



Market Reference Price: smaller baseload generators and PPAs

20 January 2014



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How the PPA market currently supports baseload plant



We're interested to know...

- What market segment are baseload PPAs currently settled against?
 - Day Ahead, Month Ahead, Season Ahead? Other?
- Do small baseload plant respond to market price signals?
 - Of their own accord?
 - In response to PPA provider prompt?
 - Not at all?
- How is any imbalance risk addressed?
 - Who bears performance risk if, say, month or season has been sold ahead?
 - Are there penalties imposed for failing to deliver agreed load factors?
 - Or is this risk dealt with through discounts?



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Could settlement services be offered
under a CfD?



Settlement services under the CfD

Under the CfD

- Generators receive payments every working day 28 calendar days after the day of generation.
- When the reference price is above the strike price, generators receive an invoice 7 working days after the day of generation, with payments to the CfD Counterparty due 5 working days later.

Generators can opt to transfer the rights and benefits under the CfD – meaning that PPA providers can offer settlement services:

- PPA provider receives billing notices and invoices
- PPA provider receives payments under the CfD each working day – pass to generators on a monthly basis
- When payments reverse, PPA providers make payments each working day – collect from generators monthly
- Generator remains responsible for payments being made
- Are PPA providers likely to offer such services? Would there be a charge for this?



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Tracking the Baseload Reference Price



Trading to hedge the reference price

The reference price is set as the average of the daily season-ahead price over the season ahead of delivery. The daily prices are volume weighted and drawn from LEBA and Nasdaq. In order to achieve the reference price, we expect plant would aim to:

- Split volumes equally, trading daily or as frequently as possible
- Trade at the representative price on any given day

But, there are known issues, which may be bigger for smaller plant:

- Risk of not hitting the volume-weighted price in day
- Inability to trade daily so increased basis risk
- Imbalance / performance risk due to unplanned outage



Risk of a volume-weighted price

- We have chosen to take a volume-weighted average of all prices recorded over the day, primarily because season ahead volumes are well spread throughout the day.
- Concerns have been raised that a generator could fail to achieve the average price if other trades come in at a higher price before / after they have made their trade. We note this, but equally it could lead to gain and think on balance this is a trading risk which can be managed.
- An alternative approach could be to use a narrow window of time to set prices. However:
 - this could be open to manipulation
 - it would not capture the same level of liquidity
 - it would force plant to trade at a certain time

Inability to trade daily

- The smallest clip size commonly traded OTC is 5MW. There are c.120 trading days in a season. Therefore in order to trade daily, a plant / portfolio would have to be 600MW.
- Generators which are unable to trade daily are exposed to greater basis risk due to the potential volatility of prices.
- However, prices tend to be serially correlated so this may be a theoretical risk rather than one which actually significantly impacts upon revenues.
- Analysis we have seen suggests:
 - The cost from trading every other day is only 2.7p/MWh
 - The index risk to a generator of trading:
 - Weekly is 0.2% of the index price
 - Monthly is 1.2% of the index price



Imbalance / performance risk

- If a generator is trading to hedge the reference price, their entire volumes will be sold forward for a season. Any unplanned outage would therefore necessitate buying back potentially a large volume of trades, depending on the timing and severity of the incident. This could be at a cost, benefit or neutral, depending on how prices have moved.
- Our general approach is to leave risk with the party best placed to manage it. We want to place incentives on plant to be reliable and available at times of system stress.
- Our analysis suggests that the cost of bearing this risk is around 17p/MWh.
- Alternatively, plant could choose to bear some of the basis risk on prices in order to sell some output closer to delivery when they have greater certainty over the volumes to be generated.



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Changes to the Reference Price



Change process overview

- Over the period covered by the CfD, it is inevitable that the market will evolve so as to require amendment of the reference price so that it remains a fair price from both the generator and CfD Counterparty perspective.
- We have therefore developed provisions whereby, in certain contractually specified circumstances, there are certain adjustments to the way in which the reference price is calculated.
- The approach is designed to provide certainty for generators, lenders and PPA providers about what circumstances will lead to a change in the reference price, and how the reference price may change so that they can have confidence in their continued ability to access the price.
- We have outlined two MRP review categories:
 - Annual (for the baseload reference price only)
 - Principles (for both baseload and intermittent reference prices)



Annual review

- Once a year, in October, the CfD Counterparty will apply the contractual mechanism to establish whether:
 - the existing price sources still meet specified qualitative and quantitative criteria (on price source quality and number / volume of trades).
 - any other price source now meets the specified criteria.
- Generators and other interested parties will have the opportunity to contribute evidence for consideration by the CfD Counterparty in its application of the contractual mechanism.
- The CfD Counterparty will announce whether the contractual mechanism has triggered a change by 1 January, allowing three months' notice prior to using the amended calculation from April.
- There is a dispute process for generators wishing to dispute whether the contractual mechanism has been complied with.



