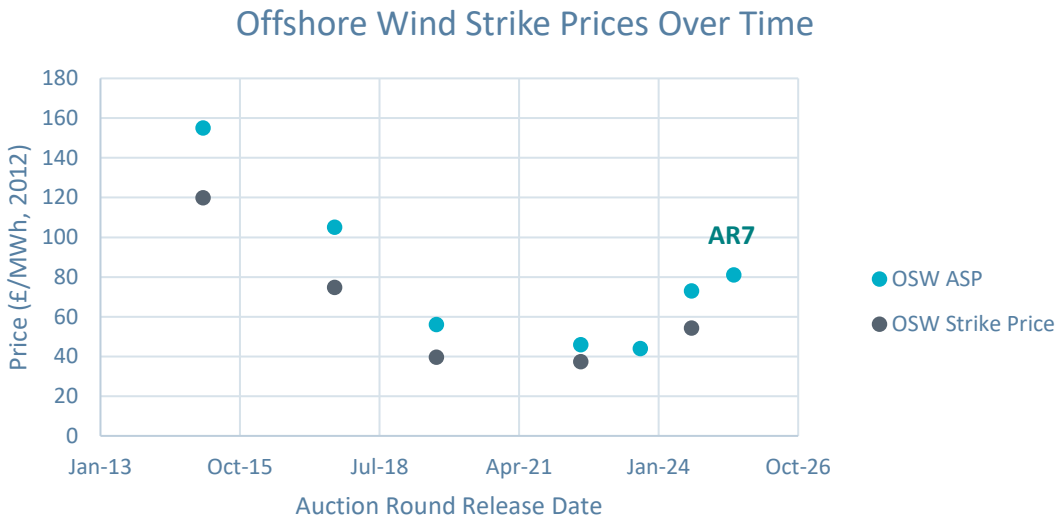

Figure 1: Offshore wind (OSW) administrative strike prices and auction-set strike prices over time.

The AR7 price is marginally higher than the ASP set for AR6. This reflects the continuation of rising costs in an industry that is being disproportionately affected by inflation to core materials and components. We are also in a period of stubbornly high interest rates, which hamper the project economics of offshore wind. Higher prices could also be a sign that the government is seeking to make development more attractive and entice more developers to bid into the auction by offering higher returns. The prices show similar increases for floating offshore wind and tidal stream.

Technology	Administrative Strike Price		
	(£/MWh, 2012)	(£/MWh, 2012)	(£/MWh, 2025)
	AR6	AR7	AR7
Offshore Wind	73	81	117
Floating Offshore Wind	176	194	280
Tidal Stream	261	266	383

Table 1: Administrative strike prices for offshore renewable technologies.

AR6 included an unprecedented ringfenced budget for Offshore Wind at £1.1bn – almost four times as much as the *total* budget of any previous round – and a sizeable £270m budget for emerging technologies including Floating Offshore Wind. The large allocation for offshore wind signalled a strong commitment to the technology and likely aimed to make up for lost capacity in the disappointing AR5, in which no bids were made due to an excessively low ASP. AR6 offered CfDs for an impactful 3.36GW of new capacity, but its legacy became mixed following Orsted's announcement to shelf its Hornsea 4 project, effectively removing 2.2GW from this total.

In AR7, the government will look to make positive strides towards ensuring its 2030 targets are met. The government is seeking to have deployed between 43 and 50GW of offshore wind by the end of the decade, a downturn from the previous 60GW that was targeted as lately as 2024. Given a lead time of at least two years to develop and commission an offshore wind farm, this gives the UK at most three auctions in which to grant CfDs for the necessary capacity.

There is currently 15.7GW of offshore wind fully commissioned in the UK with a further 1.7GW near completion. Along with a further 9.2GW in or nearing construction, this takes the UK's current (CfD-covered) pipeline to over 26GW. Projects have also been known to face delays or even be cancelled after getting CfDs. To develop 43GW, at least 6.5GW of projects would therefore need to be granted CfDs each year over the course of the next three years, if for example 20% of the capacity is not delivered.

Although ambitious, this capacity goal is achievable based on previous rounds such as AR3 and AR6 in which 5.5 and 7GW were awarded CfDs, respectively. The challenge for DESNZ will be giving investors' long-term confidence in the supply chain to ensure the avoidance of setbacks such as those at Hornsea 4 and Norfolk Boreas.

