

CME Group Exchange ADV Report - Monthly

November 2016

Page 1 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Commodities and Alternative Investments Futures								
HDD SEASONAL STRIP	0	11.25	-100.0%	16.67	-100.0%	2	4	-59.7%
CDD SEASONAL STRIP	0	0	-	0	-	7	6	22.9%
CDD WEATHER	0	0	-	0	-	15	24	-38.3%
HDD WEATHER EUROPEAN	0	2.5	-100.0%	2.38	-100.0%	3	0	1324.1%
HDD WEATHER	76	73.75	3.4%	48.81	56.2%	15	33	-54.5%
HOUSING INDEX	2	0.85	157.7%	0.67	228.6%	1	0	63.6%
USD CRUDE PALM OIL	0	0	-	55.24	-100.0%	11	0	-
CAT EURO SEASONAL STRIP	0	0	-	0	-	1	0	-
MILK	1,340	1,124.4	19.1%	1,149.57	16.5%	1,231	1,089	13.0%
HDD EURO SEASONAL STRIP	0	0	-	2.38	-100.0%	1	0	119.0%
CASH-SETTLED CHEESE	350	590.6	-40.7%	404.71	-13.5%	476	486	-2.2%
CAT WEATHER EUROPEAN	0	0	-	0	-	0	0	-
LIVE CATTLE	59,881	60,695.65	-1.3%	48,963.38	22.3%	52,174	53,126	-1.8%
BUTTER CS	136	104.25	30.7%	250.71	-45.7%	158	122	29.0%
LUMBER	646	573.75	12.7%	786.19	-17.8%	702	796	-11.8%
DRY WHEY	87	98.5	-12.0%	86.67	0.1%	61	85	-27.7%
CLASS IV MILK	68	33.65	100.7%	90.38	-25.3%	55	48	15.4%
NFD MILK	196	262.95	-25.5%	258.67	-24.3%	225	200	12.4%
GSCI EXCESS RETURN FUT	19	44.55	-57.7%	81.71	-76.9%	1,100	1,004	9.5%
LEAN HOGS	43,590	41,833.95	4.2%	36,318.57	20.0%	36,196	37,849	-4.4%
FEEDER CATTLE	9,108	9,611.2	-5.2%	11,965.43	-23.9%	10,116	9,854	2.7%
MLK MID	0	0	-	0	-	0	0	-
GOLDMAN SACHS	1,829	1,445.9	26.5%	1,594.86	14.7%	1,409	1,401	0.5%
COCOA TAS	1	24.9	-97.3%	1.43	-53.3%	11	7	56.4%
SUGAR 11	0	8.85	-98.4%	0.1	50.1%	2	6	-70.8%
COFFEE	0	1.85	-97.4%	0.14	-66.7%	1	3	-70.9%
COTTON	0	0.9	-89.4%	0.43	-77.8%	2	2	8.0%
MINI WHEAT	297	321.3	-7.6%	256.81	15.6%	305	328	-7.1%
CORN	396,176	436,826.35	-9.3%	253,398.67	56.3%	353,428	328,436	7.6%
SOYBEAN MEAL	102,709	107,372.1	-4.3%	93,703.1	9.6%	103,443	96,108	7.6%
SOYBEAN OIL	149,750	133,368.5	12.3%	113,996.62	31.4%	116,145	114,218	1.7%
ROUGH RICE	634	955.35	-33.6%	1,726.33	-63.3%	1,168	1,250	-6.6%
DOW-UBS COMMOD INDEX	1,546	1,195.6	29.3%	790.29	95.6%	1,536	1,460	5.2%
MINI SOYBEAN	1,485	613.55	142.0%	1,691.52	-12.2%	1,191	906	31.4%
OATS	1,021	1,248.95	-18.3%	1,045.57	-2.4%	931	769	21.1%
SOYBEAN	194,527	165,729.25	17.4%	282,701.62	-31.2%	246,057	213,814	15.1%
MINI CORN	756	566.65	33.4%	557.29	35.6%	586	524	11.7%
ETHANOL	763	560.55	36.2%	556.29	37.2%	671	742	-9.5%
FERTILIZER PRODUCTS	132	148.75	-11.5%	55.1	139.0%	95	107	-11.7%
S&P GSCI ENHANCED ER SWAP	0	0	-	0	-	357	413	-13.7%
Intercommodity Spread	0	0	-	0	-	0	0	-
KC WHEAT	53,363	45,506.9	17.3%	33,890.43	57.5%	39,242	29,091	34.9%
MALAYSIAN PALM SWAP	331	217	52.6%	639.81	-48.2%	450	215	109.2%
DJ_UBS ROLL SELECT INDEX FUTU	0	0	-	7.81	-100.0%	13	32	-60.4%
CHI WHEAT	155,717	157,218	-1.0%	104,793.19	48.6%	127,626	122,927	3.8%
PALM OIL	0	10	-100.0%	0	-	0	1	-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

November 2016

Page 2 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Commodities and Alternative Investments Options								
HDD SEASONAL STRIP	48	5	852.4%	642.86	-92.6%	84	68	24.9%
CDD SEASONAL STRIP	0	0	-	0	-	127	265	-52.2%
CDD WEATHER	0	0	-	0	-	4	1	630.1%
HDD WEATHER EUROPEAN	0	0	-	0	-	24	12	100.8%
HDD WEATHER	0	0	-	47.62	-100.0%	4	11	-60.9%
HOUSING INDEX	0	0	-	0	-	0	0	-
LV CATL CSO	0	0	-	0.24	0.0%	1	0	265.1%
MILK	1,532	933.05	64.2%	1,615.14	-5.2%	1,427	1,049	36.0%
HDD EURO SEASONAL STRIP	0	0	-	0	-	11	30	-63.5%
CASH-SETTLED CHEESE	306	556.15	-45.1%	497.52	-38.6%	355	316	12.3%
CAT WEATHER EUROPEAN	0	0	-	0	-	0	12	-100.0%
LIVE CATTLE	12,290	21,355.4	-42.5%	13,773.67	-10.8%	16,403	15,709	4.4%
BUTTER CS	60	10.05	496.5%	61.67	-2.8%	59	48	22.3%
LUMBER	53	38.6	37.9%	80	-33.5%	50	53	-5.4%
DRY WHEY	4	1	257.2%	5.76	-38.0%	4	12	-62.0%
CLASS IV MILK	51	19.5	162.0%	51.95	-1.6%	52	33	55.5%
NFD MILK	64	206	-69.1%	162.05	-60.7%	145	182	-20.2%
LEAN HOGS	7,367	15,059.35	-51.1%	10,616.48	-30.6%	8,703	11,216	-22.4%
FEEDER CATTLE	1,487	1,607.85	-7.5%	1,807.43	-17.7%	1,658	1,728	-4.0%
MLK MID	8	2.4	233.3%	2.05	290.7%	3	2	54.1%
JULY-DEC WHEAT CAL SPRD	5	0	-	9.52	-50.0%	146	62	135.0%
CORN	62,184	71,169.9	-12.6%	75,184.95	-17.3%	93,996	95,455	-1.5%
SOYBEAN MEAL	7,141	12,314.5	-42.0%	7,114.48	0.4%	9,235	11,501	-19.7%
SOYBEAN OIL	9,566	9,604.25	-0.4%	7,643.86	25.1%	9,237	8,534	8.2%
AUG-NOV SOYBEAN CAL SPRD	0	0	-	0	-	0	0	-
DEC-JULY CORN CAL SPRD	301	1.75	17124.5%	186.9	61.3%	115	40	188.7%
DEC-DEC CORN CAL SPRD	1	36.75	-97.8%	1.62	-50.0%	77	17	361.9%
NOV-JULY SOYBEAN CAL SPRD	0	0	-	0	-	0	0	-100.0%
JULY-JULY WHEAT CAL SPRD	0	0	-	0	-	2	0	-
NOV-NOV SOYBEAN CAL SPRD	0	0	-	0.52	-100.0%	13	1	1100.7%
ROUGH RICE	72	73.15	-1.5%	59.29	21.5%	83	92	-9.4%
WHEAT	0	3.75	-100.0%	0	-	0	3	-100.0%
WHEAT-CORN ICSO	86	18	376.2%	152.86	-43.9%	76	81	-6.3%
CORN NEARBY+2 CAL SPRD	116	495.75	-76.7%	102.76	12.5%	153	208	-26.6%
SOYBN NEARBY+2 CAL SPRD	0	0	-	47.62	-100.0%	6	1	448.0%
WHEAT NEARBY+2 CAL SPRD	365	323.6	12.8%	141.05	158.7%	234	535	-56.3%
SOY OIL NEARBY+2 CAL SPRD	0	0	-	0	-	0	0	-100.0%
SOYMEAL NEARBY+2 CAL SPRD	0	0	-	0	-	16	1	1281.8%
JULY-DEC CORN CAL SPRD	0	54.8	-100.0%	0	-	159	143	11.4%
DEC-JULY WHEAT CAL SPRD	4	0	-	19.76	-81.9%	3	0	1746.8%
JULY-NOV SOYBEAN CAL SPRD	151	111.15	35.6%	74.14	103.3%	284	147	93.2%
OATS	150	79.75	87.7%	153.9	-2.8%	75	83	-9.3%
SOYBEAN	58,756	52,024.9	12.9%	58,484.19	0.5%	82,367	73,768	11.7%
JULY-DEC SOY OIL CAL SPRD	48	0	-	0	-	4	0	2333.4%
SOYBEAN CRUSH	1	23.15	-95.9%	4.24	-77.5%	21	11	93.6%
SEP-DEC SOYBEAN MEAL CSO	0	0	-	0	-	0	4	-100.0%
AUG-DEC SOYBEAN MEAL CSO	0	0	-	0	-	0	0	-
Intercommodity Spread	2	0	-	0	-	15	4	293.6%
KC WHEAT	913	1,954.85	-53.3%	530.95	72.0%	1,416	1,839	-23.0%

