RenewableUK

Revitalising the Contracts for Difference (CfD) Scheme: reforms to accelerate renewable energy deployment

September 2024

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Executive summary

The Contracts for Difference (CfD) scheme has proved successful in securing large volumes of clean power at a decreasing cost to consumers. It has played an integral role in reducing the cost of capital, giving certainty to industry to invest, innovate, and achieve economies of scale. These developments have undoubtedly generated value for the UK, particularly through bringing down bills, reducing costs across renewable technologies, driving economic growth, and by strengthening our energy security. As of 2024, 57GW of renewable energy capacity has been installed in the UK.[1]

However, pressures such as cost inflation, rising interest rates, and supply bottlenecks have created significant challenges for Allocation Round 4 (AR4) projects, and no offshore wind projects were procured through AR5. Historically the success rate for procurement of eligible projects in CfD auctions has fallen short of the level required to meet renewable energy deployment and power decarbonisation targets, and this was again the case in Allocation Round 6.

The new Government has set ambitious targets across fixed bottom and floating offshore wind, onshore wind, and solar PV which require a significant increase in our annual renewable energy deployment.[2] Calls for greater deployment ambition were echoed by the Climate Change Committee in their latest progress report. They estimate that by 2030 annual offshore wind installations must increase by at least three times, onshore wind installations will need to double and solar installations must increase by five times.[3] There is a clear mismatch of policy as the UK needs to focus on rapid investment and deployment to reach stretching targets, but the main instrument for delivery, the CfD, is procuring at rates well below this.

Continuation of this trend will lead to insufficient renewable energy build-out, resulting in failure to reach our legally binding net zero targets. It is undermining investor confidence and jeopardising the capital needed for future projects and the supply chain to support these projects. Global renewable energy demand is growing, with capacity on course to increase by two and a half times by 2030.[4] Investors may seek to deploy their capital in other markets, so it is essential that the CfD scheme continues to make the UK the most attractive market for renewables.

This investment is vital as a renewables-based energy system can deliver clear economic, social, environmental, and strategic benefits. A renewables-based system is the best value for billpayers as an increased share of renewables in the energy mix is projected to benefit consumers with lower costs over 2025-2050.[5] Developing domestic renewable energy is also vital for shielding the UK from the volatility of fossil fuel prices amid an increasingly unstable geopolitical landscape, and it is key to bolstering our energy security. Attracting this investment is also key to creating highly skilled jobs, both direct and indirect. For example, 60GW of offshore wind by 2030 would require a workforce of 120,000, which could see almost 90,000 new jobs to support the Government's increased ambition.[6]

Appetite for investing in the UK market has remained consistent, and there are now important opportunities to attract more investment in manufacturing, new technologies and innovation, ensuring the UK remains a world leader in renewables. To achieve this, it is key to provide more long-term certainty to developers and supply chain so that investments can be planned effectively on that basis. Clear long-term renewable energy capacity targets and ramped-up, steady, reliable volumes each year will help provide line of sight for supply chain companies to build investable business cases.

Growing supply chain capacity can benefit the UK economy with up to £25bn GVA, tripling of manufacturing capacity, and doubling of research and development investment and output.[7] International competition for supply chain and materials is fiercer than ever, and it is critical the UK signals that it is a reliable and investor friendly market.[8]

With a large pipeline of shovel-ready renewable energy projects there is an opportunity to accelerate deployment of the capacity needed to realise the UK's decarbonisation, energy security, and industrialisation ambitions.

Simple, evolutionary reforms to the current CfD allocation process can achieve a revolutionary step-change in renewable energy

deployment. Some of these changes can be implemented for AR7 without major legislative reform. This deliverability is crucial to achieving 2030 targets. These reforms can also mitigate the need for large budget uplifts in future Allocation Rounds, as the projected cost of the CfD scheme can be significantly reduced by reflecting the true cost of renewable energy in the long run. Other changes proposed in this paper can be signalled and consulted on by Government in the coming months, to be delivered for AR8 onwards.

Policy recommendations

1 **More market-reflective auction parameter assumptions.** Reference price and load factor assumptions are unrealistic and not market reflective, acting as a major barrier to deployment by significantly overestimating the cost of renewable energy. Whilst intended to act as a backstop for consumer protection, these parameters reduce the amount of renewable capacity the budget can procure, leaving consumers exposed through higher reliance on gas and price volatility. The Government should collate a selection of trusted independent price curves to arrive at a weighted average figure, a methodology already used in other Governmental price setting approaches.

2 **Provide long-term certainty to developers and supply chain by setting target capacity (in GW) per auction pot.** Initially these targets should be set in advance for the next five future auctions and adjusted on a rolling annual basis. The Government should also set clear technology deployment targets out to 2035 and beyond in line with the Strategic Spatial Energy Plan to act as a "north star" for auction volume targets.

