

# Call for Evidence on introducing non-price factors into the Contracts for Difference scheme

Response from Regen

22/05/2023

## About Regen

Regen is an independent centre of energy expertise with a mission to accelerate the transition to a zero carbon energy system. We have 20 years' experience in transforming the energy system for net zero and delivering expert advice and market insight on the systemic challenges of decarbonising power, heat and transport.

Regen is also a membership organisation and manages the Electricity Storage Network (ESN) – the voice of the UK storage industry. We have over 150 members, 77 specifically focused on electricity storage, who share our mission, including clean energy developers, businesses, local authorities, community energy groups, academic institutions, and research organisations across the energy sector.

This response is based on extensive practical experience, as well as input from our members. We are keen to continue to engage the DESNZ team in the development of the CfD in the future.

## 1. Response to Call for Evidence

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### 1.1 Introduction and summary of key priorities

Regen is pleased that the government has recognised the importance of non-price factors in the Contracts for Difference (CfD) and welcomes this Call for Evidence to explore the possibility of modifying the CfD mechanism to better value these factors in addition to the lowest cost of energy/strike price.

In our [response](#) to BEIS' Review of Electricity Market Arrangements (REMA) consultation and in [Go West!](#), our report on the system benefits of wind diversification, we argued that the CfD scheme should deliver wider system benefits and better reflect non-price factors. We also note that the use of CfDs to support non-price factors featured in the recent report by the [Independent UK Offshore Wind Champion](#), Tim Pick, especially in the context of supply chain capacity building.

As a broad concept we are **in favour of** using the CfD pre-qualification, allocation and/or revenue payments to support non-price factors where this is practical, cost effective and can be administered through an objective and transparent process to stimulate behavioural and commercial change by renewable energy generators.

As part of Regen's consultation engagement, we have spoken with several energy generation companies, stakeholders and other organisations. It is important to note that there largely appears to be agreement that **the future design of the CfD mechanism should provide support for non-price factors**. However, there was **no clear consensus on the specific options** to be used and on their application, including whether this should be implemented at the auction stage or earlier on in the development process. While the thoughts and recommendations presented below are Regen's own, it is important to caveat that **further work and consultation is essential** before coming to any firm policy conclusions – to ensure the awarding process **does not become too complicated**, and to **mitigate the risk of potential legal challenge** if there is disagreement with auction outcomes.

### Priorities and summary

- **Strategic investment:** While this Call for Evidence is a welcome step in the right direction, any reform needs to be realistic about the extent to which individual projects awarded CfDs can stimulate the investment required in non-price factors. There is a need for an **overarching Net Zero and Energy Security delivery plan** to support greater integration at each stage of the development lifecycle and provide a clear sense of commitment and

direction to aid investment. Success will also require the continued development of **targeted investment, social and economic support mechanisms**, alongside any CfD reform.

- **Impacts of introducing non-price factors:** The impact that the addition of non-price factors to the CfD mechanism will have on the competitiveness of the CfD process and the ability of such a change to stimulate investment should be carefully considered. While we support the introduction of non-price factors into the auction process, **the right balance must be struck** to ensure that the process is not so challenging for developers as to discourage them from partaking in the auction process.
- **Timing and process:** The Call for Evidence focuses on options to include non-price factors at the point of CfD allocation and subsequent CfD payments. However, in several areas **behavioural change needs to be stimulated at an earlier stage**, for example at the time of lease award or CfD pre-qualification. These options are not necessarily in conflict, as early commitments to deliver non-price factors (e.g. via a supply chain plan) could then be reinforced via the CfD allocation process.
- **Clarity and transparency:** Any proposed reforms must be carefully reviewed to ensure the awarding process is **as clear and objective as possible** to avoid potential challenge from developers. This will mean the number of non-price factors that can be included will be limited and **only those which are of the highest priority should be considered**.
- **REMA:** It is imperative that **any reforms enacted as a result of this Call for Evidence are undertaken in a manner that is consistent with the ongoing Review of Electricity Market Arrangements (REMA) programme** and are not undermined or superseded by subsequent reform. Furthermore, the CfD mechanism should not be reformed to support dispatchable renewable generation, flexible assets such as BESS, or to value additional operability services which are already being supported via other mechanisms.
- **More fundamental CfD reform – a strategic CfD:** Considering non-price signals is important but there is a more fundamental challenge for the CfD programme. The UK is shifting from a pipeline of individual and independent generation projects to a more strategic net zero delivery plan, where projects become more dependent on co-investment in shared infrastructure, supply chains, skills and other enablers. This has, in part, been driven by the shift to strategic network planning and investment – as seen, for example, through the holistic network design process. The best example of this is the Celtic Sea offshore wind development where there are plans to develop four projects of up to 4 GW with a future expansion to 24 GW.

**The Celtic Sea projects are a fantastic opportunity for UK Plc and a major step towards net zero. They make a lot of sense but only if all four projects are delivered in the right**

sequence and over the right timeframe. This will then allow the necessary co-development in ports, supply chains, onshore and offshore grid infrastructure.

