

CME Group Exchange ADV Report - Monthly

December 2018

Page 1 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
FX Futures								
AD/CD CROSS RATES	0	0	-	0.1	-47.5%	0	3	-92.9%
AD/JY CROSS RATES	199	192	3.6%	147.14	35.2%	199	134	49.4%
AD/NE CROSS RATES	12	3.3	250.0%	2.95	291.2%	4	5	-11.9%
AUSTRALIAN DOLLAR	107,588	98,319.6	9.4%	106,145.62	1.4%	111,359	95,834	16.2%
BDI	0	0	-	0	-	0	25	-100.0%
BP/JY CROSS RATES	147	257.35	-42.8%	100.62	46.4%	149	163	-8.9%
BP/SF CROSS RATES	6	9.55	-32.5%	8.19	-21.3%	16	4	259.6%
BRAZIL REAL	3,973	4,656.1	-14.7%	4,263.43	-6.8%	6,447	4,571	41.0%
BRITISH POUND	127,754	154,283.05	-17.2%	136,807.43	-6.6%	128,726	124,175	3.7%
CANADIAN DOLLAR	99,327	87,063.75	14.1%	73,561.33	35.0%	83,410	76,584	8.9%
CD/JY CROSS RATES	5	0	-	0	-	6	6	-0.5%
CHINESE RENMINBI (CNH)	948	112.35	743.5%	990.14	-4.3%	466	79	489.9%
CZECK KORUNA (EC)	0	0	-	0.1	-100.0%	0	0	-
CZECK KORUNA (US)	0	0	-	0	-	0	0	-
EC/AD CROSS RATES	377	315.2	19.7%	68.05	454.5%	131	163	-19.3%
EC/CD CROSS RATES	413	460.15	-10.2%	37.33	1006.5%	179	229	-21.8%
EC/NOK CROSS RATES	14	12.65	8.7%	8.24	66.9%	18	13	40.4%
EC/SEK CROSS RATES	98	79.5	23.8%	5.24	1778.5%	40	42	-4.2%
EFX/BP CROSS RATES	6,712	8,121.9	-17.4%	2,974.81	125.6%	4,226	4,100	3.1%
EFX/JY CROSS RATES	6,183	6,130.35	0.9%	2,057.71	200.5%	4,145	3,494	18.6%
EFX/SF CROSS RATES	2,330	3,153.35	-26.1%	999.76	133.0%	1,499	1,851	-19.0%
E-MICRO AUD/USD	5,561	3,281.65	69.5%	5,859.38	-5.1%	5,210	4,032	29.2%
E-MICRO CAD/USD	865	1,075.25	-19.6%	745.19	16.0%	821	973	-15.7%
E-MICRO CHF/USD	100	46.8	114.6%	70.52	42.4%	73	48	52.3%
E-MICRO EUR/USD	14,292	10,875.5	31.4%	15,459.33	-7.6%	17,155	11,902	44.1%
E-MICRO GBP/USD	1,821	2,473.6	-26.4%	2,542.9	-28.4%	2,165	2,716	-20.3%
E-MICRO INR/USD	405	99.25	308.5%	285.43	42.0%	249	124	101.2%
E-MICRO JPY/USD	1,293	1,126.05	14.8%	1,151.14	12.3%	1,416	1,793	-21.0%
E-MINI EURO FX	5,115	5,334.4	-4.1%	4,040.14	26.6%	4,859	4,552	6.8%
E-MINI JAPANESE YEN	1,099	432.65	154.1%	446.52	146.2%	648	1,267	-48.9%
EURO FX	267,686	273,104.65	-2.0%	220,319	21.5%	272,957	224,924	21.4%
HUNGARIAN FORINT (EC)	0	0	-	1.9	-100.0%	0	0	-
HUNGARIAN FORINT (US)	0	0	-	7.24	-100.0%	3	0	-
INDIAN RUPEE	3,918	2,226.5	76.0%	4,729.9	-17.2%	4,322	1,882	129.6%
JAPANESE YEN	165,268	156,630.7	5.5%	128,929.1	28.2%	146,743	165,830	-11.5%
KOREAN WON	44	16.15	172.1%	44.1	-0.3%	27	3	767.5%
MEXICAN PESO	69,028	68,799.4	0.3%	62,032.19	11.3%	67,783	52,120	30.1%
NEW ZEALND DOLLAR	30,419	27,920.55	8.9%	29,753.67	2.2%	29,972	25,310	18.4%
NKR/USD CROSS RATE	313	157.65	98.7%	139.67	124.3%	256	102	150.4%
POLISH ZLOTY (EC)	1	1.85	-35.1%	1.05	14.5%	1	2	-48.0%
POLISH ZLOTY (US)	7	20.55	-67.9%	2.57	156.7%	5	16	-70.2%
RMB USD	0	1.2	-100.0%	1.9	-100.0%	0	1	-81.2%
RUSSIAN RUBLE	5,889	7,068.9	-16.7%	2,345.48	151.1%	3,052	2,792	9.3%
S.AFRICAN RAND	3,678	3,507	4.9%	1,936.29	89.9%	2,354	2,676	-12.0%
SF/JY CROSS RATES	0	0	-	0	-	1	0	519.4%
SHEKEL	0	49.1	-100.0%	0	-	10	6	77.1%
SKR/USD CROSS RATES	324	351	-7.7%	140.33	130.9%	246	140	75.1%
SWISS FRANC	32,652	35,776.4	-8.7%	23,029.43	41.8%	28,819	27,801	3.7%
TURKISH LIRA	112	438.6	-74.5%	14.76	656.7%	155	111	39.6%

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.

CME Group Exchange ADV Report - Monthly

December 2018

Page 2 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
FX Futures								
USDZAR	0	0.05	-100.0%	0	-	0	0	1387.5%
FX Options								
AUD/USD PQO 2pm Fix	5,241	3,735.15	40.3%	7,104.52	-26.2%	6,221	5,226	19.0%
AUSTRALIAN DLR (EU)	0	0	-	0	-	0	0	-100.0%
AUSTRALIAN DOLLAR	0	0	-	0	-	0	847	-100.0%
BRITISH POUND	0	0	-	0	-	0	1,897	-100.0%
BRITISH POUND (EU)	0	9	-99.4%	0.1	-47.5%	1	18	-93.9%
CAD/USD PQO 2pm Fix	5,420	8,494.5	-36.2%	5,733.19	-5.5%	7,432	6,937	7.1%
CANADIAN DOLLAR	0	0	-	0	-	0	761	-100.0%
CANADIAN DOLLAR (EU)	0	0.5	-100.0%	0	-	0	1	-57.0%
CHF/USD PQO 2pm Fix	40	77.5	-48.4%	40.57	-1.4%	121	154	-21.6%
EFX/JY CROSS RATES	0	0	-	0	-	11	0	-
EURO FX	0	0	-	0	-	0	5,256	-100.0%
EURO FX (EU)	0	0.2	-100.0%	0	-	0	2	-88.5%
EUR/USD PQO 2pm Fix	27,185	30,706.7	-11.5%	29,175.76	-6.8%	34,570	31,089	11.2%
GBP/USD PQO 2pm Fix	9,860	11,004.55	-10.4%	17,824.14	-44.7%	12,874	10,769	19.5%
JAPANESE YEN	0	0	-	0	-	0	2,296	-100.0%
JAPANESE YEN (EU)	0	0	-	0	-	0	1	-100.0%
JPY/USD PQO 2pm Fix	12,168	8,991.9	35.3%	11,588	5.0%	12,426	12,406	0.2%
MEXICAN PESO	76	41	85.0%	77.1	-1.6%	96	151	-36.5%
NEW ZEALND DOLLAR	1	0	-	48.43	-98.2%	4	0	-
SWISS FRANC	0	0	-	0	-	0	23	-100.0%
SWISS FRANC (EU)	0	0	-	0	-	0	0	-100.0%

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.