*** 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

November 2016

Page 3 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Commodities and Alternative Investments Options								
MAR-JULY WHEAT CAL SPRD	33	85.4	-61.0%	0	-	10	48	-78.7%
MAR-JULY CORN CAL SPRD	0	15	-100.0%	0	-	10	11	-4.3%
MAR-DEC CORN CAL SPRD	0	0	-	0	-	0	21	-100.0%
CHI WHEAT	26,513	22,606.7	17.3%	21,983	20.6%	28,237	29,389	-3.9%
FX Futures								
TURKISH LIRA	0	0.1	42.9%	0.43	-66.7%	0	0	-82.6%
TURKISH LIRA (EU)	0	0	-	0	-	0	0	-100.0%
JAPANESE YEN	185,208	110,060.7	68.3%	111,578.9	66.0%	144,749	143,006	1.2%
KOREAN WON	0	1.75	-86.4%	0	-	1	3	-76.9%
CD/JY CROSS RATES	0	0	-	0	-	0	1	-93.7%
CANADIAN DOLLAR	76,869	52,020.7	47.8%	71,764.67	7.1%	74,823	68,387	9.4%
AD/NE CROSS RATES	1	0.45	16.4%	0.43	22.2%	3	2	32.5%
BRITISH POUND	127,554	75,317.65	69.4%	129,278.86	-1.3%	115,230	95,433	20.7%
RUSSIAN RUBLE	1,558	1,726.8	-9.8%	1,048.76	48.5%	1,726	1,579	9.3%
SWISS FRANC	28,763	22,919.1	25.5%	21,638.67	32.9%	23,130	22,270	3.9%
NEW ZEALND DOLLAR	27,069	17,206.4	57.3%	22,596.62	19.8%	23,297	19,921	16.9%
BP/JY CROSS RATES	81	44.1	84.8%	55.81	46.0%	88	61	43.7%
SHEKEL	0	0	-	0	-	0	0	-100.0%
E-MICRO USD/CAD	0	0	-	0	-	0	0	100.8%
E-MICRO GBP/USD	6,400	1,422.35	350.0%	6,590.9	-2.9%	4,223	1,929	118.9%
E-MICRO USD/CHF	0	0.1	-100.0%	0	-	0	0	-87.9%
E-MICRO EUR/USD	15,389	12,549.05	22.6%	10,032	53.4%	13,281	17,098	-22.3%
E-MICRO USD/JPY	0	0.05	-100.0%	0	-	0	0	-96.1%
E-MICRO AUD/USD	5,988	2,188.65	173.6%	4,791.71	25.0%	4,971	2,579	92.8%
AUSTRALIAN DOLLAR	110,236	80,023.6	37.8%	88,794.33	24.1%	102,007	92,421	10.4%
E-MINI JAPANESE YEN	1,710	448.35	281.3%	878.95	94.5%	1,567	841	86.3%
EFX/JY CROSS RATES	1,847	1,670.3	10.6%	1,171.57	57.6%	2,021	2,195	-7.9%
RMB USD	9	9.6	-7.7%	2.33	279.6%	15	21	-26.5%
EFX/BP CROSS RATES	2,803	2,112.95	32.7%	3,469.43	-19.2%	3,725	3,055	21.9%
EFX/SF CROSS RATES	1,335	1,037.55	28.6%	2,324.14	-42.6%	1,805	1,625	11.1%
INDIAN RUPEE	1,167	452.65	157.9%	504.86	131.2%	628	515	21.8%
EC/SEK CROSS RATES	8	2.7	185.7%	5.14	50.0%	12	20	-39.8%
S.AFRICAN RAND	1,359	806.9	68.4%	1,017.1	33.6%	897	855	4.9%
MEXICAN PESO	69,307	33,944.6	104.2%	52,029.19	33.2%	56,390	43,287	30.3%
EURO FX	218,895	212,149.5	3.2%	159,856.14	36.9%	191,894	258,324	-25.7%
EC/CD CROSS RATES	117	61.65	89.6%	82.24	42.2%	120	126	-4.5%
EC/NOK CROSS RATES	0	0.2	-100.0%	0	-	0	3	-98.7%
EC/AD CROSS RATES	44	39.8	10.7%	29.19	50.9%	80	98	-18.4%
BP/SF CROSS RATES	2	0.15	1360.3%	3.1	-29.2%	2	6	-67.9%
E-MINI EURO FX	4,340	4,025.8	7.8%	2,642.52	64.3%	3,639	5,855	-37.9%
MICRO CHF/USD	81	84.35	-3.6%	77.43	5.0%	89	111	-20.1%
POLISH ZLOTY (EC)	2	0	-	1.52	31.3%	86	26	235.6%
AD/JY CROSS RATES	177	148.45	19.0%	93.62	88.7%	190	195	-2.5%
AD/CD CROSS RATES	0	0.3	-20.6%	0.19	25.0%	0	1	-72.4%
HUNGARIAN FORINT (US)	0	0	-	0	-	0	0	-100.0%
POLISH ZLOTY (US)	149	10.85	1270.2%	100.62	47.8%	74	33	121.8%

*** 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

November 2016

Page 4 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
FX Futures								
SKR/USD CROSS RATES	48	44.6	6.7%	64.76	-26.5%	89	61	46.5%
NKR/USD CROSS RATE	67	31.65	112.7%	52.81	27.5%	83	57	45.8%
BRAZIL REAL	4,367	4,095.35	6.6%	4,152.29	5.2%	4,011	2,781	44.2%
FCXRX	390	0	-	143.71	171.2%	54	0	-
CHINESE RENMINBI (CNH)	161	110.35	46.1%	73	120.8%	77	52	47.6%
USDZAR	2	2	-4.8%	0	-	0	2	-91.3%
E-MICRO INR/USD	274	2.95	9197.8%	91.48	199.8%	115	10	1033.6%
E-MICRO USD/CNH	0	0.7	-100.0%	0	-	0	1	-81.8%
E-MICRO JPY/USD	2,781	350	694.6%	983.57	182.7%	1,497	594	151.9%
E-MICRO CAD/USD	989	474.9	108.4%	1,092.67	-9.4%	1,006	625	61.0%
FX Options								
AUSTRALIAN DLR (EU)	0	3.6	-100.0%	0	-	5	5	-2.8%
JAPANESE YEN	13,336	9,628.25	38.5%	9,989.43	33.5%	14,445	11,451	26.1%
EURO FX (EU)	5	223.85	-97.7%	4	31.0%	124	237	-47.7%
CANADIAN DOLLAR	2,471	4,329.75	-42.9%	3,844.19	-35.7%	6,121	5,563	10.0%
BRITISH POUND	7,063	8,233.75	-14.2%	11,748.19	-39.9%	9,642	10,158	-5.1%
RUSSIAN RUBLE	0	0	-	0	-	6	2	176.9%
CANADIAN DOLLAR (EU)	0	3.3	-89.9%	0.71	-53.3%	8	6	24.9%
SWISS FRANC	322	1,245.35	-74.1%	195.71	64.5%	298	676	-55.9%
BRITISH POUND (EU)	1	16.75	-96.3%	3.29	-81.2%	40	30	30.6%
NEW ZEALND DOLLAR	0	0	-	0	-	0	0	-100.0%
AUSTRALIAN DOLLAR	4,373	5,586.25	-21.7%	4,372.43	0.0%	6,232	6,066	2.7%
MEXICAN PESO	576	60.85	846.2%	399.71	44.0%	216	70	210.3%
EURO FX	28,709	43,383.2	-33.8%	20,943.62	37.1%	31,442	48,879	-35.7%
JAPANESE YEN (EU)	2	10.9	-83.4%	0	-	26	18	44.0%
CAD/USD PQO 2pm Fix	2,365	0	-	1,618.29	46.2%	460	0	-
JPY/USD PQO 2pm Fix	7,068	0	-	1,763.38	300.8%	935	0	-
CHF/USD PQO 2pm Fix	258	0	-	67.52	282.2%	34	0	-
AUD/USD PQO 2pm Fix	3,094	0	-	1,187.67	160.5%	452	0	-
EUR/USD PQO 2pm Fix	11,901	0	-	4,861.71	144.8%	1,738	0	-
GBP/USD PQO 2pm Fix	2,860	0	-	2,692.76	6.2%	614	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