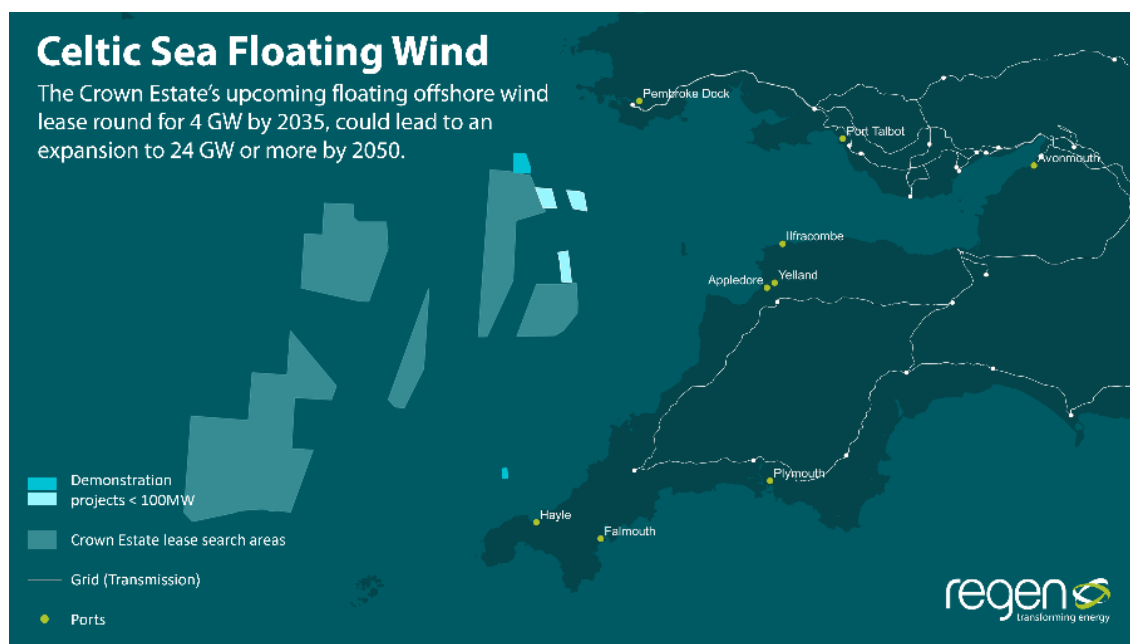


Figure 1: Celtic Sea development

The current problem is that Celtic Sea projects would then be expected to bid against each other (and others) as part of a competitive CfD auction. If one, or only some, projects win then the whole Celtic Sea development becomes unviable. Moreover, there cannot be a hiatus between projects – otherwise the supply chain will disperse and port investment will be unviable.

Therefore, as the UK moves towards strategic planning and delivery, the CfD approach also needs to change. We must reach the point where **projects that are co-dependent can secure a CfD collectively**. This could mark a shift away from price discovery and towards negotiated and coordinated CfD allocations, or transitioning towards a ‘hurdle’ system as [suggested by](#) Tim Pick, Offshore Wind Champion, whereby projects are automatically awarded a CfD on the condition that they satisfy a number of requirements and their strike price is within a certain range.

## 1.2 Valuing non-price factors

### Why is this important?

As discussed in our recent [investment insight paper](#), the success of the CfD scheme in driving down costs, as evidenced by the very low bid prices that were submitted in Allocation Rounds (AR) 3 and 4, has perhaps led to a belief in the inevitability of falling costs. Competitive auctions have driven strike prices down towards the limit of project viability, meaning that unexpected shocks to the economy or an uplift in costs risk putting the entire project pipeline into jeopardy. Such a shock has occurred with the recent cost increases and jump in the cost of capital. There is a strong view that the AR4 and forthcoming AR5 strike prices may already be below the limit of project viability.

It therefore makes sense that if we are asking generation developers to add more value and to deliver more than just the lowest cost energy projects, there needs to be a mechanism to incentivise this additionality.

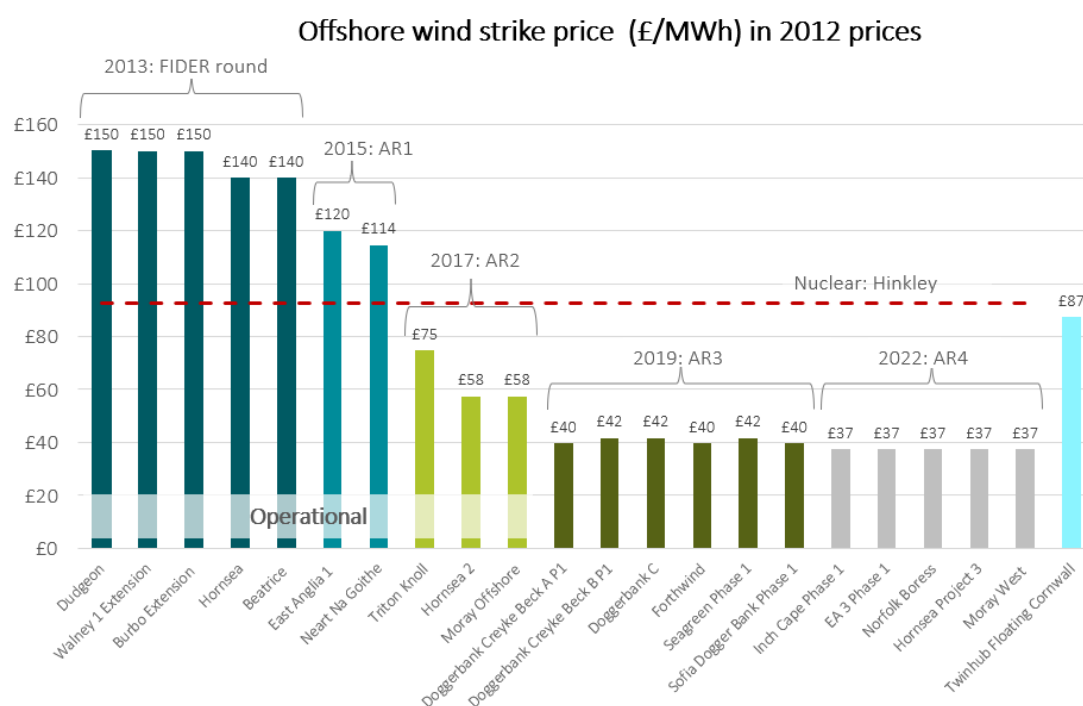


Figure 2: Falling offshore wind CfD strike prices for Allocations Rounds (AR), FIDER to AR4

Right now, the current CfD mechanism is based on a competitive price-only-based auction with contracts awarded based on the bid strike price and as a result – apart from splitting technologies into separate pots – there is no mechanism to value wider societal, economic and energy system benefits. The CfD auction values each generated unit of energy equally,

irrespective of where and when the electricity is generated while ignoring other contributions that energy projects can make in terms of supply chain development, jobs, energy system and regional economic development.