Principles review

- Trigger events for review:
 - No MRP meets the Annual Review criteria;
 - The coupling or splitting of markets has occurred;
 - 30 percent of CfD generators (by number or volume) request a review;
 - No trades are recorded on any of the baseload price sources for 5 consecutive trading days; and
 - The counterparty deems that the MRP is systematically overcompensating Generators.
- Generators and other interested parties will have the opportunity to contribute evidence for consideration by the CfD Counterparty in the review.
- The CfD Counterparty will set a reasonable timescale for the review in the circumstances, and will allow a minimum of three months' notice prior to implementation of the changes.



Principles (summary version)

- The methodology used to calculate the reference price are to be the same for all baseload / intermittent CfD holders (except in the case of market splitting)
- The reference price will be a reasonable reflection of the market price of electricity to be delivered in Great Britain
- The baseload reference price will remain as close as possible to season-ahead, and will not be any further ahead than season-ahead / The intermittent reference price will remain as close as possible to day-ahead
- No index shall be included if it would unduly dampen, dilute, disrupt or otherwise distort components of the energy markets that would otherwise contribute to operational behaviour and pricing
- No index shall be included unless it has a sufficient number of trades from different parties that there is confidence it is both accessible to generators and robust against manipulation



Potential options for supporting smaller baseload plant

Disclaimer: these options are still at the scoping stage so may not all be workable in reality. Also note that the consideration given to any option is not indicative that Government is likely to adopt it as policy.



Rely on the Offtaker of Last Resort

- Government is already committed to introducing an Offtaker of Last Resort. This should provide a “worst case scenario” for financing to be assessed on.
- This may enable projects to secure a shorter-term PPA or one from a broader range of counterparties than would normally be acceptable.
- However, we anticipate that projects will still require an initial 5-year PPA in order to secure funding.
- Would this be sufficient to enable smaller baseload projects to progress?



Use the Market Maker reforms

- Ofgem is introducing reforms whereby there will be a requirement on certain parties to have a “bid” and “offer” available at certain times on a season-ahead basis. It could be possible to amend the reference price to draw on prices quoted under this mechanism.
- This may help to address the risk of volume-weighted prices.
- However, there are likely to be practical issues with implementation, and we are concerned that this approach could be open to gaming.
- Do you have any views on how this could be implemented?
- Would this be sufficient to enable smaller baseload projects to progress?



Make smaller clip sizes available

- One of the key issues with the accessibility of the reference price is that the smallest clip sizes currently available OTC tends to be around 5MW.
- If smaller clip sizes were introduced, generators would be able to trade more frequently, thus reducing their basis risk. E.g. if the minimum clip size was 1MW a portfolio of 120MW could trade daily or a 40MW plant could trade once every three days.
- Smaller clip sizes are already available on the exchange, so this could drive more volumes there. In addition, if demand is there, the OTC market could evolve to offer different products. But this is not guaranteed to happen.
- Do you have any views on how this could be implemented?
- Would this be sufficient to enable smaller baseload projects to progress?



Set the season-ahead price differently

- We understand that some season-ahead PPAs are currently set almost as a trading service, with the generator choosing a day for their output to be traded and receiving the price for that day.
- A similar approach could be taken to setting the reference price for smaller baseload plant; this would reduce basis risk whilst leaving them to manage imbalance risk.
- However, the potential for gaming seems significant, the administration would be complex and suppliers would have great difficulty in hedging such a price.
- Where and how should the eligibility criteria for this be set?
- Do you have any views on how this could be implemented?
- Would this be sufficient to enable smaller baseload projects to progress?



Use a month-ahead reference price

- Plant of a certain size could be deemed eligible to use a month-ahead reference price, otherwise set in the same way as for other baseload plant.
- Such an approach may better fit with the characteristics of baseload plant than switching to a shorter-term price, and could maintain some of the important reliability incentives, albeit at a reduced level.
- This would reduce both basis and performance risk faced by a generator. However, as such we may need to adjust the revenue received under the CfD to reflect this.
- It would also increase administrative complexity and the burden for suppliers, having three different reference prices to trade against.
- Where and how should the eligibility criteria for this be set?
- Should generators have a choice over whether to use a SAH or MAH price?



Use the day-ahead reference price

- Using the intermittent reference price could mirror how some smaller baseload plant currently trade through their PPAs. This should make it easier for plant to secure PPAs.
- It would dramatically reduce both basis and performance risk faced by a generator. However, as such we may need to adjust the revenue received under the CfD to reflect this.
- We also have concerns that this removes important incentives on baseload plant to be available and reliable.
- Where and how should the eligibility criteria for this be set?
- Should generators have a choice over whether to use a SAH or DAH price?



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