



Department for
Energy Security
& Net Zero

Contracts for Difference

Methodology used to set Administrative
Strike Prices for CfD Allocation Round 7



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Introduction

This document explains the methodology for determining the Contracts for Difference (CfD) Administrative Strike Prices (ASPs) for Allocation Round 7 (AR7)¹. ASPs represent the maximum price per MWh price for generating electricity – known as the strike price – that a project of a particular technology type can receive. Should an auction be triggered, ASPs limit the maximum price that projects of a particular technology type can receive, even if the auction clears at a higher price.

The previous Allocation Round 6 (AR6) Methodology Note² provided extensive detail on ASP methodology and assumptions. For AR7 the methodology and assumptions are largely consistent with AR6. The following note only details AR7 assumptions where updates have been made since the previous allocation round. As such, this note should be used alongside the AR6 Methodology Note for a comprehensive methodology and set of assumptions.

The ASPs included in the Pot and Price Notice publication are presented in Table 1 and Table 2 (below). A single ASP applies across each technology's applicable delivery years.

The ASPs have been presented in real terms in 2024 prices and 2012 prices, with 2012 values included for information only. For AR7 all bids should be submitted in 2024 prices, as set out in the Contract Allocation Framework. This is updated from previous allocation rounds, where 2012 prices were used. To convert from 2024 to 2012 prices, the relevant CPI deflator³ should be used: 0.7177.

Strategic approach

Renewable technologies continue to face macroeconomic uncertainty and supply chain constraints – this is particularly true for wind technologies. As a result, Government is continuing with the strategy from AR6 of setting ASPs meaningfully above expectations of clearing prices, with the objective of enabling participation that will allow competition in the auction to deliver price discovery and hence a fair price for consumers.

This note sets out some of the evidence base updates which have been carried out, but beyond this certain assumptions and methodology choices have been made to ensure that ASPs remain a backstop and do not constrain participation in the auction.

¹ For the purposes of this document, all mentions of Allocation Round 7 refer to both Allocation Round 7 and Allocation Round 7a as detailed in the statutory notices.

² <https://assets.publishing.service.gov.uk/media/6555dca8d03a8d000d07fa12/cfd-ar6-administrative-strike-price-methodology.pdf>

³ Published by the Office for National Statistics (ONS): <https://www.ons.gov.uk/economy/inflationandpriceindices/timeseries/d7bt>

Please note that CPI index values are subject to the ONS CPI Revisions Policy and may change in future.

The ASPs do not represent the Government's central view of the cost of each of these technologies, and instead are higher estimates to act as the auction backstop. As such, they should be seen as a technical construct only and not an indication of the Government's expectation of the auction clearing price.

The frequent schedule for annual auctions and lead-in time for research means that not all updates reflect a 'true cost' change from AR6 levels across technologies, and these figures should not be interpreted as such. In particular, net load factors for Offshore Wind, Onshore Wind (inclusive of Remote Island Wind) and Floating Offshore Wind are lower than in AR6 due to updated internal departmental modelling, which has driven an increase in those ASPs. This is purely an update to the evidence base and does not reflect a 'real-world' change in generation or costs.

Illustrative comparison of ASPs to AR6, in a 2012 price base

For information only, Table 1 compares the AR7 Administrative Strike Prices (ASPs) to those that were set in AR6 using a 2012 price base. This is purely for information, and all bids for AR7 should be submitted in 2024 prices. To convert between 2012 and 2024 prices, please use the deflator set out above⁴.

Table 1: Comparison of AR6 and AR7 Administrative Strike Prices in 2012 prices (as per prior rounds, £/MWh, 2012 prices)

Technology Type	2012 Prices <u>Not for use in allocation</u>	
	AR6	AR7
Advanced Conversion Technology	210	220
Anaerobic Digestion (>5MW)	144	140
Dedicated Biomass with CHP	179	171
Energy from Waste with CHP	181	206
Floating Offshore Wind	176	194

⁴ Due to rounding, ASP figures in this document may not align when converting between price bases using the provided CPI series.

Geothermal	157	157
Hydro (>5MW and <50MW)	102	121
Landfill Gas	69	67
Offshore Wind	73	81
Onshore Wind (>5MW)	64	66
Remote Island Wind (>5MW)	64	66
Sewage Gas	162	164
Solar PV (>5MW)	61	54
Tidal Stream	261	266
Wave	257	277

ASPs applicable in AR7, compared to AR6 in a 2024 price base

The ASPs applicable to technologies in AR7 are presented in Table 2 as set out in the Contract Allocation Framework. These are presented alongside the equivalent AR6 ASP in 2024 prices, with the AR6 values presented for comparison only.