CME Group Exchange ADV Report - Monthly

December 2018

Page 3 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
Equity Index Futures								
BITCOIN FUTURES	4,003	475.15	742.4%	5,988.14	-33.2%	3,664	38	9577.3%
DJ US REAL ESTATE	5,646	3,166.15	78.3%	1,223.52	361.5%	2,351	1,494	57.4%
E-mini (\$5) Dow	346,486	142,452.6	143.2%	232,667.76	48.9%	239,382	130,942	82.8%
E-mini FTSE 100 (USD)	37	47.9	-21.9%	62.19	-39.9%	65	12	435.4%
E-mini FTSE China 50	52	121.1	-57.1%	23.71	118.9%	49	87	-43.6%
E-MINI MIDCAP	30,728	22,858.45	34.4%	17,287.29	77.7%	19,647	17,259	13.8%
E-MINI NASDAQ 100	732,849	326,306.75	124.6%	623,524.43	17.5%	492,839	277,128	77.8%
E-MINI RUSSELL 1000	1,362	1,197.75	13.7%	500.33	172.2%	727	275	164.7%
E-MINI RUSSELL 1000 GROWTH	547	1,028.65	-46.8%	542.43	0.9%	528	240	119.7%
E-MINI RUSSELL 1000 VALUE	1,790	1,501.45	19.2%	614.81	191.1%	797	446	78.8%
E-MINI RUSSELL 2000	244,830	177,446.25	38.0%	149,070.1	64.2%	150,100	44,843	234.7%
E-MINI S&P500	2,653,535	1,530,198.05	73.4%	1,769,200.57	50.0%	1,766,663	1,456,580	21.3%
E-MINI S&P REAL ESTATE SELECT S	1,425	540.25	163.7%	374.62	280.3%	462	293	57.8%
FT-SE 100	49	56.3	-12.2%	55.57	-11.0%	59	31	88.3%
FTSE Emerging	176	10.75	1540.9%	141.86	24.4%	46	4	1128.6%
IBOVESPA INDEX	37	65.5	-42.8%	6.48	478.3%	52	34	51.6%
NASDAQ BIOTECH	83	9.9	742.4%	4.76	1651.4%	34	15	123.2%
NIFTY 50	0	564.4	-100.0%	0	-	216	569	-62.0%
NIKKEI 225 (\$) STOCK	19,247	17,417.4	10.5%	12,946.1	48.7%	15,173	13,447	12.8%
NIKKEI 225 (YEN) STOCK	58,109	37,687.85	54.2%	40,880.67	42.1%	43,699	43,234	1.1%
S&P 500	7,222	9,727.15	-25.8%	4,690.71	54.0%	6,569	6,013	9.2%
S&P 500/GI	1	1.7	-41.2%	0	-	0	1	-67.5%
S&P 500/VALUE	1,082	824.6	31.2%	838.48	29.1%	746	905	-17.6%
S&P 600 SMALLCAP EMINI	0	0	-	0	-	0	0	-
S&P CONSUMER DSCRTNRY SECTC	1,031	875.45	17.7%	1,123.52	-8.3%	944	381	147.6%
S&P CONSUMER STAPLES SECTOR	3,314	2,322.7	42.7%	713.1	364.7%	1,335	861	55.1%
S&P ENERGY SECTOR	3,792	1,493.15	153.9%	1,855.48	104.3%	1,823	799	128.1%
S&P FINANCIAL SECTOR	4,616	4,317.95	6.9%	2,246.67	105.4%	2,623	1,566	67.6%
S&P HEALTH CARE SECTOR	4,463	1,045.5	326.9%	1,369.05	226.0%	1,207	736	64.1%
S&P INDUSTRIAL SECTOR	3,833	707.4	441.9%	959.29	299.6%	1,094	435	151.6%
S&P MATERIALS SECTOR	1,508	732.8	105.8%	558.67	169.9%	668	432	54.5%
S&P TECHNOLOGY SECTOR	4,900	1,615.8	203.2%	2,523.62	94.2%	1,945	550	254.0%
S&P UTILITIES SECTOR	3,355	3,235.6	3.7%	1,648.14	103.6%	2,057	1,386	48.4%
YEN DENOMINATED TOPIX	382	0	-	28.43	1242.1%	53	0	-

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.

CME Group Exchange ADV Report - Monthly

December 2018

Page 4 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
Equity Index Options								
E-mini (\$5) Dow	933	514.4	81.4%	428.19	117.9%	497	296	68.1%
E-MINI NASDAQ 100	9,758	9,092.4	7.3%	11,873.24	-17.8%	11,422	11,448	-0.2%
E-MINI RUSSELL 2000	516	327.15	57.7%	529.19	-2.5%	609	191	219.3%
E-MINI S&P500	414,467	213,085.55	94.5%	314,584.1	31.8%	291,130	203,408	43.1%
EOM E-MINI RUSSELL 2000 END OF	151	351.55	-57.1%	501.38	-69.9%	307	88	249.7%
EOM EMINI S&P	109,905	127,777.95	-14.0%	111,255.24	-1.2%	123,786	98,768	25.3%
EOM S&P 500	8,903	11,851.3	-24.9%	7,487.48	18.9%	8,615	9,354	-7.9%
EOW1 E-MINI RUSSELL 2000 WEEKL	65	42.2	53.1%	81.05	-20.3%	95	30	221.0%
EOW1 E-MINI RUSSELL 2000 WEEKL	92	36.25	153.1%	92.24	-0.5%	119	29	305.1%
EOW1 EMINI S&P 500	84,103	43,187.25	94.7%	55,437.62	51.7%	55,831	50,475	10.6%
EOW1 S&P 500	6,597	5,499.25	20.0%	1,640.38	302.2%	4,034	4,351	-7.3%
EOW2 E-MINI RUSSELL 2000 WEEKL	225	117.6	91.5%	253.29	-11.1%	237	56	325.6%
EOW2 EMINI S&P 500	75,186	45,163	66.5%	62,388.48	20.5%	62,826	50,398	24.7%
EOW2 S&P 500	14,520	9,273.4	56.6%	6,331.05	129.4%	7,996	8,355	-4.3%
EOW3 E-MINI RUSSELL 2000 WEEKL	346	482.85	-28.3%	665.57	-48.0%	851	259	228.4%
EOW3 EMINI S&P 500	142,533	113,146.35	26.0%	152,337.86	-6.4%	171,769	156,655	9.6%
EOW3 S&P 500	5,547	15,503.85	-64.2%	8,319.52	-33.3%	12,228	17,110	-28.5%
EOW4 E-MINI RUSSELL 2000 WEEKL	143	251.55	-43.3%	224.67	-36.5%	241	66	265.2%
EOW4 EMINI S&P 500	74,532	44,900.6	66.0%	47,175.38	58.0%	55,200	45,556	21.2%
S&P 500	25,510	15,937.55	60.1%	19,477.57	31.0%	15,770	15,512	1.7%
Interest Rate Futures								
10-YR NOTE	1,600,077	1,168,890.8	36.9%	2,348,640.81	-31.9%	1,816,346	1,495,372	21.5%
10-YR SWAP RATE	5,075	3,811.25	33.2%	781.95	549.0%	2,154	2,398	-10.2%
15-YR SWAP RATE	0	0	-	0	-	0	0	-
1-MONTH EURODOLLAR	30	587.35	-94.9%	0	-	128	263	-51.3%
20-YR SWAP RATE	0	0	-	0	-	0	0	-
2-YR NOTE	462,441	310,603.7	48.9%	956,595.1	-51.7%	537,695	387,448	38.8%
2-YR SWAP RATE	1,314	0	-	0	-	104	0	-
30-YR BOND	349,220	255,768.15	36.5%	490,446.14	-28.8%	367,706	292,180	25.8%
30-YR SWAP RATE	15	18.8	-20.2%	0	-	5	43	-88.1%
3-YR SWAP RATE	81	0	-	0	-	6	0	-
4-YR SWAP RATE	151	0	-	0	-	12	0	-
5-YR NOTE	1,037,850	726,342.4	42.9%	1,761,423.52	-41.1%	1,139,766	902,156	26.3%
5-YR SWAP RATE	5,766	3,176.4	81.5%	752.33	666.4%	1,506	2,258	-33.3%
7-YR SWAP RATE	170	0	-	0	-	14	0	-
EURODOLLARS	3,598,622	2,341,586.95	53.7%	2,807,013.1	28.2%	3,036,542	2,549,192	19.1%
FED FUND	399,769	146,159.1	173.5%	268,164.57	49.1%	259,273	191,148	35.6%
SOFR	14,808	0	-	11,889.05	24.6%	4,352	0	-
SONIA	5,614	0	-	5,948.81	-5.6%	1,185	0	-
Ultra 10-Year Note	188,300	120,393.4	56.4%	256,111.9	-26.5%	187,898	116,770	60.9%
ULTRA T-BOND	160,153	105,201.65	52.2%	303,805.19	-47.3%	185,051	133,968	38.1%

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.

CME Group Exchange ADV Report - Monthly

December 2018

Page 5 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
Interest Rate Options								
10-YR NOTE	648,435	381,713.15	69.9%	947,502.95	-31.6%	666,519	512,137	30.1%
2-YR NOTE	18,455	13,428.25	37.4%	15,045.14	22.7%	23,705	9,134	159.5%
30-YR BOND	138,854	106,408.75	30.5%	175,856.29	-21.0%	140,468	108,195	29.8%
5-YR NOTE	180,085	87,014.15	107.0%	247,192.57	-27.1%	164,677	118,165	39.4%
EURODOLLARS	695,124	537,791.25	29.3%	509,895.71	36.3%	688,831	611,262	12.7%
EURO MIDCURVE	723,416	593,562.6	21.9%	780,559.81	-7.3%	726,787	756,989	-4.0%
FED FUND	52	0	-	24.05	116.0%	76	67	13.6%
Ultra 10-Year Note	0	0	-	2.86	-100.0%	1	34	-98.5%
ULTRA T-BOND	1,331	287.7	362.6%	1,261.71	5.5%	479	161	198.2%
Energy Futures								
3.5% FUEL OIL CID MED SWA	1	0	-	0	-	2	4	-40.1%
3.5% FUEL OIL CIF BALMO S	0	0	-	0	-	0	1	-45.9%
AEP-DAYTON HUB DAILY	0	0	-	0	-	0	0	-
AEP-DAYTON HUB MTHLY	0	0	-	0	-	0	0	-
AEP-DAYTON HUB OFF-PEAK M	0	0	-	0	-	0	0	-
ALGON CITY GATES NAT GAS	0	0	-	0	-	0	0	-
ALGONQUIN CITYGATES BASIS	0	0	-	0	-	0	0	-
ANR LOUISIANA BASIS SWAP	0	0	-	0	-	0	0	-
ANR OKLAHOMA	0	0	-	0	-	0	0	-
ARGUS LLS VS. WTI (ARG) T	787	1,517.75	-48.2%	867.67	-9.3%	1,019	758	34.4%
ARGUS PROPAN FAR EST INDE	154	193.85	-20.8%	266.43	-42.4%	272	129	111.3%
ARGUS PROPAN(SAUDI ARAMCO	89	69.7	27.5%	129.81	-31.5%	131	51	154.4%
AUSTRIALIAN COKE COAL	0	6	-100.0%	0	-	0	5	-98.4%
BRENT BALMO SWAP	0	0	-	0	-	1	2	-50.9%
BRENT CALENDAR SWAP	79	212.35	-62.6%	101.19	-21.5%	158	139	13.4%
BRENT CFD SWAP	0	0	-	0	-	1	0	-
BRENT FINANCIAL FUTURES	0	4.8	-100.0%	47.62	-100.0%	84	173	-51.4%
BRENT OIL LAST DAY	83,046	64,730.4	28.3%	108,108.05	-23.2%	86,610	87,012	-0.5%
CAISO SP15 EZGNHUB5 MW P	0	0	-	0	-	0	32	-100.0%
CAISO SP15 EZGNHUB5 PEAK	0	0	-	0	-	0	0	-
CANADIAN LIGHT SWEET OIL	0	0	-	0	-	0	29	-100.0%
CENTERPOINT BASIS SWAP	0	0	-	0	-	0	4	-96.4%
CEU ENERGY	226	0	-	337.76	-33.2%	300	0	-
CHICAGO ETHANOL SWAP	3,951	4,780.2	-17.3%	4,143.19	-4.6%	4,498	5,350	-15.9%
CHICAGO ULSD (PLATTS) SWA	0	0	-	0	-	0	0	-
CHICAGO ULSD PL VS HO SPR	42	28.5	45.8%	44.38	-6.4%	23	9	163.4%
CHICAGO UNL GAS PL VS RBO	6	0	-	0	-	4	0	-
CIG BASIS	0	0	-	0	-	1	6	-84.9%
CIG ROCKIES NG INDEX SWA	0	0	-	0	-	0	3	-100.0%
CINERGY HUB OFF-PEAK MONT	0	0	-	0	-	0	0	-
CINERGY HUB PEAK MONTH	0	0	-	0	-	0	0	-
CIN HUB 5MW D AH O PK	0	0	-	0	-	0	1,299	-100.0%
CIN HUB 5MW D AH PK	63	61	2.8%	25.62	144.7%	54	78	-30.4%
CIN HUB 5MW REAL TIME O P	0	0	-	0	-	0	1,582	-100.0%
CIN HUB 5MW REAL TIME PK	0	0	-	0	-	6	102	-94.2%