November 2016

Page 5 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Equity Index Futures								
E-MINI RUSSELL 1000	4	37.7	-90.5%	6.24	-42.7%	18	12	59.0%
DJ US REAL ESTATE	1,079	557.65	93.5%	687.71	56.9%	888	702	26.5%
E-MINI NASDAQ 100	256,987	221,558.25	16.0%	224,570.38	14.4%	265,255	266,049	-0.3%
S&P ENERGY SECTOR	828	494.3	67.5%	477.43	73.4%	534	375	42.5%
S&P MATERIALS SECTOR	645	150.9	327.7%	214.9	200.3%	318	165	93.1%
S&P FINANCIAL SECTOR	1,014	205.15	394.3%	524.76	93.2%	624	252	148.0%
S&P HEALTH CARE SECTOR	947	494.1	91.7%	270.29	250.4%	564	571	-1.2%
S&P INDUSTRIAL SECTOR	1,283	191.95	568.2%	171.38	648.3%	488	171	185.3%
S&P UTILITIES SECTOR	1,116	481.15	132.0%	735.86	51.7%	1,158	547	111.8%
S&P TECHNOLOGY SECTOR	240	166.5	44.0%	103.14	132.4%	300	239	25.4%
S&P CONSUMER DSCRTNRY SECTC	699	329.35	112.4%	319.76	118.7%	577	530	8.8%
S&P 500	5,332	6,719.55	-20.6%	4,813.38	10.8%	8,448	11,955	-29.3%
E-MICRO NIFTY	0	0	-	0	-	0	4	-100.0%
NASDAQ	0	0	-	0	-	0	360	-100.0%
E-MINI MIDCAP	16,799	16,636.4	1.0%	16,030.1	4.8%	21,071	21,269	-0.9%
NIKKEI 225 (\$) STOCK	13,916	10,545.9	32.0%	9,215.29	51.0%	17,232	16,746	2.9%
NIKKEI 225 (YEN) STOCK	63,052	44,103.95	43.0%	40,562.86	55.4%	59,531	52,777	12.8%
IBOVESPA INDEX	35	14.1	146.2%	57.33	-39.5%	34	20	70.7%
S&P 600 SMALLCAP EMINI	0	0.05	-100.0%	0	-	0	0	-100.0%
S&P CONSUMER STAPLES SECTOR	873	131.35	564.3%	508.95	71.5%	1,270	610	108.1%
E-MINI S&P500	1,821,426	1,432,148.8	27.2%	1,549,152.67	17.6%	1,889,743	1,698,827	11.2%
S&P 500/VALUE	471	109.65	329.6%	414.29	13.7%	498	24	1962.5%
S&P 500 GROWTH	1	0.75	-30.2%	0.57	-8.3%	1	2	-36.9%
S&P 400 MIDCAP	0	0	-	0	-	0	27	-100.0%
MINI \$5 DOW	185,123	128,307.3	44.3%	155,905.48	18.7%	171,551	160,479	6.9%
DJIA	0	0	-	0	-	0	147	-100.0%
FT-SE 100	107	68.7	56.2%	67.62	58.7%	83	18	361.5%
NIFTY 50	528	94.7	458.1%	633.05	-16.5%	499	73	582.4%
E-MINI RUSSELL 1000 GROWTH	6	18.45	-69.0%	0.76	650.0%	12	7	68.8%
E-MINI RUSSELL 1000 VALUE	4	21.85	-80.4%	2.33	83.7%	35	7	419.1%
NASDAQ BIOTECH	23	3.15	622.6%	0.86	2555.7%	4	7	-44.9%

*** 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

November 2016

Page 6 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Equity Index Options								
E-MINI NASDAQ 100	9,547	8,043.25	18.7%	9,085.52	5.1%	10,413	6,069	71.6%
S&P 500	17,872	30,637.1	-41.7%	6,669.05	168.0%	23,400	35,968	-34.9%
EOW4 EMINI S&P 500	35,553	31,615.35	12.5%	44,233.19	-19.6%	51,701	46,423	11.4%
EOW2 S&P 500	6,409	4,363.2	46.9%	5,325.95	20.3%	6,170	3,764	63.9%
EOW1 EMINI S&P 500	49,447	50,832.85	-2.7%	56,419.62	-12.4%	47,603	45,661	4.3%
NASDAQ	0	0	-	0	-	0	0	-100.0%
EOW1 S&P 500	2,106	2,273.3	-7.3%	4,432.29	-52.5%	2,898	1,508	92.2%
E-MINI MIDCAP	0	0.35	-100.0%	0	-	0	0	-49.7%
EOM S&P 500	7,647	5,028.35	52.1%	6,420.19	19.1%	8,213	5,061	62.3%
EOM EMINI S&P	105,532	32,845.35	221.3%	64,548.33	63.5%	80,583	52,482	53.5%
EOW2 EMINI S&P 500	90,841	47,743.15	90.3%	53,109.76	71.0%	52,407	49,638	5.6%
E-MINI S&P500	258,794	287,166.2	-9.9%	112,101.48	130.9%	234,136	307,383	-23.8%
MINI \$5 DOW	440	595.3	-26.0%	253.52	73.6%	507	548	-7.5%
DJIA	0	0	-	0	-	0	0	-100.0%
EOW3 EMINI S&P 500	199,899	0	-	209,428.52	-4.6%	105,156	0	-
EOW3 S&P 500	18,881	0	-	20,682	-8.7%	12,421	0	-

Interest Rate Futures

5-YR SWAP RATE	3,638	1,732.35	110.0%	1,784.38	103.9%	2,961	2,752	7.6%
2-YR SWAP RATE	0	27.95	-99.3%	0	-	19	152	-87.4%
10-YR SWAP RATE	2,129	1,620.4	31.4%	1,573.38	35.3%	2,315	2,990	-22.6%
1-MONTH EUROSOLLAR	103	405.75	-74.5%	18.62	455.2%	56	251	-77.8%
EUROSOLLARS	4,037,766	1,996,893.5	102.2%	2,017,421.62	100.1%	2,567,700	2,319,815	10.7%
7-YR SWAP	0	122.55	-100.0%	0	-	13	31	-57.3%
30-YR BOND	414,628	281,287.4	47.4%	240,140.29	72.7%	283,909	284,196	-0.1%
5-YR NOTE	1,430,769	1,025,633.55	39.5%	546,872.67	161.6%	814,543	753,785	8.1%
10-YR NOTE	2,204,596	1,430,623.9	54.1%	1,089,443.76	102.4%	1,417,999	1,297,791	9.3%
2-YR NOTE	548,792	397,320.9	38.1%	273,020.19	101.0%	333,768	328,224	1.7%
30-YR SWAP RATE	81	36.35	124.1%	41.71	95.3%	81	141	-42.8%
ULTRA T-BOND	196,347	156,752.3	25.3%	79,320.33	147.5%	115,157	115,151	0.0%
FED FUND	161,391	66,347.3	143.3%	109,728.19	47.1%	135,276	80,031	69.0%
Ultra 10-Year Note	148,362	0	-	62,294.24	138.2%	65,556	0	-
EURO 5YR BUNDLE	0	0	-	0	-	0	0	-100.0%
3YR BUNDLE	0	0	-	0	-	0	1	-100.0%
2YR BUNDLE	0	0	-	0	-	0	2	-100.0%

Interest Rate Options

EURO MIDCURVE	1,011,677	622,405.85	62.5%	377,281.71	168.1%	533,133	519,266	2.7%
EUROSOLLARS	774,817	408,918.5	89.5%	453,792.57	70.7%	686,645	443,788	54.7%
30-YR BOND	112,386	63,808.7	76.1%	81,015.14	38.7%	85,873	83,189	3.2%
5-YR NOTE	132,859	115,128.15	15.4%	62,107.05	113.9%	96,143	90,026	6.8%
10-YR NOTE	659,395	286,095.25	130.5%	316,476.62	108.4%	384,187	386,648	-0.6%
2-YR NOTE	6,703	8,859.05	-24.3%	5,612.29	19.4%	6,959	9,534	-27.0%
ULTRA T-BOND	450	174	158.6%	673.05	-33.1%	368	417	-11.7%
FED FUND	465	1,345.45	-65.4%	112.38	313.7%	404	1,343	-69.9%
Ultra 10-Year Note	196	0	-	296.19	-33.7%	179	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

