BSC OPERATIONS HEADLINE REPORT

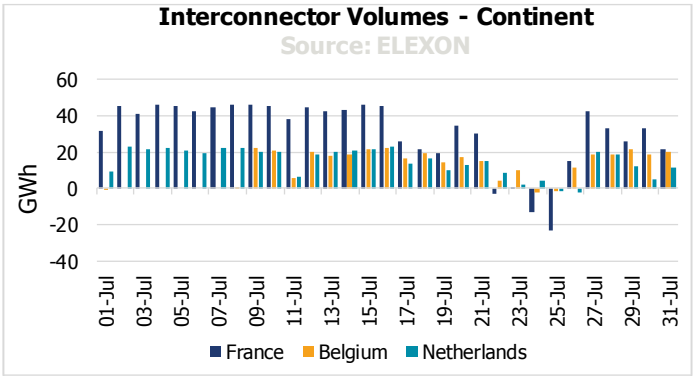
1 In this report you will find commentary on BSC market operation, identification of key events and reporting of key data.

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.

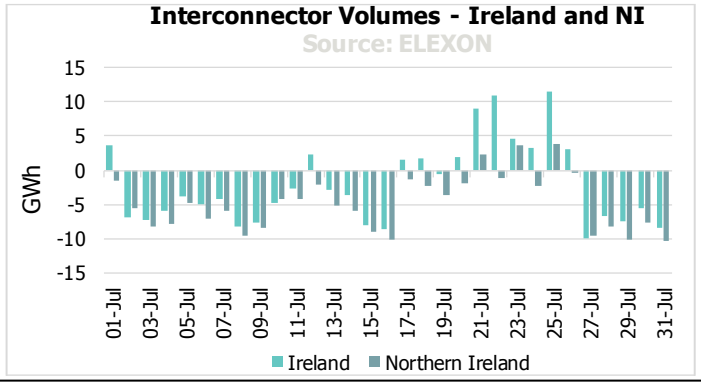
HEATWAVE AFFECTS DIRECTION OF INTERCONNECTOR FLOWS

The heatwave seen across Europe in July affected the direction of electricity across the Interconnectors (ICs) which connect Great Britain (GB) to other countries and Northern Ireland. There are currently five ICs; three linked to mainland Europe (to France, Belgium and the Netherlands), and two which run under the Irish Sea (to Northern Ireland and Ireland).



Due to restrictions and outages on French Nuclear power plants, there was a shortage of electricity on the European mainland. To meet demand, electricity was imported by France, Belgium and the Netherlands. The English – French IC saw the largest movement, with 23.5GWh imported to France on this day. The last time France was an net importer via the IC for more than three days in a month was in November 2018.

In contrast, the ICs to Northern Ireland and Ireland are usually net importers of electricity from GB. However, on the 25 July both became net exporters to help offset the exports from GB to the continent.

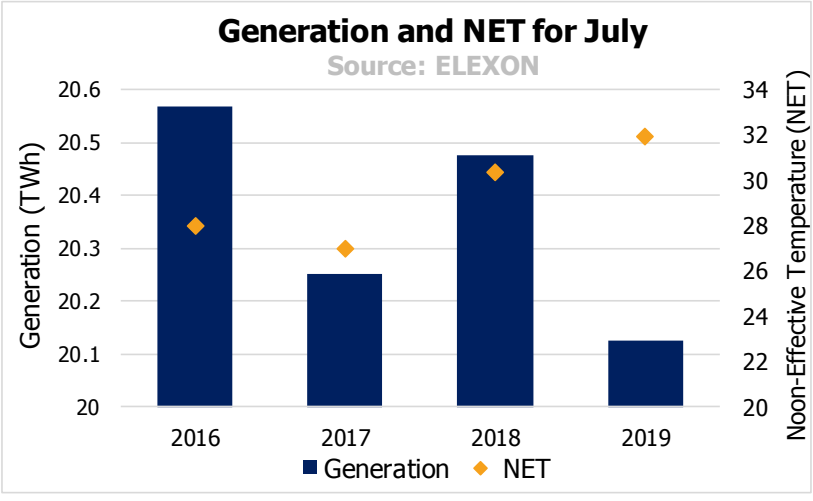


The table[1] below compares the daily average volume, for July 2019, to the total volume for 25 July 2019 (by IC). All five ICs flow in the opposite direction than usual on 25 July 2019.

	Daily Average Volume July 2019 (GWh)	Total Volume 25 July (GWh)
France	31.1	-23.5
Belgium	11.4	-1.5
The Netherlands	14.8	-1.8
Ireland	-2.1	11.6
Northern Ireland	-4.8	3.9

HIGHEST NOON-EFFECTIVE TEMPERATURE ON RECORD[2]

The highest Noon-Effective Temperature (NET) of 31.9°C was recorded on 25 July 2019 in the London and Southern GSP regions, with the NET also exceeded 31°C in the South Eastern region (31.3°C). The NET has only exceeded 30°C on two dates, 27 July 2018 (NET of 30.3°C recorded in Eastern region), and 25 July 2019. The monthly average NET for July 2019 was 20°C, which is the second highest monthly average on record behind July 2018 (average NET = 21°C).



Total generation[3] for July 2019 was 20,123GWh, the lowest July total seen in the past four years. Generation in July 2019 mainly came from CCGT (53%) and Nuclear (22%). Wind in July 2019 only accounted for 6% of generation prior to July, compared to an average 16% of generation for the first six months of 2019.