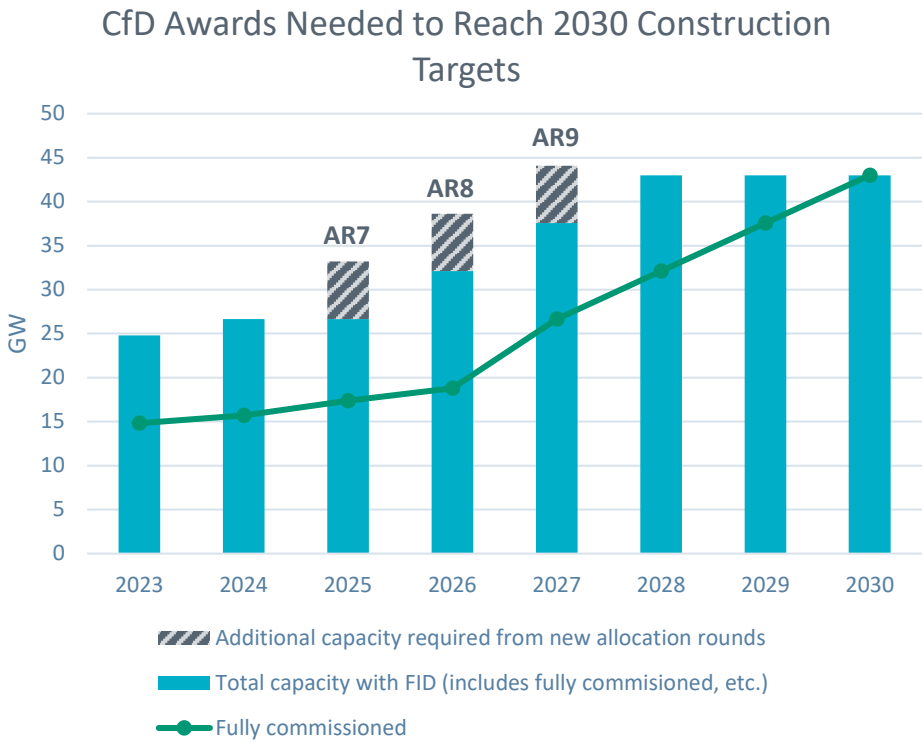

Figure 2: Auction capacity targets to meet 2030 offshore wind targets.

It could also be argued that this capacity would need to be guaranteed in AR7 and AR8 alone, given the possibility of delays. Potential bottlenecks in the supply chain could make delivery of the requisite capacity challenging in the tight timescale, particularly with regards to vessels and port infrastructure. With this in mind, the government may need to target delivery of over 9.8GW in each of the next two auctions to maximise the probability of meeting 2030 targets, allowing for a 20% rate of non-delivery.

IMPACT OF BUDGETS ON CAPACITY AMBITIONS

The term 'budget' refers to an indicative figure that is used to limit the capacity within the auction round. The budget can be calculated as follows:

Budget impact = (Strike Price – Reference Price) X Load Factor X Capacity X (Hours per year)

The strike price is decided through the auction but the budget will this year be varied by DESNZ to control the capacity. The value itself is only indicative and has no exact bearing on the value that is paid to or by the developer for each unit of electricity – that is all decided by the strike price and how it compares to the electricity price on the wholesale market over time. However, a larger budget does mean that capacity increases and consumers potentially pay more in to the CfD scheme. All other variables in the equation are set by DESNZ.

The budget for AR6 was significantly larger than previous auction rounds, and almost entirely due to a large budget committed for offshore wind projects at £1.1bn, as seen in Table 2. Given the government's ambitions for 2030, it might be expected that the budget for AR7 will be as much, if not more, than that of AR6.

Budget (£m)	AR1	AR2	AR3	AR4	AR5	AR6
Max Fixed OSW Budget	25	290	65	210	190	1,100
Max FOW Budget				75	37	270
Max Tidal Budget						
Overall Annual Budget	25	290	65	295[1]	247	1,555

Table 2: Auction round budget in £m over time.

The amount of offshore wind capacity that is generated through the auction is dependent on the budget set by DESNZ but also by the strike price that comes out of the auction. Given an ASP slightly higher than AR6 and ambitions to capture greater capacity, it could be expected that the the AR7 budget for offshore wind will be the highest yet.