3 **Increase the tenure of CfD contracts from 15 to 20 years or more to reflect longer lifecycle of projects**. This would provide further long-term certainty that could lead to strike price reductions.

4 **Provide delivery year flexibility within the CfD allocation framework, to help lower risks and strike price impacts.** This could help to mitigate the impacts of delayed grid build out, supply chain constraints and construction risk, and to account for the difficulties of increasingly large projects built in more challenging physical locations.

5 **Progress no regrets proposals in the AR7 & Future Allocation Rounds consultation to unlock new capacity**, including extending the phasing cap above 1.5GW for fixed and floating wind projects, allowing hybrid metering, and allowing repowering projects to enter the CfD.

Reforming the CfD with these measures could be transformative by massively increasing the volume of renewable energy procured through the annual auction process but in a steady, predictable manner. This can allow us to clear the backlog of shovel-ready projects we see today whilst providing developers and supply chain with clear signals to ramp up investment based on greater visibility of and confidence in future deployment ambitions. The increased certainty of these reforms is key to unlocking a renewables-based energy system and deliver the lowest cost system for billpayers.[9]

1. Market reflective reference price assumptions

Amending the process of setting parameters for the CfD allocation framework would utilise budget more efficiently and deliver more capacity across all technologies. In particular, unrealistic reference price assumptions are acting as a major barrier to deployment. We believe there is a strong case for reforming the process of setting these parameters. This would see explicit reference to external price projections, possibly through a blended average of commercially available curves, to engender greater transparency whilst still ensuring that potential levy costs are appropriately minimised.

Reference Price Reform

Reference prices are an estimate of the average market price for electricity for renewable energy technologies used to calculate the budget impact of CfD auction bidders. The bid impact on the budget is based on the difference between the reference price and the strike price. When the reference price is low, the "budget" needed to support that project is higher, and vice-versa.

There is unanimous agreement in industry that reference prices used in recent Allocation Rounds are not market reflective. As shown in Figure 1, assumptions are becoming increasingly divergent from market forecasts. This was especially notable in AR6 where the offshore wind reference price (£24.13/MWh) used in the valuation formula was less than half of the capture prices in other power curves. Onshore wind (£25.81/MWh) and Solar PV (£24.56/MWh) are also viewed as unrealistic.[10]

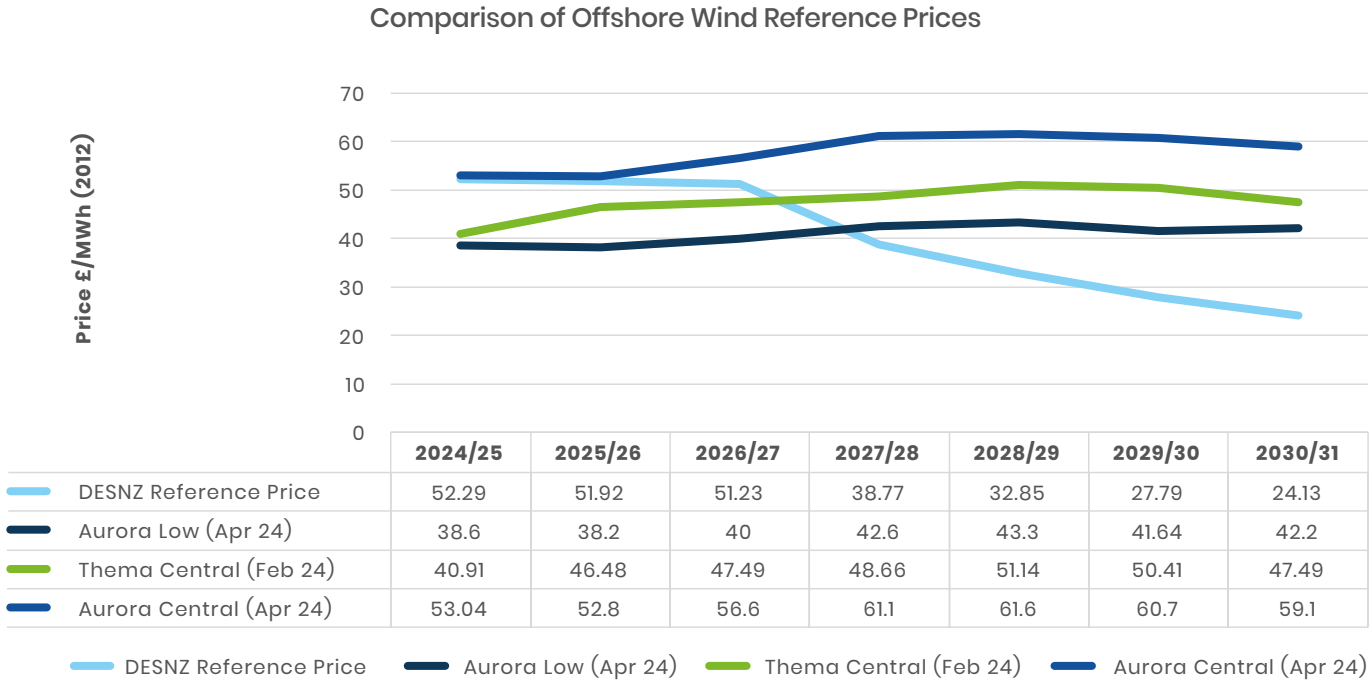
This inaccuracy results in an overestimation of the future consumer cost, as each project in the auction is considered to need a higher "top-up" to reach it's strike price. More budget is therefore required for each project, limiting procurement in the auction.