November 2016

Page 7 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Energy Futures								
CAISO SP15 EZGNHUB5 MW P	0	0	-	853.81	-100.0%	78	0	-
ERCOT NORTH ZMCPE 5MW OFFPE	0	0	-	0	-	0	0	-
ELEC ERCOT OFF PEAK	0	0	-	0	-	0	69	-100.0%
RBOB GAS	192	61	214.0%	66.48	188.1%	74	71	4.3%
ELEC ERCOT DLY PEAK	0	10.25	-100.0%	0	-	0	5	-100.0%
ERCOT NORTH ZMCPE 5MW OFFPE	0	0	-	0	-	19	114	-83.7%
ERCOT NORTH ZMCPE 5MW PEAK	0	10.25	-100.0%	0	-	1	12	-91.6%
SINGAPORE JET KERO VS. GASOIL	0	0	-	2.38	-100.0%	0	0	9.6%
PETRO OUTRIGHT EURO	500	441.5	13.2%	586	-14.7%	455	414	9.9%
MONT BELVIEU LDH PROPANE OPIS	29	33.75	-14.9%	70.9	-59.5%	42	31	36.0%
MONT BELVIEU ETHANE OPIS BALM	4	0	-	20.24	-82.4%	7	11	-38.8%
CONWAY NATURAL GASOLINE (OPI	1	7.7	-81.4%	0	-	7	4	79.5%
PETROCHEMICALS	175	217.95	-19.7%	215.67	-18.9%	258	182	41.5%
CONWAY PROPANE 5 DECIMALS S	375	256.55	46.3%	504.48	-25.6%	347	220	57.8%
CONWAY NORMAL BUTANE (OPIS) S	2	5.25	-53.7%	1.19	104.0%	11	8	44.7%
MONT BELVIEU NORMAL BUTANE B	17	10.1	68.3%	15.38	10.5%	28	21	30.7%
MONT BELVIEU NATURAL GASOLIN	1	5.5	-82.7%	1.19	-20.0%	8	16	-53.1%
IN DELIVERY MONTH EUA	214	0	-	247.62	-13.7%	156	413	-62.3%
WTS (ARGUS) VS WTI SWAP	177	180	-1.6%	731.14	-75.8%	182	241	-24.3%
ISO NEW ENGLAND PK LMP	0	0	-	0	-	0	0	9.5%
ELEC NYISO OFF-PEAK	0	0	-	0	-	0	172	-100.0%
ELEC MISO PEAK	0	0	-	0	-	0	14	-100.0%
TRANSCO ZONE 4 NAT GAS IN	0	0	-	0	-	6	5	28.7%
COLUMB GULF MAINLINE NG B	6	87.15	-93.4%	10.19	-43.5%	95	102	-6.1%
ONEOK OKLAHOMA NG BASIS	16	0	-	0	-	6	12	-48.3%
TEXAS GAS ZONE1 NG BASIS	0	0	-	0	-	1	64	-98.3%
NYISO ZONE C 5MW D AH O P	0	0	-	0	-	235	0	-
PJM NI HUB 5MW REAL TIME	12,737	7,477.45	70.3%	6,102.38	108.7%	8,607	7,702	11.7%
NYISO ZONE J 5MW D AH O P	1,838	0	-	2,122.62	-13.4%	846	252	235.2%
NYISO ZONE J 5MW D AH PK	41	0	-	151.43	-73.0%	62	37	66.7%
NEPOOL W CNT MASS 5MW D A	0	776	-100.0%	0	-	17	175	-90.1%
PJM COMED 5MW D AH PK	0	0	-	0	-	63	28	124.4%
PJM DUQUS 5MW D AH O PK	0	0	-	0	-	0	0	-
NEPOOL SE MASS 5MW D AH O	0	0	-	0	-	0	0	-
NEPOOL CNCTCT 5MW D AH O	0	0	-	0	-	52	0	-
NEPOOL CONECTIC 5MW D AH	0	0	-	0	-	3	0	-
NEPOOL NE MASS 5MW D AH P	0	0	-	0	-	3	5	-49.4%
NYISO ZONE C 5MW D AH PK	0	0	-	0	-	7	0	-
PETRO CRCKS & SPRDS NA	2,168	1,011.2	114.4%	1,653.57	31.1%	1,653	1,367	21.0%
SINGAPORE GASOIL	255	163.3	56.4%	187.1	36.5%	196	127	54.4%
PETRO OUTRIGHT NA	1,018	563.85	80.6%	1,123.81	-9.4%	789	524	50.6%
CRUDE OIL SPRDS	286	54.25	427.1%	768.33	-62.8%	192	31	518.5%
RBOB GASOLINE BALMO CLNDR	71	84.85	-15.8%	11.67	512.7%	37	52	-29.1%
GASOLINE UP-DOWN BALMO SW	0	11.75	-100.0%	0	-	4	24	-85.6%
COLUMBIA GULF MAIN NAT G	0	91.45	-100.0%	0	-	10	13	-28.4%
ALGON CITY GATES NAT GAS	0	0	-	5.71	-100.0%	27	0	-
SOUTHERN NAT LA NAT GAS	0	0	-	0	-	3	17	-84.3%
TENN 800 LEG NAT GAS INDE	0	13.95	-100.0%	0	-	6	13	-55.9%

*** 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

November 2016

Page 8 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Energy Futures								
NATURAL GAS PHY	432,060	311,812.25	38.6%	487,621.95	-11.4%	379,557	323,211	17.4%
CRUDE OIL OUTRIGHTS	216	292.2	-25.9%	409.05	-47.1%	342	428	-20.1%
ELECTRICITY OFF PEAK	0	1,403.2	-100.0%	0	-	102	250	-59.4%
ELEC FINSETTLED	0	76.7	-100.0%	0	-	5	11	-50.5%
PETRO CRK&SPRD EURO	614	153.85	299.3%	465.1	32.1%	349	270	29.3%
FREIGHT MARKETS	14	8.6	68.3%	8.95	61.7%	10	3	228.1%
PLASTICS	72	6	1106.4%	21.52	236.3%	21	42	-49.5%
NYH NO 2 CRACK SPREAD CAL	80	3.3	2309.8%	238.33	-66.6%	94	123	-23.6%
TRANSCO ZONE 6 BASIS SWAP	89	10.65	733.0%	77.05	15.1%	60	42	43.4%
NYISO A	0	0	-	0	-	0	4	-100.0%
MINY NATURAL GAS	1,754	1,441	21.7%	1,584.57	10.7%	1,258	1,305	-3.6%
HEATING OIL PHY	167,555	138,294.15	21.2%	151,578.1	10.5%	156,154	146,036	6.9%
DOMINION TRANSMISSION INC	601	421.25	42.6%	1,386.62	-56.7%	969	348	178.4%
TCO BASIS SWAP	29	68.85	-58.2%	116.19	-75.2%	146	156	-6.3%
PJM MONTHLY	2	6	-61.9%	0	-	13	29	-56.2%
EL PASO PERMIAN INDEX SWA	0	0	-	0	-	7	0	-
WAHA INDEX SWAP FUTURE	0	85.6	-100.0%	2.86	-100.0%	38	7	458.4%
NY HARBOR HEAT OIL SWP	76	108.3	-29.6%	42.71	78.6%	105	213	-50.5%
EASTERN RAIL DELIVERY CSX	68	36	88.5%	51.43	31.9%	61	160	-61.6%
HTG OIL	4	0	-	1.14	216.7%	24	8	180.8%
EUROPE 3.5% FUEL OIL MED	25	4.25	493.8%	18.48	36.6%	18	6	215.6%
AEP-DAYTON HUB DAILY	0	0	-	0	-	0	0	-
PJM OFF-PEAK LMP SWAP FUT	0	6	-100.0%	0	-	1	7	-91.8%
AEP-DAYTON HUB OFF-PEAK M	0	0	-	0	-	0	4	-100.0%
DOMINION TRAN INC - APP I	1	20.05	-92.6%	125.71	-98.8%	87	10	756.4%
TENNESSEE ZONE 0 BASIS SW	0	0	-	0	-	13	4	221.4%
NEW YORK HUB ZONE J PEAK	0	0	-	0	-	0	0	-
FUELOIL SWAP:CARGOES VS.B	30	7.4	302.2%	5.19	473.4%	17	18	-9.7%
MINY HTG OIL	0	0.35	-32.0%	0.33	-28.6%	0	0	11.7%
BRENT CALENDAR SWAP	20	130.85	-84.8%	47.62	-58.1%	84	234	-64.1%
EURO GASOIL 10PPM VS ICE	1	2.6	-72.5%	0	-	3	4	-28.6%
WTI-BRENT CALENDAR SWAP	556	834.25	-33.4%	381.29	45.8%	553	1,097	-49.6%
CENTERPOINT BASIS SWAP	0	96.75	-100.0%	10.19	-100.0%	57	90	-36.5%
PJM NILL DA OFF-PEAK	9,072	2,973.9	205.1%	426.9	2025.1%	4,652	2,003	132.2%
PANHANDLE INDEX SWAP FUTU	0	24.8	-100.0%	0	-	15	10	44.1%
PJM NILL DA PEAK	182	138.85	31.2%	9.1	1902.6%	206	94	119.3%
CIN HUB 5MW REAL TIME PK	41	127.5	-67.5%	30.48	35.9%	288	82	251.2%
MINY WTI CRUDE OIL	14,447	8,769.8	64.7%	10,853.38	33.1%	13,646	12,449	9.6%
JAPAN C&F NAPHTHA SWAP	70	41.85	67.5%	50.14	39.8%	60	47	28.4%
LLS (ARGUS) VS WTI SWAP	137	270.2	-49.4%	183.81	-25.6%	290	435	-33.4%
RBOB PHY	183,082	158,594.55	15.4%	162,528.43	12.6%	182,715	159,297	14.7%
NEPOOL RHD ISLD 5MW D AH	0	70.4	-100.0%	0	-	0	44	-100.0%
NEPOOL NE MASS 5MW D AH O	0	0	-	0	-	0	15	-100.0%
NEPOOL NEW HAMP 5MW D AH	0	0	-	0	-	0	0	-
CIN HUB 5MW REAL TIME O P	2,811	5,862	-52.0%	190.48	1376.0%	4,559	3,114	46.4%
LTD NAT GAS	11,777	13,351.7	-11.8%	11,784.38	-0.1%	11,114	11,453	-3.0%
SAN JUAN PIPE SWAP	0	0	-	0	-	0	0	-
NORTHWEST ROCKIES BASIS S	1,129	866.5	30.2%	557.43	102.5%	784	537	45.9%
SINGAPORE 380CST BALMO	19	6.05	216.4%	1.19	1508.0%	8	5	51.6%