A total of 17 fixed-bottom and 5 floating projects in the pipeline are eligible to bid in to AR7, comprising a total capacity of new windfarms at approximately 23 GW.

FIXED OFFSHORE WIND

Given 2030 targets for offshore wind, it is expected that a record capacity of fixed offshore wind will be awarded CfDs in AR7. A recent adaptation on the eligibility requirements is making this more feasible, as the government has announced that any projects that have submitted applications over a year ago will qualify for the auction. This means that a larger number of projects are eligible, but the risk of non-delivery is also higher.

A total of 17 fixed projects are eligible to bid in to AR7, making up a potential capacity of 19.8GW. Over half of this capacity (10.3GW) is made possible with the rule change, driven in no small part by the significant 4.1GW of Berwick Bank wind farm.

[1] From AR4 onwards offshore renewable technologies were kept in separate pots to certain technologies such as onshore wind and hydropower. This separate pot also adds to the overall budget.

Wind Farm Name[2]	Region	Capacity (MW)
ForthWind Demonstration Project	Fife	20
Rampion 2	West Sussex	400
Sheringham Shoal Extension	Norfolk	414
Seagreen 1A	Angus	500
North Falls*	Essex	504
Dudgeon Extension	Norfolk	540
Awel y Môr	Conwy	580
East Anglia Hub - ONE North	Suffolk	900
Five Estuaries*	Suffolk	1,100
Norfolk Vanguard	Norfolk	1,380
Norfolk Boreas	Norfolk	1,380
Mona	Anglesey	1,500
Outer Dowsing*	Norfolk	1,500
Dogger Bank South (DBS West)*	East Riding	1,500
Dogger Bank South (DBS East)*	East Riding	1,500
West of Orkney	Caithnesshire	2,000
Berwick Bank*	Berwickshire	4,100

Table 3: Eligible Fixed Offshore Wind Projects for AR7. *An asterisk indicates that a project has been made eligible by DCO rule changes to allow projects that have started a DCO application 12 months before bidding.

Projects in Scotland will also be treated distinctly from those elsewhere, and given a separate 'maxima' to be applied to the clearing prices of Offshore Wind. This is likely a way to offer higher prices to developers paying higher transmission charges in Scotland, but could in theory result in a lower CfD price in Scotland compared to England.

The number of these projects that are successful in the auction will depend on their bidded strike price, but also on the budget set by DESNZ, as shown in Figure 3.

[2] Windfarm information obtained from the TGS 4COffshore Database and application dates from the Planning Inspectorate.

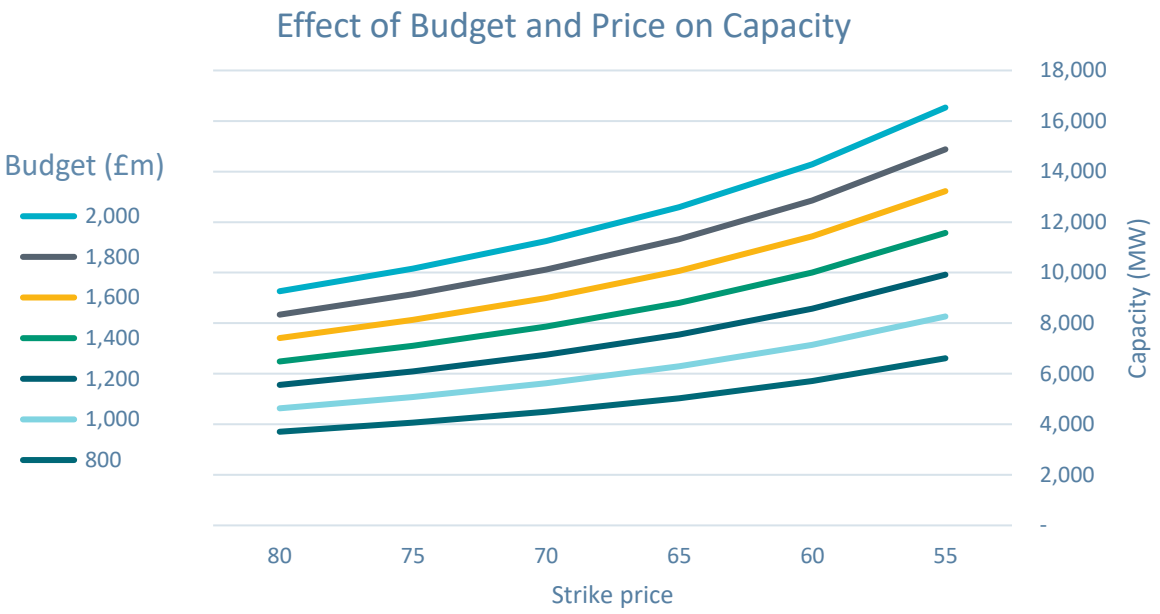

Figure 3: Successful offshore wind capacity for varying strike prices and budgets.