Making these parameters market reflective would reduce the

headline budget figure required to clear the volumes needed to deliver long-term ambitions. As seen in Figure 3, the budget need for AR6 offshore wind would have been massively reduced with more realistic parameters. This budget figure also does not capture the full value of renewable energy. Deployment through the CfD scheme is key to displacing gas generation, which is more expensive for consumers, vulnerable to geopolitics, and is accelerating the climate crisis. The holistic benefits to the consumer from Crown Estate Lease fees, business rates, corporation tax, and community benefit payments are also not captured in the budget.

Reforms are critical to ensuring that stretching auction capacity targets, advocated for elsewhere in this paper, can be appropriately priced for both the Government and consumer.

Figure 1: Reference price comparison DESNZ vs external curves. DESNZ Reference Price (in light blue) significantly lower than THEMA Consulting and Aurora Central & Low scenarios from AR4 onwards (2028/29).

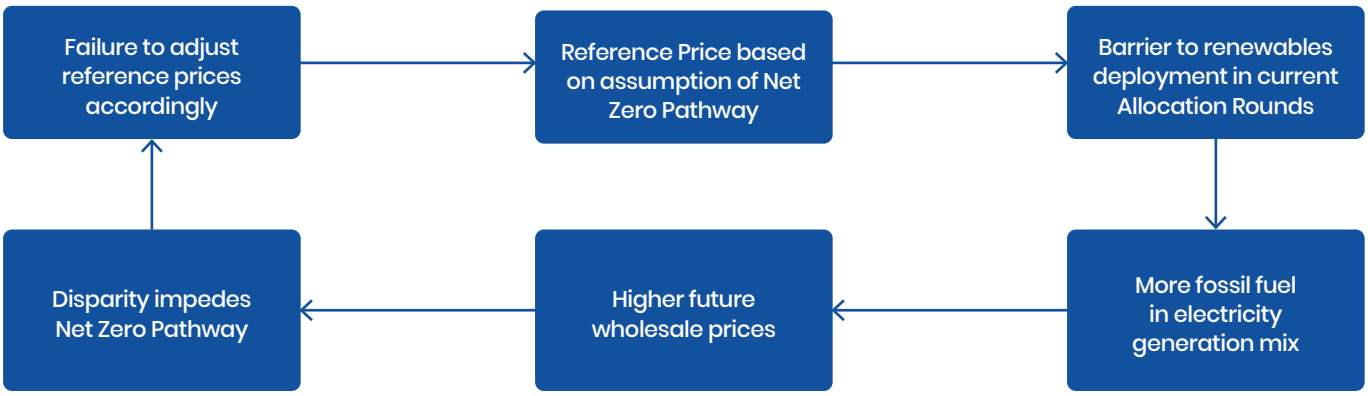


	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31
DESNZ Reference Price	52.29	51.92	51.23	38.77	32.85	27.79	24.13
Aurora Low (Apr 24)	38.6	38.2	40	42.6	43.3	41.64	42.2
Thema Central (Feb 24)	40.91	46.48	47.49	48.66	51.14	50.41	47.49
Aurora Central (Apr 24)	53.04	52.8	56.6	61.1	61.6	60.7	59.1

We recognise the inherent challenge in precisely forecasting future reference prices, with each organisation adopting its own set of assumptions regarding price curves. Nonetheless, there is a clear and consistent disparity between the reference price utilised in the valuation formula and even the most optimistic projections of future prices, such as those presented in the Aurora Low forecast depicted

in Figure 1. This causes a vicious cycle effect. Conservative reference price assumptions for future wholesale prices are based on one of the Government's two net zero consistent scenarios, which assume higher electrification and lower wholesale prices. However, these assumptions ironically lead to an unrealistically low reference price and therefore a shortfall in the level of renewable energy procured in the present for a net zero pathway. The shortfall in renewable energy generation leads to an increase in fossil fuel generation in this mix, which increases future wholesale prices compared to a net zero pathway.