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.

CME Group Exchange ADV Report - Monthly

December 2018

Page 6 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
Energy Futures								
COAL SWAP	0	2.25	-100.0%	2.86	-100.0%	2	7	-67.0%
COLUMB GULF MAINLINE NG B	11	0	-	0	-	1	4	-78.7%
COLUMBIA GULF ONSHORE	0	0	-	0	-	0	5	-100.0%
CONWAY NATURAL GASOLINE (OPI	9	1.7	420.6%	43.62	-79.7%	11	12	-5.5%
CONWAY NORMAL BUTANE (OPIS) S	0	12.95	-100.0%	3.33	-100.0%	11	33	-66.0%
CONWAY PROPANE 5 DECIMALS S	581	538.85	7.8%	653.71	-11.2%	741	437	69.3%
CRUDE OIL	220	261.5	-15.9%	171.43	28.3%	274	485	-43.6%
CRUDE OIL OUTRIGHTS	1,760	2,763.15	-36.3%	1,926.71	-8.7%	2,583	1,514	70.6%
CRUDE OIL PHY	1,146,162	1,010,235.25	13.5%	1,313,364.57	-12.7%	1,216,816	1,235,270	-1.5%
CRUDE OIL SPRDS	764	2,572.9	-70.3%	510.38	49.6%	1,717	765	124.4%
CRUDE OIL TRADE AT MARKER SIN	0	0	-	0	-	0	0	-
DAILY PJM	0	0	-	0	-	0	0	-
DATED BRENT (PLATTS) DAILY SWA	0	0	-	0	-	0	6	-100.0%
DATED TO FRONTLINE BRENT	0	0	-	0	-	13	58	-76.8%
DIESEL 10P BRG FOB RDM VS	0	0	-	0	-	0	0	-
DIESEL 10PPM BARGES FOB B	0	0	-	0	-	0	0	-100.0%
DOMINION TRAN INC - APP I	0	0	-	0	-	0	12	-100.0%
DOMINION TRANSMISSION INC	0	0	-	0	-	1	212	-99.8%
DUBAI CRUDE OIL BALMO	0	2.5	-100.0%	0	-	0	0	149.0%
DUBAI CRUDE OIL CALENDAR	589	95.5	516.5%	728.81	-19.2%	443	334	32.6%
DY EURO 3.5% FUEL OI RDA	0	0	-	0	-	0	6	-100.0%
EASTERN RAIL DELIVERY CSX	0	0.75	-100.0%	0	-	1	19	-95.0%
EAST/WEST FUEL OIL SPREAD	0	0	-	0	-	1	5	-85.2%
EIA FLAT TAX ONHWAY DIESE	10	15.05	-32.6%	14.9	-31.9%	13	32	-57.7%
ELEC ERCOT DLY OFF PK	0	0	-	0	-	0	0	-
ELEC ERCOT DLY PEAK	0	0	-	0	-	0	0	-
ELEC ERCOT OFF PEAK	0	0	-	0	-	78	0	-
ELEC FINSETTLED	0	0	-	0	-	0	0	-
ELEC MISO PEAK	0	0	-	0	-	0	15	-100.0%
ELEC NYISO OFF-PEAK	0	0	-	0	-	0	280	-100.0%
ELECTRICITY ERCOT PEAK	0	0	-	0	-	0	3	-100.0%
ELECTRICITY OFF PEAK	0	0	-	2,637.14	-100.0%	220	0	-
ELEC WEST POWER OFF-PEAK	0	0	-	0	-	0	0	-
ELEC WEST POWER PEAK	0	0	-	0	-	0	6	-100.0%
ERCOT DAILY 5MW PEAK	0	0	-	0	-	0	0	-
ERCOT HOUSTON Z MCPE 5MW PEA	0	0	-	0	-	8	15	-49.9%
ERCOT NORTH ZMCPE 5MW OFFPE	0	0	-	0	-	0	0	-
ERCOT NORTH ZMCPE 5MW OFFPE	0	3,816	-100.0%	0	-	78	763	-89.8%
ERCOT NORTH ZMCPE 5MW PEAK	0	0	-	0	-	20	27	-26.1%
ETHANOL	553	533.5	3.6%	587.76	-5.9%	446	596	-25.1%
ETHANOL SWAP	2	0	-	12.86	-88.3%	3	0	-
ETHANOL T2 FOB ROTT INCL DUTY	118	81.8	43.9%	307.67	-61.7%	159	182	-12.4%
EURO 1% FUEL OIL NEW BALM	0	0	-	0	-	0	0	82.7%
EURO 3.5% FUEL OIL RDAM B	3	8.55	-66.1%	11.19	-74.1%	23	20	13.1%
EURO 3.5% FUEL OIL SPREAD	1	0	-	0	-	3	18	-80.8%
EURO-DENOMINATED PETRO PROD	0	0	-	0	-	3	6	-57.9%
EURO GASOIL 10PPM VS ICE	0	0	-	0	-	1	2	-14.3%
EUROPE 1% FUEL OIL NWE CA	1	2.8	-57.1%	5.71	-79.0%	2	3	-25.8%
EUROPE 1% FUEL OIL RDAM C	0	0	-	0	-	0	0	-92.3%

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.

CME Group Exchange ADV Report - Monthly

December 2018

Page 7 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
Energy Futures								
EUROPE 3.5% FUEL OIL MED	1	2.15	-76.7%	0.19	162.5%	4	7	-42.8%
EUROPE 3.5% FUEL OIL RDAM	80	365.45	-78.0%	152.62	-47.4%	312	340	-8.2%
EUROPEAN GASOIL (ICE)	9	30.05	-70.7%	59.71	-85.3%	28	125	-77.5%
EUROPEAN NAPHTHA BALMO	2	13.35	-82.0%	8.76	-72.6%	12	16	-21.6%
EUROPEAN NAPHTHA CRACK SPR	170	270.8	-37.2%	405.86	-58.1%	424	322	31.7%
EUROPE DATED BRENT SWAP	29	0	-	120	-75.8%	21	10	107.8%
EUROPE JET KERO NWE CALSW	0	0	-	0	-	0	0	-63.0%
EUROPE NAPHTHA CALSWAP	83	111.7	-25.3%	124.48	-33.0%	158	127	24.0%
EURO PROPANE CIF ARA SWA	47	51.8	-9.1%	97.67	-51.8%	84	61	38.3%
FLORIDA GAS ZONE3 BASIS S	0	0	-	0	-	0	0	-
FREIGHT MARKETS	33	11.25	192.4%	73.9	-55.5%	34	7	360.3%
FUEL OIL CRACK VS ICE	55	81.55	-32.1%	68.67	-19.3%	153	163	-6.3%
FUEL OIL NWE CRACK VS ICE	0	0	-	0	-	1	0	-
FUEL OIL (PLATS) CAR CM	0	0	-	0	-	1	0	666.8%
FUEL OIL (PLATS) CAR CN	0	0	-	0	-	0	0	-
FUELOIL SWAP:CARGOES VS.B	21	5.6	278.6%	0.71	2867.9%	10	12	-17.6%
GAS EURO-BOB OXY NWE BARGES	233	178.25	30.4%	253.24	-8.2%	342	288	18.6%
GAS EURO-BOB OXY NWE BARGES	404	730.55	-44.7%	608.57	-33.7%	818	889	-7.9%
GASOIL 0.1 CIF MED SWAP	0	0	-	0	-	0	0	-
GASOIL 0.1CIF MED VS ICE	0	0	-	0	-	0	0	-80.1%
GASOIL 0.1 CIF NWE VS ISE	0	0	-	0	-	0	0	-
GASOIL 0.1 CIF VS ICE GAS	0	0	-	0	-	0	0	-100.0%
GASOIL 0.1 RDAM BRGS VS I	0	3	-100.0%	0	-	0	1	-97.2%
GASOIL 0.1 ROTTERDAM BARG	1	0.75	-33.3%	1.24	-59.6%	6	1	782.4%
GASOIL 10P CRG CIF NW VS	0	0	-	0	-	0	0	-100.0%
GASOIL 10PPM VS ICE SWAP	0	0	-	0	-	0	3	-97.1%
GASOIL BULLET SWAP	0	16.5	-100.0%	0	-	0	2	-100.0%
GASOIL CALENDAR SWAP	0	0	-	0.57	-100.0%	0	1	-73.1%
GASOIL CRACK SPREAD CALEN	59	119.7	-50.4%	28.76	106.5%	156	309	-49.5%
GASOIL MINI CALENDAR SWAP	6	7.2	-16.7%	38.24	-84.3%	12	6	82.0%
GROUP THREE ULSD (PLATTS)	0	0	-	2.14	-100.0%	1	0	99.2%
GROUP THREE UNLEAD GAS (P	0	0	-	0	-	2	0	-
GRP THREE ULSD(PLT)VS HEA	163	269.5	-39.4%	182.19	-10.3%	169	212	-20.4%
GRP THREE UNL GS (PLT) VS	125	75.25	65.8%	82.62	51.0%	103	54	88.6%
GULF COAST 3% FUEL OIL BA	22	212.75	-89.5%	33.48	-33.4%	56	68	-17.7%
GULF COAST JET FUEL CLNDR	10	14.1	-27.7%	9.86	3.5%	6	5	26.0%
GULF COAST JET VS NYM 2 H	826	1,250.4	-33.9%	1,083.71	-23.8%	1,603	1,913	-16.2%
GULF COAST NO.6 FUEL OIL	1,579	3,049.7	-48.2%	1,495.38	5.6%	2,487	2,585	-3.8%
GULF COAST ULSD CALENDAR	19	18.95	-0.5%	12.1	55.8%	16	24	-33.9%
GULF COAST ULSD CRACK SPR	0	0	-	11.43	-100.0%	7	15	-57.4%
HEATING OIL BALMO CLNDR S	0	11.35	-100.0%	0	-	1	4	-77.1%
HEATING OIL PHY	161,950	175,220.75	-7.6%	215,084.81	-24.7%	183,642	173,690	5.7%
HENRY HUB BASIS SWAP	0	0	-	0	-	127	210	-39.4%
HENRY HUB FINANCIAL LAST	0	68.15	-100.0%	0	-	110	26	324.1%
HENRY HUB INDEX SWAP FUTU	0	0	-	0	-	127	201	-36.8%
HENRY HUB SWAP	5,330	11,261.55	-52.7%	7,969.76	-33.1%	7,761	9,066	-14.4%
HOUSTON SHIP CHANNEL BASI	0	0	-	0	-	0	37	-100.0%
HTG OIL	0	0	-	1.14	-100.0%	0	1	-64.8%
HUSTN SHIP CHNL PIPE SWP	0	0	-	0	-	0	3	-100.0%

