

LONDON ENERGY BROKERS' ASSOCIATION OTC ENERGY VOLUME REPORT – DECEMBER 2016

London Energy Brokers' Association ("LEBA") is the industry association representing the FCA regulated wholesale market brokers in the OTC and exchange traded European energy markets.

CHANGE IN REPORT FORMAT & METHODOLOGY

As of January 2016, LEBA made the following changes to the Monthly Volume Report:

- France PEG and TRS have been separated from the previously combined 'France Hubs' to be reported in their own right.
- Netherlands and Belgian Power have been separated from 'Other Power' and are now reported in their own right.
- globalCOAL NEWC® has been added to the 'European Financial Coal Swaps' section of the report.

Due to these changes and the previously missing or combined volumes, LEBA are unable to provide comparable data for these line items under the 'Month' and 'Year to Date' comparisons and in these cases, have been represented by 'N/A'.

Market	December 2016			2016 Year to Date		
	Total OTC Bilaterally Settled Volume	Total OTC Cleared Volume	Grand Total OTC Volume	Total OTC Bilaterally Settled Volume	Total OTC Cleared Volume	Grand Total OTC Volume
<u>Natural Gas (MWh)</u>						
UK NBP	404,766,284	40,463,047	445,229,331	8,558,587,529	1,027,080,772	9,585,668,301
<u>European Hubs</u>						
Netherlands TTF	1,002,895,401	43,906,840	1,046,802,241	15,746,597,100	860,876,535	16,607,473,635
Germany NCG	169,953,048	7,440	169,960,488	1,784,507,920	952,454	1,785,460,374
Germany GasPool	55,870,449	0	55,870,449	988,852,776	459,900	989,312,676
France PEG	25,978,229	0	25,978,229	422,132,831	4,174,270	426,307,101
France TRS	3,175,410	0	3,175,410	48,272,465	0	48,272,465
Austria VTP	26,763,224	0	26,763,224	494,319,490	0	494,319,490
Italy PSV	54,688,848	655,200	55,344,048	851,273,118	5,356,680	856,629,798
Zeebrugge Hub	55,369,227	0	55,369,227	751,970,566	0	751,970,566
Other Gas	34,986,151	2,753,970	37,740,121	428,235,205	10,548,010	438,783,215
Total European Gas	1,429,679,986	47,323,450	1,477,003,436	21,516,161,471	882,367,849	22,398,529,320
<u>Power (MWh)</u>						
UK Power	89,886,494	51,816	89,938,310	1,335,901,204	1,164,926	1,337,066,130
<u>European Power</u>						
German Power	293,920,649	78,285,199	372,205,848	4,334,155,586	1,183,727,214	5,517,882,800
French Power	59,361,581	15,554,278	74,915,859	938,285,965	256,174,567	1,194,460,532
Nordic Power	0	18,838,819	18,838,819	0	308,684,275	308,684,275
Italian Power	19,459,885	22,307,786	41,767,671	277,278,599	299,675,970	576,954,569
Spanish Power	5,456,691	7,883,184	13,339,875	74,624,564	86,965,938	161,590,502
Netherlands Power	13,462,476	5,048,974	18,511,450	174,198,051	41,212,204	215,410,255
Belgian Power	4,224,246	771,674	4,995,920	40,914,549	6,035,511	46,950,060
Central & Eastern Europe	48,616,784	1,497,960	50,114,744	449,005,775	3,103,650	452,109,425
Other Power	17,911,098	1,194,182	19,105,280	241,158,391	12,093,731	253,252,122
Total European Power	462,413,410	151,382,056	613,795,466	6,529,621,480	2,197,673,060	8,727,294,540
<u>European Financial Coal Swaps (MT)</u>						
API 2 Rotterdam	0	66,072,000	66,072,000	19,975,000	2,053,789,800	2,073,764,800
API 4 Richards Bay	200,000	10,112,000	10,312,000	8,280,000	230,091,500	238,371,500
globalCOAL NEWC®	5,385,000	21,564,000	26,949,000	64,196,000	325,176,500	389,372,500
Total European Financial Coal	5,585,000	97,748,000	103,333,000	92,451,000	2,609,057,800	2,701,508,800
<u>European Carbon Emission Allowances (MT)</u>						
EUA	5,288,000	219,326,000	224,614,000	322,542,000	1,362,293,884	1,684,835,884
CER	3,633,089	1,952,000	5,585,089	15,338,417	19,812,224	35,150,641
Other Emissions	0	0	0	15,691,350	0	15,691,350
Total European Carbon Emissions	8,921,089	221,278,000	230,199,089	353,571,767	1,382,106,108	1,735,677,875