Figure 2: Vicious cycle effect of low reference price assumptions.



Industry believes there is a strong case for reforming this process and introducing a mechanistic and transparent approach that collates DESNZ assumptions with a robust dataset of a range of trusted providers in a similar manner to the Office of Budget Responsibility (OBR). The OBR's practice of averaging independent forecasts for submission to His Majesty's Treasury (HMT) and incorporating them into official forecasts serves as a useful precedent.[11] In future this can also be independently verified by another Government body such as National Energy System Operator (NESO).

Alternatively, the Government could use a high or central pathway in their internal forecasts which is more aligned with market reflective price curves and shortfalls in renewable energy deployment in recent years.[12] Ultimately, the use of unrealistic reference prices is impeding net zero delivery. Reform of reference price setting could also support a rapid scale up in deployment outlined in Section 2.

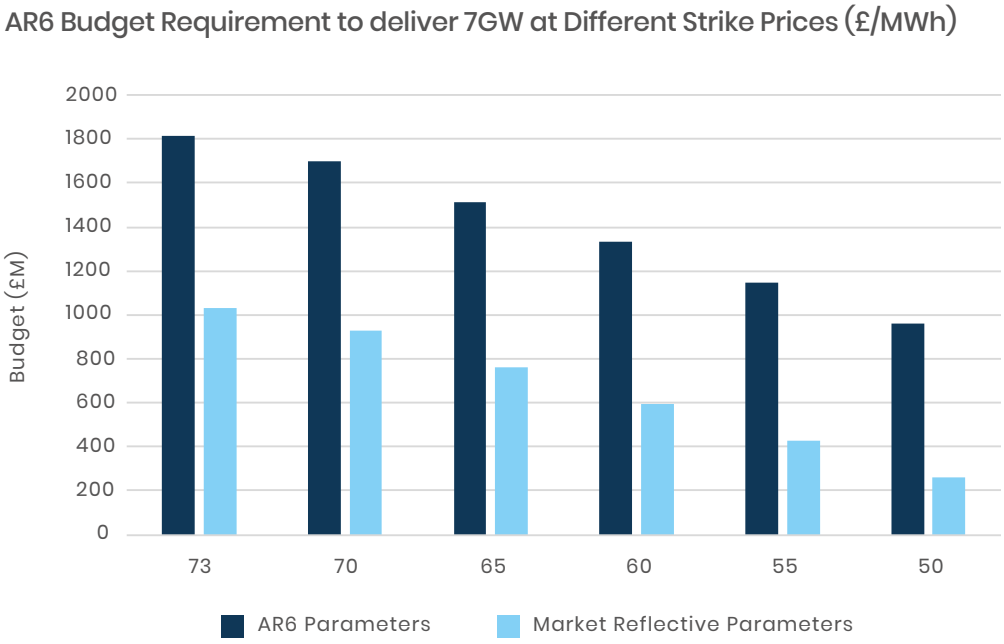
Load Factors

Current load factor assumptions are unrealistically high across multiple technologies resulting in underutilisation of the Allocation Round budget. In the AR6 Allocation Framework, for example, offshore wind load factors were set at 61% where current data suggests this is closer to 40%.[13] Similarly for onshore wind, the 48.7% figure used in the Allocation Framework is significantly higher than load factors of around 27% in 2022. We have not seen major step changes in onshore wind, as load factors in 2017 were around 28%.[14]

It is reasonable to assume that future gains in technology learning rates and the efficiency of renewable energy assets will lead to

an increase in these numbers. However, the numbers used in the valuation formula are far too high and result in inefficient use of the budget. We recommend reviewing the process for setting load factors in collaboration with turbine operators supplying the UK market in order to produce realistic estimates of technology learning rates. As noted in Figure 3, more accurate load factors allow for higher clearing volumes in the auction for no additional cost to the consumer.

Figure 3: AR6 Pot 3 budget requirement current parameters vs market reflective parameters.[15]



The budget needed to deliver 7GW of offshore wind with realistic parameters much lower than in the actual budget, with the budget impact reducing significantly with lower strike prices.[16]

2. Providing long-term certainty

To stimulate investment and accelerate project plans one element is critical: forward certainty of auctions.

Currently, projects have no view of CfD procurement beyond the current auction. An offshore wind project can develop through leasing, planning consents and grid development for 6-8 years, only to understand its ability to secure a CfD contract just 3-6 months before CfD bidding. If those parameters are not ambitious enough, cost-reflective, and supportive for the project (e.g., through Administrative Strike Prices (ASPs) being set at unsustainable levels or auction budgets and parameters not supporting sufficient capacity) then there is no view on future CfD auctions and the chances of success in those either.

