

NFPA e-POWER Auction Analysis

Summer 2014

Headlines

The NFPA recently held its **e-POWER auction** (28-29 January), with a total of 510MW of capacity auctioned (105 projects). The average price for **Roc-eligible sites was 10.09p/kWh and non-Roc-able sites saw an average of 5.04p/kWh** for power (and LeCs, where appropriate) to be generated during the period April-September 2014.

This short report analyses the auction results and compares them against the past two auctions. The headlines include:

- the 105 projects auctioned achieved an average of 96% of their maximum theoretical value for the summer 2014 season. The value share retained by the generators is consistent with the summer 2013 auction;
- the three technologies comprising 91% of all sites in the auction (landfill gas, wind and hydro) all achieved 94%-97% of typical maximum values;
- average prices achieved for each contract have generally increased when compared to summer 2013. The majority of this increase is attributable to higher values associated with Rocs, LeCs and embedded benefits;
- the average number of bids per available contract has remained consistent throughout the last three auctions at around 11-13 bids per contract. In the past year the number of commercial contracts has doubled to 22; and
- 19 suppliers took part in the latest auction, a new high for e-POWER, surpassing the 17 bidders at the winter 2013-14 auction.

Cornwall Energy comment

Overall, the summer 2014 auction continued the strong performance of e-POWER auctions and continues to show high levels of demand from suppliers, evidenced by 19 participants and 11 bids per contract.

The shares retained by generators in the e-POWER auction are up to 6pp higher than those seen under short-term (one to three year) PPAs and up to 16pp higher than terms offered under long-term PPAs. We believe e-POWER auctions continue to outperform short- and long-term PPAs as bidders are exposed to lower risk (balancing in particular) when signing short-dated offtakes (e-POWER auctions).

1.1 Introduction

This short report analyses the results of the summer 2014 e-POWER auction completed on 29 January. It references the maximum theoretical value that 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 typical maximum value, this is calculated using the summer 2014 baseload power price on the final 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 from the contract.

Typical maximum values of the above elements for the period 1 April to 30 September 2014 are summarised in Table 1.

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

Element	Wholesale summer baseload power	Rocs	LeCs	GDUoS	BSUoS	Losses
Value (£/MWh)	£47.5	£48.0	£5.4	£0-£6.9	£1.6	£0.5

1.2 Summer 2014 summary

The summer 2014 auction saw similar results to the summer 2013 auction with sites achieving an average of 96% of typical maximum values. Stations at the winter 2013-14 auction achieved 98% of their typical maximum values.

Table 2: Number of sites achieving proportion of typical maximum

Range	<=80%	80 to 85%	85 to 90%	90 to 95%	95 to 100%	>100%	Mean
Count	1	0	3	28	67	5	96%
Percent	1%	0%	3%	27%	64%	5%	

Broken down by technology:

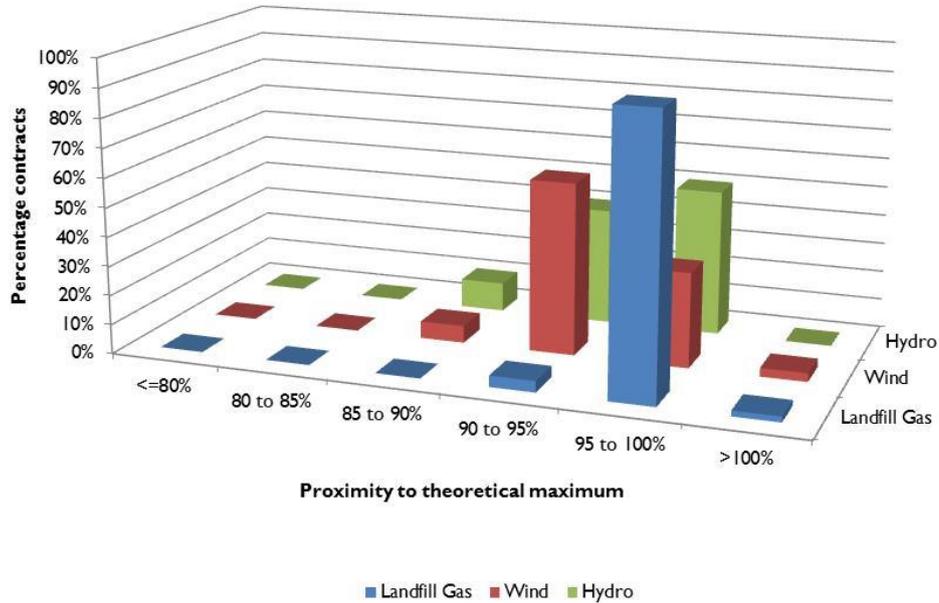
- landfill gas, which comprises around half of the sites within the auction, achieved an average price of £101/MWh, or 97% of each site's typical maximum;
- hydro averaged 94% of maximum; and
- wind achieved 94% of maximum.