This means that projects that create additional value through supply chain development, community benefit, or assets which provide additional system benefits, are not adequately rewarded via the CfD mechanism for that value added.

The answer could be to add additional value criteria into the CfD qualification process or to add an additional revenue incentive within the CfD revenue model; such as a top-up or bid weighting. However, not all non-price factors will be best achieved within the CfD. There are other milestones in the development timeline that may be better suited to certain non-price factors, such as the point at which a development lease is awarded. This has been noted in the Call for Evidence:

“Note that for offshore wind, while some countries operate non-price factors at seabed leasing stage, the UK model is different in so far as the Crown Estates have oversight of this process.”

For some non-price factors, the requirement to provide evidence of additional value at the point of pre-qualification for a CfD may even be too late in the development process, with projects often having to consider such factors as supply chain development at the leasing or planning stage. This reinforces the need for more joined up thinking between each party in the project development process: The Crown Estate, for leasing rounds, the TSO for grid planning, etc., as part of an overarching Net Zero and Energy Security Delivery plan. This should include within it a detailed plan of how the electricity system will decarbonise by 2035 and how energy security will be maintained and should present, at a high level at least, an overarching energy system architecture.

Having a clear view of this architecture, even if there are still areas of uncertainty to consider, will help the industry, policy makers, supply chain and investors to focus on delivery. The National Grid’s [Holistic Network Design](#) (HND) goes some way to achieving this by setting out a single, integrated design that supports the large-scale delivery of electricity generated from offshore wind. An equivalent delivery plan that encompasses the integral building blocks of the GB electricity system as a whole is now desperately needed.

**Recommendation: Accelerate the development of an overarching Net Zero and Energy Security delivery plan, to support greater integration at each stage of the development lifecycle.**

There are also many different avenues through which we could support the development of non-price factors as it is clear that modification of CfD alone will not be sufficient to deliver the levels of investment required to achieve the UK's 2035 decarbonisation target. Therefore, it is vital that any such modification is developed in tandem with a strengthening of other support mechanisms. For example, the possible introduction of non-price factors to value skills development does not negate the need for additional skills investment, such as through a strengthening of the existing Apprenticeships Levy.

**Recommendation: Continue to develop targeted investment, social and economic support mechanisms alongside any CfD reform.**

Two further factors need to be considered:

1. Whether the introduction of non-price value factors would **undermine, overcomplicate or distort** the CfD allocation and award process, discouraging participation in the scheme.
2. Whether the introduction of non-price value factors would create **an unfair or unjustified transfer of value** between consumer groups or from the wider consumer community to special interest groups.

**Recommendation: Carefully consider the impact that additions of non-price factors to the CfD mechanism will have on the competitiveness of the CfD process and that the added complexity and administrative burden the introduction of non-price factors will have on the auction process has been fully considered. Also carefully consider the potential distributional impact they will have between consumer groups and special interest groups.**

## 1.3 Review of mechanisms for implementing non-price factors

*This section relates to questions 1 to 6, 13 and 16.*

Each of the proposed mechanisms presents its own challenges in terms of deployment, compliance and appropriateness. When speaking to industry there has been some debate and uncertainty around the most appropriate mechanism, with no clear consensus yet on which options the government should take forward. As we discuss in the following [section](#), our view is that for different non-price factors there are different mechanisms that would be most appropriate.

Regardless of the mechanism implemented, to ensure that reform is successful, the conditions expected of projects need to be both realistic and transparent, and projects must be held accountable for non-delivery. **Non-price factors which require ex-post delivery of value or outcomes should be coupled with a financial penalty which removes any actual or implicit strike price uplift if this value is not delivered.**

### Option 1: “Top-up” to the CfD strike price

Option 1 represents the simplest option to deliver. Under this scenario the fundamental aim of the CfD remains the same, to drive down costs by awarding projects based solely on the minimum viable price for generating electricity. Option 1 could stimulate behaviour change and support developers to better value non-price factors, while still encouraging delivery at the least cost, although there is some concern within industry at the extent to which this could drive investment.

The most objective way to administer this option, and to ensure the process is as transparent as possible, would be for the government to undertake a review of the value added by non-price factors such as energy system benefits and assign a £X/MWh value uplift to each non-price factor. For example, if the system benefits of developing a project in a geographically diverse location amount to £3/MWh, then this level would be set by the government ahead of each auction round and clearly communicated.

With regards to non-delivery, Option 1 provides an easy solution: removal of the top-up. As well as being achievable from a government perspective, the removal of the financial top-up as loss of additional benefit for non-compliance ensures that projects can still progress – provided this risk has been considered when bidding at the ‘original’ strike price. It would also present less of a risk for a developer if there were changes beyond their control that impact their ability to deliver on their additional commitments rather than, for example, potentially losing their entire CfD.



## Option 2: Bid re-ranking

By re-ranking projects based on their ability to deliver on non-price factors, implementing Option 2 means that projects which may be unlikely to win purely on price could potentially secure a CfD for delivering their project based on its positive impact in other areas.

While this may provide a more meaningful incentive for developers to consider such non-price factors, this potentially represents a shift in the key aim of the CfD, away from delivering renewable generation at the lowest cost to the consumer and towards a strategy of supporting the net zero transition in a more holistic way. This may open up the CfD to challenge as to whether it no longer represents the best value for the consumer, if it leads to an increased strike price.

Furthermore, any re-ranking will be based on claims made at the planning stage, rather than delivery. It may be challenging for developers to provide clear evidence to support their bid, particularly with regards to external factors outside of their control that might impact their ability to deliver. This might lead to a 'race to the top' with developers making increasingly ambitious claims to secure additional points to re-rank their bid.