This approach already undermines investor confidence, supply chain engagement, and early orders. In future, it has the potential to undermine investor appetite if only a handful of projects continue to be successful each year. The challenge becomes particularly acute in circumstances where projects are being asked to make substantial commitments to the supply chain before CfD award. The lack of visibility and low confidence of securing a CfD makes the commercial case for these CAPEX commitments increasingly difficult and more likely that a project would be abandoned. These conditions could also lead to an erosion of the workforce needed to support the UK's decarbonisation efforts. Failure to deliver a steady pipeline of projects annually could see workforce growth shift towards non-UK markets. A slow-down in deployment compared to other markets, both mature markets such as Germany and emerging markets in the Asia–Pacific (APAC) region, could see companies prioritise expansion in these non-UK markets.

Providing this certainty will give developers the confidence to develop projects at speed and engage with suppliers at an earlier stage, which in turn gives the supply chain the certainty to invest in new facilities and expand the capacity of existing sites. It also provides confidence to supporting companies in the services sector to prioritise workforce expansion in the UK market. This certainty and the scaling up of UK supply chains could ultimately result in at

least £25bn in GVA by 2035, tripling of manufacturing capacity, and doubling of research and development investment and output.[17]

Capacity-based auction

To stop the boom-bust cycle, provide more certainty, and accelerate deployment with an ambitious programme of CfD auctions, we recommend Government sets out a renewables roadmap with a clear GW target for established technologies (Pot 1), emerging technologies (Pot 2), and offshore wind (Pot 3) out to at least 2030. These targets could be set out five years in advance and dynamically adjusted on a rolling basis in response to each auction outcome. This protects Government from being locked into over/under-procurement based on the pipeline of eligible projects in a given year and mitigates unexpected shortfalls in the pipeline of eligible projects. It also ensures Government can maintain competitive tension to help provide value to consumers.

We also recommend setting new indicative targets out to 2035 and 2040 for key technologies which will provide a clear signal to developers and supply chain and can be used as a benchmark for auction capacity targets. These targets will also be essential to provide certainty to the demand side, most notably energy-intensive sectors that will be electrifying, enabling them to plan effectively and become electrification-ready in line with the net zero pathways.

These targets can initially be the remit of the Government's new Mission Control to deliver clean power.[18] These targets can be informed by the latest forecasts and scenarios for the future energy system from the upcoming SSEP framework and statutory Carbon Budgets, providing a clear pathway to reaching long-term targets through the CfD. They can also act as a "north star" which informs the rolling five-year target volumes. By setting clear long-term ambitions in a top-down manner the Government can ensure the entire throughput of the CfD auction (leasing, planning, network build) is aligned to ensure there is a reliable pipeline of projects feeding into a more certain auction process.

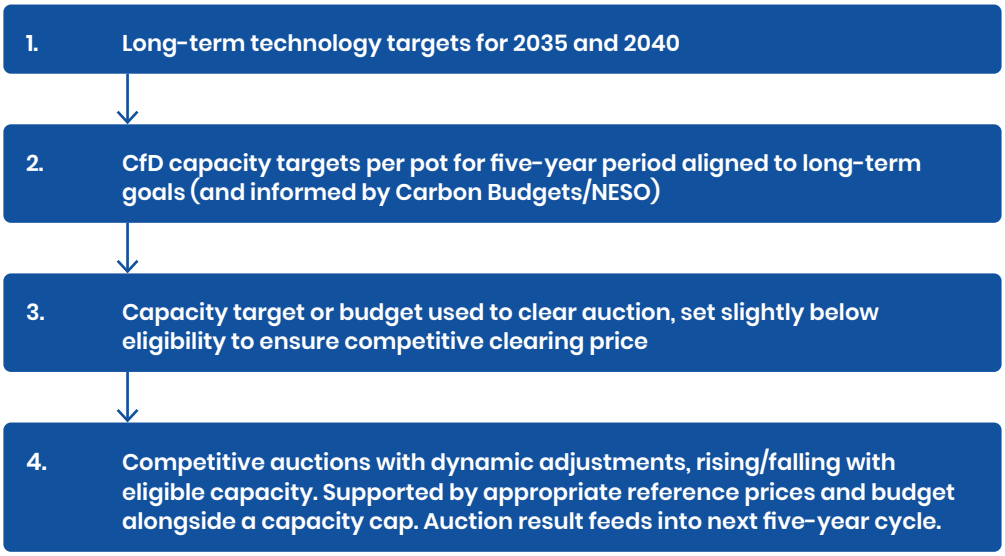
A high-level design could work as follows:

- The Government uses the current auction framework with updated parameters and combines this with the capacity targets per pot and per auction, set out five years in advance (initially from AR7 out to 2030).
- The Government should also set clear targets out to 2035 and beyond, set initially by Mission Control and later in line with the Strategic Spatial Energy Plan to act as a "north star" for auction

volume targets. There is precedent for this as seen by 2030 targets that have been used as benchmarks to now.

