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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.

System Prices in December 2020¹

Monthly average System Prices for December 2020 were higher when the market was both short (33%) and long (31%), compared to November 2020. The average System Price regardless of length was **£59.08/MWh**; £4.73/MWh lower than November 2020.

There were 13 negative System Prices in December 2020, after 50 in November.

The lowest System Price, **-£63.93/MWh**, occurred in Settlement Period 13 on 26 December. The price was set by five Bids from five different Wind BMUs in the South Scotland GSP all priced at -£63.93/MWh.

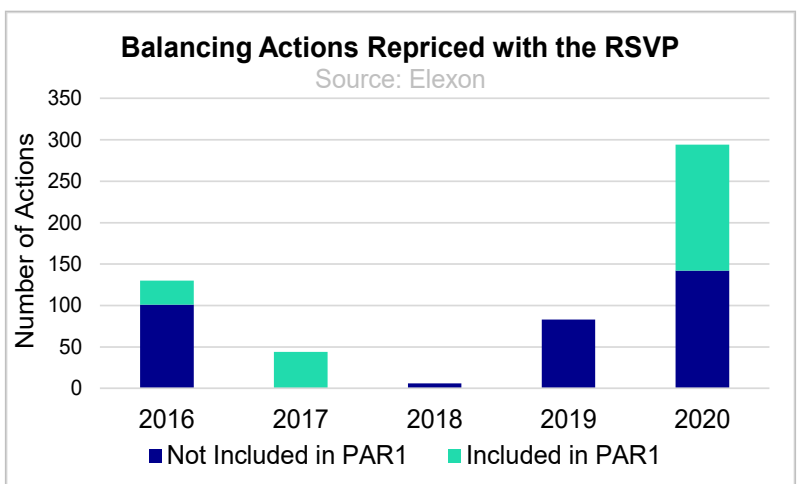
System Prices exceeded £100/MWh on 80 occasions during December 2020; the highest number of System Prices exceeding £100/MWh since March 2018 (128) when the Beast from the East stretched GB electricity supply.

The highest System Price this month, **£849.82/MWh**, occurred in Settlement Period 34 on 28 December 2020. The price was set by five Offers and 14 Buy Balancing Services Adjustment Actions (BSAAs) from Short Term Operating Reserve (STOR) providers. During this Settlement Period, the Reserve Scarcity Price (RSVP) was applied to STOR flagged actions. The Reserve Scarcity Price is the product of the Loss of Load Probability (LoLP) and the Value of Lost Load (VoLL). In this Settlement Period, the LoLP was 0.137 and the VoLL is a defined parameter with a value of £6,000/MWh. The RSVP, and therefore the price of STOR actions with a price less than the RSVP, was £823.99/MWh in the System Price calculation for this Settlement Period. This price then had the addition of a Buy Price Price Adjuster (BPA) of £25.83/MWh to create the System Price of £849.82/MWh.

December 2020 was the second month in a row where the RSVP has set the highest System Price of the month. During 2020, the RSVP set the System Price on six occasions: once in March, once in November and three times in December (the highest monthly count on record). The top four highest priced Settlement Periods in 2020 were set by the RSVP. There has been a 254% increase in the number of balancing actions having the RSVP applied in 2020 compared to 2019. This has also caused a large increase (245%) in the number of RSVP actions included in the PAR1 volume and directly setting the System Price. The PAR1 volume is the final stage of the System Price calculation, which takes the most expensive 1MWh of balancing actions left in the pricing stack. The actions included in this PAR1 volume are deemed price setting.

The RSVP was introduced as part of the Electricity Balancing SCR via [P305 'Electricity Balancing Significant Code Review Developments'](#) in November 2015. Due to significant changes in the way the GB system is balanced since the implementation of P305, notably the increased use of renewables, Elexon has raised an Issue Group to discuss the functionality of the RSVP on the current system. Please see the [Issue 92](#) webpage for details, including how to attend the Issue Group taking place on 19 January 2021.

Period	Average (£/MWh)		Average (£/MWh) Peak 07:00-19:00	
	Short System	Long System	Short System	Long System
Dec-20	82.75	21.41	94.92	25.69
Nov-20	62.2	16.31	66.46	17.05
Oct-20	62.59	20.87	64.35	23.94
Winter 20-21	82.42	22.49	94.35	26.35
Autumn 20	61.33	19.21	65.13	21.46
Summer 20	42.92	13.61	44.79	14.03
Spring 20	41.47	8.06	44.68	6.87
Winter 19-20	51.91	13.35	55.09	14.99
Dec-19	57.74	14.33	62.29	16.91



¹ System prices are based on the previous month's latest Initial Settlement (SF) & Interim Information (II) run data available.

Balancing Mechanism Volumes in November 2020²

The total volume of balancing actions taken in the Balancing Mechanism (BM) for November 2020 was 2.8TWh, a 22% increase from October 2020. The majority (66%) of balancing volume in November came from Gas BMUs.

Accepted **Bid** volume in November increased by 37% from the previous month. 48% of total Bid volume came from Wind BMUs, with 38% coming from Gas, 7% from Pumped Storage BMUs and 5% from Hydroelectric BMUs. Wind Bid volume increased by 121% from October to November 2020.