*** 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

November 2016

Page 9 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Energy Futures								
PJM BGE DA OFF-PEAK	0	0	-	0	-	101	0	-
ULSD 10PPM CIF MED VS ICE	1	6.4	-88.8%	0	-	1	4	-82.4%
GULF COAST JET FUEL CLNDR	6	4.5	33.3%	16.29	-63.2%	8	14	-46.2%
HEATING OIL CRCK SPRD BAL	0	0	-	0	-	0	0	-
SINGAPORE GASOIL SWAP	500	95.9	421.2%	726.1	-31.2%	300	111	170.8%
CHICAGO ULSD PL VS HO SPR	0	3	-100.0%	6.29	-100.0%	12	17	-31.9%
CIN HUB 5MW D AH PK	10	15.3	-32.2%	10.57	-1.8%	91	42	117.2%
PJM AD HUB 5MW REAL TIME	1,288	9,825.85	-86.9%	2,665.95	-51.7%	5,951	7,011	-15.1%
TC5 RAS TANURA TO YOKOHAM	0	0	-	0	-	0	0	-45.3%
Sumas Basis Swap	115	27.6	318.0%	36.14	219.2%	78	57	37.9%
RBOB CRACK SPREAD	26	57	-54.1%	85.71	-69.4%	66	51	31.2%
NGPL TEX/OK	144	151.55	-4.9%	40.95	252.1%	138	333	-58.4%
EURO GASOIL 10 CAL SWAP	0	0.25	-100.0%	0	-	0	0	-76.5%
HENRY HUB INDEX SWAP FUTU	419	341.15	22.9%	302.86	38.5%	777	439	76.9%
WTI-BRENT BULLET SWAP	24	0	-	0	-	2	0	-
NYISO J OFF-PEAK	0	0	-	0	-	0	2	-85.2%
EAST/WEST FUEL OIL SPREAD	2	0.4	459.5%	2.14	4.4%	2	9	-82.8%
TENNESSEE 500 LEG BASIS S	0	0	-	0	-	7	22	-67.7%
NORTHERN NATURAL GAS DEMAR	3	6.2	-58.5%	83.9	-96.9%	17	23	-26.1%
NEW ENGLAND HUB PEAK DAIL	0	0	-	0	-	0	0	-
HOUSTON SHIP CHANNEL INDE	0	0	-	0	-	1	1	13.2%
ROCKIES KERN OPAL - NW IN	0	0	-	0	-	5	7	-39.1%
APPALACHIAN COAL (PHY)	0	1.25	-100.0%	0	-	1	10	-94.6%
WTI CALENDAR	1,594	1,036.8	53.7%	1,762.67	-9.6%	1,449	1,600	-9.4%
CINERGY HUB PEAK MONTH	0	0	-	0	-	0	0	-100.0%
CHICAGO ULSD (PLATTS) SWA	0	0	-	0	-	0	0	-
RBOB CALENDAR SWAP	296	483.95	-38.9%	327.81	-9.8%	317	336	-5.6%
AEP-DAYTON HUB MTHLY	0	0	-	0	-	1	3	-60.3%
CRUDE OIL PHY	1,303,553	807,243.8	61.5%	1,096,161.1	18.9%	1,094,318	799,219	36.9%
N ILLINOIS HUB MTHLY	0	0	-	0	-	0	0	-100.0%
RBOB (PLATTS) CAL SWAP	14	0	-	0	-	1	0	-
NEW YORK ETHANOL SWAP	102	53.75	89.6%	58.81	73.3%	74	48	54.3%
LA CARB DIESEL (OPIS)	0	0	-	2.48	-100.0%	0	1	-75.7%
RBOB SPREAD (PLATTS) SWAP	0	0	-	0	-	0	0	-100.0%
EURO PROPANE CIF ARA SWA	80	19.1	320.1%	78.71	1.9%	64	20	225.8%
LA CARBOB GASOLINE(OPIS)S	0	10	-100.0%	0	-	26	24	9.5%
MCCLOSKEY ARA ARGS COAL	4,971	9,749.25	-49.0%	5,436.29	-8.6%	7,551	8,426	-10.4%
MCCLOSKEY RCH BAY COAL	606	1,429.9	-57.6%	598.29	1.3%	791	1,122	-29.5%
MGF FUT	0	0	-	0	-	0	0	27.4%
MNC FUT	237	201.4	17.5%	149.95	57.8%	190	201	-5.8%
DLY GAS EURO-BOB OXY	0	0	-	0	-	0	0	-
MGN1 SWAP FUT	6	9.5	-38.8%	3.19	82.1%	7	8	-10.8%
UCM FUT	1	0	-	0.33	114.3%	1	2	-35.0%
MJC FUT	1	2.5	-61.9%	2.38	-60.0%	4	3	25.7%
HEATING OIL VS ICE GASOIL	0	0	-	0	-	0	0	-
UP DOWN GC ULSD VS NMX HO	2,555	2,364.35	8.1%	2,492.38	2.5%	2,526	1,975	27.9%
HOUSTON SHIP CHANNEL BASI	0	313.65	-100.0%	96.95	-100.0%	132	192	-31.3%
FUEL OIL CRACK VS ICE	222	288.5	-23.0%	126.76	75.3%	210	176	19.4%
NGPL TEXOK INDEX	0	0	-	0	-	2	5	-65.6%

*** 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

November 2016

Page 10 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Energy Futures								
NATURAL GAS	7,395	5,514.25	34.1%	7,048.19	4.9%	6,252	4,221	48.1%
HUSTN SHIP CHNL PIPE SWP	0	0	-	0	-	0	16	-100.0%
N ROCKIES PIPE SWAP	0	0	-	0	-	0	4	-100.0%
SOCAL PIPE SWAP	0	0	-	0	-	25	2	1216.1%
PANHANDLE PIPE SWAP	0	0	-	0	-	0	1	-100.0%
GAS EURO-BOB OXY NWE BARGES	834	744.2	12.1%	551.14	51.3%	685	813	-15.8%
MONT BELVIEU NATURAL GASOLIN	318	236.35	34.7%	244.71	30.1%	376	257	46.6%
ONTARIO POWER SWAPS	1	992.55	-99.9%	4.05	-76.5%	21	669	-96.9%
DAILY PJM	0	0	-	0	-	12	32	-62.9%
BRENT OIL LAST DAY	120,670	94,763.4	27.3%	73,727.19	63.7%	93,571	103,759	-9.8%
SINGAPORE GASOIL CALENDAR	0	0	-	0.29	-100.0%	2	27	-90.9%
GASOIL 0.1 CARGOES CIF NE	0	0	-	0	-	0	0	-100.0%
GC ULSD VS GC JET SPREAD	0	0	-	0	-	0	0	-
MARS (ARGUS) VS WTI TRD M	374	58.65	537.4%	908.38	-58.8%	545	67	710.7%
MARS (ARGUS) VS WTI SWAP	330	397.9	-17.0%	185.9	77.7%	207	293	-29.4%
SINGAPORE JET KERO BALMO	0	0	-	0	-	1	2	-68.9%
WTS (ARGUS) VS WTI TRD MT	24	7.5	217.5%	47.71	-50.1%	53	77	-31.3%
DUBAI CRUDE OIL BALMO	0	0	-	0	-	1	0	201.2%
EURO 1% FUEL OIL NEW BALM	0	0.75	-36.5%	0.24	100.0%	1	1	96.5%
BRENT CFD SWAP	0	0	-	0	-	0	4	-100.0%
PREMIUM UNLND 10P FOB MED	8	7.1	10.0%	2.19	256.5%	12	13	-9.9%
GASOIL 0.1 CRG CIF NW VS	0	0	-	0	-	0	0	-45.3%
3.5% FUEL OIL CID MED SWA	15	3.05	391.8%	17.1	-12.3%	13	4	262.4%
JET FUEL CRG CIF NEW VS I	0	0	-	0	-	0	0	-30.1%
ARGUS PROPAN FAR EST INDE	77	35.8	115.5%	84.9	-9.1%	74	23	225.0%
ULSD 10PPM CIF VS ICE GAS	0	0	-	0	-	0	0	53.3%
SINGAPORE NAPHTHA BALMO	0	0	-	0	-	0	0	-
NYISO ZONE G 5MW D AH PK	61	63.75	-4.4%	80.71	-24.5%	150	140	7.1%
GASOIL 0.1 BRGS FOB VS IC	0	0	-	0	-	0	0	-34.2%
NYMEX ULSD VS NYMEX HO	0	3.75	-100.0%	0	-	0	5	-100.0%
RBOB VS HEATING OIL SWAP	84	37.5	123.2%	43.57	92.1%	76	48	56.5%
GULF COAST ULSD CRACK SPR	0	0	-	34.52	-100.0%	30	16	90.3%
USGC UNL 87 CRACK SPREAD	0	33.75	-100.0%	0	-	1	14	-94.6%
JET FUEL BRG FOB RDM VS I	0	0	-	0	-	0	0	-94.5%
TENNESSEE 800 LEG NG BASI	0	0	-	0	-	7	15	-57.2%
NEPOOL W CNTR M 5MW D AH	0	43	-100.0%	0	-	7	7	8.6%
DATED TO FRONTLINE BRENT	263	227.75	15.5%	121.43	116.7%	89	137	-34.9%
PJM APS ZONE DA PEAK	0	0	-	0	-	0	0	-
PJM BGE DA PEAK	0	0	-	0	-	6	0	-
PJM PPL DA PEAK	0	0	-	0	-	0	13	-100.0%
PJM JCPL DA PEAK	0	0	-	0	-	0	3	-100.0%
PJM PSEG DA PEAK	0	0	-	0	-	22	0	4977.7%
PJM PSEG DA OFF-PEAK	0	0	-	0	-	709	8	9053.1%
PJM WESTH RT PEAK	1,690	1,548.35	9.2%	1,701.38	-0.6%	2,668	992	168.8%
ALGONQUIN CITYGATES BASIS	3	0	-	25.1	-89.4%	35	6	529.9%
MICHCON NG INDEX SWAP	0	0	-	17.14	-100.0%	10	0	-
GASOIL 0.1 CIF MED SWAP	1	1.5	-36.5%	0	-	0	0	108.1%
ULSD 10PPM CIF MED SWAP	0	0	-	0	-	0	0	-
Tetco ELA Basis	0	0	-	0	-	0	5	-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

