REA consultation response: Contracts for Difference: proposed amendments for Allocation Round 7 and future rounds

The Association for Renewable Energy & Clean Technology (REA) is pleased to submit this response to the above consultation. The REA represents a wide variety of organisations, including generators, project developers, fuel and power suppliers, investors, equipment producers and service providers. Members range in size from major multinationals to sole traders. There are over 500 corporate members of the REA, making it the largest renewable energy trade association in the UK.

Of further relevance to this consultation, the REA has a dedicated landfill gas forum, whose members make up more than two-thirds of the electricity generation from landfill gas in the UK. Other relevant REA forums include those focused on Biomass Power, Energy From Waste, Biogas and Solar Photovoltaic, all of which have previously been supported by the Renewables Obligation and could face issues when existing RO contracts start to come to an end from 2027 onwards. The REA would be happy to arrange industry roundtables with all of these groups to discuss proposals around repowering CFDs.

1. **Do you agree that the eligibility criteria for full repowering appropriately balances CfD policy objectives of supporting decarbonisation, ensuring security of supply, and minimising costs to consumers?**

No.

REA does not believe the objectives will be met due to the very limited scope of projects eligible. Excluding all technologies except onshore wind will not fully support decarbonisation, nor energy security and risks a costlier long term transition to decarbonisation.

The REA strongly supports the case for considering ongoing support for generators when their initial support schemes run out.

Given the range of technologies supported to date, the decision whether or not to provide support - and at what level - will vary, but as a general point this should be available if ongoing operation of the site would not otherwise be financially viable. This will tend to include technologies generating electricity through thermal combustion as they will have significant ongoing operational costs. These include both feedstock/fuel handling and maintenance and replacement of engines. It should also be taken as a principle that maintaining existing generation is going to be cheaper, and thereby better value for money for consumers, then building replacement generation in addition to the levels of new low carbon generation already required to meet the Government's 2035 fully decarbonised power system target.

Most of our comments in this section relate to landfill gas generation, as the technology that is most immediately impacted by the ending of current support, but the need will arise for other technologies. We have responded to the consultation on a transitional support mechanism for large-scale biomass generators and would note the parallels between landfill gas and sub-100MW solid biomass generators, who are currently excluded from those proposals.

Case for ongoing support for other technologies– focus on landfill gas generation

Over 85% of current landfill gas generation is due to lose support under the Renewables Obligation in April 2027[1]. In 2021, this produced close to 3TWh of electricity. This electricity is baseload, meaning it also helps reduce overall electricity system management costs. Support under the RO has enabled industry to make significant investments in infrastructure, equipment and personnel to maximise gas capture and use. The methane burned is produced naturally over several decades when organic materials are landfilled. As a result, it will remain a significant legacy issue, regardless of planned policies to ban biodegradable material to landfill.

As well as providing renewable electricity, burning methane provides an environmental service in that it converts methane into CO2. This value is not reflected in current subsidies, which focus on the cost per MWh of electricity generation.

Methane is 28 times more powerful a greenhouse gas than CO2 over 100 years, and 80 times more powerful over 20 years.[2] There has been increasing focus on methane as a GHG in recent years, as a result. The UK has committed to the Global Methane Pledge[3], which aims to reduce global methane emissions by at least 30% by 2030 (from 2020 levels). The level of UK GHG emissions involved is considerable. In 2021, emissions from landfill were 18.7MtCO2eq – 75% of total emissions from the waste management sector.[4]

