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Strategic energy market intelligence

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# Analysis of the NFPA's summer 2015 e-POWER auction

Prepared by: James Brabben and Ben Hall
Cornwall Energy

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- electricity and gas market design, governance and business processes; and
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2 Millennium Plain
Bethel Street
Norwich
NR2 1TF

T +44 (0) 1603 604400
F +44 (0) 1603 568829
E info@cornwallenergy.com
W www.cornwallenergy.com

# NFPA e–POWER Auction Analysis

*Summer 2015*

## Headlines

The NFPA held its **e-POWER auction** for the summer 15 period on 27-28 January. The auction included 41 commercial projects, up from 27 in the winter 14-15 auction, which accounted for 132MW of capacity. This report analyses these commercial contracts only.

The headlines are:

- the average value share retained by generators was 98% against typical maximum benchmark values. This value was in line with the last two six-monthly auctions (summer 14 and winter 14-15);
- average prices achieved by projects, however, were lower compared with the winter 14-15 auction (down 2.6% on average) and the summer 14 (down 9.4% on average). The falls can be attributed to steep declines in wholesale power prices over the last 12 months;
- power prices have fallen over the last six months and going into the auction were at £41.6/MWh, an 11% fall on prices in the winter 14 auction;
- FiT sites, more exposed to wholesale movements than RO projects which benefit from more stable Roc values, achieved 95.2% of market benchmark value with an average price of £53.4/MWh. This compared with 98.2% value retention for 1Roc/MWh projects. Higher retention for Roc projects may indicate that some suppliers are pricing in recycle values for Rocs;
- wind and solar PV projects accounted for 54% (22 projects) of the commercial sites sold and achieved an average value retention of 97.3% and 96.7% respectively. Value retention for the two technologies ranged from 90%-103%;
- the third most represented technology, landfill gas, accounted for 19.5% (eight projects) of the commercial sites and average value retention was above 100% at 100.6%. The high figure, along with high numbers for municipal waste and biomass sites, indicates the continued demand for baseload generation sites by some suppliers;
- participation by suppliers was slightly down on the record 20 at the winter 14-15 auction, at 19. The number of suppliers in the auction was in line with the summer 14 auction; and
- the number of bids per contract was also lower at 11, compared with the record average of 13 recorded at the winter 14-15 auction.

### Cornwall Energy comment

The summer 15 auction set a new record for the number of commercial projects auctioned. Increased interest from generators can be seen as indicative of expectations of good balance of cost and benefits in the auction compared with other offtake options and of the increasing number of projects coming to market under the RO and FiT schemes.

For generators, absolute comparisons with alternative routes to market are complex given the spread of offers across different PPA providers for different technologies, and variations between fixed and floating prices of PPAs of different maturities. However, performance of commercial sites in the auction showed that value shares retained by generators through the e-POWER auction are towards the upper end when compared with those, that we are aware of, being achieved in other routes to market.

The increased presence of 12-month contracts, with three sites gaining contracts in the auction, is likely to be attractive for generators looking for longer-term pricing certainty.

# 1 Introduction

This short report analyses the results for the commercial contracts in the summer 15 e-POWER auction completed on 28 January. It references maximum market benchmark value a site could achieve as a £/MWh figure based on different potential sources of value. These sources of value include:

- wholesale power price – for the purposes of the benchmark prices, this is calculated using the summer 2015 baseload power price on the first day of auction;
- green certificates – Renewables Obligation Certificates (Rocs) and Levy Exemption Certificates (Lecs). The rate of award of these certificates varies depending on the technology used for generation;
- Generation Distribution Use of System charges (GDUoS) – these are paid by distribution network operators for localised generation and vary depending on time of day. GDUoS is the most variable of the potential benefits, as it varies by region, connection voltage, intermittency of technology, and whether it is included in the contract; and
- Balancing System Use of System charges (BSUoS) and transmission losses – because a distributed generator does not use the transmission system, distributed electricity generation can avoid associated costs such as BSUoS and transmission losses.

Triad benefits are not included in this analysis as they are paid separately in the e-POWER contract.

Typical maximum benchmark values of the above elements for the period 1 April 2015 to 31 September 2015 are summarised in Table 1 and compared with typical maximum values calculated on the days of the winter 2014-15 and summer 14 auctions.[1]

**Table 1: Typical maximum benchmark values of e-POWER auction elements**

| Element | Wholesale baseload power | Rocs[2] | Lecs | GDUoS[3] | BSUoS | Losses |
|---|---|---|---|---|---|---|
| **Summer 15 value (£/MWh)** | £41.6 | £44.0[4] | £5.5 | -£1.4 to +£7.3 | £1.6 | £0.4 |
| **Winter 14-15 value (£/MWh)** | £46.7 | £44.5 | £5.4 | £0-£10.7 | £1.5 | £0.5 |
| **Summer 14 value (£/MWh)** | £47.5 | £48.0 | £5.4 | £0-£6.9 | £1.6 | £0.5 |

# 2 Summer 2015 summary

The summer 15 auction saw a stabilisation in value retention against maximum benchmark values compared to the previous two auctions. The average value share retained by generators was 98.3% compared with 97.9% in summer 14 and 97.8% in winter 14-15.