November 2016

Page 11 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Energy Futures								
EUROPE 1% FUEL OIL NWE CA	1	7.05	-91.2%	4.86	-87.3%	6	8	-16.1%
NEW YORK HUB ZONE G PEAK	0	0	-	0	-	0	0	-
GULF COAST NO.6 FUEL OIL	2,788	2,456.2	13.5%	2,848.38	-2.1%	2,772	3,277	-15.4%
SINGAPORE FUEL 180CST CAL	63	51.1	22.9%	61.62	1.9%	55	88	-37.4%
SINGAPORE FUEL OIL SPREAD	60	17.15	250.7%	41.95	43.4%	32	23	39.8%
NORTHERN ILLINOIS OFF-PEA	0	0	-	0	-	0	0	-100.0%
PJM ATSI ELEC	1,389	0	-	0	-	154	98	57.5%
SING FUEL	2	0	-	0	-	0	0	612.4%
EURO-DENOMINATED PETRO PROD	9	12.5	-24.6%	0	-	2	11	-85.5%
DATED BRENT (PLATTS) DAILY SWA	0	0	-	0	-	1	94	-99.1%
GAS EURO-BOB OXY NWE BARGES	401	251.9	59.2%	281.24	42.6%	334	318	4.9%
MINY RBOB GAS	0	0.2	-4.8%	0.14	33.3%	0	0	-5.9%
RBOB UP-DOWN CALENDAR SWA	0	574.65	-100.0%	0	-	40	483	-91.7%
LA JET FUEL VS NYM NO 2 H	0	0	-	0.48	-100.0%	4	2	64.3%
ANR OKLAHOMA	14	143.6	-90.0%	42.19	-65.9%	21	46	-54.5%
MICHIGAN BASIS	77	54.75	40.0%	114.86	-33.3%	114	26	340.7%
TEXAS EASTERN ZONE M-3 BA	149	93.5	59.2%	327.86	-54.6%	360	99	262.8%
NORTHERN NATURAL GAS VENTU	23	0	-	64	-64.2%	40	23	76.4%
CIG BASIS	165	338.25	-51.3%	152.95	7.8%	353	189	86.5%
PJM DAILY	0	0	-	0	-	6	0	-
COLUMBIA GULF ONSHORE	0	12.4	-100.0%	0	-	13	18	-26.4%
Tetco STX Basis	0	18.25	-100.0%	0	-	7	18	-62.2%
Transco Zone 3 Basis	0	0	-	11.43	-100.0%	4	28	-83.8%
GULF COAST GASOLINE CLNDR	0	15	-100.0%	0	-	6	29	-80.4%
CENTERPOINT EAST INDEX	0	0	-	0	-	3	3	19.7%
GULF COAST ULSD CALENDAR	14	7.55	88.6%	38.86	-63.4%	40	34	16.0%
LA CARB DIESEL (OPIS) SWA	5	1.25	281.0%	29.76	-84.0%	32	30	4.0%
EURO 3.5% FUEL OIL RDAM B	19	15.9	18.3%	14	34.4%	16	25	-36.4%
LLS (ARGUS) CALENDAR SWAP	0	0	-	0	-	0	0	-
EUROPEAN NAPHTHA BALMO	13	2.3	465.2%	12.29	5.8%	9	4	118.8%
GASOIL MINI CALENDAR SWAP	11	10.4	3.5%	11.43	-5.8%	11	13	-13.1%
NY ULSD (ARGUS) VS HEATING OIL	19	63.75	-70.6%	2.62	616.4%	34	131	-74.0%
PJM PECO ZONE5MW PEAK CAL MO	0	0	-	0	-	0	3	-100.0%
EUROPE 1% FUEL OIL RDAM C	0	0.3	-100.0%	0	-	1	1	-11.6%
SAN JUAN BASIS SWAP	318	239.35	32.8%	421.38	-24.5%	329	118	178.9%
SOCAL BASIS SWAP	0	0	-	0	-	0	0	-100.0%
GULF COAST JET VS NYM 2 H	1,226	577.7	112.2%	1,510.86	-18.8%	1,529	1,066	43.4%
NY HARBOR RESIDUAL FUEL C	0	0	-	0	-	0	0	-100.0%
NYMEX ALUMINUM FUTURES	0	0	-	0	-	0	0	-
EURO 3.5% FUEL OIL SPREAD	136	39.5	244.7%	39.33	246.1%	38	43	-10.7%
GASOIL CALENDAR SWAP	1	0.9	-20.6%	0	-	1	1	37.0%
BRENT FINANCIAL FUTURES	0	100.3	-100.0%	28.81	-100.0%	30	298	-90.1%
ICE BRENT DUBAI SWAP	313	7.5	4073.3%	352.38	-11.2%	96	50	92.9%
GASOIL CRACK SPREAD CALEN	290	140.55	106.3%	162.86	78.0%	243	154	58.1%
EUROPEAN NAPHTHA CRACK SPR	502	112.7	345.2%	365.57	37.3%	272	308	-11.7%
CRUDE OIL	401	1,806.35	-77.8%	215.67	85.7%	608	915	-33.6%
NEPOOL INTR HUB 5MW D AH	1,378	3,500.3	-60.6%	1,923.1	-28.3%	2,408	1,342	79.4%
NEPOOL SE MASS 5MW D AH P	0	0	-	0	-	0	0	-
PJM DAYTON DA OFF-PEAK	1,319	2,744	-51.9%	0	-	238	942	-74.7%

*** 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

November 2016

Page 12 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Energy Futures								
PJM JCPL DA OFF-PEAK	0	0	-	0	-	0	61	-100.0%
PJM WESTH RT OFF-PEAK	4,438	16,610	-73.3%	12,280	-63.9%	26,775	14,351	86.6%
CHICAGO ETHANOL SWAP	6,688	2,617.8	155.5%	4,766.62	40.3%	4,966	3,957	25.5%
HENRY HUB BASIS SWAP	467	336.5	38.9%	346.19	35.0%	860	584	47.1%
HENRY HUB SWAP	19,401	18,587.85	4.4%	22,253.81	-12.8%	20,103	21,070	-4.6%
PREM UNL GAS 10PPM RDM FOB B	0	0	-	0	-	0	0	-90.9%
PREM UNL GAS 10PPM RDM FOB S	0	1.75	-100.0%	0.05	-100.0%	1	1	-11.7%
MONT BELVIEU NORMAL BUTANE 5	1,680	1,010.45	66.2%	1,796.05	-6.5%	1,329	828	60.5%
MONT BELVIEU ETHANE 5 DECIMAL	2,423	220.5	998.8%	3,804.52	-36.3%	2,334	367	536.7%
MONT BELVIEU LDH PROPANE 5 DE	4,820	3,511.1	37.3%	6,310.43	-23.6%	5,453	2,437	123.8%
SINGAPORE 180CST BALMO	1	2.55	-55.2%	2	-42.9%	2	2	32.7%
PJM APS ZONE DA OFF-PEAK	0	0	-	0	-	0	0	-
GRP THREE UNL GS (PLT) VS	25	91.25	-72.3%	165.24	-84.7%	71	74	-4.3%
JET BARGES VS ICE GASOIL	0	0	-	0	-	0	0	60.5%
SINGAPORE GASOIL VS ICE	652	7.5	8589.5%	214.52	203.8%	159	24	572.5%
NATURAL GAS PEN SWP	6,950	7,403.15	-6.1%	4,965.76	39.9%	5,319	8,696	-38.8%
WESTERN RAIL DELIVERY PRB	0	119.25	-100.0%	28.57	-100.0%	40	104	-61.4%
EUROPE DATED BRENT SWAP	2	80	-97.0%	0	-	115	154	-25.2%
SINGAPORE JET KERO GASOIL	66	5	1223.8%	44.05	50.3%	42	14	193.8%
TETCO M-3 INDEX	0	0	-	11.43	-100.0%	36	44	-17.2%
PJM AECO DA PEAK	0	0	-	0	-	0	1	-100.0%
GASOIL 10PPM CARGOES CIF	0	0	-	0	-	0	0	-90.0%
WAHA BASIS	87	112.9	-23.0%	82.38	5.5%	193	162	19.6%
LA JET (OPIS) SWAP	43	23.75	80.5%	91.67	-53.2%	92	43	114.7%
NY HARBOR 1% FUEL OIL BAL	0	1.7	-100.0%	0	-	0	2	-79.2%
GASOIL 10PPM VS ICE SWAP	0	0.35	22.5%	0.24	80.0%	4	6	-32.2%
NY H OIL PLATTS VS NYMEX	0	0	-	0	-	0	4	-100.0%
PJM PEP CO DA OFF-PEAK	0	0	-	0	-	0	29	-100.0%
NYISO ZONE G 5MW D AH O P	1,838	196	837.8%	1,008.33	82.3%	1,924	1,013	89.9%
EUROPEAN GASOIL (ICE)	531	11,205.15	-95.3%	330.38	60.6%	6,766	3,047	122.1%
ULSD UP-DOWN BALMO SWP	408	346.75	17.5%	230.71	76.6%	286	179	59.4%
JET FUEL UP-DOWN BALMO CL	317	355	-10.8%	376.95	-16.0%	212	152	39.7%
EIA FLAT TAX ONHWAY DIESE	6	4.35	46.7%	26.38	-75.8%	46	37	23.8%
NY 2.2% FUEL OIL (PLATTS	0	0	-	0	-	2	4	-45.3%
RBOB CRACK SPREAD BALMO S	0	0	-	0	-	2	0	1177.6%
HEATING OIL BALMO CLNDR S	1	5	-81.9%	5.95	-84.8%	2	7	-71.1%
INDIANA MISO	0	0	-	0	-	0	9	-94.5%
PETROLEUM PRODUCTS ASIA	83	65.5	26.0%	88.29	-6.5%	66	79	-17.0%
AUSTRIALIAN COKE COAL	26	3.95	553.4%	10.86	137.7%	20	7	164.8%
PETROLEUM PRODUCTS	325	0.6	54042.9%	344.86	-5.8%	105	7	1382.3%
COAL SWAP	19	9.75	95.4%	8.1	135.3%	14	29	-51.7%
TC2 ROTTERDAM TO USAC 37K	0	0	-	0	-	0	0	-100.0%
NYISO A OFF-PEAK	0	0	-	0	-	0	2	-100.0%
NYISO G OFF-PEAK	0	0	-	0	-	0	1	-100.0%
ISO NEW ENGLAND OFF-PEAK	0	0	-	0	-	0	0	-
SINGAPORE 380CST FUEL OIL	660	282.4	133.8%	417.57	58.1%	384	251	53.1%
SINGAPORE JET KEROSENE SW	51	41.6	23.3%	41.33	24.1%	33	65	-49.3%
SINGAPORE NAPHTHA SWAP	0	0	-	0	-	0	5	-100.0%
FLORIDA GAS ZONE3 BASIS S	0	0	-	0	-	24	57	-58.9%

