

REA Position Paper Feb 2016 – Next stage, or ‘Market Stability Mechanism’ CfDs

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 750 corporate members of the REA, making it the largest renewable energy trade association in the UK. This is a current snapshot of the REA and its members views on the topic and is subject to further development and possible changes as the discussions develop.

Introduction & Definition

The REA is aware of discussions regarding next stage ‘Market stability mechanism CfDs’ and understands ministers are considering the concept, there are a number of different definitions and associated methodologies under discussion and we aim to summarise these and set out the current views of the REA.

The discussion is welcome - fossil fuel generators have operated without recognition of their societal cost, while the clear benefits from renewable capacity have been under-valued and mis-labelled. Fossil fuel generation has been described as operating ‘without subsidy’, while a recent IMF report put the total indirect benefits afforded to such generation as \$32 billion in the UK alone, dwarfing current renewables support. Meanwhile renewables generation has been described as ‘subsidised’ and ‘pushing up the cost of power’, despite the wider societal and system benefits accruing from such generation, for example avoided carbon emissions and improved air quality.

There are several views of what constitutes ‘subsidy-free’ (which has been the starting point for Market Stability Mechanism discussions); we are aware of the following interpretations:

- ‘Subsidy free’ support being a CfD based solely on wholesale power revenues, with all other additional elements removed (wholesale prices are currently around £40-45/MWh and this is too low to finance any projects at present)
- A strike price determined solely by carbon price signals – for example through the EU Emissions Trading Scheme (ETS), Carbon Price Floor (CPF), or a more reflective ‘true’ cost of carbon (projected costs vary but for the EU ETS are generally in the £5-15/MWh range)
- Setting a price on an equivalent basis to the necessary ‘Strike Price’ for a marginal build power plant, identified by most to be a Combined Cycle Gas Turbine (CCGT) gas plant, and generally discussed as being in the £55–72/MWh range

- Incorporating the wider system costs and benefits from renewable generation sources alongside the marginal CCGT costs and a carbon price (which would require modelling of exact costs and benefits)
- The REA believes the enormous benefits possible from energy storage could also be supported, alongside better compensation for baseload, dispatchable, renewable generation projects

	Range of values
Wholesale power price	£40 – 45 / MWh
Carbon price	£10 – 15 / MWh
Marginal plant (new build CCGT)	£55 - 72.50 / MWh
Net system benefits and costs from new capacity	-£10 to +£10 / MWh

Incorporating the system benefits and costs accruing from new projects alongside the marginal plant cost and price for the avoided carbon emissions we believe represents the fairest method for calculating a new strike price. This is based on the fact that neither the EU ETS nor CPF mechanisms accurately reflect the true cost of carbon, and the fact that not even new-build conventional plants can currently be built without subsidy (via the Capacity Market). We discuss a more detailed proposed methodology below.

Incentivising Storage & Baseload, dispatchable power

There is an opportunity in revisiting the CfD mechanism, to reconsider how UK electricity policy can best support stable, dispatchable, baseload low-carbon generation and therefore reduce costs on the energy system as a result of grid reinforcements and balancing costs, while lowering emissions.

Ministers have repeatedly stated their support for energy storage on the basis of the benefits it can bring to the UK's energy infrastructure, and the CfD mechanism could be an effective tool to grow the storage industry. A new strike price band could be introduced for variable renewables projects incorporating energy storage. This would reduce system costs by providing more responsive and predictable output from low carbon sources. One of the major barriers to energy storage is the lack of long term contracts available for such projects, and being able to access a 15 year period of support could be transformational.

In addition, there is scope to better recognise the benefits of stable, dispatchable power provided by renewable technologies such as dedicated biomass, biomass conversion, anaerobic digestion, Advanced Conversion Thermal, and energy from waste plants, in terms of reduced system costs as a result of reduced peaking plant output and lower balancing costs.

Both options also reduce the need for more interconnector capacity in the UK, the considerable costs of which could ultimately be borne by UK consumers.¹

Setting a 'Subsidy-free' Methodology

We support the following factors as the basis of any methodology for 'subsidy-free' CfD strike prices:

- The realistic Long Run Marginal Cost of CCGT, based on a reasonable range of Gas Price forecasts (see more on this below);
- Merit Order Effects on Wholesale prices incorporating the effects of the Capacity Market (eg on volumes and prices);
- A realistic cost of carbon, which is not currently reflected in market prices (owing to EU ETS market failure and the frozen Carbon Price Floor);
- The wider costs/benefits to the energy system of each project on a technology-specific basis (eg avoided grid reinforcement);
- The methodology should apply to both stand-alone renewables projects and 'renewables plus storage' projects, to reward the added system benefits from these projects.

We are aware of modelling for each element of the above and do not go into the details of such figures here, as further, more detailed analysis would be required in order to come up with accurate figures. The first, most important step is to agree the methodology. We would however note that we have seen prices in the range of £72 – 75/MWh for onshore wind and solar PV projects using a similar methodology and believe this represents a fair reflection of the above factors for these technologies. The price of storage is difficult to project and is falling considerably for certain technologies, however we are aware of modelling which puts this at £50 – 70/MWh when used in combination with variable renewables.