2015 and 2016 “Month” and “Year to Date” comparisons.

	Grand Total OTC Volume			Grand Total OTC Volume		
	December 2015	December 2016	% Change	Year to Date 2015	Year to Date 2016	% Change
<u>Natural Gas (MWh)</u>						
UK NBP	632,327,678	445,229,331	-29.59%	9,925,278,152	9,585,668,301	-3.42%
<u>European Hubs</u>						
Netherlands TTF	1,055,073,673	1,046,802,241	-0.78%	13,705,710,418	16,607,473,635	21.17%
Germany NCG	146,810,137	169,960,488	15.77%	1,600,224,917	1,785,460,374	11.58%
Germany GasPool	92,914,287	55,870,449	-39.87%	851,585,340	989,312,676	16.17%
France PEG	N/A	25,978,229	N/A	N/A	426,307,101	N/A
France TRS	N/A	3,175,410	N/A	N/A	48,272,465	N/A
Austria VTP	20,053,510	26,763,224	33.46%	311,271,519	494,319,490	58.81%
Italy PSV	53,412,500	55,344,048	3.62%	715,349,004	856,629,798	19.75%
Zeebrugge Hub	44,445,742	55,369,227	24.58%	795,120,538	751,970,566	-5.43%
Other Gas	33,971,466	37,740,121	11.09%	429,900,734	438,783,215	2.07%
Total European Gas	1,476,605,016	1,477,003,436	0.03%	18,848,317,626	22,398,529,320	18.84%
<u>Power (MWh)</u>						
UK Power	76,055,030	89,938,310	18.25%	966,962,662	1,337,066,130	38.27%
<u>European Power</u>						
German Power	308,117,421	372,205,848	20.80%	4,517,826,120	5,517,882,800	22.14%
French Power	89,234,052	74,915,859	-16.05%	1,121,944,637	1,194,460,532	6.46%
Nordic Power	29,115,260	18,838,819	-35.30%	290,779,831	308,684,275	6.16%
Italian Power	67,096,939	41,767,671	-37.75%	695,861,709	576,954,569	-17.09%
Spanish Power	16,953,347	13,339,875	-21.31%	129,603,477	161,590,502	24.68%
Netherlands Power	N/A	18,511,450	N/A	N/A	215,410,255	N/A
Belgian Power	N/A	4,995,920	N/A	N/A	46,950,060	N/A
Central & Eastern Europe	47,075,423	50,114,744	6.46%	363,054,847	452,109,425	24.53%
Other Power	N/A	19,105,280	N/A	N/A	253,252,122	N/A
Total European Power	609,888,077	613,795,466	0.64%	7,552,108,748	8,727,294,540	15.56%
<u>European Financial Coal Swaps (MT)</u>						
API 2 Rotterdam	173,724,019	66,072,000	-61.97%	2,727,272,683	2,073,764,800	-23.96%
API 4 Richards Bay	18,536,000	10,312,000	-44.37%	306,991,500	238,371,500	-22.35%
globalCOAL NEWC®	N/A	26,949,000	N/A	N/A	389,372,500	N/A
Total European Financial Coal	N/A	103,333,000	N/A	N/A	2,701,508,800	N/A
<u>European Carbon Emission Allowances (MT)</u>						
EUA	202,773,882	224,614,000	10.77%	1,317,482,005	1,684,835,884	27.88%
CER	1,067,000	5,585,089	423.44%	25,825,014	35,150,641	36.11%
Other Emissions	1,840,000	0	-100.00%	5,680,000	15,691,350	176.26%
Total European Carbon Emiss	205,680,882	230,199,089	11.92%	1,348,987,019	1,735,677,875	28.67%

* Nb. The 2015 Month and Year to Date volumes for ‘Total European Gas’ and ‘Total European Power’ will not equal the sum of the individual items. This is due to the reporting changes as reflected on Page 1. The month and year % Change of the Total Volumes still represents valid comparisons.