Non-delivery is inherently harder to monitor and enforce within Option 2, due to the inclusion of non-price factors within the ranking process. Removal of the CfD is not a suitable penalty considering the capacity required to reach the UK's net zero ambition; however, once a CfD has been allocated there are limited other options to penalise projects if they fail to meet their proposed criteria if Options 2 is endorsed.

This could be easier to resolve in the first sub-option, as the £X/MWh reduction in the bid price of a project as defined for re-ranking purposes could be used to reduce the strike price received by the project, as a penalty if they do not deliver on the non-price factors committed to at the auction stage.

## Option 3: Amending valuation formula

As identified in the Call for Evidence, the design of Option 3 risks enabling a 'free-rider' effect whereby projects who are not submitting high scoring non-price factors nonetheless benefit from others that do, since more projects could ultimately secure a winning bid through this model. It may be possible to mitigate this by mandating that those projects which were awarded a CfD without scoring additional points for the provision of non-price factors must meet the commitments of the project with the least ambitious/lowest scoring plans for the provision of additional non-price factors. However, this would be challenging to enforce in

practice. Furthermore, as with Option 2, penalties for non-delivery would also be challenging to implement.

Overall, there is some consensus that Options 1 and 2 are preferable to Option 3, due both to its complexity and the risk of it incurring a ‘free rider’ effect. Option 3 had little support amongst our industry representatives.

### Option 4: Strengthening pre-qualification criteria

The final option to consider that has not been included in the Call for Evidence is the introduction of additional criteria at the pre-qualification stage. Considering non-price factors at this early stage of the CfD process could encourage best practice, even if the evidence to support bids may need to be higher level than at later stages.

This might also increase accountability on the part of the developers – for example, as part of the Scotwind process, developers were required to produce ‘[Supply Chain Development Statements](#)’ which would be published if an option for lease was awarded. Although these statements are live documents and are expected to be updated as the projects’ timing and technology become clearer, publishing the commitments provides a form of responsibility and allows impacted communities to hold developers to account in the court of public opinion.

**Recommendation: Do not take forward Option 3 as a mechanism for valuing non-price factors in the auction process. Continue to explore Options 1, 2 and 4, recognising that different mechanisms may be more appropriate for stimulating investment in different non-price factors.**

**Recommendation: Any reform to value non-price factors should be coupled with a financial penalty which removes any actual or implicit strike price uplift if factors are not delivered.**

### Principles for reform

Regardless of the mechanism, there is a need to ensure that the correct balance is struck between mandating that a sufficient level of detail is provided versus the process becoming too onerous for developers. This could lead to them choosing not to partake in the auction, reducing the competitiveness of the auction and [reducing the attractiveness of the UK](#) as a place to invest.

**Recommendation: When considering the mechanism by which to value non-price factors, the potential impact on stimulating investment should be carefully considered. The right**

**balance should also be struck to ensure that the process is not so challenging for developers as to discourage them from partaking in the auction process.**

Any reform needs to be realistic about the factors that can be delivered by developers – noting that circumstances can unexpectedly change between pre-planning and final investment decisions. The penalties should not be so severe to significantly halt a project’s development and deter developers from committing to non-price factors.

**Recommendation: Any reform needs to be realistic about the factors that can be delivered by developers, flexible for circumstances outside of developers’ control and have reasonable and attainable timeframes. The conditions around which penalties for non-delivery could be incurred need to be clearly communicated.**

### **Quantification of non-price factors**

How non-price factors will be measured (i.e., the number of ‘marks’ given or the value of the top-up) is also a crucial question. The biggest potential risk to the proposed reforms is the introduction of subjective judgement. Currently, developers can have a good idea of how successful they might be based on a clear understanding of the current success criteria. However, unless the awarding process for valuing non-price factors is completely clear and objective, developers may struggle to understand the awarding criteria, risking a greater potential for challenge if there is disagreement with the outcomes. Therefore, any process for valuing non-price factors needs to be as clear and as objective as possible at the Operational Conditions Precedent stage.

**Recommendation: Carefully review any proposed reforms to ensure the awarding process is as clear and objective as possible, to avoid potential challenge from developers.**

Implementation of discrete ‘marking criteria’ would be the simplest solution – categorising the benefits into quantitative measures that can be objectively calculated via an accepted methodology. This also means that once CfDs have been awarded, the delivery of non-price factors can be measured allowing for the removal of any actual or implicit CfD strike price uplift if they are not delivered.

While this might risk the ability of the mechanism to capture full impacts and might limit the number of non-price factors that can be included, this is acceptable if non-price factors are appropriately prioritised. **Not all of the factors introduced in the Call for Evidence that could be measured should be taken forward**, as this may become too complex.

**Recommendation: Valuation of non-price factors should be quantified with a clear methodology, to aid the awarding process and allow for monitoring of delivery.**

It is also important to consider the challenge of comparing the **relative value of non-price factors across different technologies**, with some well-established technologies developing projects with much greater capacities versus novel technologies whose relative ability to impact non-price factors may be smaller – for example, the number of jobs created for a 1 GW offshore wind farm is going to be different than a 5 MW tidal stream project.

This could be resolved by scaling the quantification of non-price factors to the size of the project. However, in conversations with industry, it has introduced the question of whether such differences can only be objectively compared on a technology-by-technology basis and may require the introduction of separate pots for each technology, which could be sub-optimal in terms of competition.

**Recommendation: Consider the challenge of comparing non-price factors across multiple technologies and ensure this is implemented in a fair way.**

## 1.4 Non-price factors for consideration

*This section relates to questions 8, 9 and 15.*

A reform of the CfD scheme was rightly highlighted as one of four key opportunity areas in the [Offshore Wind Champion's report](#), including the introduction of non-price factors. The report recommended the inclusion of non-price factors to incentivise behavioural change in current areas of weakness, including supply chain development and port investment. As well as supporting the development of offshore wind, the report noted:

“Non-Price Factors could potentially also support wider HMG policy objectives relating to the Circular Economy, Green Steel and wider industrial decarbonisation, the increased use of Advanced Composite Materials, reduced dependency on Critical Minerals, the creation of Green Jobs or SME economic activity in areas targeted for ‘levelling up’.”