- A schedule could then be created out to 2030 containing draft capacity targets and delivery years (with budgets and reference prices added in closer to the auction).
- This can be transparently costed for each auction – using updated reference prices to set realistic budgets needed to procure the capacity targets.
- To maintain competitive tension and price discovery, the capacity targets could be set at a level to procure a certain and high proportion in line with the 2035 and beyond targets. This can be flexible year on year based on the Government's expectations of the eligible pipeline for a given auction.
- For example, in AR7:
  - An 8GW Pot 3 (offshore wind) target is set. However, closer to the auction Government is notified that more than 14GW is eligible to enter owing to, for example, faster consenting of projects. The budget is adjusted upwards to procure capacity slightly below this 14GW figure.
  - Developers then bid as usual with the capacity cap or budget cap clearing the auction.
  - The auction clears more than the original 8GW target. The amount cleared and the impact of this on the 2035 and 2040 targets would then feed into the next five-year cycle, where targets are dynamically adjusted.

Figure 4: Capacity-based auction process.



The scale up in deployment engendered by this approach may require larger budgets than we have seen historically. However, updating the reference price and load factor assumptions to market reflective levels could mitigate the need for large budget uplifts as seen in AR6. It can also ensure that meeting our targets more appropriately reflects any potential levy costs. Therefore, we believe these reforms to the CfD process should be introduced in tandem before AR7.

The outcomes could be transformational, with both earlier certainty and clarity provided to the developer and supply chain community alongside a clear mechanism to ensure renewables procurement is aligned to long-term targets and net zero obligations. Deployment could then be accelerated with competition in each auction ensuring continued consumer value. This approach also benefits from the fact it requires no legislative change and can be implemented under the current CfD allocation mechanism, and therefore in time for AR7.

Forward visibility of seabed leasing

Visibility of future leasing rounds is important to create longer term visibility of a pipeline of projects which can create certainty of demand for the supply chain and enable companies to invest with greater confidence in the short-term. The Crown Estate announced between 20-30GW of new leasing by 2030. Along with the current developments of the SSEP and the Centralised Strategic Network Plan (CSNP), we recommend publishing a long-term schedule of

offshore wind seabed leasing rounds alongside volume targets per auction. We welcome more clarity on future seabed leasing rounds to determine what will be leased and which locations will be chosen. Without this visibility a significant number of projects will come through a leasing round at the same time and compete for the same limited supply chain in the short-term, increasing costs and causing delays. This can be seen with Leasing Round 3 in 2010, where 25GW of projects came forward at the same time, with many facing delays and planning challenges. A large concentration of projects coming through at the same time may lead to reluctance from supply chain to invest for fear of "white elephant" facilities and over-capacity in the long-term.

Instead, a clear schedule of leasing rounds in appropriate 5-10GW blocks can give the most sensible throughput of projects and avoid bottlenecks to consenting times, grid build, and supply chain. This schedule would help de-risk seabed leasing alongside the recent announcement of Great British Energy and the Crown Estate's expanded remit to de-risk the seabed leasing process.[19]

3. Increase CfD contract length from 15 to at least 20 years

The operational life of renewable energy assets is increasing and there is a growing revenue risk in the merchant tail of CfD projects after the 15-year CfD contract period has expired.

Per 2023 DESNZ Electricity Generation Costs Report, we expect onshore wind assets to have an operational life of 25 years with fixed bottom offshore wind expected to be at least 30 years.[20] This means the CfD is now barely covering half the life of assets, when it has been designed to reduce investment risk and increase project certainty. Future uncertainty over price cannibalisation, negative pricing periods, and uncertainty around the potential for locational pricing in the wholesale market are becoming greater factors in project financing. The limited visibility of revenues during the merchant tail once the CfD contract has expired drives up CfD strike prices.[21]

It also fundamentally changes the risk profile of UK renewable energy projects vs. other markets. The CfD offers 15-year contracts which are relatively short compared to other markets globally, such as 20-years in Denmark, France, Ireland and the US, and 25-years in Poland. When the 15-year contract length was set in 2013 the strike prices per technology were much higher across the board and it was understandable that the Government did not wish to lock in those initial prices for longer. However, as strike prices have reduced for established technologies and offshore wind, and renewable energy sources have longer expected operating lives, there is a case to revisit the existing contract length.