	YTD Total OTC Market Volume Change 1 year	Proportion Cleared OTC December 2016	Proportion Cleared OTC December 2015	Average Price December 2016	Price Change 1 Month	Price Change 1 Year	Historical Volatility 1 Month
Natural Gas (MWh)							
UK NBP	- 3 %	9.09%	14.57%				
Netherlands TTF	+ 21 %	4.19%	6.51%	Benchmark LEBA TTF Day Ahead 17.66 €/MWh			
Germany NCG	+ 12 %	0.00%	0.01%				
Germany GasPool	+ 16 %	0.00%	0.00%				
France PEG	N/A	0.00%	N/A				
France TRS	N/A	0.00%	N/A				
Austria VTP	+ 59 %	0.00%	0.00%				
Italy PSV	+ 20 %	1.18%	0.31%				
Zeebrugge Hub	- 5 %	0.00%	0.00%				
Other Gas	+ 2 %	7.30%	0.00%				
Total European Gas	+ 19 %	3.20%	4.71%			+ 9 %	+ 37 %
Power (MWh)							
UK Power	+ 38 %	0.06%	0.34%		- 24 %	+ 43 %	162%
German Power	+ 22 %	21.03%	21.26%	Benchmark LEBA UK Day Ahead 49.67 £/MWh			
French Power	+ 6 %	20.76%	21.36%				
Nordic Power	+ 6 %	100.00%	100.00%				
Italian Power	- 17 %	53.41%	42.50%				
Spanish Power	+ 25 %	59.09%	52.27%				
Netherlands Power	N/A	27.27%	N/A				
Belgian Power	N/A	15.45%	N/A				
Central & Eastern Europe	+ 25 %	2.99%	0.11%				
Other Power	N/A	6.25%	N/A				
Total European Power	+ 16 %	24.66%	25.55%				
European Financial Coal Swaps (MT)							
API 2 Rotterdam	- 24 %	100.00%	98.66%	Price Benchmark LEBA API 2 Front Month 87.08 US\$/MT			
API 4 Richards Bay	- 22 %	98.06%	96.42%				
globalCOAL NEWC®	N/A	80.02%	N/A				
Total Coal	N/A	94.60%	98.45%		+ 6 %	+ 90 %	26%
European Carbon Emission Allowances (MT)							
EUA	+ 28 %	97.65%	97.46%	Price Benchmark LEBA EUA Spot Average 5.17 €/MT			
CER	+ 36 %	34.95%	90.63%				
Other Emissions	+ 176 %	N/A	0.00%				
Total Emissions	+ 29 %	96.12%	96.55%		+ 44 %	- 23 %	57%

Notes:

1. Price Change - 1 Month: calculated using the percentage change from the previous month
2. Price Change - 1 year: calculated using the percentage change from the previous year
3. Historical Volatility - 1 month: calculated by taking the annualised standard deviation of daily logarithmic returns over the last month.
4. N/A - no comparable data due to change in methodology



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NOTES TO EDITORS:

LEBA, the London Energy Brokers' Association, is the industry association representing the FCA regulated wholesale market brokers in the over the counter (OTC) and the exchange traded liberalised European energy markets. These brokers intermediate and facilitate bilateral contracts to be concluded between banks, trading houses, commercial enterprises, public utilities and integrated energy businesses, providing liquidity and price discovery to these markets as well as contributing significant liquidity to European exchange traded markets.

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