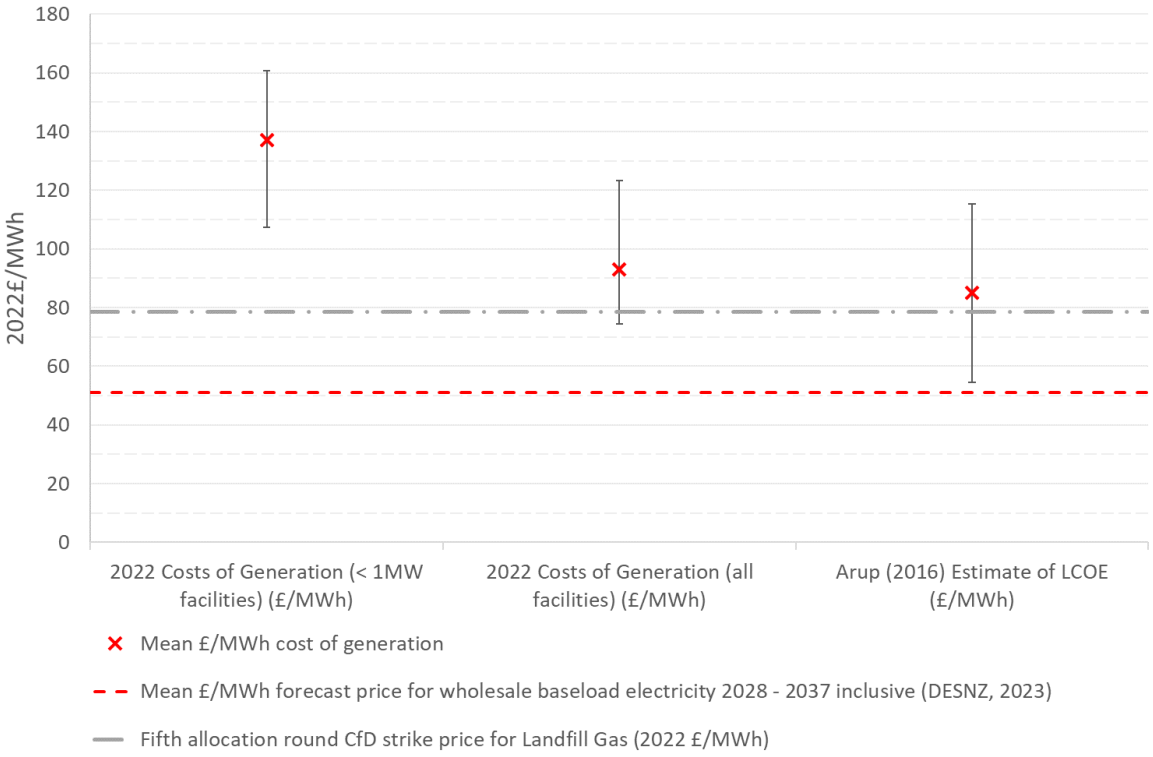
Landfill gas generation has significant ongoing costs for personnel, gas clean up and equipment maintenance. Our members have engaged in detail with the department and its consultants to provide cost information. The REA also commissioned WSP to produce a report. The results are summarised in the table on the following page, which shows that electricity generation is not viable if reliant solely on income from power sales.

[1] Industry estimate based on Ofgem Renewables and CHP Register

[2] 100-year value from IPCC 5th Assessment report. 20-year value from Global Methane Pledge

[3] Homepage | Global Methane Pledge

[4] Landfill figure from: https://assets.publishing.service.gov.uk/media/642337b32fa8480013ec0de4/final-greenhouse-gas-emissions-tables-2021.xlsx - table 1.2. Overall waste sector value for 2021 is 25MtCO2eq – 6% of the UK total, taken from Climate Change Committee progress report to Parliament (June 2023): https://www.theccc.org.uk/wp-content/uploads/2023/06/Progress-in-reducing-UK-emissions-2023-Report-to-Parliament-1.pdf



At present there are no alternative income streams available that could make electricity generation viable in the absence of RO support. Although upgrading the gas so that it can be injected to the gas grid is technically possible, it is unlikely that it would be economically viable for any but a handful of larger sites.

Generators will have to decide in the near future whether to decommission engines and disband operational teams. Decisions must be made in the next 12 months, although REA has provided government with evidence that the current uncertainty is already beginning to drive real world decisions.

With the right support there is the opportunity to continue to improve methane capture rates while also generating renewable energy. By contrast, with the loss of equipment and expertise that will follow if no action is taken, emissions control will primarily depend on the use of a flare and there is a real risk that emissions of methane to atmosphere will increase.

