



BSC OPERATIONS HEADLINE REPORT

1 In this report you will find commentary on BSC market operation, identification of key events and reporting of key data.

2 The [Trading Operations Report](#) publishes key market data graphically, giving a performance indicator for the Balancing and Settlement arrangements.

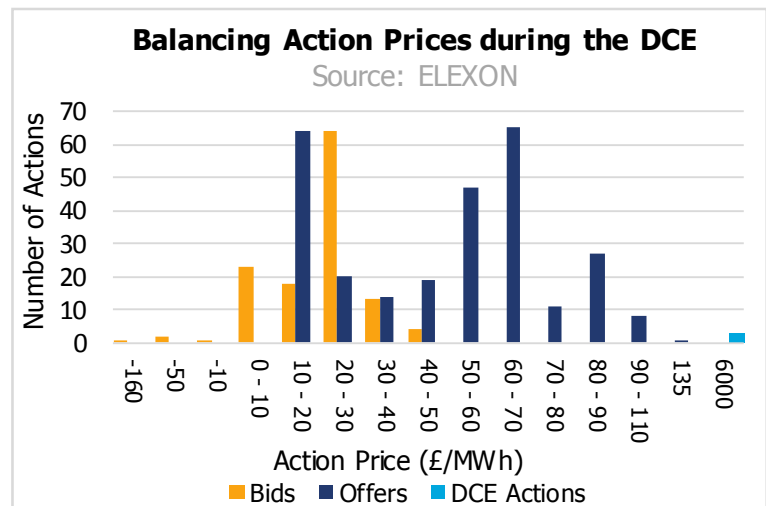
3 Trading Operations Report [Data](#). The graphs and backing data are available in Excel format on the ELEXON website.

DEMAND CONTROL EVENT ON 9 AUGUST 2019

The first 'blackout' since 28 August 2003 occurred on 9 August 2019 between 16:54 and 17:40 BST. Lightning strikes hit a transmission circuit near Cambridge causing Hornsea off-shore windfarm and Little Barford gas power station to trip and stop delivering power onto the grid (a loss of 1,378MW). The sharp drop in the system frequency to 48.8Hz caused by the outages, which occurred just seconds apart, led to a Demand Control Event (DCE); specifically, a Low Frequency Demand Disconnection (LFDD) Event. In this situation, power is automatically cut to offtaking units in order to reduce demand and raise the system frequency to more normal operational parameters of 49.5Hz and 50.5Hz. This meant around 1.1 million electricity customers were without power for between 15 and 50 minutes.

For the three Settlement Periods affected by the event (Settlement Periods 34, 35 and 36), ELEXON is responsible for the recalculation of the Imbalance Prices before the Interim Information (II) Settlement Run. The initial estimation of volume of disconnections for each Settlement Period is included in the Imbalance Price calculation as an Offer priced at the Value of Lost Load (VoLL) of £6,000/MWh. In an LFDD scenario, the Offer is System Operator (SO) flagged as it is viewed as being taken to address a system constraint. As a result, the Offer was repriced to the price of the most expensive Unflagged action in the price stack, and had little impact on the final Imbalance Price. Two out of three affected Settlement Periods saw a price increase of £0.25/MWh, whilst the third saw no change in price.

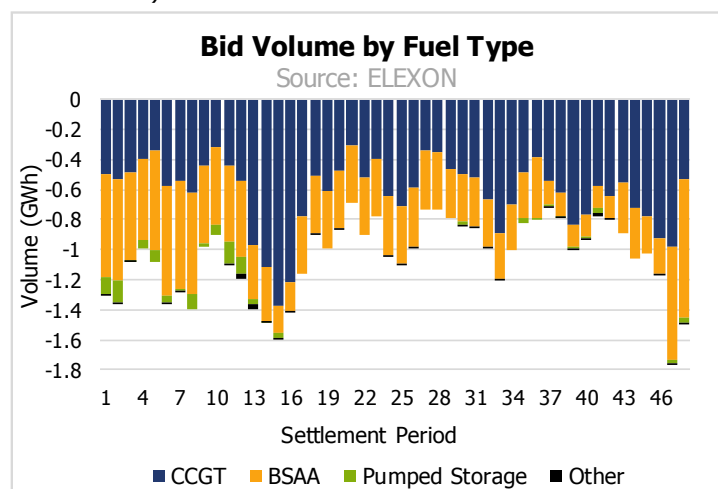
The initial price of the demand disconnections was the most expensive balancing action taken in all three Settlement Periods. The spread of balancing action prices¹ is displayed in the chart. The highest priced action outside of demand disconnections was £135/MWh before the Imbalance Price was recalculated. The standard deviation of the price of balancing actions across the three Settlement Periods increased from £27.95/MWh to £523.30/MWh with the inclusion of the demand disconnection volumes priced at £6,000/MWh.



6 AUGUST 2019: NIV LONG IN ALL SETTLEMENT PERIODS²

On 6 August 2019, Net Imbalance Volume (NIV) was long (less than 0MWh) in all Settlement Periods. The NIV is the sum of the overall System energy imbalance, as a net of all System and Energy balancing actions (including BSAD) taken for the Settlement Period. Therefore, the National Electricity Transmission System Operator (NETSO) took more net actions to reduce the energy on the system (Bids) in every Settlement Period.