[1] In the summer 15 auction, new annual and seven-month contracts were included. Separate power price valuations were made for these contracts.

[2] Cornwall Energy forecast Roc price at the time of auction.

[3] The notable changes and ranges of GDUoS are due to the site-specific nature of the benefit.

[4] Given uncertainty in values, the expected buy-out price for 2015-16 has been referenced.

**Table 2: Number of sites achieving proportion of typical maximum**

| Range | 85 to 90% | 90 to 95% | 95 to 100% | 100 to 105% | 105%+ | Mean |
|---|---|---|---|---|---|---|
| **Count** | 0 | 8 | 23 | 8 | 2 | 98.3% |
| **Percent** | 0% | 19.5% | 56.1% | 19.5% | 4.9% | |

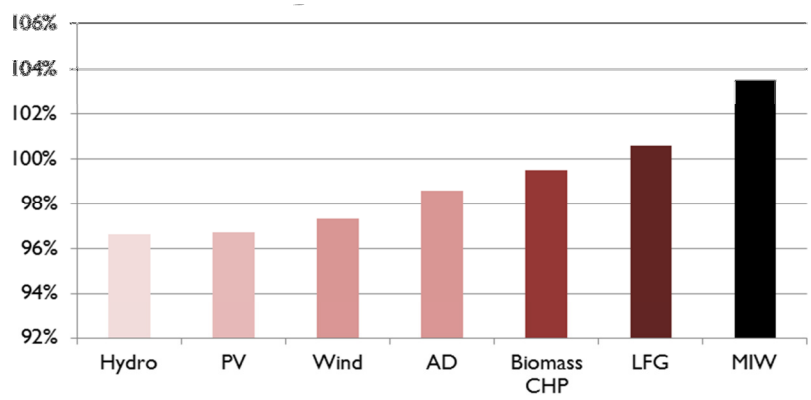
Broken down by technology:

- wind, which continued to comprise around a third of sites in the auction, achieved an average price of £94.1/MWh, or 97.3% of each site's maximum benchmark value;
- in only the second e-POWER auction to include the sites, solar PV accounted for 22% of projects. Roc eligible solar PV sites in the auction, all of which were 2 Roc/MWh projects, achieved 103% of their maximum; with an average price of £142.4/MWh. Values above the maximum benchmark value could indicate suppliers are pricing in a value for the Roc recycle. Solar PV FiT sites achieved 95.2% with an average price of £53.4/MWh;
- landfill gas achieved 101.6% of maximum benchmark values with an average price of £100.3/MWh, indicating interest from buyers to purchase predictable baseload output;
- MIW sites also demonstrated buyer's interest in baseload output with an average 103.5% achieved against maximum value, or £50.6/MWh;
- hydro averaged 96.6% of maximum, or £92.9/MWh; and
- AD and biomass achieved 98.6% and 99.5% respectively from the five projects auctioned.

**Table 3: Average performance by technology[5]**

| Technology | AD | Biomass | Hydro | Landfill gas | MIW | Solar PV (FiT) | Solar PV (Roc) | Wind |
|---|---|---|---|---|---|---|---|---|
| **Average £/MWh** | £140.9 | £118.9 | £92.9 | £100.3 | £50.6 | £53.4 | £142.4 | £94.1 |
| **Average % of max** | 98.6% | 99.5% | 96.6% | 100.6% | 103.5% | 95.2% | 103% | 97.3% |