Increasing the contract length to at least 20-years and reducing the exposure to post-CfD merchant revenues would lower the cost of capital and make a material impact in reducing strike prices, driving down costs and offering greater protection for consumers. In 2022, the Irish Government extended the contract length from 15 to 20 years in part to reduce risks for investors and push down prices for consumers.

The monetary benefit of increasing the contract length to 20 would be project-specific but could reduce the overall strike price by up

to 10%. The reduction is due to improved lending conditions resulting from the longer tenure and the electricity price differential during the merchant tail period.

This proposal is a significant change to the CfD mechanism and entails review of existing parameters and contractual arrangements alongside a cost-benefit analysis. Additionally, it is crucial to assess how extended CfDs would be integrated into the final decisions of the Review of Electricity Market Arrangements (REMA) market reform. Consequently, this process will necessitate a public consultation, which may affect the speed of implementation compared to the proposals outlined in sections 1 and 2.[22] However, industry would welcome a consultation on extending the contract length as soon as is practicable.

4. Flexibility in delivery years

Recent market factors are increasingly impacting the viability and attractiveness of progressing projects under the CfD regime. In particular:

Network development

The Holistic Network Design (HND) has precipitated an essential programme of transmission network upgrades to meet the previous Governmental targets for offshore wind of 50GW by 2030 and has affected, and in many cases delayed connection arrangements for most Leasing Round 4 and ScotWind projects. This will continue with the SSEP and CSNP. Many of these projects now face connection dates in the early to mid-2030s, with commissioning concluding within a further six months under normal circumstances. Certain projects have already seen slippage from their original connection dates, and there remains considerable scope for further slippage owing to delays in delivery by the Transmission Operators (TOs) and the need for reinforcement works, several of which face significant challenges in consenting or construction.

Supply chain constraints and construction risk

Constraints in the supply chain, together with rising demand to meet the increased global volume of offshore wind projects, are creating increasingly challenging conditions for developers. These conditions mean that suppliers for certain major equipment items and services are increasingly seeking very early financial commitments from developers to secure production or construction capacity and vessel availability. Global competition for in demand supply chain capacity is reinforcing this pressure in the GB market.

Entering into additional liabilities prior to Final Investment Decision (FID) presents particular challenges to developers, increasing the scale of DEVEX budgets. Owing to the greater risks and uncertainties facing projects prior to CfD allocation and FID, DEVEX carries far higher costs of capital than for CAPEX incurred during construction, bringing an exaggerated impact on project costs

Many of the forthcoming ScotWind projects will be built in more technically challenging locations in deeper waters further from the shore, requiring higher development spending, which will increase the risk profiles of these projects in comparison to current ones. Consequently, the cost of capital can increase compounding the issue of higher investment costs.

In addition, both offshore wind and onshore wind projects face increasing challenges in grid connection timing, grid connection liabilities and supply chain delivery timing. For example, with the current AR6 delivery years, onshore wind projects can face major increases in grid liability payments before a CfD is secured. The resulting project risk is so high that projects may be deferred or abandoned, solely due to a mismatch with the CfD timing.

These challenges have been compounded by the fact that, from AR4 onwards, delivery windows have been effectively shortened, with offshore wind projects now permitted to deliver in a window four to five years after the auction, rather than previously a five-to-six-year window. In AR5, Pot 1 onshore wind projects were granted a third extra delivery year, which was very helpful for projects in dealing with these timing challenges. However, the additional Pot 1 delivery year was removed again in AR6. Reinstating this would be straightforward and welcome, and any further flexibility would also be helpful.

Consequently, to mitigate the above factors, we recommend allowing flexibility in delivery years, based on project specific need from AR7 onwards, and to include this in the CfD Allocation Framework. Extending delivery years for AR7, by up to two years depending on technology and need, can aid in managing slippages to project commissioning, owing to supply chain constraints, and delays in securing grid connection capacity. This flexibility provides risk mitigation for projects, helping to increase development certainty and reduce investment costs. Projects have a financial incentive to develop as quickly as possible, as delays incur a loss rate which may jeopardise project investment, such as high lease option fees and grid liabilities.