This highlights that there are lots of potential non-price factors that could be valued and encouraged to develop through targeted support in the CfD mechanism. However, as the table below summarises, the mechanisms by which they are valued and the impacts of doing so should be carefully considered in each case. It is also important to consider to what extent each non-price factor can be controlled or stimulated by individual projects to be realistic about what can be achieved via reform to the CfD mechanism.

Table 1: Summary of non-price factors and how they could be valued

Non-price factor	Inclusion in the CfD?	Where in the CfD process?	Potential impacts	Where else should it be considered?
<b>Capacity building – supply chain development and UK content</b>	Yes	<b>A.</b> A requirement to provide a high-level supply-chain plan as part of pre-qualification AND <b>B.</b> Should be considered as part of the auction process – Option 1 would be most appropriate.	An incentive to support the development of local supply chains and to go beyond the minimum, to incentivise the use of local companies which may come at a price premium. There is a limited potential for this to encourage collaboration between developers as it will remain a factor of the competitive auction on a project-by-project basis, rather than a separate commitment to develop a particular area regardless of whether a CfD is procured.	Shifting commitments for delivery of high-level plans to be delivered from pre-qual stage to the leasing stage should be considered, similar to the ScotWind process. There remains a requirement for an overarching system and investment plan from government.
<b>Sustainability</b>	Yes (pre-qual)	A requirement to provide a high-level sustainability plan as part of pre-qualification	While this might incentivise good behaviour, it is not a replacement for having strong regulation to mandate safe and sustainable decommissioning, for example. However, this could encourage developers to consider decommissioning at the project onset and to ensure best practice throughout the construction stage.	There remains a requirement for strong regulation to ensure best practice.
<b>Innovation</b>	No	N/A	Mechanism should encourage the standardisation of technology to deliver at scale. There is a risk that this incentivises innovation for the sake of innovation, to the detriment of standardisation in the industry.	Could be supported through more targeted funding.
<b>Skills</b>	Yes, as part of Capacity Building	This should form part of the supply chain planning, rather than being separate criteria.	While some developers are already developing relationships with local education providers to support skills development, recognising the benefits of this with the CfD could stimulate additional activity. However, there could be more efficient ways to deliver this, rather than placing the responsibility on the developers via delivery of individual projects, and it should sit within supply chain provision.	Could be supported through more targeted funding. For example, via strengthening the existing Apprenticeship levy currently in place.
<b>Community benefits</b>	Yes (pre-qual)	A requirement to provide a high-level community engagement plan as part of pre-qualification.	If this were mandated at the pre-qualification stage, it would encourage the adoption of industry-wide standards and ensure a level playing field.	Should also be considered at the planning and leasing stages.
<b>System diversity</b>	Yes	Should be considered as part of the auction process – Option 2 would be most appropriate	This would recognise the benefits of providing diversity in the system and incentivise the development of projects that provide this benefit, by recognising the added benefits of bringing certain projects forward.	There remains a requirement for an overarching system and investment plan.

## Non-price factors to prioritise within the auction process

### *Capacity building – supply chain development and UK content*

Under the current system, supply chain partners are subject to significant price pressure and, due to the project-based nature of the CfD, often do not receive the continuity or commitments required for sustained investment. It is therefore imperative that any CfD mechanism reforms improve value supply chain provision and the delivery of local content, to encourage developers to work with local providers and strengthen local supply chains.

However, industry engagement suggests that the CfD auction comes too late in the development timeline of a project to have a significant impact on supply chain building, meaning that any reforms need to be realistic about what can be achieved by individual projects at this stage in the development process. This is reinforced by findings in the Offshore Wind Champion report:

“The placement of a win/lose auction at a late stage of project development engenders a cautious approach to development. Accordingly, developers typically do not place firm orders with ports and the supply chain until after CfD award, but then they are strongly motivated to favour ports and suppliers who can deliver on a relatively short-term basis.”

Therefore, any reforms to the CfD mechanism to support supply chain development at the auction stage should be **coupled with the introduction of requirements at an earlier stage** (such as leasing), or other amendments to the CfD process such as less stringent delivery timelines, to account for the relatively little influence developers have over supply chain delays or unplanned setbacks. Finally, as discussed [the introduction](#) to this response, supporting investment in local supply chains requires an overarching strategy and delivery plan for government, to provide greater integration at each stage of the development lifecycle.

**Recommendation: Recognise the importance of supply chain development by including this as a non-price factor in the auction process, providing a financial incentive to invest in local and diverse supply chain partners.**

### ***System benefits e.g. through generation diversity***

As discussed on our [response](#) to a separate consultation on CfD reform, whole-system benefits are not currently considered within this Call for Evidence, yet their value needs to be recognised within a CfD reform.

The focus on cost reduction means that the current CfD mechanism disincentivises diversity of supply – valuing each unit of energy equally irrespective of when and where it was generated – and fails to consider whole-system benefits of each asset.

Using the geographical diversity of offshore wind as an example – deployments in offshore wind have been significantly concentrated on the east coast, close to major construction and manufacturing ports. By directing investment and deployment along the east coast, offshore wind developers can benefit from using established infrastructure and supply chains to reduce capital costs.

However, this concentration of offshore wind within a single weather window causes issues for the energy system, as we discussed in our insight paper [Go West!](#). Increasing the geographical diversity of our offshore wind portfolio benefits the whole energy system:

- 1) Reduces periods of low generation, including commodity costs of electricity, which are driven by increased utilisation of renewable energy.
- 2) Improves system resilience and reduces capacity margins and capacity factors, which result in reduced network investment and flexibility costs.
- 3) Limits generation volatility, which leads to reduced system balancing and operability costs, and reduces market risk and wholesale price volatility.