**Figure 1: Average value retention by technology**



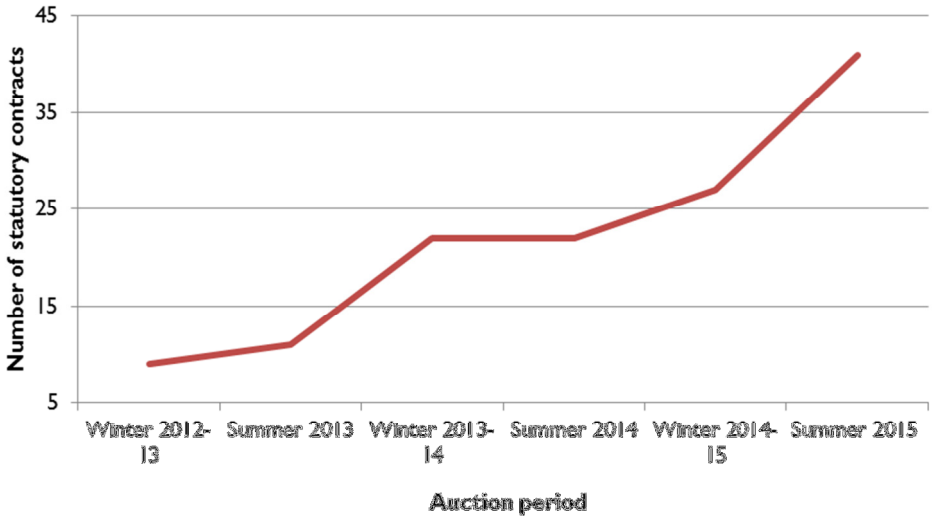

[5] To draw valid comparisons, average Roc project prices are analysed for 1 Roc/MWh projects in wind, landfill gas, and hydro technologies, 1.5 Rocs/MWh for biomass and 2 Rocs/MWh for AD. Value retention is compared across all sites

Auction participation by suppliers was slightly down on the record 20 at the winter 14-15 auction, at 19. This was in line with the summer 14 auction and slightly higher than the 17 at the winter 13-14 auction.

The number of bids per contract was also lower at 11, compared with the record average of 13 recorded at the winter 14-15 auction.

The number of commercial contracts in the auction has again increased, climbing 66% from the 27 recorded in the winter 14-15 auction to 41. Increased interest can be seen as indicative of expectations of good balance of costs and benefits in the auction and of the increasing number of projects coming to market under the RO and FiT schemes. Figure 2 below indicates the rising number of commercial contracts from the winter 12-13 auction to now.

**Figure 2: Commercial e-POWER contracts**




## 3 Comparison with winter 2014-15 and summer 2014

Average prices achieved for commercial contracts have generally decreased when compared to both winter 13-14 and summer 14 auctions (*see Table 4 below*). Decreases have been driven by falling wholesale power prices and to a lesser extent falling Roc values.

Wholesale power prices usually show seasonal falls from winter to summer contracts, owing to decreased demand for power and space heating. However, falls over the last six months have been greater than just seasonal variation differences. Compared to prices at the start of the winter 14-15 auction on 8 July, prices have fallen 10.9% and recently dropped to their lowest levels in five years.

Roc value forecasts have also decreased since the winter 14-15 auction, owing to increases in our supply estimates for Rocs in CP14.

**Table 4: Average prices achieved by each technology (£/MWh)**

| Auction | Hydro | Landfill Gas | MIW | Wind | Biomass | Solar PV (FiT) | Solar PV (Roc) | AD |
|---|---|---|---|---|---|---|---|---|
| **Summer 2014** | £104.2 | £112.4 | £59.3 | £103.4 | £121.0 | n/a | n/a | n/a |
| **Winter 2014-15** | £96.2 | £105.5 | £51.0 | £97.1 | £120.0 | £52.0 | n/a | £144.7 |
| **Summer 2015** | **£92.9** | **£100.3** | **£50.5** | **£94.1** | **£118.9** | **£53.4** | **£142.4** | **£140.9** |

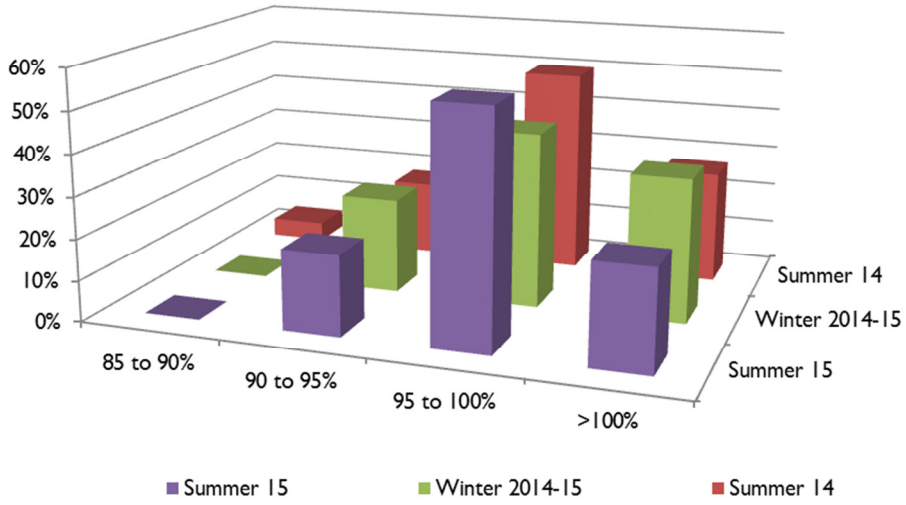
When comparing the distribution of values achieved to previous auctions, performance in the summer 15, showed a more concentrated clustering than winter 14-15 and summer 14. 56% of projects achieved 95%-100% of typical maximum values, compared with 42% in the winter 2014-15 auction. This concentration meant fewer projects achieved 90%-95% of their maximum, at 20% compared with 23% in winter 14-15, and also fewer achieved above their theoretical maximum. 24% of projects achieved above 100%, compared with 35% in winter 14-15 and 27% in summer 14.