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.

CME Group Exchange ADV Report - Monthly

December 2018

Page 8 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
Energy Futures								
ICE BRENT DUBAI SWAP	128	113.35	12.5%	185.24	-31.2%	424	477	-11.2%
ICE GASOIL BALMO SWAP	0	0	-	0	-	0	0	-100.0%
IN DELIVERY MONTH EUA	0	0	-	0	-	5	11	-56.4%
INDIANA MISO	0	0	-	0	-	0	0	-
INDONESIAN COAL	0	0	-	0	-	0	0	-100.0%
INDONESIAN COAL ICI4	2	0	-	9.76	-79.5%	7	0	-
ISO NEW ENGLAND OFF-PEAK	0	0	-	0	-	0	0	-
ISO NEW ENGLAND PK LMP	0	0	-	0	-	0	0	-100.0%
JAPAN C&F NAPHTHA CRACK S	0	37.75	-100.0%	7.67	-100.0%	8	29	-74.6%
JAPAN C&F NAPHTHA SWAP	41	81.7	-49.3%	52.62	-21.2%	91	73	24.7%
JAPAN NAPHTHA BALMO SWAP	0	0.4	12.5%	0.95	-52.8%	3	6	-55.3%
JET AV FUEL (P) CAR FM ICE GAS S	0	0	-	0	-	0	0	-86.2%
JET CIF NWE VS ICE	2	3.5	-50.0%	0	-	3	5	-48.8%
JET FUEL BRG FOB RDM VS I	0	0	-	0	-	0	0	-100.0%
JET FUEL CRG CIF NEW VS I	0	0	-	0	-	0	0	-100.0%
JET FUEL UP-DOWN BALMO CL	285	222.25	28.3%	255.71	11.6%	283	322	-12.2%
LA CARB DIESEL (OPIS)	0	0	-	0	-	0	0	-
LA CARB DIESEL (OPIS) SWA	10	5	92.0%	5.95	61.3%	13	9	47.5%
LA CARBOB GASOLINE(OPIS)S	8	22.5	-64.4%	19.52	-59.0%	23	13	75.1%
LA JET FUEL VS NYM NO 2 H	0	0	-	0	-	0	0	-100.0%
LA JET (OPIS) SWAP	30	62.75	-52.6%	33.33	-10.7%	86	80	7.8%
LLS (ARGUS) CALENDAR SWAP	0	0	-	0	-	2	0	-
LLS (ARGUS) VS WTI SWAP	60	451.5	-86.8%	133.33	-55.2%	241	259	-7.1%
LOS ANGELES CARB GASOLINE	0	0	-	0.48	-100.0%	0	0	-
LTD NAT GAS	19,716	15,779.4	24.9%	30,293.9	-34.9%	18,171	14,102	28.9%
MARS (ARGUS) VS WTI SWAP	1	126	-99.0%	46.9	-97.3%	88	146	-39.2%
MARS (ARGUS) VS WTI TRD M	665	1,264.5	-47.4%	603.1	10.3%	926	1,036	-10.6%
MARS BLEND CRUDE OIL	0	160.45	-100.0%	0	-	9	72	-87.3%
MCCLOSKEY ARA ARGS COAL	577	954.9	-39.6%	1,189.48	-51.5%	1,088	1,997	-45.5%
MCCLOSKEY RCH BAY COAL	49	128.2	-62.0%	100	-51.3%	132	221	-40.3%
MGF FUT	0	0	-	0.48	-100.0%	1	1	-15.5%
MGN1 SWAP FUT	6	2.6	111.5%	5.71	-3.8%	4	4	-18.4%
MICHIGAN BASIS	0	0	-	0	-	0	11	-100.0%
MICHIGAN MISO	0	0	-	0	-	0	447	-100.0%
MINI GAS EUROBOB OXY NWE ARG	5	33.4	-84.4%	17.24	-69.8%	15	21	-27.7%
MINI RBOB V. EBOBARG NWE BRGS	18	6	198.3%	0	-	15	23	-36.3%
MINI RBOB V. EBOB(ARGUS) NWE B	42	70.6	-40.9%	62.95	-33.7%	83	104	-20.0%
MINY HTG OIL	0	0.15	0.0%	0.19	-21.3%	0	0	33.8%
MINY NATURAL GAS	2,279	2,017.25	13.0%	5,361.29	-57.5%	1,718	1,243	38.3%
MINY RBOB GAS	0	0.2	0.0%	0.29	-30.0%	0	0	-8.2%
MINY WTI CRUDE OIL	30,885	8,382.25	268.5%	29,316.9	5.3%	18,621	11,960	55.7%
MJC FUT	0	11.75	-100.0%	2.38	-100.0%	6	6	-5.6%
MNC FUT	143	92.25	54.7%	239.33	-40.4%	193	182	6.0%
MONT BELVIEU ETHANE 5 DECIMAL	856	736.7	16.1%	402.19	112.7%	754	1,023	-26.3%
MONT BELVIEU ETHANE OPIS BALM	11	16.75	-37.3%	3.81	175.6%	8	13	-41.0%
MONT BELVIEU LDH PROPANE 5 DE	3,984	5,026.1	-20.7%	6,503.86	-38.7%	5,802	4,471	29.8%
MONT BELVIEU LDH PROPANE OPIS	148	75.1	96.8%	89.1	65.9%	119	78	52.8%
MONT BELVIEU NATURAL GASOLIN	291	1,085	-73.2%	374.19	-22.4%	388	341	13.9%
MONT BELVIEU NATURAL GASOLIN	28	16.15	74.9%	1.9	1383.1%	17	15	13.8%

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.