Alongside geographical diversity, technologies with generation profiles that differ from the predominant mix – e.g., tidal generating at times when other forms of generation are not – should be valued and encouraged for providing system benefits.

The current CfD mechanism does not support generation diversity and may in fact work against it. Under the current CfD payment methodology, which is based on the difference between an agreed strike price and a day ahead market reference price, a generator whose output profile differs from the rest of the market may find that:

- a) They are generating **more energy** during periods of relative low generation when market prices are highest – and they end up receiving a **lower CfD payment** or even making negative payments back into the CfD levy.
- b) They are generating **less energy** during times with relative high generation when market prices are low – and they **would have received higher CfD payments** but, since their output is low, this is less beneficial.



Diverse generator	Rest of the market	Market Price	CfD payment
High Generation	Low Generation	High	Low or negative
Low generation	High Generation	Low	High

Table 2: Impact of diversity of generation on CfD payments received by the generator

The benefits that projects will bring to the whole energy system need be considered holistically and align with current and future capacity. However, system benefits are unlikely to be stimulated without clear and targeted support. A clear signal to developers to value this, such as that which is provided through Option 2, would be most effective at achieving this.

**Recommendation: Consider whole energy system benefits and possible implications when awarding projects with CfDs and include this as a non-price factor.**

## Other non-price factors

### *Sustainability*

Unless there are specific factors for sustainability that can be objectively assessed, we would suggest that sustainability should predominantly feature as part of the CfD pre-qualification criteria. Proposed factors in the Call for Evidence such as sustainable decommissioning should be an expectation of all projects, rather than being viewed as an additional benefit to be rewarded. This also highlights the need for robust regulation.

One exception may be carbon reduction, although again, it does not seem appropriate to pay a generator extra to commit to carbon savings which should, by now, be an integral part of any project delivery plan.

**Recommendation: Do not prioritise sustainability factors for inclusion as part of the auction process. Do consider whether these factors could be better considered by developers by introducing a requirement to provide a high-level sustainability plan as part of pre-qualification.**

### *Skills provision*

While we agree that a recognition of skills provision is important, as an initial consideration we would suggest that skills development should be wrapped up within [Supply Chain Capacity Development](#), rather than being valued as its own non-price factor. This is due to the potential complexity of introducing multiple non-price factors, but also as skills development is an integral precursor to the successful development of local supply chains.

**Recommendation: Consider skills provision within the context of supply chain development, rather than valuing it as a non-price factor in its own right.**

### ***Innovation***

Innovation in the form of innovative generation technologies – e.g. wave and tidal – is already supported by the CfD through the use of separate CfD pots, minima and higher administrative strike prices. **This should continue.**

More broadly, the CfD mechanism in its current form already allows projects to financially benefit from using innovative technologies, based on the principle that cost reduction is the main driver for innovation. Final strike prices are awarded by the CfD mechanism based on the project with the highest bidded £/MWh in a selected group per asset class. As such, projects within that selected group that have driven down capital costs by using innovative technologies should already receive additional revenue benefits due to larger ‘profit margins’.

In conjunction with innovation, the standardisation of technologies is pivotal in driving down consumer costs – by streamlining development and deployment, and benefitting from economies of scale. Well-established generation assets such as onshore wind and solar PV have benefitted greatly from standardising technologies over the years and have become two of the cheapest forms of renewable energy in the UK.

Incentivising the use of innovative technologies during the construction and O&M phases may facilitate ‘reinventing the wheel’, whereby standardisation is delayed in favour of establishing novel technologies for a revenue gain – in this instance, £/MWh invested.

Not only could incentivising innovation postpone cost reductions to consumer bills by shifting the focus away from standardisation, but it lends itself more towards nascent technologies, for example FLOW and tidal stream, where innovation may be incorporated easier as industry is yet to converge on design and development processes.

The CfD may not be best placed to incentivise specific technological innovation within asset classes. However, it is important to recognise the role that the mechanism plays in supporting novel and developing asset classes, such as tidal and FLOW, and this support must be continued within any reform. Increasing diversity across the generation mix is necessary to progress towards a net zero system and it is vital that future allocation rounds support this by allocating sufficient funds for novel generation assets. For example, the reduction from 40 MW to 20 MW of tidal stream support in AR5 slows the traction the technology was picking up, disincentivising future investment and hindering progression towards net zero.

**Recommendation: Do not include innovation as a non-price factor in the auction process, as the CfD mechanism is not the correct system to incentivise technology innovation. Do continue to support innovation through other initiatives and schemes.**

### ***Community benefits***

Community benefit is also not currently considered within this Call for Evidence. While we do not feel this should be included as a non-price factor for consideration during the auction process, there is room for **more clarity around the provision of community benefit** which could come as part of both leasing round and the pre-qualification process of the CfD.

As we discuss in our [Delivering local benefit from offshore renewables paper](#), there is a need for increased industry standards on this topic, to encourage a more consistent approach and provide clear, objective guidance on best practice.

**Recommendation: Consider the introduction of industry standards to encourage best practice with regards to community benefit, including a requirement to consider this at the pre-qualification stage.**

## 1.5 Wider reform and interaction with REMA programme

*This section relates to questions 6, 10, 11 and 14.*

In our response to BEIS' Review of Electricity Market Arrangements (REMA) consultation, we highlighted the need for a radical evolution of the electricity system and markets to unlock the step change in renewable deployment required to achieve net zero. Within this, we called for a full review of the CfD mechanism as it stands to better understand the future system challenges faced – such as times when generation exceeds demand – and how targeted reform could allow the mechanism to evolve to better meet these challenges.