Biomass BMUs contributed more than Wind this month, with 8% of generation; the third highest contributor after CCGT and Nuclear, and up from 6% in July 2018 The increase represents the continuing and consistent rise in Biomass generation within the GB fuel mix.

[1] Positive values represent imports to GB's Electricity System; Negative values represent exports from GB's Electricity System.
[2] NET is a weighted average temperature using the noon temperature from last three days. It is calculated using the following equation: NETh = $0.57THT + 0.28THT^{-1} + 0.15THT^{-2}$.
[3] Generation data is taken from the ELEXON Portal from the Historic Fuel HH webpage.

SYSTEM PRICES IN JULY 2019[4]

Monthly average System Prices for July 2019 were higher when the market was both short (0.9%) and long (13.6%), compared to June 2019. The average System Price regardless of length was **£40.15/MWh**; 3.4% lower than last month.

System Prices exceeded £100/MWh five times this month, compared to 14 times in June. The highest System Price of the month, **£120/MWh**, occurred in Settlement Period 38 on 25 July 2019. This price was set by a BSAA Buy Action priced at £111.40/MWh, plus a Buy Price Price Adjuster of £8.60/MWh. The highest System Price of the month occurred in the evening demand peak on the hottest day of the month and year to date.

There were zero negative System Prices in July, compared to five in June. The lowest System Price, **£0/MWh**, occurred in four Settlement Periods across four days in July 2019. July is the first month since February 2019 that no negative System Prices have occurred.

	Average (£/MWh)		Average (£/MWh) Peak 07:00-19:00	
Period	Short System	Long System	Short System	Long System
Jul-19	58.20	28.03	61.24	28.36
Jun-19	57.66	24.67	62.51	26.71
May-19	59.16	25.77	63.49	25.56
Summer 19	57.93	26.35	61.88	26.71
Spring 19	59.77	28.26	62.85	28.22
Winter 18/19	79.64	42.31	85.94	44.32
Autumn 18	82.75	45.80	86.62	48.39
Summer 18	73.46	42.02	76.60	42.52
Jul-18	74.00	42.21	77.77	41.82

BALANCING MECHANISM VOLUMES IN JUNE[5]

The total volume of balancing actions taken in the Balancing Mechanism (BM) for June 2019 was 1,345GWh, a 22% increase from May 2019. The majority (82%) of balancing volume in June came from Gas BMUs.

Accepted **Bid** volume increased by 9% from May. 71% of total Bid volume came from Gas BMUs, with 19% coming from Wind BMUs. Some Coal Bid volume occurred in June (812MWh), compared to no Coal Bid volume last month, whilst Bid volume from Biomass decreased by 48%.

Accepted **Offer** volume in June increased by 35% from May 2019. Gas accounted for 89% of all Offer volume, with Pumped Storage next at 5%. Biomass Offer volume in June was significantly higher than last month (5,475MWh vs. 26MWh), as was Wind Offer volume (increased by 892% from last month), although together they still only account for 0.8% of total Offer volume. Coal Offer volume this month (20,649MWh) was the highest since February 2019.

	Bid Volume (MWh)		Offer Volume (MWh)	
Fuel Type	Jun-19	May-19	Jun-19	May-19
Coal	-812	0	20,649	3,322
Gas	-400,349	-422,725	695,659	530,718
Hydro	-8,058	-1,638	14,034	8,468
OCGT	0	0	206	89
Pumped Storage	-39,657	-25,283	40,852	32,938
Wind	-109,476	-57,766	455	46
Biomass	-7,806	-14,918	5,475	26
Other	-620	-13	551	44
Grand Total	-566,777	-522,343	777,882	575,651

TRADING CHARGES IN JUNE[5]

Gross Party Imbalance cashflows were £92m in June 2019, a increase of 8% from May. Credits for being short increased by £4.1m, and credits for being long increased by £2.7m, between May and June 2019.

Gross Party Imbalance Volumes increased by 4.4%. Energy Imbalance Volumes for Parties for that were long decreased by 2% compared to May, and increased by 10.5% for those that were short.

June **Offer** volume and cashflow both increased by 35% compared to the previous month. However the average £/MWh price of Offers only increased slightly, by 0.1%, to £61.26/MWh.

Net **Bid** cashflow in June was -£0.7m, a reduction of 89% compared to May (-£6.3m). June Bid cashflow decreased by 15% for positive Bids, and increased by 74% for negative Bids, compared to the month before.

Total Cashflow (£m)	Jun-19	May-19	Apr-19	Mar-19
Long Imbalance Charge (Credit)	-44.27	-41.62	-47.97	-47.23
Short Imbalance Charge (Debit)	47.80	43.66	48.87	50.50
RCRC Credit	8.18	7.90	7.17	10.86
RCRC Debit	-4.66	-5.85	-6.26	-7.60
Offer Cashflow	47.65	35.23	50.04	86.26
Bid Cashflow (Positive Bids)	-9.84	-11.59	-13.70	-16.45
Bid Cashflow (Negative Bids)	9.16	5.27	11.23	33.47

[4] System prices are based on the previous month's latest Initial Settlement (SF) & Interim Information (II) run data available.
[5] Balancing volumes and trading charges appear as per the latest month with Initial Settlement (SF) run data available.