CME Group Exchange ADV Report - Monthly

December 2018

Page 9 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
Energy Futures								
MONT BELVIEU NORMAL BUTANE 5	1,360	938.7	44.9%	1,566.81	-13.2%	1,695	1,380	22.8%
MONT BELVIEU NORMAL BUTANE B	46	34.8	31.6%	43.81	4.5%	51	34	52.4%
NAT GAS BASIS SWAP	0	0	-	0	-	0	10	-100.0%
NATURAL GAS	4,675	7,611.4	-38.6%	10,379.52	-55.0%	5,706	6,650	-14.2%
NATURAL GAS FIXED PRICE SWAP F	0	0	-	0	-	0	1	-100.0%
NATURAL GAS INDEX	0	0	-	0	-	0	3	-100.0%
NATURAL GAS PEN SWP	1,612	2,378.6	-32.2%	2,601.52	-38.0%	1,676	3,878	-56.8%
NATURAL GAS PHY	392,564	525,030.4	-25.2%	677,111.71	-42.0%	453,397	431,840	5.0%
NEPOOL CNCTCT 5MW D AH O	0	0	-	0	-	0	0	-
NEPOOL CONECTIC 5MW D AH	0	0	-	0	-	0	0	-
NEPOOL INTR HUB 5MW D AH	0	0	-	0	-	592	1,006	-41.1%
NEPOOL NE MASS 5MW D AH O	0	0	-	0	-	0	56	-100.0%
NEPOOL NE MASS 5MW D AH P	0	0	-	0	-	0	3	-100.0%
NEPOOL RHD ISLD 5MW D AH	0	0	-	0	-	0	0	-
NEPOOL RHODE IL 5MW D AH	0	0	-	0	-	0	0	-
NEPOOL W CNT MASS 5MW D A	0	0	-	0	-	0	0	-
NEPOOL W CNTR M 5MW D AH	0	0	-	0	-	0	0	-
NEW ENGLAND HUB PEAK DAIL	0	0	-	0	-	0	0	-
NEW YORK ETHANOL SWAP	28	78.5	-64.6%	16.05	72.9%	50	43	15.8%
NEW YORK HUB ZONE G PEAK	0	0	-	0	-	0	0	-
NEW YORK HUB ZONE J PEAK	0	0	-	0	-	0	0	-
NGPL MID-CONTINENT	0	0	-	61.9	-100.0%	19	19	1.2%
NGPL TEX/OK	120	0	-	146.67	-18.2%	199	37	441.8%
N ILLINOIS HUB DAILY	0	0	-	0	-	0	0	-
N ILLINOIS HUB MTHLY	0	0	-	0	-	0	0	-
NO 2 UP-DOWN SPREAD CALEN	8	5	50.0%	0	-	12	15	-17.0%
NORTHERN NATURAL GAS DEMAR	0	0	-	0	-	0	0	-
NORTHERN NATURAL GAS VENTU	0	0	-	0	-	0	1	-24.5%
NORTHERN ILLINOIS OFF-PEA	0	0	-	0	-	0	0	-
NORTHWEST ROCKIES BASIS S	0	0	-	0	-	0	12	-100.0%
N ROCKIES PIPE SWAP	0	0	-	0	-	0	1	-82.4%
NY1% VS GC SPREAD SWAP	73	119	-38.4%	24.29	201.6%	61	103	-40.8%
NY 2.2% FUEL OIL (PLATTS	0	0	-	0	-	0	0	-
NY 3.0% FUEL OIL (PLATTS	6	7.5	-26.7%	0	-	8	14	-44.4%
NY HARBOR 1% FUEL OIL BAL	0	0	-	0	-	0	0	99.2%
NY HARBOR HEAT OIL SWP	84	62.75	33.6%	224.9	-62.7%	117	99	18.6%
NY HARBOR LOW SULPUR GAS 100C	0	0	-	28.57	-100.0%	14	17	-19.7%
NY HARBOR RESIDUAL FUEL 1	63	124.05	-49.0%	29.57	113.9%	50	114	-55.8%
NY HARBOR RESIDUAL FUEL C	0	0	-	2.38	-100.0%	0	0	-
NYH NO 2 CRACK SPREAD CAL	3	10.5	-71.4%	25.43	-88.2%	34	57	-39.6%
NYISO A	0	0	-	0	-	0	0	-
NYISO A OFF-PEAK	0	0	-	0	-	0	0	-
NYISO CAPACITY	9	0	-	2.86	215.0%	8	23	-65.6%
NYISO G	0	0	-	0	-	0	0	-
NYISO G OFF-PEAK	0	0	-	0	-	0	0	-
NYISO J	0	0	-	0	-	0	0	-
NYISO J OFF-PEAK	0	0	-	0	-	0	0	-
NYISO ZONE A 5MW D AH O P	0	0	-	0	-	176	131	34.6%
NYISO ZONE A 5MW D AH PK	0	21	-100.0%	0	-	8	29	-74.0%

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.

CME Group Exchange ADV Report - Monthly

December 2018

Page 10 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
Energy Futures								
NYISO ZONE C 5MW D AH O P	0	0	-	0	-	0	0	-
NYISO ZONE C 5MW D AH PK	0	0	-	0	-	0	0	-100.0%
NYISO ZONE G 5MW D AH O P	0	467.2	-100.0%	550	-100.0%	2,486	3,147	-21.0%
NYISO ZONE G 5MW D AH PK	0	153.2	-100.0%	30.24	-100.0%	84	242	-65.3%
NYISO ZONE J 5MW D AH O P	0	0	-	0	-	0	903	-100.0%
NYISO ZONE J 5MW D AH PK	0	127.5	-100.0%	0	-	0	117	-100.0%
NYMEX ALUMINUM FUTURES	0	0	-	0	-	0	0	-
NYMEX ULSD VS NYMEX HO	0	0	-	0	-	0	0	-
NY ULSD (ARGUS) VS HEATING OIL	0	0	-	0	-	1	33	-97.4%
ONEOK OKLAHOMA NG BASIS	0	0	-	0	-	11	7	50.6%
ONTARIO POWER SWAPS	0	0.25	-100.0%	0	-	0	5	-99.1%
PANHANDLE BASIS SWAP FUTU	0	0	-	0	-	1	12	-91.0%
PANHANDLE PIPE SWAP	0	0	-	0	-	0	13	-100.0%
PERMIAN BASIS SWAP	0	0	-	0	-	0	6	-100.0%
PETROCHEMICALS	148	142.1	4.2%	319.19	-53.6%	272	191	42.5%
PETRO CRCKS & SPRDS ASIA	20	39.6	-50.8%	15.71	24.1%	5	12	-57.0%
PETRO CRCKS & SPRDS NA	1,608	1,187.5	35.4%	1,655.33	-2.9%	1,958	1,769	10.7%
PETRO CRK&SPRD EURO	131	316.3	-58.7%	325.1	-59.8%	387	358	8.2%
PETROLEUM PRODUCTS	141	136.15	3.3%	224.14	-37.3%	237	144	65.3%
PETROLEUM PRODUCTS ASIA	70	71.9	-2.6%	107.86	-35.1%	93	84	10.4%
PETRO OUTRIGHT EURO	194	210.9	-7.8%	175	11.1%	213	296	-28.2%
PETRO OUTRIGHT NA	185	207.05	-10.4%	276.38	-32.9%	355	614	-42.2%
PJM AD HUB 5MW REAL TIME	414	0	-	1,173.57	-64.7%	347	1,240	-72.0%
PJM AECO DA OFF-PEAK	0	0	-	0	-	0	0	-
PJM AECO DA PEAK	0	0	-	0	-	0	0	-
PJM APS ZONE DA OFF-PEAK	0	0	-	0	-	0	0	-
PJM APS ZONE DA PEAK	0	0	-	0	-	0	0	-
PJM ATSI ELEC	0	0	-	0	-	0	197	-100.0%
PJM BGE DA OFF-PEAK	0	0	-	0	-	0	0	-
PJM BGE DA PEAK	0	0	-	0	-	0	0	-
PJM COMED 5MW D AH O PK	0	0	-	0	-	0	340	-100.0%
PJM COMED 5MW D AH PK	0	0	-	0	-	0	19	-100.0%
PJM DAILY	0	0	-	0	-	0	0	-
PJM DAYTON DA OFF-PEAK	0	0	-	0	-	0	845	-100.0%
PJM DAYTON DA PEAK	0	0	-	0	-	0	21	-100.0%
PJM JCPL DA OFF-PEAK	0	0	-	0	-	0	0	-
PJM JCPL DA PEAK	0	0	-	0	-	0	0	-
PJM MONTHLY	0	0	-	0	-	0	0	-100.0%
PJM NI HUB 5MW REAL TIME	42	0	-	0	-	52	7,167	-99.3%
PJM NILL DA OFF-PEAK	0	0	-	0	-	3	2,748	-99.9%
PJM NILL DA PEAK	0	0	-	0	-	0	157	-99.8%
PJM OFF-PEAK LMP SWAP FUT	0	0	-	0	-	0	0	-
PJM PECO ZONE5MW PEAK CAL MO	0	0	-	140.95	-100.0%	12	0	-
PJM PPL DA OFF-PEAK	0	0	-	0	-	0	0	-
PJM PPL DA PEAK	0	0	-	0	-	0	0	-
PJM PSEG DA OFF-PEAK	0	0	-	2,637.14	-100.0%	313	0	-
PJM PSEG DA PEAK	0	0	-	140.95	-100.0%	17	0	-
PJM WESTH DA OFF-PEAK	0	0	-	0	-	404	216	86.8%
PJM WESTHDA PEAK	0	0	-	0	-	22	34	-36.2%

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.