Table 3: Average performance by technology

Technology	MIW	Hydro	Biomass CHP	CHP	Wind	Landfill Gas
Average £/MWh	£49.5	£99.6	£123.0	£52.5	£100.7	£101.0
Average % of max	92%	94%	94%	100%	94%	97%
Number of sites	5	10	1	2	34	52

The three technologies comprising 91% of all sites in the auction (landfill gas, wind and hydro) all achieved 94%-97% of typical maximum values. As the figure below reveals, 91% of wind and 90% of hydro sites achieved 90% to 100% of their theoretical maximum. A small proportion of sites fell either side of this for both technologies. Some 96% of landfill gas stations achieved 90%-100% of their theoretical maximum or above.

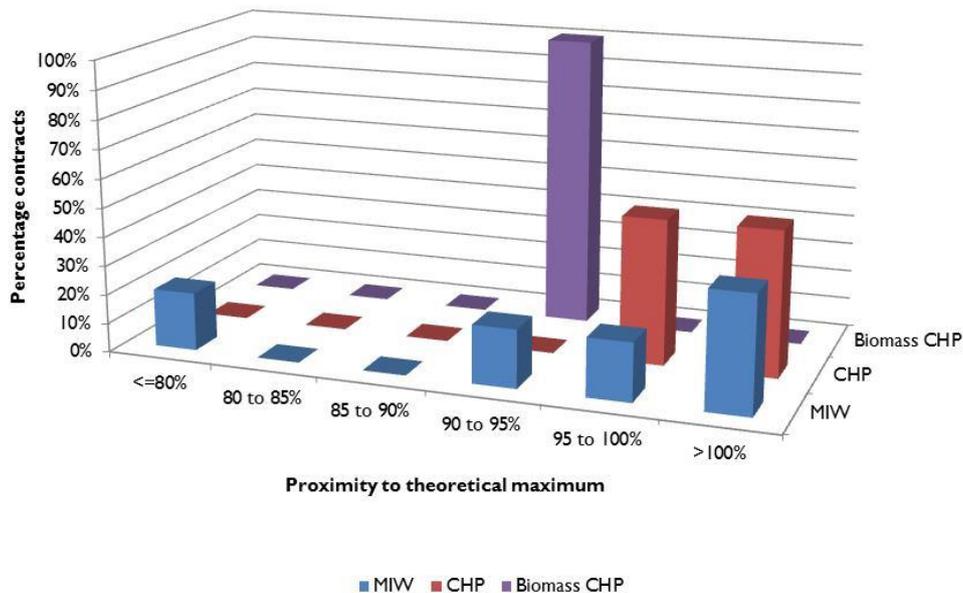
Figure 1: Performance of landfill gas, wind and hydro



The single biomass CHP site achieved 94% of its theoretical maximum and the two CHP sites gained 96% and 103% respectively of their maximum.

The five MIW achieved 92% of their maximum value on average. However, this includes a site which is unlikely to operate in the summer 2014 period and therefore achieved a low auction price. When excluding this plant, the average for MIW was 99% of maximum.

Figure 2: Performance of remaining technologies

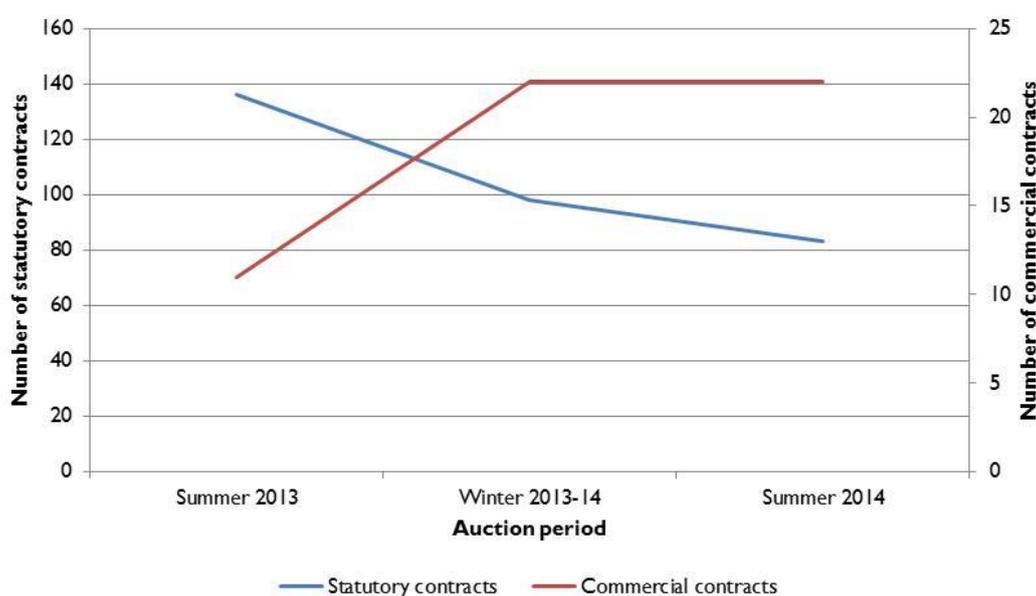


The number of suppliers participating in the auction has increased on the previous two auctions. There were 19 suppliers taking part in the summer 2014 auction, compared to 13 in the summer 2013 auction and 17 in the winter 2013-14 auction.