The majority of such sites were landfill gas and municipal waste a site, indicating the appetite and willingness to pay above market price to secure predictable baseload output continues as a trend in the market.

Sites that can generate during winter hours of peak demand (non-intermittent sites) are beneficial to suppliers as they can take advantage of higher peak prices (typically around £6/MWh-£7/MWh greater than baseload contracts).The higher values recorded for AD, landfill gas and biomass projects indicate this trend. A chart displaying historical seasonal wholesale price movements can be found in Appendix 1.

The average capacity for projects was lower than the previous two auctions, which averaged around 5MW. The summer 15 auction saw this average drop to 3.1MW. Lower capacities came as a result of some larger projects from previous auctions not entering in summer 2015 and a number of new projects entering the auction which were small scale FiT sites.

**Figure 2: Distribution of values achieved compared to maximum**




## 4 Cornwall Energy comment

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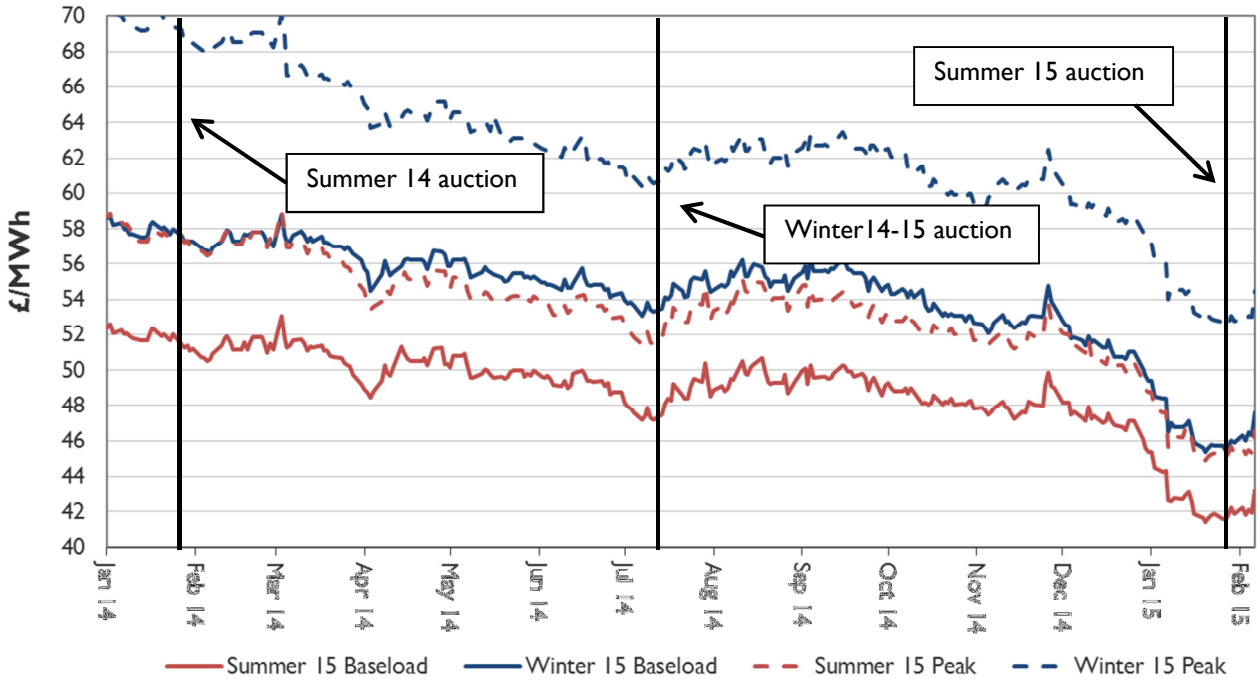
The presence of new 12-month contracts in the auction is also likely to be attractive for generators looking for longer-term pricing certainty.

# Appendix A: Trends in wholesale power prices

**Table A-1: Wholesale power price movements**

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