CME Group Exchange ADV Report - Monthly

December 2018

Page 11 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
Energy Futures								
PJM WESTH RT OFF-PEAK	1,002	1,168	-14.2%	1,112.38	-9.9%	1,558	8,800	-82.3%
PJM WESTH RT PEAK	143	736.25	-80.6%	85.67	66.9%	253	890	-71.5%
PLASTICS	27	14	91.8%	33.76	-20.5%	22	25	-11.6%
PREMIUM UNLD 10P FOB MED	16	2.5	540.0%	21.24	-24.7%	13	4	244.1%
PREMIUM UNLEAD 10PPM FOB	0	0	-	0.24	-100.0%	2	1	172.4%
PREM UNL GAS 10PPM RDAM FOB B	0	0	-	0.14	-100.0%	0	0	1080.6%
PREM UNL GAS 10PPM RDAM FOB S	2	0	-	0	-	1	0	885.3%
PROPANE NON-LDH MB (OPIS) BAL	91	16.25	459.1%	0.33	27157.7%	28	21	33.0%
PROPANE NON-LDH MT. BEL (OPIS)	583	426.5	36.8%	589.67	-1.1%	599	347	72.6%
RBOB CALENDAR SWAP	160	194.05	-17.5%	172	-6.9%	259	334	-22.3%
RBOB CRACK SPREAD	4	27.75	-86.5%	2.62	43.2%	38	45	-15.3%
RBOB CRACK SPREAD BALMO S	0	0	-	0	-	0	0	-
RBOB GAS	0	95.5	-100.0%	0	-	57	113	-49.6%
RBOB GASOLINE BALMO CLNDR	25	94	-72.9%	18.86	35.0%	46	49	-4.9%
RBOB PHY	170,235	168,423.65	1.1%	188,274.38	-9.6%	196,881	198,848	-1.0%
RBOB SPREAD (PLATTS) SWAP	0	0	-	0	-	0	0	-
RBOB VS HEATING OIL SWAP	0	32.5	-100.0%	0	-	8	71	-88.9%
SAN JUAN BASIS SWAP	0	0	-	0	-	0	9	-97.4%
SAN JUAN PIPE SWAP	0	0	-	0	-	1	0	-
SINGAPORE 180CST BALMO	1	4.5	-82.2%	0.48	68.0%	2	3	-35.6%
SINGAPORE 380CST BALMO	8	8.25	-3.0%	4.43	80.6%	10	11	-9.2%
SINGAPORE 380CST FUEL OIL	193	535.1	-63.9%	370	-47.8%	380	464	-18.1%
SINGAPORE FUEL 180CST CAL	10	36.65	-72.6%	20.29	-50.5%	34	48	-28.6%
SINGAPORE FUEL OIL SPREAD	4	4.75	-21.1%	8.33	-55.0%	25	28	-11.4%
SINGAPORE GASOIL	285	267.95	6.2%	309.19	-8.0%	260	240	8.4%
SINGAPORE GASOIL CALENDAR	14	24.9	-43.8%	6.19	126.2%	24	15	63.3%
SINGAPORE GASOIL SWAP	104	82.7	26.1%	75.48	38.1%	196	361	-45.8%
SINGAPORE GASOIL VS ICE	66	30.9	114.4%	114.43	-42.1%	516	282	83.1%
SINGAPORE JET KERO BALMO	0	0	-	0	-	1	2	-60.0%
SINGAPORE JET KERO GASOIL	26	21.25	23.5%	32.14	-18.3%	140	75	87.9%
SINGAPORE JET KEROSENE SW	9	0	-	13.1	-33.2%	53	52	3.2%
SINGAPORE JET KERO VS. GASOIL	0	0	-	0	-	2	0	696.8%
SINGAPORE MOGAS 92 UNLEADED	15	14	5.7%	2.38	521.6%	24	8	191.1%
SINGAPORE MOGAS 92 UNLEADED	506	188	169.3%	669.81	-24.4%	643	342	88.3%
SINGAPORE NAPHTHA SWAP	0	0	-	0	-	1	0	-
SING FUEL	0	0	-	0	-	0	0	-17.0%
SOCAL PIPE SWAP	0	0	-	0	-	0	0	-
SONAT BASIS SWAP FUTURE	0	0	-	0	-	0	0	-
SOUTH STAR TEX OKLHM KNS	0	0	-	0	-	0	0	-
Sumas Basis Swap	0	0	-	0	-	0	25	-98.5%
SUMAS NAT GAS PLATTS FIXED PRI	0	0	-	0	-	0	1	-100.0%
TC2 ROTTERDAM TO USAC 37K	0	7	-100.0%	9.29	-100.0%	4	1	376.3%
TC5 RAS TANURA TO YOKOHAM	24	3.75	540.0%	7.62	215.0%	7	0	2111.2%
TCO BASIS SWAP	43	0	-	0	-	3	36	-90.5%
TCO NG INDEX SWAP	0	0	-	0	-	0	0	-
TD3 MEG TO JAPAN 250K MT	156	18	768.1%	243.33	-35.8%	82	2	5179.2%
TENNESSEE 500 LEG BASIS S	0	0	-	0	-	0	2	-100.0%
TENNESSEE 800 LEG NG BASI	0	0	-	0	-	0	0	-
TENNESSEE ZONE 0 BASIS SW	0	0	-	0	-	0	2	-100.0%

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.

CME Group Exchange ADV Report - Monthly

December 2018

Page 12 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
Energy Futures								
TETCO M-3 INDEX	0	0	-	0	-	0	0	-
Tetco STX Basis	0	0	-	0	-	0	0	-
TEXAS EASTERN ZONE M-3 BA	0	0	-	0	-	0	38	-100.0%
TEXAS GAS ZONE1 NG BASIS	0	0	-	0	-	0	0	-
Transco Zone 3 Basis	0	0	-	0	-	0	1	-100.0%
TRANSCO ZONE 3 NG INDEX S	0	0	-	0	-	0	25	-100.0%
TRANSCO ZONE4 BASIS SWAP	0	0	-	0	-	0	53	-100.0%
TRANSCO ZONE 4 NAT GAS IN	0	0	-	0	-	0	2	-100.0%
TRANSCO ZONE 6 BASIS SWAP	0	0	-	0	-	0	15	-100.0%
TRANSCO ZONE 6 INDEX	0	0	-	0	-	0	3	-100.0%
UCM FUT	1	0	-	0	-	0	1	-73.0%
ULSD 10PPM CIF MED SWAP	0	0	-	0	-	0	0	-100.0%
ULSD 10PPM CIF MED VS ICE	0	0	-	0	-	0	0	-82.8%
ULSD 10PPM CIF NW BALMO S	0	0	-	0	-	0	0	-100.0%
ULSD UP-DOWN BALMO SWP	180	452.5	-60.2%	379.57	-52.6%	269	249	7.8%
UP DOWN GC ULSD VS NMX HO	1,039	1,745.9	-40.5%	1,670.24	-37.8%	1,522	2,197	-30.7%
WAHA BASIS	13	36.15	-65.4%	0	-	14	27	-49.4%
WAHA INDEX SWAP FUTURE	0	0	-	0	-	0	0	-
WESTERN RAIL DELIVERY PRB	0	0	-	0	-	0	10	-99.0%
WTI-BRENT BULLET SWAP	0	12.5	-100.0%	0	-	26	5	474.0%
WTI-BRENT CALENDAR SWAP	672	2,100.5	-68.0%	874.33	-23.1%	1,377	1,002	37.4%
WTI CALENDAR	1,290	2,107.25	-38.8%	1,768.57	-27.1%	1,585	1,785	-11.2%
WTS (ARGUS) VS WTI SWAP	129	676	-81.0%	149.43	-13.9%	362	290	25.1%
WTS (ARGUS) VS WTI TRD MT	6	0	-	5.71	5.0%	25	40	-36.4%
Energy Options								
12 MO GASOIL CAL SWAP SPR	0	0	-	0	-	0	3	-100.0%
BRENT 1 MONTH CAL	0	0	-	0	-	12	0	-
BRENT CALENDAR SWAP	150	0	-	13.62	1001.4%	65	21	206.7%
BRENT CRUDE OIL 12 M CSO	0	0	-	0	-	8	8	-0.4%
BRENT CRUDE OIL 1 M CSO	600	0	-	28.57	2000.0%	1,679	0	-
BRENT CRUDE OIL 6 M CSO	0	0	-	0	-	4	0	-
BRENT OIL LAST DAY	8,177	3,775.05	116.6%	13,597.24	-39.9%	9,673	2,322	316.5%
COAL API2 INDEX	3	3.75	-33.3%	16.19	-84.6%	41	44	-7.7%
COAL API4 INDEX	0	0	-	0	-	0	0	182.3%
COAL SWAP	0	0	-	0	-	0	3	-100.0%
CRUDE OIL 1MO	8,975	5,205.9	72.4%	9,678.33	-7.3%	9,566	8,304	15.2%
CRUDE OIL APO	2,397	4,744.65	-49.5%	2,528.67	-5.2%	2,122	2,550	-16.8%
CRUDE OIL CALNDR STRIP	0	0	-	0	-	1	0	-
CRUDE OIL OUTRIGHTS	0	0	-	0	-	33	47	-29.0%
CRUDE OIL PHY	165,601	119,293.7	38.8%	284,969.33	-41.9%	180,538	174,780	3.3%
ELEC MISO PEAK	0	0	-	0	-	0	3	-100.0%
ETHANOL	0	0	-	0	-	2	2	5.8%
ETHANOL SWAP	206	326.8	-37.0%	168.1	22.5%	294	301	-2.4%
EUROPEAN JET KEROSENE NWE (P	0	0	-	0	-	0	0	-
GASOLINE	0	0	-	0	-	0	0	-
HEATING OIL CRACK OPTIONS	0	0	-	0	-	0	0	-100.0%

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.

CME Group Exchange ADV Report - Monthly

December 2018

Page 13 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
Energy Options								
HEATING OIL CRK SPD AVG PRICE	0	0	-	0	-	0	0	-
HEATING OIL PHY	1,921	1,916.9	0.2%	2,627.14	-26.9%	1,546	1,585	-2.5%
HENRY HUB FINANCIAL LAST	225	319.65	-29.7%	193.95	15.9%	208	190	9.4%
HO 1 MONTH CLNDR OPTIONS	0	0	-	119.05	-100.0%	10	7	52.3%
LLS CRUDE OIL	0	0	-	0	-	0	42	-99.1%
MCCLOSKEY ARA ARGS COAL	0	0	-	0	-	1	6	-81.9%
MCCLOSKEY RCH BAY COAL	0	13.75	-100.0%	3.33	-100.0%	9	1	676.9%
NATURAL GAS	0	0	-	0	-	0	2	-100.0%
NATURAL GAS 1 M CSO FIN	3,927	2,801.1	40.2%	5,864.29	-33.0%	2,265	1,940	16.7%
NATURAL GAS 2 M CSO FIN	0	170	-100.0%	1.43	-100.0%	6	60	-90.5%
NATURAL GAS 3 M CSO FIN	0	670	-100.0%	0	-	176	637	-72.4%
NATURAL GAS 5 M CSO FIN	0	0	-	0	-	10	16	-37.3%
NATURAL GAS 6 M CSO FIN	318	652.5	-51.3%	576.19	-44.9%	408	280	45.7%
NATURAL GAS OPTION ON CALEND	149	100	49.0%	317.14	-53.0%	148	58	153.1%
NATURAL GAS PHY	93,703	190,291.25	-50.8%	161,643.76	-42.0%	100,947	125,130	-19.3%
NATURAL GAS WINTER STRIP	0	0	-	0	-	11	0	-
N ROCKIES PIPE SWAP	0	0	-	73.33	-100.0%	14	16	-12.1%
NY HARBOR HEAT OIL SWP	184	75.6	143.4%	286.14	-35.7%	142	147	-3.4%
NYISO ZONE G 5MW PEAK OPTIONS	0	0	-	0	-	0	79	-100.0%
NYMEX EUROPEAN GASOIL APO	0	0	-	0	-	0	0	-
PANHANDLE PIPE SWAP	0	0	-	0	-	0	34	-100.0%
PETROCHEMICALS	0	17.25	-100.0%	0.48	-100.0%	45	52	-12.9%
PETRO OUTRIGHT EURO	0	0	-	0	-	0	1	-100.0%
PETRO OUTRIGHT NA	12	0	-	17.14	-30.0%	3	0	995.5%
PJM WES HUB PEAK CAL MTH	3	7	-57.1%	3.81	-21.3%	7	16	-57.7%
PJM WES HUB PEAK LMP 50MW	0	22	-100.0%	4	-100.0%	30	57	-47.7%
RBOB 1MO CAL SPD OPTIONS	0	2.5	-100.0%	0	-	3	27	-89.7%
RBOB CALENDAR SWAP	11	0	-	3.57	215.0%	5	11	-53.1%
RBOB CRACK	0	0	-	0	-	0	0	-
RBOB PHY	440	526.95	-16.4%	698.86	-37.0%	576	1,174	-51.0%
ROTTERDAM 3.5%FUEL OIL CL	0	0	-	0	-	0	0	-
SAN JUAN PIPE SWAP	0	0	-	0	-	9	13	-33.9%
SHORT TERM	0	199.3	-100.0%	52.38	-100.0%	38	145	-73.8%
SHORT TERM NATURAL GAS	40	328.85	-87.8%	64.29	-37.8%	102	394	-74.2%
SINGAPORE GASOIL CALENDAR	0	0	-	0	-	0	0	-
SINGAPORE JET FUEL CALEND	0	0	-	0	-	0	0	-
SOCAL PIPE SWAP	0	0	-	0	-	0	0	-
WTI-BRENT BULLET SWAP	879	2,948.8	-70.2%	1,496.9	-41.3%	3,398	2,249	51.1%
WTI CRUDE OIL 1 M CSO FI	1,345	3,521.5	-61.8%	6,863.81	-80.4%	3,547	3,073	15.4%