Table 2: Comparison of AR6 and AR7 Administrative Strike Prices in 2024 prices (£/MWh, 2024 prices)

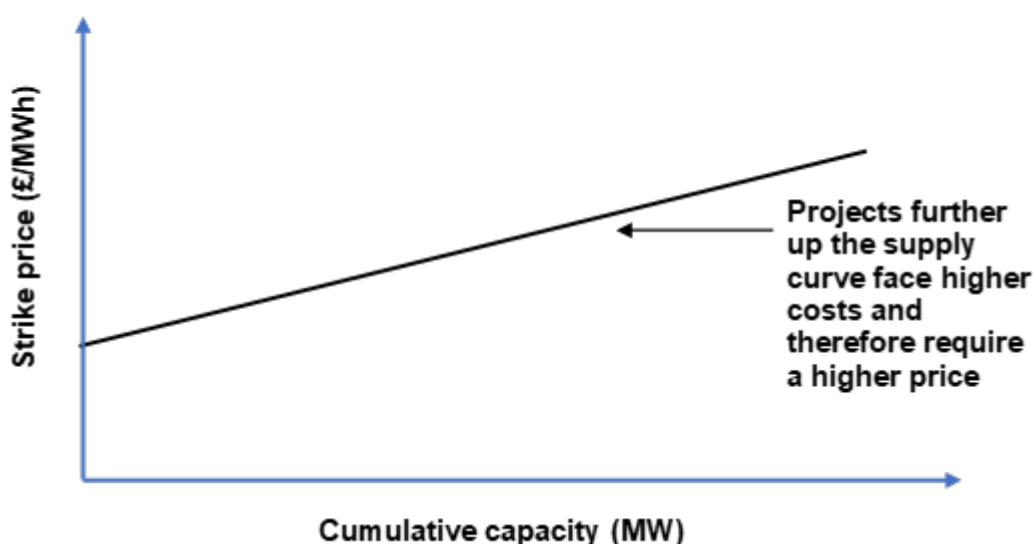
Technology Type	2024 Prices	
	AR6 (for comparison only)	AR7 (as applicable in allocation)
Advanced Conversion Technology	293	307
Anaerobic Digestion (>5MW)	201	195
Dedicated Biomass with CHP	249	238
Energy from Waste with CHP	252	287
Floating Offshore Wind	245	271
Geothermal	219	219
Hydro (>5MW and <50MW)	142	168
Landfill Gas	96	94
Offshore Wind	102	113
Onshore Wind (>5MW)	89	92
Remote Island Wind (>5MW)	89	92
Sewage Gas	226	228
Solar PV (>5MW)	85	75
Tidal Stream	364	371
Wave	358	386

Factors considered in setting ASPs

The methodology for setting ASPs draws on the Department's latest view on generation costs to produce a modelled 'supply curve' for each technology in each delivery year. Where updated evidence is available, assumptions have been updated from the 2023 Electricity Generation Costs Report and from the AR6 methodology. Where this is the case, it is explained below in the 'Assumption updates' section.

The supply curve represents the estimated volume of capacity in MW that could be built at different strike prices, ranked from cheapest to most expensive. This is represented graphically as an upward-sloping curve, with more projects expected to be financially viable as the ASP is increased, as illustrated in Figure 1.

Figure 1. Illustrative Supply Curve



The ASP that is estimated to incentivise a certain capacity of deployment is determined through a discounted cash-flow calculation for each project in the supply curve. The 'marginal project' is then identified as the most expensive project within the targeted deployment range (either the cheapest 25% or 75% of the supply curve, depending on the technology). The ASP is determined as the price that sets the net present value of this project's cash-flows equal to zero, taking account of the revenues in the wholesale market and from other relevant sources (such as the sale of heat produced by projects deploying with Combined Heat and Power) throughout the project lifetime and after the end of the CfD. The project cash-flows are discounted at the Department's view of technology hurdle rates. Real, not nominal, hurdle rates are applied, and the calculation is based in a consistent real price base, meaning that any difference between inflationary expectations and outturn Consumer Price Index (CPI) inflation that developers experience throughout the contract lifetime is not accounted for.

For AR7, as with AR6, the calculated ASPs for each delivery year relevant to that technology have been compared, and a single ASP has been taken based on the maximum across the relevant years. This simplifies the allocation process and aligns with the use of a single clearing price, whilst reducing the risk that an individual project is unable to participate in the auction.

For further details on the approach to setting ASPs, please see Section 3 of the AR6 ASP Methodology Note.

Assumption updates

The key data source used in setting ASPs is the Department's latest view on electricity generation costs, which builds on the evidence base from the 2023 Electricity Generation Costs Report. This includes assumptions on pre-development costs, construction costs, operating and maintenance costs, connection and use of system charges, load factors and efficiencies, and project timings.

Various pieces of research have been completed since the 2023 Electricity Generation Cost Report. These have been included in ASP modelling to reflect the Department's best knowledge of current costs and market conditions. They will inform the next Generation Costs Report and further information will be published in due course.

Key updated assumptions include:

- Hurdle rates
- Solar and Onshore Wind cost assumptions
- Contract length
- Load factor assumptions
- Connection and Use of System Charges

Please note that the assumptions for Remote Island Wind align to those of Onshore Wind. Therefore, any references to Onshore Wind apply to Remote Island Wind also.