*** 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

November 2016

Page 13 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Energy Futures								
TRANSCO ZONE4 BASIS SWAP	203	88	130.3%	70.19	188.7%	103	300	-65.7%
ANR LOUISIANA BASIS SWAP	6	0	-	0	-	1	12	-95.6%
CINERGY HUB OFF-PEAK MONT	0	0	-	0	-	0	2	-89.6%
DUBAI CRUDE OIL CALENDAR	245	256.95	-4.6%	95.38	157.0%	102	187	-45.1%
NGPL MIDCONTINENT INDEX	0	0	-	8.57	-100.0%	34	1	2762.5%
PANHANDLE BASIS SWAP FUTU	431	173.65	148.3%	388.38	11.0%	413	521	-20.8%
SONAT BASIS SWAP FUTURE	0	0	-	0	-	2	58	-97.3%
DIESEL 10P BRG FOB RDM VS	0	0	-	0	-	1	0	1269.9%
FUEL OIL NWE CRACK VS ICE	0	0	-	0	-	0	1	-88.5%
EUROPE 3.5% FUEL OIL RDAM	501	306.3	63.7%	485.14	3.3%	343	389	-12.0%
GULF COAST 3% FUEL OIL BA	85	41.65	104.0%	30.14	181.8%	38	49	-23.6%
NY1% VS GC SPREAD SWAP	123	102.5	20.3%	125.24	-1.5%	114	109	4.0%
GASOIL 0.1 CIF NWE VS ISE	1	0	-	1.19	-40.0%	0	1	-79.4%
JET CIF NWE VS ICE	0	1.25	-100.0%	0.24	-100.0%	3	5	-32.1%
EUROPE JET KERO NWE CALSW	0	0	-	0	-	0	2	-91.7%
JAPAN NAPHTHA BALMO SWAP	1	0	-	0.24	500.0%	2	2	-12.2%
ARGUS PROPAN(SAUDI ARAMCO	31	43.55	-29.1%	40.52	-23.9%	41	28	46.2%
NYISO G	0	0	-	0	-	0	2	-100.0%
NYISO J	0	25.45	-100.0%	0	-	1	13	-94.2%
NGPL MID-CONTINENT	18	15.5	14.3%	12.38	43.1%	130	200	-35.0%
BRENT BALMO SWAP	4	0	-	32.48	-88.9%	9	19	-53.9%
ULSD 10PPM CIF MED BALMO	0	0	-	0	-	0	0	-
HENRY HUB SWING FUTURE	0	0	-	0	-	1	5	-73.5%
EUROPE NAPHTHA CALSWAP	108	27.15	297.6%	87.95	22.7%	74	59	25.1%
NY HARBOR RESIDUAL FUEL 1	97	273.45	-64.5%	200.33	-51.6%	162	245	-33.9%
PERMIAN BASIS SWAP	782	195.4	300.3%	304.33	157.0%	265	146	81.9%
JAPAN C&F NAPHTHA CRACK S	7	18.35	-60.3%	19.38	-62.4%	19	13	47.9%
EMMISSIONS	0	12.5	-100.0%	0	-	0	2	-100.0%
NATURAL GAS INDEX	0	0	-	0	-	29	0	-
PETRO CRCKS & SPRDS ASIA	7	16.5	-56.7%	0	-	6	8	-31.2%
NYISO CAPACITY	20	67.15	-70.2%	9.9	101.9%	20	35	-44.2%
GASOIL 0.1 ROTTERDAM BARG	0	0	-	0.24	-100.0%	0	0	228.9%
GASOIL 0.1 CIF VS ICE GAS	0	0	-	0	-	0	0	-
GRP THREE ULSD(PLT)VS HEA	113	179.5	-37.3%	226.19	-50.2%	132	182	-27.6%
GASOIL 0.1CIF MED VS ICE	0	2	-88.1%	0	-	1	1	-13.2%
PJM AECO DA OFF-PEAK	0	0	-	0	-	0	0	-
PJM PPL DA OFF-PEAK	0	0	-	0	-	0	242	-100.0%
PJM DAYTON DA PEAK	70	165.5	-57.4%	0	-	101	65	55.5%
PREMIUM UNLEAD 10PPM FOB	0	0	-	2.9	-91.8%	2	3	-43.7%
PJM WESTH DA OFF-PEAK	0	2,955.2	-100.0%	0	-	3,571	3,193	11.9%
GASOIL 0.1 RDAM BRGS VS I	0	3.65	-100.0%	2.86	-100.0%	1	1	-27.0%
GASOIL 10P CRG CIF NW VS	0	0	-	0	-	0	0	-67.2%
PJM WESTHDA PEAK	0	141.2	-100.0%	0	-	198	167	18.7%
NEPOOL RHODE IL 5MW D AH	0	1,344.9	-100.0%	0	-	0	433	-100.0%
CHICAGO UNL GAS PL VS RBO	0	0	-	0	-	9	1	563.5%
NYISO ZONE A 5MW D AH O P	0	2,700.8	-100.0%	0	-	1,036	1,712	-39.5%
CIN HUB 5MW D AH O PK	1,118	0	-	0	-	1,396	706	97.8%
PJM COMED 5MW D AH O PK	0	0	-	0	-	1,115	342	226.2%
TRANSCO ZONE 1 NG BASIS	0	0	-	0	-	0	1	-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

November 2016

Page 14 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Energy Futures								
PJM DUQUESNE 5MW D AH PK	0	0	-	0	-	0	0	-
NYISO ZONE A 5MW D AH PK	141	22	540.7%	0	-	28	76	-62.8%
SOUTH STAR TEX OKLHM KNS	4	36.6	-88.3%	19.05	-77.5%	10	29	-65.4%
NY 3.0% FUEL OIL (PLATTS)	8	22.5	-63.0%	29.76	-72.0%	10	21	-52.0%
ARGUS LLS VS. WTI (ARG) T	530	428.4	23.7%	435.57	21.7%	588	388	51.7%
NO 2 UP-DOWN SPREAD CALEN	5	33.75	-85.9%	0	-	12	16	-27.7%
N ILLINOIS HUB DAILY	0	0	-	0	-	0	0	-
PROPANE NON-LDH MT. BEL (OPIS)	853	634.6	34.3%	750.67	13.6%	548	359	52.8%
PROPANE NON-LDH MB (OPIS) BAL	5	46.8	-88.6%	18.48	-71.1%	25	10	154.8%
JET AV FUEL (P) CAR FM ICE GAS S	0	1.25	-100.0%	0	-	1	1	-32.5%
SINGAPORE MOGAS 92 UNLEADED	1,217	402.1	202.7%	958.24	27.0%	467	318	47.0%
NY JET FUEL (PLATTS) HEAT OIL SV	0	0	-	0	-	0	7	-100.0%
SINGAPORE MOGAS 92 UNLEADED	84	8.75	858.4%	41.62	101.5%	24	14	68.9%
ETHANOL T2 FOB ROTT INCL DUTY	262	115.35	127.2%	122.14	114.6%	120	116	3.5%
PJM WES HUB PEAK LMP 50 M	0	0	-	0	-	0	0	-
FUEL OIL (PLATS) CAR CM	0	0	-	0.24	60.0%	5	1	368.4%
FUEL OIL (PLATS) CAR CN	0	1.5	-100.0%	0	-	0	1	-71.3%
GROUP THREE ULSD (PLATTS)	0	0	-	0	-	1	1	64.3%
MICHIGAN MISO	0	0	-	0	-	584	507	15.2%
INDONESIAN COAL	0	7	-100.0%	0	-	1	7	-86.7%
ETHANOL FWD	28	27.9	-1.0%	28.95	-4.6%	32	37	-11.9%
DIESEL 10PPM BARG VS ICE LS	0	0	-	0	-	0	0	-
EU LOW SULPHUR GASOIL CRACK	0	0	-	0	-	0	0	-
NATURAL GAS FIXED PRICE SWAP F	0	0	-	0	-	0	51	-100.0%
TRANSCO ZONE 6 PIPE SWAP	0	0	-	0	-	0	0	-100.0%
NAT GAS BASIS SWAP	90	0	-	152.86	-40.9%	161	21	672.7%
VENTURA NAT GAS PLATTS FIXED F	0	0	-	0	-	0	0	-100.0%
SUMAS NAT GAS PLATTS FIXED PRI	0	0	-	0	-	0	11	-100.0%
COLUMBIA GULF NAT GAS FIXED PR	0	0	-	0	-	0	2	-100.0%
CENTER POINT NAT GAS FIXED PRI	0	0	-	0	-	0	0	-100.0%
ELEC WEST POWER PEAK	0	0	-	256.67	-100.0%	23	0	-
ELEC WEST POWER OFF-PEAK	0	0	-	87.62	-100.0%	8	0	-
NY HARBOR LOW SULPUR GAS 100C	0	0	-	3.57	-100.0%	22	16	36.3%
MINI RBOB V. EBOB(ARGUS) NWE B	142	58.6	142.8%	113.38	25.5%	74	35	114.7%
MINI RBOB V. EBOBARG NWE BRGS	67	14	377.9%	10.48	538.6%	17	19	-12.4%
CANADIAN LIGHT SWEET OIL	30	39.75	-24.5%	53.57	-44.0%	89	58	53.1%
MINI GAS EUROBOB OXY NWE ARG	24	6.4	274.3%	18.43	30.0%	21	14	48.7%
CRUDE OIL TRADE AT MARKER SIN	0	0	-	0	-	0	0	-
MARS BLEND CRUDE OIL	135	0	-	2.38	5563.9%	82	0	-
MJB FUT	0	0	-	0	-	0	0	-100.0%
DY EURO 3.5% FUEL OI RDA	0	0	-	0	-	0	3	-100.0%
3.5% FUEL OIL CIF BALMO S	1	0.5	185.7%	3.19	-55.2%	1	1	119.8%
GASOIL 0.1 CIF MED BALMO	0	0	-	0	-	0	0	-100.0%
FL GAS ZONE 3 NAT GAS IND	0	0	-	0	-	36	0	-
CIG ROCKIES NG INDEX SWA	0	0	-	0	-	5	0	-
TRANSCO ZONE 6 INDEX	0	0	-	11.43	-100.0%	29	0	9615.7%
DEMARC SWING SWAP	0	0	-	0	-	0	0	-
NGPL MIDCONTINENT SWING S	0	0	-	0	-	3	0	-
DEMARC INDEX FUTURE	0	0	-	0	-	3	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