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.

CME Group Exchange ADV Report - Monthly

December 2018

Page 14 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
Metals Futures								
ALUMINUM	319	816.8	-61.0%	683.71	-53.4%	619	624	-0.9%
COMEX COPPER	70,307	117,658.15	-40.2%	121,272.52	-42.0%	129,802	107,775	20.4%
COMEX E-Mini GOLD	233	249.6	-6.8%	453.67	-48.7%	383	368	4.0%
COMEX E-Mini SILVER	42	40.7	4.1%	49.86	-15.1%	53	39	37.5%
COMEX GOLD	206,600	259,329.35	-20.3%	302,440	-31.7%	318,657	290,048	9.9%
COMEX MINY COPPER	13	31.35	-58.2%	16.05	-18.4%	21	33	-37.4%
COMEX SILVER	65,031	69,405	-6.3%	109,482.14	-40.6%	95,187	91,773	3.7%
COPPER	52	197.25	-73.9%	67.48	-23.6%	69	36	91.6%
E-MICRO GOLD	7,773	4,152.1	87.2%	7,702	0.9%	7,147	4,548	57.1%
FERROUS PRODUCTS	60	3.75	1500.0%	89.9	-33.3%	80	6	1271.7%
GOLD	0	0	-	0	-	0	0	-100.0%
Gold Kilo	0	5.2	-100.0%	0	-	1	15	-96.3%
IRON ORE 62 CHINA PLATTS FUTUR	0	0	-	0	-	0	38	-100.0%
IRON ORE 62 CHINA TSI FUTURES	79	145.45	-45.7%	228.24	-65.4%	175	360	-51.3%
LNDN ZINC	29	0.8	3537.5%	139.57	-79.2%	56	1	9829.1%
NYMEX HOT ROLLED STEEL	360	276.55	30.3%	570.76	-36.9%	474	252	88.4%
NYMEX PLATINUM	24,908	28,476.75	-12.5%	17,754.71	40.3%	21,682	19,331	12.2%
PALLADIUM	3,744	3,644.5	2.7%	7,052.86	-46.9%	5,689	5,589	1.8%
SILVER	537	242.4	121.3%	592.71	-9.5%	399	283	40.8%
URANIUM	36	47.05	-24.1%	103.29	-65.4%	28	25	11.6%
Metals Options								
COMEX COPPER	1,277	1,006.45	26.9%	1,951.29	-34.6%	1,396	428	226.0%
COMEX GOLD	48,545	37,361.7	29.9%	42,331.76	14.7%	46,632	39,412	18.3%
COMEX SILVER	5,737	5,599.25	2.5%	8,047.71	-28.7%	7,330	5,733	27.9%
COPPER	2	0	-	6.43	-73.6%	3	0	-
GOLD	2,978	1,555.6	91.5%	2,411	23.5%	2,113	758	178.8%
HOT ROLLED COIL STEEL CALL OPT	0	60	-100.0%	14.29	-100.0%	1	6	-80.5%
IRON ORE 62 CHINA TSI CALL OPTIC	0	0	-	0	-	1	72	-98.9%
IRON ORE 62 CHINA TSI PUT OPTIO	0	0	-	0	-	5	104	-95.1%
NYMEX PLATINUM	128	315.25	-59.5%	129.57	-1.5%	180	147	22.6%
PALLADIUM	42	82.75	-48.9%	45.38	-6.9%	117	266	-55.9%
SILVER	156	6.95	2140.3%	172.81	-9.9%	108	7	1376.6%
Foreign Exchange Futures								
CHILEAN PESO	0	204.05	-100.0%	129.9	-100.0%	96	138	-30.8%
Foreign Exchange Options								
AUD/USD PQO 2pm Fix	131	6.9	1794.9%	22.81	473.2%	50	3	1518.7%

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.

CME Group Exchange ADV Report - Monthly

December 2018

Page 15 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
Ags Futures								
FERTILIZER PRODUCS	40	37.5	6.7%	125.95	-68.2%	54	23	139.0%
Ag Products Futures								
BUTTER CS	224	201.25	11.5%	242.43	-7.4%	209	161	30.0%
CASH-SETTLED CHEESE	751	643.25	16.8%	639.48	17.5%	541	511	5.9%
CATTLE	56,056	49,521.95	13.2%	69,854	-19.8%	65,239	64,403	1.3%
CDD SEASONAL STRIP	0	0	-	0	-	2	4	-45.7%
CDD WEATHER	0	0	-	0	-	9	105	-91.8%
CHI WHEAT	74,346	80,969.7	-8.2%	146,368.38	-49.2%	146,052	134,334	8.7%
CLASS IV MILK	119	16.15	635.3%	101.43	17.1%	43	42	3.6%
COCOA TAS	0	0.25	-100.0%	0	-	0	0	-94.6%
COFFEE	0	0	-	0	-	0	0	-100.0%
CORN	216,383	193,961.5	11.6%	461,454.67	-53.1%	386,457	358,075	7.9%
COTTON	0	0.05	0.0%	0.05	5.0%	0	0	9.5%
DJ_UBS ROLL SELECT INDEX FUTU	194	65.9	194.7%	0	-	82	34	137.1%
DOW-UBS COMMOD INDEX	5,259	8,174.6	-35.7%	2,770.14	89.8%	3,772	4,356	-13.4%
DRY WHEY	75	81.45	-8.5%	48.05	55.1%	67	83	-19.2%
FEEDER CATTLE	11,579	13,744.95	-15.8%	10,769.76	7.5%	14,004	14,111	-0.8%
FERTILIZER PRODUCS	125	108.5	15.0%	112.86	10.5%	109	86	25.6%
GOLDMAN SACHS	1,596	1,411.4	13.1%	1,510.29	5.7%	1,502	1,607	-6.5%
GSCI EXCESS RETURN FUT	5,918	5,698.25	3.9%	187.19	3061.5%	1,873	1,744	7.4%
HDD EURO SEASONAL STRIP	0	0	-	0	-	0	0	-
HDD SEASONAL STRIP	0	0	-	0	-	0	0	-
HDD WEATHER	15	376.95	-96.0%	202.38	-92.6%	57	37	55.3%
HDD WEATHER EUROPEAN	0	0	-	285.71	-100.0%	95	2	5876.3%
HOGS	37,665	36,562.5	3.0%	60,344.19	-37.6%	53,777	44,789	20.1%
HOUSING INDEX	1	0.15	333.3%	0.52	24.1%	0	1	-17.3%
Intercommodity Spread	0	0	-	0	-	0	0	-
KC WHEAT	31,320	33,036.75	-5.2%	65,491.62	-52.2%	60,879	50,291	21.1%
LUMBER	577	919.3	-37.2%	677.24	-14.8%	859	817	5.2%
MALAYSIAN PALM SWAP	343	202	69.8%	34.29	900.4%	204	419	-51.2%
MILK	1,431	1,270.1	12.7%	1,476.14	-3.1%	1,199	1,274	-5.9%
MINI CORN	308	275.85	11.7%	571.57	-46.1%	472	461	2.4%
MINI SOYBEAN	1,034	927.35	11.5%	1,161.71	-11.0%	1,086	816	33.1%
MINI WHEAT	153	137.95	10.6%	283.29	-46.1%	349	270	29.5%
MLK MID OPTIONS	0	0	-	0	-	0	0	-
NFD MILK	181	265.75	-32.0%	275.43	-34.4%	236	241	-2.0%
OATS	360	511.95	-29.7%	983.76	-63.4%	686	674	1.8%
ROUGH RICE	1,124	1,204	-6.6%	361.43	211.0%	918	1,080	-15.0%
SOYBEAN	213,232	260,696.9	-18.2%	163,791.48	30.2%	232,296	217,148	7.0%
SOYBEAN MEAL	105,286	124,538.15	-15.5%	117,627.9	-10.5%	126,345	103,571	22.0%
SOYBEAN OIL	122,782	135,143.35	-9.1%	149,489.48	-17.9%	124,071	120,447	3.0%
S&P GSCI ENHANCED ER SWAP	376	1,502.8	-75.0%	0	-	164	535	-69.3%
SUGAR 11	0	0	-	0	-	0	0	37.6%
USD CRUDE PALM OIL	34	65.5	-48.1%	22.86	48.8%	34	26	34.4%
WHEAT	587	20	2835.0%	911.19	-35.6%	713	482	48.1%

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.