Although the electricity generation is significant, the effect of methane emissions is even greater. WSP modelling shows that a 1% improvement in methane capture rates between 2028 and 2037 means emissions of 1.1MtCO2eq being avoided. This gives an undiscounted financial value of £461m over the period[5].

This shows the scale of the opportunity if the right policy is in place. It also highlights what is at risk, as the same values would apply if policy inaction leads to an equivalent increase in methane emissions.

[5] WSP report, pages 19-21. Figure quoted uses central carbon prices from 2021 green book: https://assets.publishing.service.gov.uk/media/6567994fcc1ec5000d8eef17/data-tables-1-19.xlsx

Much of the analysis in the current consultation is reasonable within the narrow limitations set for it. What is lacking is a more ambitious approach that ensures that the issues highlighted above are addressed. We note that the consultation on a transitional support mechanism for large-scale biomass generators proposes a much more flexible approach for these generators while still using a CfD based mechanism, and a similar willingness to think more flexibly is required here.

Even if the government reconsiders its position with regard to landfill gas eligibility and concludes that it should be eligible for AR7, some other points would need to be addressed within the CfD.

Excluding the benefits of reductions in methane emissions, landfill gas would struggle to compete with on-shore wind and solar PV on a £/MWh electricity generation alone. It would therefore require a separate 'pot' or the use of maxima/minima. The administrative strike price would also need to be reassessed. For landfill, this was set based on an assumption that the support levels available in the RO in 2012 were appropriate (0.25 ROCs/MWh). But almost no new generation came forward at that reduced level – which would indicate this was far too low, regardless of any changes in costs since then.

In addition, if the intention is to retain as much of the existing generation capacity as possible, there is very little to be gained by allocating support (and setting support rates) through an auction. Auctions work well as a way of rationing support when there is more potential demand than funding available, and of making the available funding stretch as far as possible. For landfill, this effect could only be gained by deliberately setting total funding significantly lower than that which would be needed to support current operators.

We would also question how essential an auction is given that the total number of potential applicants is known – it cannot be greater than the existing generators. In addition, existing generators and the government have far greater certainty on their costs, as well as the likely performance of their projects, than when putting together an entirely new project. We note that the consultation on a transitional support mechanism for large-scale biomass generators did not propose to allocate support via auctions and something similar could also be considered for landfill gas.

For all these reasons, it may well be that the current power CfD is not well-suited to provide ongoing support to landfill gas generation. Unfortunately, that in itself does not take us any closer to finding a workable alternative solution.

We welcome the statement, as a matter of urgency, that the Government is 'committed to ensure landfill gas sites continue to contribute to our environmental goals and we would be keen to work with the sector to inform this work.' The industry has engaged extensively over the last two years and looks forward to continuing to do so at pace over the coming months. Despite positive discussions with the Department, it has been disappointing to still have no clear indications from Government as to their intentions once these sites come to the end of their existing contract arrangements.

Looking towards Future Allocations Rounds and Delivering Value for Money
While this consultation has understandably focused on landfill gas and onshore wind, given they will be the first to come to the end of RO contracts, the decisions made here are likely to be considered a precedent for future allocation rounds. They will be viewed by operators and financiers of other low carbon technologies as an indication of how they should be considering the end of their RO contact. Much of this capacity will include dedicated biomass (sub 100 MW), EfW with CHP, anaerobic digestion and solar PV. While the time frames for this capacity may be beyond the implications of AR7, the investment decisions to maintain this capacity are no less urgent. Indications that Government are not looking to ensure existing capacity is maintained, as proposed here with landfill gas, will send a clear market signal to others that they should be looking to decommission sooner rather than later.

Outside of the narrow repowering proposals included in this consultation, and the transitional arrangements for large-scale Biomass (>100MW), there remains a concerning lack of Government commitment against which operators can plan to extend the life of their plants and this risks the UK's future energy security. This should be addressed as a mater of urgency, including by providing an indication of how eligibility considerations will be taken for other technologies beyond AR 7.