Hurdle rates

Hurdle rates for all technologies have been updated to reflect recent research completed by the consultancy CEPA for the Department⁵. These hurdle rates reflect the current cost of finance across all electricity generation technologies, and are higher than those used previously in AR6 for all updated technologies. This results in increases to ASPs, the magnitude of which varies between technologies.

In AR6 a risk premium was applied to hurdle rates for Onshore Wind, Offshore Wind and Floating Offshore Wind technologies as an exceptional adjustment to reflect investment uncertainties. The AR6 risk premium has not been applied for AR7, given updated research which reflects Government's best evidence of current hurdle rates.

We have not adopted the updated Geothermal hurdle rate, and AR7 Geothermal ASP remains at the same level as in AR6. The cost and technical evidence base has been updated and will

⁵ Further information will be published in due course as a part of the Generation Cost Series.

be available via the Generation Costs Series. The updates were used in combination to inform the decision not to update the overall ASP for AR7.

For Solar, Onshore Wind, Offshore Wind and Floating Offshore Wind, hurdle rates include a reduction to reflect the change in contract length, as detailed in the later contract length section.

Table 3: Hurdle Rate Assumptions

Technology Type	Hurdle rate
ACT	10.1%
Anaerobic Digestion (>5MW)	7.6%
Dedicated Biomass with CHP	8.9%
Energy from Waste	8.9%
Floating Offshore Wind	10.9%
Geothermal⁶	18.8%
Hydro (>5MW and <50MW)	8.9%
Landfill Gas	7.6%
Offshore Wind	8.5%
Onshore Wind (>5MW)	7.2%
Sewage Gas	7.6%
Solar PV (>5MW)	7.1%
Tidal Stream	11.4%
Wave	11.4%

⁶ Note that this hurdle rate is not taken from the CEPA report, as discussed in the text above.

Solar and Onshore Wind cost assumptions

The evidence base used for Solar and Onshore Wind has been updated based on research completed for the Department by the consultancy Arup⁷. This research provides up to date cost evidence for projects, which results in a moderate net reduction in ASP for both technologies.

For ASP modelling we have updated most costs to align with this new research, including pre-development, construction, infrastructure and operating costs, plus the average plant size and the period of time assumed for pre-development and construction. Connection and Use of System (UoS) charges, Onshore Wind load factors, and Hurdle Rates provided from this research were not adopted; see the other sections in this note on details for those assumptions.

In AR6 an uplift was applied to construction costs for these technologies, to account for price increases since the Generation Cost Report 2023. This uplift has been removed since the updated cost research accounts for current costs. For other technologies where no new cost research is available, the uplift applied in AR6 is retained.

Contract length

For AR7, CfD contract length will be increased from 15 years to 20 years for Solar, Onshore Wind, Offshore Wind, and Floating Offshore Wind. ASPs for these technologies are reflective of the 20-year contract length, the impact of which is factored into the modelling by accounting for CfD payments in the additional 5 years of the contract and applying an additional cost of capital reduction. Both of these factors lead to a reduction in ASPs. This methodology is in line with evidence received from the recent consultation on CfD reforms.

Load factors

Net load factors for Offshore Wind, Onshore Wind and Floating Offshore Wind are lower than in AR6 due to updated internal departmental modelling. There are two key modelling updates driving the reduction. The adjustment factor to convert gross to net load factors has been updated to account for a wider range of losses than previously. The power curves (power output as a function of wind speed) used to calculate gross load factors have also been updated, and have lower power output in comparison to previous assumptions. Further details on the methodology will be published as part of the Generation Costs Series. This represents an update to the Department's evidence base rather than a material change to the actual output generation of plants since AR6, and does not mean that generation of assets

⁷ Further information will be published in due course as part of the Generation Cost Series.

compared to previous allocation rounds will be significantly lower. This has resulted in a significant increase in ASP for these technologies.

The Solar load factor has been updated in accordance with research completed for the Department by the consultancy Arup. The updated load factor is higher than previously, resulting in a decrease to Solar ASP. Please see section “Solar and Onshore Wind cost assumptions” above for further details on this research.

Table 4: Net Load Factor Assumptions⁸

Technology Type	Load factor
Floating Offshore Wind	48%
Offshore Wind	49%
Onshore Wind (>5MW)	36%
Solar PV (>5MW)	12%

Connection and Use of System (UoS) charges

For Onshore Wind, Offshore Wind and Floating Offshore Wind, we have adopted the latest NESO 10-year Transmission Network Use of System (TNUoS) forecast⁹. This reflects greater uncertainty than the 5-year forecast used in AR6, and results in an increase to wind technology ASPs.

⁸ The load factors presented here differ from those set out in the Valuation Formula (Appendix 3 in the Allocation Framework). In ASP modelling economic curtailment is applied to the generation profile as a separate factor to the load factor. Whereas for the Valuation Formula, as in AR6, economic curtailment is factored into the load factors which leads to a moderate reduction in the estimated load factor for certain technologies.

⁹ <https://www.neso.energy/industry-information/charging/tuos-charges#TNUOS-tariffs-and-notifications-of-changes>

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