It is important to highlight that any reform process represents a period of uncertainty for developers and providers throughout the supply chain, which can lead to delays in investment. Therefore, **it is imperative that any reforms enacted as a result of this Call for Evidence are undertaken in a manner that is consistent with the REMA programme of reform.** In other words, it would be damaging for investor confidence and delay our progress to net zero if reforms to value non-price factors were then superseded by more fundamental reforms following the conclusion of the REMA process, and this should not happen. While there may be a desire to enact the changes proposed in this Call for Evidence quickly, how this might sit within the wider REMA context must be clearly communicated and reforms must be enacted in a consistent manner.

**Recommendation: Government must ensure that any reforms enacted as a result of this Call for Evidence are undertaken in a manner that is consistent with the REMA programme of reform and are not undermined or superseded by subsequent reform.**

### Valuing flexibility and operability

The Call for Evidence introduced the possibility of better addressing flexibility and operability challenges in the CfD mechanism, as part of the wider package of reforms being explored as part of the REMA process.

With regards to flexibility, the Call for Evidence states that:

“While the CfD scheme drives investment in renewable generation assets, flexible technologies cannot compete directly in the CfD scheme, which means they are not on a level playing field in the market. This could contribute to an inefficient balance of variable generation relative to flexibility... Predictable generation technologies which reduce the overall need for flexibility could also be valued here.”

We do not agree that the CfD scheme should be extended to cover dispatchable renewable generation, such as biomass, CCUS and hydrogen generation, as this would incentivise such technologies to maximise generation and become baseload energy generators, displacing lower cost and lower carbon renewables energy. We also note that dispatchable plants may have the incentive not to generate during times of very high electricity prices, to avoid making negative CfD payments. Investment in these low carbon solutions should be supported via other means being explored through REMA, such as Capacity Market reform or cap-and-floor type revenue support.

With regards to supporting the deployment of flexible assets such as battery energy storage systems (BESS), investment to date has mainly been driven by the development of new markets from ancillary/operability services like frequency response. The successful deployment instigated by the FFR initiative and, more recently, by the Dynamic Containment services shows the importance of creating markets for flexibility assets. Future markets that need to be developed for flexibility include the balancing mechanism, constraint management services, capacity market and, in the medium-term, price arbitrage within the wholesale markets. The creation of such targeted markets would be a more efficient and impactful measure to incentivise deployment of new flexible assets, rather than to allowing them to compete in the CfD. Furthermore, due to the dispatchable nature of flexible assets, the same incentives as discussed above might also apply.

Finally, the main barrier hampering the growth of the flexibility sector at present is not revenue certainty, but the ability to get a timely and affordable grid connection. Many of the flexibility projects in the development pipeline have secured both planning permission and the promise of a grid connection but have received a connection date far out into the future and/or uncertain connection charges. Action taken to speed up network connection processes for storage providers, as well as network investment, would be far more impactful for stimulating investment in flexible assets than CfD reform.

In this regard, we commend the ongoing work from [National Grid ESO](#) and the Energy Networks Association, alongside [Ofgem](#) on this crucial area. We also recognise the work the Low Carbon Contracts Company (LCCC) has done to support the development of flexible assets [co-located on sites with a CfD](#), and would support continued work in this area.

**Recommendation: Do not reform the CfD mechanism to support dispatchable generation or flexibility assets such as BESS. Do continue to ensure the development of co-located flexibility assets is compatible with the CfD mechanism.**

In terms of operability, we also do not believe that the CfD should be explicitly supporting reactive power or response through inclusion of these attributes as non-price factors, as

support for providing these services is already provided through existing ancillary markets. As we discussed in our [response](#) to the REMA consultation, many of the operability challenges that were identified in that consultation are already the subject of market and/or technical innovation initiatives that are being led by the ESO, DSOs and networks. This initiatives including [Power Responsive](#), Dynamic Containment, [Stability Pathfinder](#), Control Room of the Future, Digitalisation, and a host of other solutions. Many of these are discussed in [the Day in the Life of the Energy System 2035 reports](#) and also in the [Bridging the Gap](#) project. Therefore, it would be inefficient to reform the CfD mechanism to also support the provision of such services when there are more targeted markets better able to stimulate this.

However, for both flexibility and operability, it is imperative that better coordination is developed between markets, so that participants understand the interactions between each market and are empowered to participate in as many as they are able to. This has been recognised in Ofgem's [Call for Input](#) on the future of distributed flexibility, which raises the importance of a common vision for distributed flexibility and explores structures to support this, such as the creation of a central platform or a set of rules or protocols that all markets should adhere to. In this way, it is also important that any support mechanism that is developed for long duration storage, such as a cap-and-floor, should be designed to be compatible with the CfD mechanism.

**Recommendation: Do not reform the CfD mechanism to value additional operability services, which are already being supported via other mechanisms. Do explore opportunities for increased coordination between market mechanisms, to improve efficiency and participation.**

## Valuing location

As discussed in the [previous section](#) of this response, location is just one aspect of diversity of supply, and whole system benefits in their own right are not explicitly considered within this Call for Evidence. This is despite the potential to encourage consideration of diversity of supply when investment decisions are being made.

**Recommendation: Consider whole energy system benefits and possible implications when awarding projects with CfDs.**

## Operational efficiency

The Call for Evidence also recognises that:

“Any investment signals sent through non-price factors will only be effective if generators are exposed to the right real-time market signals as well, to ensure they operate in a way that most benefits the system[.]”

In this way, it highlights the need for operational signals in the CfD mechanism to evolve to better value system benefits, as well as investment signals. It would be more appropriate to address the issue of operational signals through reform of mechanism for calculating the Market Reference Price to send stronger market signals that benefit the system – such a rewarding diversity in generation.

The current Market Reference Price is the GB Day Ahead Hourly Price published by the Intermittent Day Ahead (DA) Indices, EPEX Spot and N2EX. It has been argued that this reduces the liquidity of the forward markets, as by being linked to the DA market, CfD holders do not need to hedge their price exposure and generators will produce in a price insensitive way that ensures that they receive their strike price.