DESNZ analysis within this consultation recognises a further 300 MW of capacity could come to the end of their RO support by 2030, with another 0.5-1 GW of low carbon capacity expected to reach the end of its operational capacity **per annum** from 2030 onwards.

At the same time Government confirmed targets to have a fully decarbonised power system in place by 2035, requiring 140 – 174 GW of renewable capacity, which represents a 150 – 200% increase in installed capacity in the space of only 11 years. While we believe this to be a realisable goal, the scale of the challenge cannot be underestimated. Government can simply not afford to see the loss of existing low carbon capacity if it is going to meet its targets cost effectively. Failure to do so will see consumers unnecessarily paying for replacement capacity, in addition to new capacity.

The consultation has correctly placed a strong emphasis on value for money from the CfD. However, seems to have come to the conclusion that it would be better to support more expensive replacement generation, rather than cost effectively ensure existing generation is maintained. As such we do not think the impact on the consumer is well balanced in the proposals.

Finally, we also highlight that proposals so far fail to value wider benefits and services provided by fuelled technologies beyond power production. Just as landfill gas provides services for avoiding methane emissions, dedicated biomass and EfW with CHP provide crucial sanitation services. For example, dedicated biomass sites see nearly three million tonnes of waste wood diverted from landfill each year. As such, this is not only power capacity, but waste management capacity, that needs to be considered.

DESNZ should make clear how it intends to maintain all forms of low carbon capacity beyond the RO as a matter of urgency. This means considering implications beyond just AR 7 and providing confidence to the whole market of existing generation assets.

Specific comments on the proposed criteria

Technologies must already be eligible for the CfD scheme

- We agree that any technologies must be able to comply with the relevant sustainability requirements
- We disagree that the current size limits should necessarily apply. The CfD minimum 5MW threshold was not applied to support under the RO. Similarly the reason for the 5MW threshold for CfD projects was due to the Feed in Tariff being available to smaller projects at the time, which is no longer the case. Individually many landfill gas sites are below this size. We agree with the consultation's analysis that total landfill capacity at risk amounts to a little under 400MW – nearly 4 times the minimum threshold proposed in the consultation on a transitional support mechanism for large-scale biomass generators.
- Similarly many dedicated biomass, AD and solar sites will also be below the 5MW threshold, but could cumulatively represent a significant level of generation. Future repowering CfD allocation rounds will also need to consider this threshold, possibly allowing grouped contracts to enter the allocation process.
- It may be appropriate in some circumstances to provide support for a shorter period than the standard 15 years under the existing CfD. Given that a substantial part of the GHG savings from landfill gas electricity generation come from capture of methane and its conversion to CO2, it may be that only a shorter-term bridging solution is needed urgently, in order to allow a long-term policy to be put in place that accounts for and rewards those additional benefits. If a shorter contract term were used for landfill gas, the significance of declining electricity generation volumes over that time would also be greatly reduced
- Other than the above, we broadly agree with the use of existing eligibility requirements – taking it as understood that the regulatory restrictions on repowered projects are removed

Projects must have at least reached the end of their operating life by/before the end of that applicable Delivery Year in Allocation Round 7 and are not in receipt of any other subsidy for electricity generation at that point.

We are not entirely clear on the rationale for using an end of operating life definition rather than end of subsidy, as this places a lot of reliance on macro-economic analysis which may not accurately reflect individual project circumstances. We note, however, the consultation's conclusion that landfill gas generation projects will generally have reached this point when they lose RO support and we support this conclusion.

We agree that generators should not be able to choose between support schemes for a given quantity of electricity. This would encourage generators to perform arbitrage between support schemes for no clear benefit to consumers.

It is unclear whether the proposed exclusion would apply to individual pieces of equipment or to a generating site as a whole. As noted above, some landfill gas generation capacity will retain support, with April 2031 being the end point for almost all of it. Some of this remaining capacity will be a single, discrete project, but some of it will be additional capacity installed at a site that was already generating electricity previously. If landfill gas is provided additional support within this or any other policy, further analysis will be needed if the intention is to exclude all generation from a site.