A strike price of £75/MWh would require approximately a budget of £1bn to deliver 5GW and £1.6bn to deliver 8GW. A lower strike price will be more cost efficient for the consumer, so a strike price of £55/MWh delivers 65% more capacity on a budget of £1bn. DESNZ will monitor this strike price and set the capacity based on the budget available.

FLOATING OFFSHORE WIND

AR6 saw the first commercial-scale floating offshore wind farm to be granted a CfD when the Green Volt wind farm received a CfD for 400MW. The next auction has the ability to offer a range of smaller-scale demonstration projects a CfD to forward the floating offshore wind industry and further drive down costs.

Wind Farm Name[3]	Region	Capacity (MW)
Pentland Floating Offshore Wind Demonstrator	Caithnesshire	15
Blyth Offshore Demonstrator - phase 2	Northumberland	58
Pentland	Caithnesshire	85
Erebus	Pembrokeshire	100
White Cross[4]	Devon	100

Table 4: Eligible Floating Offshore Wind Projects for AR7

[3] Windfarm information obtained from the TGS 4COffshore Database and application dates from the Planning Inspectorate.
[4] White Cross does not yet have full consent and may not be affected by the rule changes since it is too small to need a DCO.

Floating's ASP of £194/MWh is approximately 10% higher than that of AR6. The higher price may be a surprise to many after the success of Green Volt, but could indicate that that was an exception to the norm. The five demonstration sites are less likely to benefit from economies of scale, and could also be embracing untested technologies – two reasons this higher auction threshold will be a welcome sight for developers.

The projects sum up to 358MW of available capacity for the round. The effect of different strike prices and budgets on the potential capacity is shown in Figure 4.

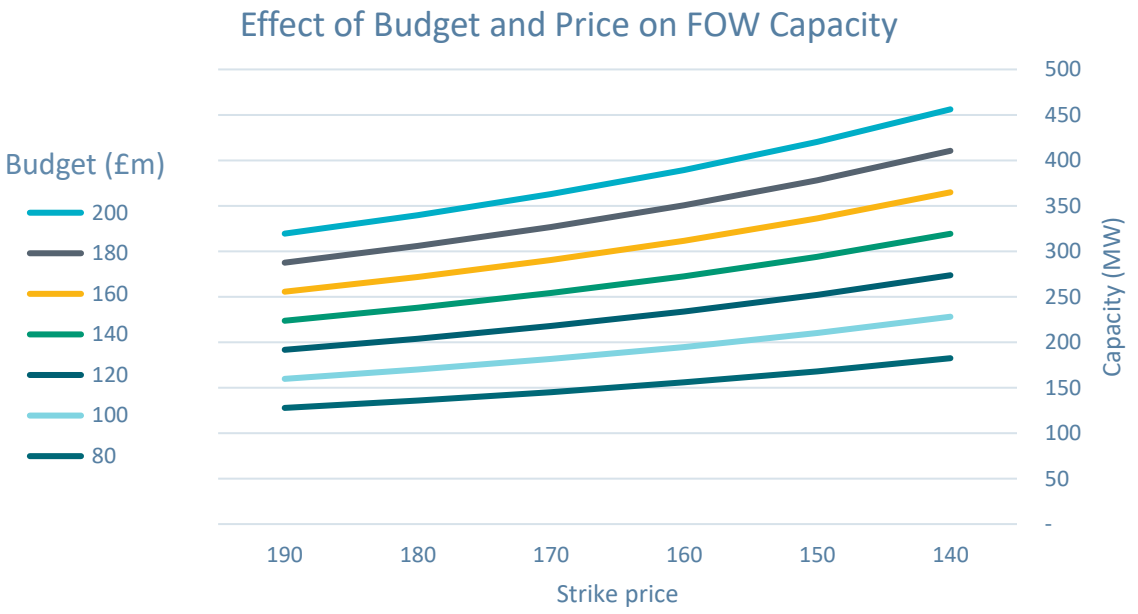

Figure 4: Successful floating offshore wind capacity for varying strike prices and budgets.