5. Ongoing reforms in AR7 consultation

There are ongoing CfD reforms which industry believes will have a positive impact on accelerated delivery and strike prices. These should continue to be progressed alongside the other recommendations in this paper. The recent AR7 & Future Allocation Rounds consultation proposed some positive changes including[23]:

Phasing

The current CfD rules set a cap of 1.5GW for phased fixed bottom offshore wind projects. Without changes to recognise the increased scale of projects as the industry has matured, these projects will be forced towards splitting large scale projects or adopting alternative offtake arrangements for different phases of projects, potentially leading to supply chain issues, cost increases or delays to project deployment. Lifting the phasing cap for fixed bottom offshore wind, from the current threshold of 1.5GW, will:

- Provide all offshore wind projects with the enhanced flexibility of phasing that is presently afforded only to projects up to 1.5GW capacity.
- Ensure that the full capacity of larger projects can fall within a single phased CfD project.
- Reduce cost of capital through reducing price risk for the full offtake capacity.
- Increase scale and efficiency of procurement processes.
- Avoid requirement for participation in multiple successive allocation rounds, which brings additional transaction, procurement and financing risks and costs.

Additionally, we recommend extending phasing to floating offshore wind from AR7 onwards. As for fixed bottom, floating offshore wind should not be subject to a 1.5GW cap for phased projects. Floating offshore wind is at a critical stage of its development where industry is moving from demonstration towards commercialisation. As projects in the UK scale up in their commercialisation process,

the ability to phase delivery will be critical in anticipation of the increasing scale of future floating projects.

Hybrid metering

A hybrid approach to metering would permit CfD generators to measure their Metered Output used to calculate CfD difference payments at a sub-BMU level, outside of the Balancing & Settlement Code (BSU), while co-located alongside other assets (for example, merchant generation, battery storage or hydrogen). The whole site would, from a market perspective, still settle at the BMU boundary point (inside the BSC).[24]

Co-location supported by hybrid metering could provide generators with the tools to mitigate against future policy risks, such as difficulties forecasting the cost of storage technologies, and uncertainty over transmission network and renewable energy build-out. Hybrid metering can facilitate market-based solutions to balance the greater risk share placed on CfD generators and could be a critical element in increasing the responsiveness of renewables.

We can see this working well for onshore wind and solar sites, however additional work needs to be carried out to ensure that barriers to co-location are removed for offshore wind as well. The current provisions on hybrid metering do not address co-location barriers specific to offshore wind such as the OFTO regime.

Repowering

While the UK accelerates deployment of new renewable energy capacity it will be critical to recognise the role existing sources of generation play the UK's decarbonisation and energy security ambitions.

Repowering will be vital for retaining capacity in areas that already have local acceptance, existing relationships with landowners, and existing connection to the transmission network. We believe that projects undertaking full repowering should be eligible to enter future allocation rounds due to the high-up front capital costs being similar to a new-build "green-field" project. Additionally, there should not be unnecessary barriers to developers when applying for forward bidding. The use of the 25-year operating life assumption in the DESNZ Electricity Generation Cost estimates for older projects, along with the requirement to retain or increase installed capacity, will pose barriers to innovation and repowering certain projects, and will delay reforms that need to happen now to enable the entry of mature projects back into the CfD alongside new projects.

Whilst DESNZ is looking to support repowering onshore wind projects from as early as AR7, we believe that a commitment should be made to develop a broader end-of-life strategy urgently.[25]
A repowering strategy for offshore wind is especially important due to the unique and complex decommissioning challenges in this area. Developing this strategy would ensure cost-effective decisions for lifetime extension and repowering as assets come off the Renewables Obligation in the late 2020s and CfDs from the early 2030s. This would have an important benefit of enabling the scale up of renewables investment and continuing to pass on the value of renewables to consumers.

Endnotes

1 Energy Trends: UK renewables - GOV.UK (www.gov.uk)

2 Make-Britain-a-Clean-Energy-Superpower (labour.org.uk)

3 Progress in reducing emissions 2024 Report to Parliament - Climate Change Committee (theccc.org.uk)

4 Massive expansion of renewable power opens door to achieving global tripling goal set at COP28 - News - IEA

5 Aurora Energy Research on the value of offshore wind to billpayers.

6 OWIC Offshore Wind Skills Intelligence Report – June 2023.

7 Industrial Growth Plan (2024).

8 Rapid decarbonisation of the GB electricity system | Strategy recommendations (raeng.org.uk)

9 Aurora Energy Research on the value of offshore wind to billpayers.

10 2012 prices.

11 https://obr.uk/forecast-evaluation-reports/.

12 https://www.gov.uk/Government/statistics/the-dynamic-dispatch-model-a-fully-integrated-power-market-model and/or https://bid3.afry.com/.

13 Load factors for renewable electricity generation (DUKES 6.3).

14 Load factors for renewable electricity generation (DUKES 6.3).

15 Reference price of £42.2/MWh (2012 prices) from Aurora GB April 2024 Forecast. 55% Load Factor based on internal projections of technology learning rate ceiling. This graph also assumes the same clearing price for new projects and AR4 permitted reduction projects.

16 These strike prices are indicative and the likely auction clearing price is unknown at time of writing.

17 Industrial Growth Plan (2024).

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