Of the total Bid volume (50GWh), 59% was from CCGT BMUs with an average price of £18.61/MWh. Balancing Services Adjustment Actions (BSAAs) contributed a further 38% of Bid volume with an average price of £23.06/MWh. There was little contribution from Wind to Bid Volume on this day; only 48MWh during two Settlement Periods. Wind BMUs submit the majority of negatively priced Bids so can drive down the Imbalance Price. The lowest Imbalance Price on 6 August 2019 was £16.00/MWh.



¹ Balancing action prices taken from latest data available, so include Settlement Final (SF) and Interim Information (II) run data.
² NIV is taken from the latest data available from the Settlement Final (SF) Run.

SYSTEM PRICES IN AUGUST 2019³

Monthly average System Prices for August 2019 were lower when the market was both short (-5.8%) and long (-10.4%), compared to July 2019. The average System Price regardless of length was **£36.56/MWh**; 9% lower than last month and the lowest since June 2017.

System Prices exceeded £100/MWh once in August, compared to five times in July. The highest System Price of the month, **£110/MWh**, occurred in Settlement Period 17 on 1 August 2019. This price was set by five Offers from a Pumped Storage BMU, all priced at £110/MWh.

There were 17 negative System Prices in August, compared to zero in July. All 17 negative System Prices occurred on the 30 and 31 August. The lowest System Price, **-£65.93/MWh**, occurred in Settlement Period 35 on 31 August 2019. The price was set by 10 Bids from five different BMUs, all priced at -£65.93/MWh.

Period	Average (£/MWh)		Average (£/MWh) Peak 07:00-19:00	
	Short System	Long System	Short System	Long System
Aug-19	54.30	22.11	55.69	22.30
Jul-19	57.66	24.67	62.51	26.71
Jun-19	59.16	25.77	63.49	25.56
Summer 19	56.72	24.94	59.81	26.71
Spring 19	59.77	28.26	62.85	28.22
Winter 18/19	79.64	42.31	85.94	44.31
Autumn 18	82.75	45.80	86.62	48.39
Summer 18	73.46	42.02	76.60	42.52
Aug-18	78.68	42.85	83.14	43.46

BALANCING MECHANISM VOLUMES IN JULY 2019⁴

The total volume of balancing actions taken in the Balancing Mechanism (BM) for July 2019 was 1,189GWh, an 11.6% decrease from June 2019. The majority (89%) of balancing volume in July came from Gas BMUs.

Accepted **Bid** volume increased by 4% from June. 86% of total Bid volume came from Gas BMUs, with 7% coming from Wind and 5% from Pumped Storage BMUs. Coal Bid volume in July rose by 58% compared to June, whilst Bid volume from Wind and Biomass decreased by 64% and 62% respectively.

Accepted **Offer** volume in July decreased by 23% from June 2019. Gas accounted for 92% of all Offer volume, with Pumped Storage responsible for a further 5%. Biomass Offer volume in July was significantly lower than last month (626MWh vs. 5,475MWh), as was Wind Offer volume (decreased by 80% from last month); however they only account for 0.1% of total Offer volume when added together. OCGT BMUs contribution to July Offer volume increased by 1,963% compared to June, but still only accounts for 0.7% of total Offer volume.

Fuel Type	Bid Volume (MWh)		Offer Volume (MWh)	
	Jul-19	Jun-19	Jul-19	Jun-19
Coal	-1,283	-812	6,553	20,649
Gas	-506,060	-400,349	548,589	695,659
Hydro	-7,848	-8,058	6,245	14,034
OCGT	-102	0	4,250	206
Pumped Storage	-31,307	-39,657	31,462	40,852
Wind	-39,119	-109,476	92	455
Biomass	-2,957	-7,806	626	5,475
Other	-1,115	-620	1,131	551
Grand Total	-589,791	-566,777	598,949	777,882

TRADING CHARGES IN JULY 2019⁴

Gross Party Imbalance cashflows were £83m in July 2019, a decrease of 10% from June. Credits for being short decreased by £6.2m, and credits for being long increased by £3.1m, between June and July 2019.

Gross Party Imbalance Volumes decreased by 8%. Energy Imbalance Volumes for Parties for that were long decreased by just 2,924MWh (0.25%). Energy Imbalance Volumes for short Parties decreased by 15%.

July **Offer** volume and cashflow both decreased by 23% and 22% respectively, compared to the previous month. The average price of Offers increased by 1.3%, to £62.06/MWh.

Net **Bid** cashflow in July was -£8.84m, a 1,300% increase compared to June (-£0.68m). July Bid cashflow decreased by 57% for negative Bids, and increased by 29% for positive Bids, compared to the month before.

Total Cashflow (£m)	Jul-19	Jun-19	May-19	Apr-19
Long Imbalance Charge (Credit)	-41.18	-44.27	-41.62	-47.97
Short Imbalance Charge (Debit)	41.64	47.80	43.66	48.87
RCRC Credit	6.25	8.18	7.90	7.17
RCRC Debit	-5.79	-4.66	-5.85	-6.26
Offer Cashflow	37.17	47.65	35.23	50.04
Bid Cashflow (Positive Bids)	-12.74	-9.84	-11.59	-13.70
Bid Cashflow (Negative Bids)	3.90	9.16	5.27	11.23

³ System prices are based on the previous month's latest Initial Settlement (SF) & Interim Information (II) run data available.

⁴ Balancing volumes and trading charges appear as per the latest month with Initial Settlement (SF) run data available.