CME Group Exchange ADV Report - Monthly

December 2018

Page 16 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
Ag Products Options								
AUG-NOV SOYBEAN CAL SPRD	0	0	-	0	-	0	0	-100.0%
BUTTER CS	244	113.65	114.7%	173.52	40.6%	195	92	113.1%
CASH-SETTLED CHEESE	778	807.3	-3.7%	382.19	103.5%	500	476	4.9%
CATTLE	7,288	9,559.95	-23.8%	7,728.67	-5.7%	10,482	11,559	-9.3%
CDD SEASONAL STRIP	0	0	-	0	-	3	11	-75.1%
CDD WEATHER	0	0	-	0	-	0	187	-100.0%
CHI WHEAT	25,911	21,422.3	21.0%	25,902.19	0.0%	37,316	29,935	24.7%
CLASS IV MILK	144	49.25	193.1%	77.76	85.6%	62	81	-24.0%
CORN	56,166	45,363.05	23.8%	78,325	-28.3%	101,357	95,159	6.5%
CORN NEARBY+2 CAL SPRD	494	5	9785.0%	227.62	117.1%	162	64	154.7%
DEC-DEC CORN CAL SPRD	0	3.8	-100.0%	0	-	82	48	70.5%
DEC-JULY CORN CAL SPRD	0	0	-	98.81	-100.0%	77	159	-51.3%
DEC-JULY WHEAT CAL SPRD	0	0	-	2.38	-100.0%	7	8	-18.6%
DRY WHEY	21	42.35	-50.5%	4.19	399.9%	28	30	-6.9%
FEEDER CATTLE	1,016	1,722.1	-41.0%	1,176.14	-13.6%	1,344	1,644	-18.2%
HDD EURO SEASONAL STRIP	0	0	-	23.81	-100.0%	2	10	-80.1%
HDD SEASONAL STRIP	0	0	-	0	-	36	64	-44.0%
HDD WEATHER	0	0	-	4.76	-100.0%	1	5	-72.1%
HDD WEATHER EUROPEAN	0	0	-	0	-	0	6	-100.0%
HOGS	7,897	6,948.05	13.7%	10,829.29	-27.1%	10,991	10,107	8.7%
HOUSING INDEX	0	0	-	0	-	0	0	-100.0%
Intercommodity Spread	0	0	-	18.81	-100.0%	45	3	1528.8%
JAN-MAY SOYBEAN CAL SPRD	0	0	-	0	-	0	0	-100.0%
JULY-DEC CORN CAL SPRD	26	20	30.0%	19.05	36.5%	46	71	-34.6%
JULY-DEC SOYMEAL CAL SPRD	0	0	-	0	-	5	0	-
JULY-DEC SOY OIL CAL SPRD	0	0	-	0	-	0	3	-100.0%
JULY-DEC WHEAT CAL SPRD	0	0	-	9.52	-100.0%	10	6	61.7%
JULY-NOV SOYBEAN CAL SPRD	24	27.25	-13.0%	37.95	-37.6%	236	285	-17.1%
KC WHEAT	3,615	1,645.25	119.7%	2,569.57	40.7%	4,005	2,112	89.6%
LUMBER	104	80.45	28.7%	73	41.8%	86	65	32.4%
LV CATL CSO	1	0	-	0.67	87.5%	1	8	-82.8%
MAR-JULY CORN CAL SPRD	0	0	-	0	-	0	0	-100.0%
MAR-JULY WHEAT CAL SPRD	88	32.25	171.3%	0	-	8	9	-12.3%
MILK	2,031	1,423.85	42.6%	1,779.29	14.1%	1,699	1,678	1.3%
MLK MID OPTIONS	1	3.9	-67.9%	0.33	275.0%	2	3	-42.2%
NFD MILK	193	243.6	-20.7%	332.57	-41.9%	240	211	13.7%
NOV-JULY SOYBEAN CAL SPRD	0	0	-	0	-	0	7	-99.9%
NOV-MAR SOYBEAN CSO	0	0	-	0	-	1	0	-
NOV-NOV SOYBEAN CAL SPRD	0	0	-	0	-	0	1	-28.3%
OATS	20	30.9	-36.6%	30.95	-36.7%	27	56	-51.8%
ROUGH RICE	47	46.2	2.6%	42.57	11.3%	73	99	-26.4%
SEP-DEC SOYBEAN MEAL CSO	0	0	-	0	-	5	0	-
SOYBEAN	53,628	57,998.7	-7.5%	64,204.57	-16.5%	75,520	67,652	11.6%
SOYBEAN CRUSH	0	1.25	-100.0%	0	-	1	3	-75.1%
SOYBEAN MEAL	4,928	12,661.5	-61.1%	6,833.91	-27.9%	12,641	8,606	46.9%
SOYBEAN OIL	4,787	5,861.55	-18.3%	6,146.19	-22.1%	5,656	8,168	-30.8%
SOYBN NEARBY+2 CAL SPRD	0	0	-	0	-	0	4	-99.1%
SOYMEAL NEARBY+2 CAL SPRD	0	0	-	0	-	33	0	-
WHEAT	5	17.5	-71.4%	83.9	-94.0%	28	8	272.6%

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.

CME Group Exchange ADV Report - Monthly

December 2018

Page 17 of 17

	ADV DEC 2018	ADV DEC 2017	% CHG	ADV NOV 2018	% CHG	ADV Y.T.D 2018	ADV Y.T.D 2017	% CHG
Ag Products Options								
WHEAT-CORN IC50	0	114.5	-100.0%	0	-	23	39	-41.5%
WHEAT NEARBY+2 CAL SPRD	8	30.5	-73.8%	14.52	-44.9%	56	71	-21.1%
TOTAL FUTURES GROUP								
Interest Rate Futures	7,829,457	5,182,539.95	51.1%	9,211,572.48	-15.0%	7,539,743	6,073,198	24.1%
Equity Index Futures	4,140,489	2,290,052.4	80.8%	2,873,670.48	44.1%	2,757,617	2,001,034	37.8%
Metals Futures	380,123	484,722.75	-21.6%	568,699.48	-33.2%	580,521	521,143	11.4%
Energy Futures	2,051,432	2,042,079.35	0.5%	2,635,469.14	-22.2%	2,243,479	2,251,335	-0.3%
FX Futures	965,977	963,985.55	0.2%	832,207.33	16.1%	930,325	842,596	10.4%
Foreign Exchange Futures	0	204.05	-100.0%	129.9	-100.0%	96	138	-30.8%
Ags Futures	40	37.5	6.7%	125.95	-68.2%	54	23	139.0%
Ag Products Futures	889,433	952,256.45	-6.6%	1,258,050.91	-29.3%	1,224,403	1,123,036	9.0%
TOTAL FUTURES	16,256,951	11,915,878	36.4%	17,379,925.67	-6.5%	15,276,237.83	12,812,503.04	19.2%
TOTAL OPTIONS GROUP								
Interest Rate Options	2,405,752	1,720,205.85	39.9%	2,677,341.09	-10.1%	2,411,543	2,116,143	14.0%
Equity Index Options	974,032	656,542	48.4%	801,083.48	21.6%	823,564	672,403	22.5%
Metals Options	58,865	45,987.95	28.0%	55,110.24	6.8%	57,886	46,934	23.3%
Energy Options	289,265	337,934.75	-14.4%	491,911.05	-41.2%	317,701	325,835	-2.5%
FX Options	59,991	63,061	-4.9%	71,591.81	-16.2%	73,758	77,835	-5.2%
Ag Products Options	169,464	166,275.95	1.9%	207,153.71	-18.2%	263,093	238,813	10.2%
Foreign Exchange Options	131	6.9	1794.9%	22.81	473.2%	50	3	1518.7%
TOTAL OPTIONS	3,957,499	2,990,014.4	32.4%	4,304,214.19	-8.1%	3,947,593.96	3,477,966.07	13.5%
TOTAL COMBINED								
FX	1,025,968	1,027,046.55	-0.1%	903,799.14	13.5%	1,004,083	920,431	9.1%
Equity Index	5,114,521	2,946,594.4	73.6%	3,674,753.95	39.2%	3,581,180	2,673,437	34.0%
Interest Rate	10,235,209	6,902,745.8	48.3%	11,888,913.57	-13.9%	9,951,285	8,189,341	21.5%
Energy	2,340,697	2,380,014.1	-1.7%	3,127,380.19	-25.2%	2,561,181	2,577,169	-0.6%
Metals	438,988	530,710.7	-17.3%	623,809.71	-29.6%	638,407	568,077	12.4%
Foreign Exchange	131	210.95	-38.0%	152.71	-14.4%	146	142	2.8%
Ags	40	37.5	6.7%	125.95	-68.2%	54	23	139.0%
Ag Products	1,058,897	1,118,532.4	-5.3%	1,465,204.62	-27.7%	1,487,496	1,361,849	9.2%
GRAND TOTAL	20,214,450	14,905,892.4	35.6%	21,684,139.86	-6.8%	19,223,831.79	16,290,469.11	18.0%

*** Note - KC HRW Wheat monthly and YTD volume comparatives to prior year is not using a complete year, since collection of 2013 volume data did not start until April 15, 2013.

The information herein is taken from source believed to be reliable. However, it is intended for the purposes of information and education only and is not guaranteed by the CME Group as to accuracy, completeness, nor trading results and does not constitute advice or continue a solicitation of the purchase or sale of any futures or options. The Rules and Regulations of the CME Group should be consulted as the authoritative source on all current contract specifications and regulations. The previous year Average Daily Volume (ADV) may slightly differ for CBOT legacy products based on the way CME Group defines the number of trading days. The open interest values are based on preliminary open interest values only.