The average number of bids per available contract in the auctions has remained relatively consistent throughout the last three auctions, holding fairly constant at around 11 to 13 bids per contract. This level of liquidity and exposure is greater than a generator could expect to achieve by comparing and negotiating short-term PPAs with suppliers¹.

The total number of contracts awarded in the auction has dropped 14% to 105. This decline is solely due to statutory NFFO contracts finishing. Many of these sites are owned by the Big Six and these sites are naturally picked up within their portfolio. For NFFO sites that are owned by independent generators, many continue post-NFFO to use the e-POWER auction platform. This trend has been evidenced by the doubling of purely commercial sites from the summer 2013 auction to the summer 2014 auction (see Figure 3).

Figure 3: Statutory and commercial contracts



1.3 Comparison with winter 2012-13 and summer 2013

Average prices achieved for each contract have generally increased when compared to summer 2013 but decreased compared to winter 2013-14 (see Table 4 below). The increase compared to the previous summer auction has been driven by increased Roc, Lec and embedded benefit values which have more than outweighed a 1% fall in wholesale power prices. The fall compared to the winter 2013-14 auction has been predominantly driven by a 16% drop in wholesale power values for the season-ahead contract.

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

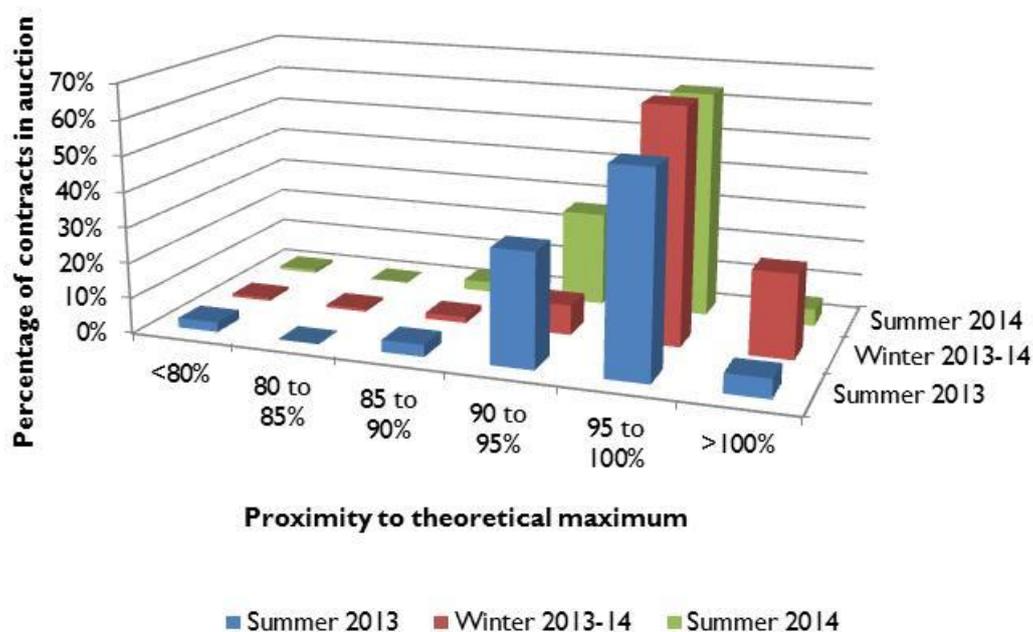
Auction	CHP	Hydro	Landfill Gas	MIW	Wind	Biomass CHP
Summer 2013	£52.3	£98.0	£97.5	£51.3	£96.8	-
Winter 2013-14	£59.7	£105.8	£109.2	£53.6	£104.7	£121.0
Summer 2014	£52.5	£99.6	£101.0	£49.5	£100.7	£123.0

¹ Typically, short-term PPAs are offered at 85%-95% of full market value.

When comparing the distribution of values achieved to previous auctions, performance in the summer 2014 auction was markedly similar to that of the summer 2013 auction (see Figure 4 below).

The average capacity of sites awarded has remained relatively stable over the past three auctions at around 5MW.

Figure 4: Distribution of values achieved compared to maximum



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). A chart displaying historical seasonal wholesale price movements can be found in Appendix I.

1.4 Cornwall Energy comment

Overall, the summer 2014 continued the strong performance of NFPA e-POWER auctions, with the vast majority of sites achieving 90%-100% of their theoretical maximum. This has been consistent throughout the last three auctions and, combined with a persistent level of around 11 to 13 bids per site, highlights the high demand for renewable energy contracts on the NFPA auctions.

The results of the auction for generators are higher than the terms typically provided in short-term PPAs, where achieving 96% of maximum value would be difficult. We believe e-POWER auctions continue to outperform short- and long-term PPAs as bidders are exposed to lower risk (balancing in particular) when signing short-dated offtakes (e-POWER auctions).

Appendix I

Figure A1: Historic seasonal wholesale price movements (baseload and peak)