TIDAL STREAM

In the last auction, tidal stream achieved its lowest ever strike price of £172/MWh, awarding six projects support which covered 28MW. This auction DESNZ will be looking to repeat this achievement, while also having the potential to unlock greater significant capacity through larger projects as well. For example, developers utilising the Morlais site — the UK's largest consented project at over 200MW — could bid in to get support to add to the 38 MW already awarded here. Similarly, MeyGen has the potential to add another 21 MW to the 59 MW already secured at its site in the Pentland Firth. Meanwhile, PTEC could become the first tidal stream CfD project in England, with 30 MW of eligible capacity.

Project[5]	Country	Eligible Capacity (MW)
PTEC	England	30
EMEC	Scotland	6
MeyGen	Scotland	21
Morlais	Wales	202

Table 5: Eligible Tidal Stream Projects for AR7

With smaller scale projects, a marginally higher budget will have a significant impact on the amount of capacity which is possible. Tidal stream projects could have a ringfenced budget that would be announced later this year. In AR4, AR5 and AR6, this ringfenced budget was £20m, £10m and £15m, respectively. During AR6 the Marine Energy Council (MEC) lobbied for a £30m ringfence for tidal stream to accelerate deployment and support the technology moving down the cost reduction curve via economies of scale, volume, and accelerated learnings. It is expected that a similar ask will be made this year to enable the industry to move faster in realising the UK's over 11 GW of entirely predictable tidal stream energy resource.

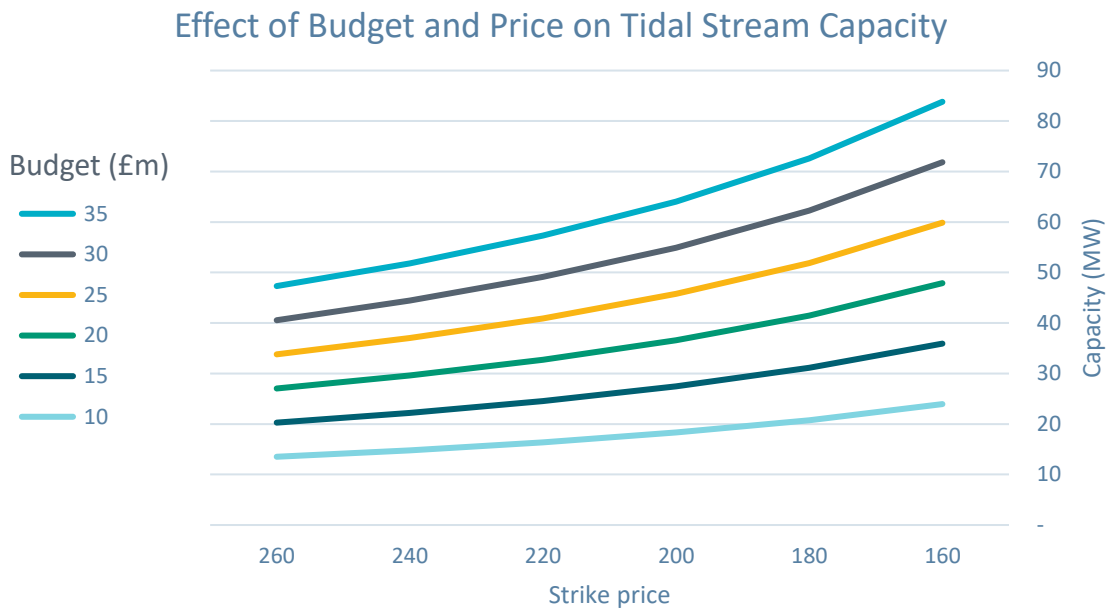

Figure 5: Successful tidal stream capacity for varying strike prices and budgets.

[5] CfD eligible capacity from UK Marine Energy Council.

AUTHOR PROFILE

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Andrew is a Senior Analyst within the Analysis & Insights team at the Offshore Renewable Energy Catapult. Andrew is based in Glasgow, Scotland, and joined the Catapult in 2021 following a background in Mathematics and environmental macroeconomic research. Andrew is responsible for projects related to offshore windfarm performance, levelised cost of energy, and ports and logistics.

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