Accepted **Offer** volume in November increased by 11% compared to the previous month. Gas accounted for 93% of all Offer volume, with Pumped Storage BMUs responsible for a further 3%.

Since the December Headline Report, the 'Other' seen in previous reports Fuel Type category has been split between Battery Storage and Other. Battery Storage volumes relate to solely Battery Storage BMUs. The new Other category relates to Virtual Lead Parties (VLPs) and Supplier BMUs where the Fuel Type of the generating units is unknown.

In November, 40MWh of BM volume came from Battery Storage BMUs. VLPs in the 'Other' category accounted for 19,818MWh of Bid volume and 21,615MWh of Offer volume.

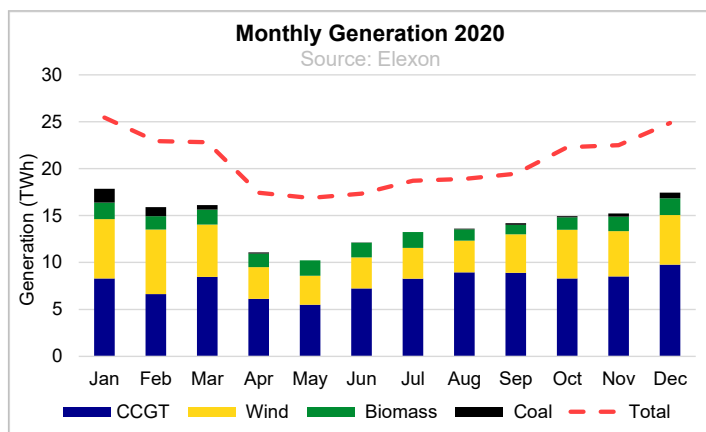
Fuel Type	Bid Volume (MWh)		Offer Volume (MWh)	
	Nov-20	Oct-20	Nov-20	Oct-20
Battery Storage	-20	-108	20	157
Biomass	-3,414	-10,036	9,483	8,686
Coal	-12,213	-9,464	22,249	13,177
Gas	-527,501	-572,724	1,342,087	1,223,315
Hydro	-65,015	-24,966	3,615	5,821
Other	-19,818	-13,434	21,615	14,357
Pumped	-96,524	-80,212	41,691	32,815
Wind	-663,767	-300,930	3,184	1,782
Grand Total	-1,388,272	-1,011,874	1,443,944	1,300,110

High GB Generation during Low December Temperatures

During December 2020, the average Noon Effective Temperature³ (NET) across all Grid Supply Point (GSP) Groups was 6.6°C, 1.4°C lower than the five year average from 2015 to 2019. The average NET in the last week of December was 4.2°C and included a NET of 4.1°C Christmas Day, the coldest Christmas Day since 2012.

Total monthly generation from transmission connected BMUs⁴ reached 24.9TWh during December, the second highest total of the year behind January (25.4TWh). 9.7TWh (39%) of this generation came from CCGT BMUs, producing their greatest monthly generation total since November 2019 (10.8TWh). Wind BMUs provided 5.3TWh (21%) of generation, the most notable contribution taking place on Boxing Day where Wind BMUs provided 45% of generation. Coal BMUs provided 0.5TWh of GB generation in December, the second largest contribution since January (1.5TWh). Despite this, Coal provided no generation over Christmas Day, the only day during December 2020 where no Coal generation was used.

To see more about Christmas Day demand and fuel mix, read Elexon's latest [BSC Insight: Great Britain's first coal-free Christmas occurs in 2020](#).



Trading Charges in November 2020²

Gross Party Imbalance cashflows were £103m in November 2020, an decrease of 9% from October 2020. Debits for being short increased by £6m, and credits for being long fell by £4m, between October and November 2020.

Gross Party Imbalance Volumes decreased by 1% from October to November 2020. Energy Imbalance Volumes for Parties that were long increased by 7% in November, compared to the previous month. Energy Imbalance Volumes for Parties that were short decreased by 8%.

November **Offer** volume increased by 11% and cashflow increased by 19%, compared to October. The average price of Offers increased by £4.73/MWh to £70.67/MWh.

Net **Bid** cashflow in November 2020 was £47.7m, £29.0m higher than last month (£18.7m in October 2020). A positive net Bid cashflow means payment received by Parties for negative Bids were higher than payments from Parties for positive Bids.

Total Cashflow (£m)	Nov-20	Oct-20	Sep-20	Aug-20
Long Imbalance Charge (Credit)	-46.78	-50.86	-47.07	-38.03
Short Imbalance Charge (Debit)	56.19	62.23	58.82	45.50
RCRC Credit	12.10	14.81	14.40	9.63
RCRC Debit	-2.68	-3.43	-2.65	-2.16
Offer Cashflow	100.52	84.79	63.54	52.79
Bid Cashflow (Positive Bids)	-5.45	-8.04	-6.81	-2.61
Bid Cashflow (Negative Bids)	53.12	26.73	14.01	10.61

² Balancing volumes and trading charges appear as per the latest month with Initial Settlement (SF) run data available.
³ NET is a weighted average temperature using the noon temperature from last three days. It is calculated using the following equation: $NET = 0.57HT^1 + 0.28HT^1 + 0.15HT^2$
⁴ Generation data is taken from the ELEXON Portal from the [Historic Fuel HH webpage](#).