Use of CCGT plants as marginal technology

There are clearly a number of options to base the marginal plant on; however new-build natural gas CCGT plants represent the most logical. This is because most in the industry believe CCGT plants will form the bulk of new build conventional thermal generation in the UK and are lower carbon than other forms of conventional capacity.

It is important to remember one factor in the use of marginal plant - unlike most renewables, the main variant in the price of such plant is the cost of the fuel, in this

¹ [Ofgem's 'Cap and Floor' regime for interconnectors](#) adopts a floor for returns which if operator's revenues fall below, is compensated for by transmission connected UK generators. If revenues exceed the cap, excess revenue is returned.

case natural gas. Natural gas has seen a dramatic fall in wholesale prices in the past two years, and as such projected costs have fallen considerably. In the future they may rise again, therefore there is no straight forward trajectory to track and this needs to be reflected in the 'market stability mechanism' strike price setting methodology. This raises the question therefore as to whether such strike prices should be fixed over a specific term or subject to re-openers in the event of significant changes in CCGT plant costs.

We believe a revised methodology would only be workable if it was to fix strike prices for a set period, as otherwise it would not be possible to secure investment from finance companies, while low gas prices do not necessarily mean new-build CCGT is feasible without subsidy, as is currently the case.

Therefore the CCGT plant element of a subsidy-free CfD strike price should be based on a series of credible projections of gas prices, and then fixed, rather than 'free-floating' on a variable basis as costs change.

Allocation options

Allocating contracts is central to CfD policy and has become a vital issue for generators. We believe that making changes to the strike price also represents an opportunity to improve how the contracts are allocated.

We've identified the following possible options, set out below:

Allocation Option	Positives	Negatives
No change to the current system, with the new strike prices simply replacing the 'Administrative Strike Prices' in the auction and allocation timetables still set by the Secretary of State	No changes required except to Allocation Framework	Problems with current system remain
Re-basing Administrative Strike Prices at the MSM prices and allocating as at present using the auction mechanism, therefore the new prices simply forming a revised cap for each project in the auction. This would operate under a clearly defined timetable (ideally six-monthly) for allocation rounds, set independently of the Secretary of State	Greater clarity on auction timings Easy to implement	Problems with current system remain
Re-basing the 'Administrative Strike Prices' at the MSM level and allocating CfDs to all projects at this price, on a 'first come, first served' basis, until available budget allocated	Provides certainty for industry	Budget could be allocated in one go
Re-basing the 'Administrative Strike Prices' at the MSM levels and allocating contracts on the basis of the new proposals for the Feed-in Tariff, ie with pre-determined depressions and capacity caps for each technology, set out several years in advance	Caps spending Allows for regular deployment	Moves away from competitive allocation
Adopting a similar approach to the Capacity Market,	Prevents over-	Work required

calculate an amount of capacity necessary to be procured, before running an auction capped by this level of capacity. The capacity could be split by allocation pots while minima and maxima could still be applied, therefore allowing much of the existing allocation infrastructure to be retained. UK electricity capacity margins four years in advance are already calculated before each Capacity Market auction and a consideration of renewables targets and low-carbon capacity could be included in these calculations without considerable changes being made ² .	deployment	on methodology for target capacity
		Problems with Capacity Market could be replicated

As the top-up element of any strike price would still need to come from the Levy Control Framework (LCF), we consider that **the latter two options represent the best options for allocation**, should changes be made, as they can be demonstrated to:

- Provide value for money to bill payers
- Comply with Government-approved allocation support mechanisms previously developed and signed off by ministers
- Comply with EU State Aid guidelines on the allocation of renewables support
- Prevent 'over-deployment' under the scheme as total spend is capped
- Provide better signals to industry & investors in terms of visibility of support
- Provide more stability to industry through more frequent opportunities to apply for the scheme, rather than the current system which creates damaging stop - start cycles of project development, increasing the cost of capital and therefore to consumers

Conclusion

The 'market stability mechanism' concept represents an attractive option for taking the CfD mechanism forward. We believe revisiting the policy presents a valuable opportunity to make associated improvements and incentivise changes which will help transition the UK to a more sustainable energy system, better utilising renewable baseload power and energy storage to deliver the gap in capacity expected from 2025.

² Any methodology for setting the capacity to procure in an auction would need to be carefully considered. As part of this process, renewable energy targets would have to be considered as a whole, not just the renewable electricity target in isolation - over-achievement in electricity generation is required to meet our over-arching energy target due to likely under-delivery in renewable heat and transport.

The methodology for revised strike prices needs to be agreed before detailed modelling of each element, and we support a methodology incorporating:

- the cost of marginal (CCGT) plant,
- acceptable carbon price and
- net system costs/benefits.
- There should also be support in the CfD mechanism for renewables projects with energy storage on-site, and recognition of the value of baseload renewable power by taking the system benefits of such generation into account.

A revised allocation system could be adopted for subsidy free CfDs, and we outline some potential options, which would retain the focus on competitive allocation and value for money while providing greater security for project developers.