2. **Do you agree that use of power generation cost assumptions to define end of operating life is an appropriate metric to capture those projects which will be seeking to fully repower in each allocation round?**

This criterion aligns well to technologies such as wind and solar that broadly have high upfront capex but low ongoing costs.

The distinction between 'full' and 'partial' repowering in the case of landfill gas and other thermal generation technologies is less clear and of less practical use. There is limited difference in cost over time between installation of an entirely new engine at a site as opposed to a refurbished one.

Some other elements of cost in an existing landfill site will likely be lower than when the site was first commissioned. Conversely, some elements will likely be higher, not least because of increased costs from environmental compliance such as the implementation of the Medium Combustion Plant Directive.

If the end result of the above is that ongoing costs for landfill gas generation would be lower than they would have been for a new build then that should be a consideration when setting the level of support provided rather than meaning the project is excluded on principle.

The consultation notes evidence provided by our members that landfill sites will not be able to continue generating if reliant on power sales revenue alone. As set out above, while criterion proposed in this consultation seems reasonable in itself, it does nothing to address the urgent problem of what happens when RO support runs out for the majority of landfill gas generators.

3. **Do you consider that each project should need to at least retain capacity, or do you foresee any challenges with this assumption?**

This proposal makes a lot of sense for many technologies. We also understand the reasoning that, given improvements in efficiency for solar PV and wind generation, an increase in generation may well be possible if this is not prevented by electricity grid constraints.

It is also undeniable that, for a closed landfill site, generation of methane (and hence the amount of electricity that can be generated) will decline over time. There is considerable information available on these decline rates.

We therefore do not agree that this criterion is appropriate for landfill gas, as it is sets a requirement that landfill gas could never hope to meet. If some sort of minimum capacity is required, then it would be possible to derive a minimum initial capacity requirement based on those decline rates and the industry would be happy to work with government to develop an approach for how this would work in practice.

Separately, consideration should also be given to broader policy objectives, including the delivery of bioenergy carbon capture and storage through the GGR business model. BECCS will reduce a site's generation capacity, but with the benefit of delivering critical negative emissions. It could be possible to see a transitional process using a repowering CfD deployed to enable existing sub-100 MW capacity, which is currently ineligible for large scale biomass transitional support, to be maintained for the delivery of BECCS, even if the outcome will be a reduced overall capacity.

4. **Do you agree full repowering of onshore wind sites meets each of the repowering eligibility criteria and should therefore be eligible for AR7? What evidence do you have to support this?**

No comment.

5. **Do you agree that all other technologies do not meet the eligibility criteria for AR7? If not, why not and what evidence do you have to support this position? We are particularly interested in any costs data and definitions you may be able to provide on the full repowering of respective technologies.**

It is hard to disagree that landfill gas generation does not meet all the criteria as they have been defined. The requirement to at least retain capacity throughout the project life sets a test that landfill gas could never be expected to pass. Given the acknowledged need to address the risks arising from landfill gas generation ceasing in April 2027, more creative thinking is needed – either in the approach via a repowering policy or for some other solution.

We note, however, that a number of other technologies can be expected to pass the proposed criteria in future Allocation Rounds beyond AR 7. As expressed in question 1, while they may not be applicable in AR 7, investment decisions around these sites are no less urgent. Government should already be making clear its commitment to maintaining existing low carbon generation if they are to cost effectively meet their 2035 power decarbonisation target.

It is worth noting that for landfill gas, due to the steady, predictable annual decline in methane production, although these sites can never commit to maintain constant capacity levels, they will never exceed them. This allows for Government to model expected output much more clearly than other technologies, and to be certain these projects will not exceed expected expenditure.

Therefore, reference prices aside, there is very little risk of repowering landfill gas projects unexpectedly adding extra pressure to consumer bills resulting from any changes in output.

6. **Is enabling forward bidding for repowered projects required to better enable repowering via the CfD? What impact would enabling forward bidding have on reducing non-generation periods between decommissioning and recommissioning of the site?**

We agree with the proposal for the reasons given in the consultation.

We have not responded to questions 7-37.