However, the LCCC does have the power to change the way that the IMRP is calculated including adding / removing indices. In this way, it might be possible to move towards a more composite pricing structure that better rewards diversity of generation or strengthens the operational signals that generators are receiving.

**Recommendation: Explore reform of the Market Reference Price to strengthen operational signals to generators and better value system benefits such as diversity in generation.**

### **Ability of the CfD to support strategic development at scale**

As discussed in the [summary](#) of this response, there is a more integral question to address of whether the CfD mechanism as it currently stands, based on a competitive auction where there are winners and losers, is appropriate to stimulate investment in locations like the Celtic Sea where projects are co-dependent. In these scenarios – where the investment case relies on all four of those projects not only coming forward, but also being successfully developed in order and along a consistent timeline – if one project were to fail, none of the remaining projects would be sufficiently viable to proceed. Consideration should be given to whether CfDs can be awarded earlier in the development timeline. Two models were recommended in the Offshore Wind Champion report to combat this:

- a) **Hurdle CfD** – a CfD is awarded upon a developer reaching a specific milestone (e.g., DCO or Section 36 consent), based on a price or schedules of prices established in advance.

- b) **Forward CfD** – alter the eligibility criteria for a CfD by removing the requirement of a DCO or Section 36 consent.

Both models offer greater route-to-market certainty earlier in the development process, enabling projects to more confidently invest in the factors focused on in this Call for Evidence. Further consideration is still needed to mitigate the risk of setting advanced strike prices, as this could result in over-payment (from customers) or stalling of uneconomic deployment if not taken into account.

**Recommendation: Consider whether more fundamental reform of the CfD mechanism is required to stimulate the development of co-dependent projects. This could mark a shift away from price discovery and towards negotiated and coordinated CfD allocations or transitioning towards a ‘hurdle’ system whereby projects are automatically awarded a CfD on the condition that they satisfy a number of requirements and their strike price is within a certain range.**

### Transparency around positive CfD payments into the levy

Under the CfD scheme, generators receive top-up payments when the market reference price is below the strike price for the low-carbon electricity they generate. However, the scheme is also designed so that generators pay money back when market prices rise beyond their strike price. Hence the CfD not only gives investors’ confidence but also acts as a hedge for consumers, with the Low Carbon Contracts Company [highlighting](#) that in the last quarter of 2021 generators paid back over £133 million to the CfD scheme.

Currently, this reduces the environmental levy that is paid for by suppliers, with the amount collected from generators reconciled with suppliers on a quarterly basis. While this process makes sense, as any negative payment effectively reduces the amount suppliers have to pay towards the scheme, it is not transparent to the public and the link between CfDs and a reduction in bill payers’ costs is not clear.

We would like to see more transparency in this process to allow the benefits (and costs) of supporting renewable generators via the CfD scheme to be clearly communicated to the public. It is also not always clear whether these benefits have been passed onto consumers via a reduction in their bills from suppliers either via competition or, at the moment, via the setting of the energy price cap.

**Recommendation: Review the reconciliation process of negative payments to suppliers to more clearly communicate the benefits case to consumers of the CfD.**



## 1.6 Other considerations

*This section relates to questions 7 and 17.*

### Size limits

When discussing the size of the projects that should be eligible for non-price factors, significant thought should be given to whether these factors are project-specific (e.g., community benefits) or necessary for the whole sector to advance (e.g. skills provision).

The inclusion of non-price factors for smaller projects (< 300 MW) might better value projects that are less competitive solely on price, allowing for a better representation of the inherent value of that project. However, there is a risk that the inclusion of non-price factors may deter smaller projects from entering as they do not have the same capital – or resource – as larger projects, which can afford to invest years ahead of final investment decision. Many larger developers already invest/have already invested in the development of the supply chain and future skills – benefitting from local buy-in and security of future job capacity – and so can more easily capture non-price elements in a bid without requiring additional resource.

Timing is also an inherent barrier for smaller projects. Developers would need sufficient time to invest in non-price elements and would require an additional period (approximately one year) to consolidate the learnings and disseminate the benefits given. In the case of offshore wind for example, both may have to be invested in prior to obtaining an agreement for lease, meaning project developers are working at risk.

**Recommendation: Project-specific non-price factors can be attributed to smaller (<300 MW) projects; however, the requirements should be proportionate to the size of the project.**

### Timing of implementation

Long lead-in times are integral due to both the potential work that would be needed to meet the non-price factors and to provide the certainty that developers would require to respond appropriately. This would mean, if the non-price factors were released immediately, they would only be implemented in AR7 (2025). AR7 may be achievable, and is a good target, however, given the timeline of the Call for Evidence and subsequent detailed design and consultation, it is more likely to be first implemented in AR8 (2026).

As discussed in [Section 1.5](#), it is vital that the timing of reform is aligned with those reforms implemented as part of the REMA process, to ensure clarity and consistency for developers.

## 2. Continuing engagement

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We would like to offer our help and insight as the reform process continues following this Call for Evidence. As a centre of expertise and a collection of leading companies and organisations, both in the electricity storage sector and the wider energy sector, we are well positioned to help design the solutions and additional work that will follow on from this initial consultation.

### **Markets Lead – Ellie Brundrett**

As a Project Manager, Ellie leads Regen’s work in the market reform space, including Regen’s [response](#) to BEIS’s REMA consultation. This involved bringing together subject matter experts from across Regen’s knowledge areas and helping to run two member events on the subject.

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### **Energy Market Analyst – Rebecca Fowell**

As an Energy Market Analyst, Rebecca supports Regen’s work in both the development of the offshore sector, and wider energy system transformation. She co-wrote [Go West!](#), Regen’s analysis of the energy system benefits and policy implications of a more geographically diverse offshore wind portfolio.

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