November 2016

Page 15 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Energy Futures								
CAISO SP15 EZGNHUB5 PEAK	0	0	-	0	-	0	0	-
TCO NG INDEX SWAP	0	0	-	11.43	-100.0%	1	15	-93.3%
ELEC ERCOT DLY OFF PK	0	0	-	0	-	0	0	-
Energy Options								
PETRO OUTRIGHT EURO	0	0	-	0	-	0	1	-100.0%
PETROCHEMICALS	30	27.25	9.2%	33.1	-10.1%	85	60	41.4%
NATURAL GAS OPTION ON CALEND	329	27	1116.9%	133.33	146.4%	111	51	116.3%
ELEC MISO PEAK	0	127	-100.0%	40	-100.0%	15	10	47.5%
HENRY HUB FINANCIAL LAST	151	60.3	150.7%	93.38	61.9%	102	94	8.9%
NATURAL GAS PHY	125,135	118,138.95	5.9%	111,399.57	12.3%	108,209	90,496	19.6%
CRUDE OIL OUTRIGHTS	0	800	-100.0%	0	-	10	89	-88.9%
ELECTRICITY OFF PEAK	0	0	-	0	-	0	0	-
ELEC FINSETTLED	0	0	-	0.48	-100.0%	1	0	641.7%
APPALACHIAN COAL	0	0	-	0	-	0	0	-100.0%
EUROPEAN JET KEROSENE NWE (P	0	0	-	0	-	0	0	-
HEATING OIL PHY	2,762	1,980.35	39.5%	1,779.29	55.2%	2,489	2,422	2.7%
PJM MONTHLY	0	0	-	0	-	0	0	-
NY HARBOR HEAT OIL SWP	156	531.65	-70.6%	273.62	-42.9%	263	656	-59.9%
BRENT CALENDAR SWAP	5	55.65	-91.0%	85.71	-94.2%	59	605	-90.3%
NATURAL GAS 3 M CSO FIN	5	57.5	-91.7%	9.52	-50.0%	985	259	280.8%
RBOB PHY	1,099	1,135.4	-3.2%	592.05	85.6%	1,646	1,396	17.9%
PGE CITYGATE PIPE SWAP	0	0	-	0	-	0	0	-
SAN JUAN PIPE SWAP	0	0	-	25.71	-100.0%	39	20	95.9%
NATURAL GAS 2 M CSO FIN	32	50	-35.2%	103.57	-68.7%	18	20	-10.3%
SINGAPORE JET FUEL CALEND	23	0	-	22.86	0.0%	4	6	-29.9%
WTI-BRENT BULLET SWAP	326	1,297.5	-74.9%	619.05	-47.3%	779	1,061	-26.5%
WTI 12 MONTH CALENDAR OPT	0	0	-	0	-	0	8	-100.0%
CRUDE OIL APO	1,013	1,197	-15.4%	2,460.86	-58.8%	1,406	2,857	-50.8%
WTI CRUDE OIL 1 M CSO FI	11,819	7,508.75	57.4%	5,123.81	130.7%	7,266	7,295	-0.4%
NATURAL GAS 6 M CSO FIN	171	50	242.9%	71.43	140.0%	40	185	-78.5%
RBOB CALENDAR SWAP	0	30	-100.0%	16	-100.0%	29	86	-66.7%
CRUDE OIL PHY	244,022	142,356.3	71.4%	152,249.14	60.3%	184,109	159,263	15.6%
RBOB 1MO CAL SPD OPTIONS	86	0	-	316.67	-72.9%	51	0	-
MCCLOSKEY ARA ARGS COAL	0	260	-100.0%	11.43	-100.0%	41	36	15.7%
MCCLOSKEY RCH BAY COAL	0	0	-	4.76	-100.0%	11	7	45.2%
NYISO ZONE G 5MW PEAK OPTIONS	511	0	-	0	-	48	2	2122.3%
NATURAL GAS	0	0	-	0	-	2	0	-
HUSTN SHIP CHNL PIPE SWP	0	18.2	-100.0%	0	-	0	15	-100.0%
N ROCKIES PIPE SWAP	0	0	-	30	-100.0%	28	25	11.4%
SOCAL PIPE SWAP	0	0	-	0	-	48	0	-
ETHANOL SWAP	446	219.35	103.4%	473.24	-5.7%	334	304	9.7%
SHORT TERM NATURAL GAS	404	173.75	132.3%	183.33	120.1%	282	209	34.8%
SHORT TERM CRUDE OIL	0	0	-	0	-	0	0	-
BRENT OIL LAST DAY	2,205	157.4	1300.9%	2,003.86	10.0%	1,256	429	192.9%
SINGAPORE GASOIL CALENDAR	0	0	-	0	-	0	1	-100.0%
SINGAPORE FUEL OIL 180 CS	0	0	-	0	-	0	0	-
DAILY CRUDE OIL	0	0	-	0	-	0	32	-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

November 2016

Page 16 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Energy Options								
EURO-DENOMINATED PETRO PROD	0	0	-	0	-	0	0	-100.0%
HEATING OIL CRK SPD AVG PRICE	0	0	-	0	-	1	0	-
GASOIL CRACK SPREAD AVG PRICE	0	0	-	0	-	0	0	-
HO 1 MONTH CLNDR OPTIONS	0	0	-	9.52	-100.0%	26	14	84.6%
CRUDE OIL 1MO	12,139	7,026.25	72.8%	11,050.67	9.8%	12,027	9,325	29.0%
ROTTERDAM 3.5%FUEL OIL CL	0	0.5	-100.0%	0	-	2	2	-7.4%
NATURAL GAS 12 M CSO FIN	0	25	-100.0%	0	-	0	10	-100.0%
CRUDE OIL CALNDR STRIP	0	0	-	0	-	0	0	-
PJM CALENDAR STRIP	0	1	-100.0%	0	-	0	6	-100.0%
SHORT TERM	130	62.75	107.6%	54.76	137.8%	130	82	58.4%
COAL SWAP	0	68	-100.0%	0	-	7	18	-59.9%
NYMEX EUROPEAN GASOIL OPT	0	0	-	0	-	0	1	-100.0%
NATURAL GAS 5 M CSO FIN	0	0	-	0	-	5	11	-51.3%
NYMEX EUROPEAN GASOIL APO	0	0	-	1.43	-100.0%	0	6	-97.8%
COAL API2 INDEX	84	847.5	-90.1%	75.71	10.6%	675	660	2.2%
COAL API4 INDEX	3	0	-	7.14	-60.0%	7	8	-10.2%
NATURAL GAS 1 M CSO FIN	1,571	1,060	48.2%	1,688.81	-7.0%	494	1,074	-54.0%
ETHANOL	0	0	-	0	-	0	0	-
PJM WES HUB PEAK CAL MTH	16	0	-	7.62	112.5%	49	1	6137.5%
PJM WES HUB PEAK LMP 50MW	126	0	-	3.81	3205.0%	52	0	-
GASOLINE	0	0	-	0	-	4	0	664.0%
PJM ELECTRIC	0	0	-	0	-	0	0	-
LLS CRUDE OIL	0	204	-100.0%	0	-	51	16	214.9%
1 MO GASOIL CAL SWAP SPR	0	0	-	0	-	0	0	-100.0%
NG HH 3 MONTH CAL	0	0	-	0	-	2	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

November 2016

Page 17 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Metals Futures								
PALLADIUM	9,454	8,119.1	16.4%	5,427.48	74.2%	5,821	5,314	9.5%
NYMEX PLATINUM	17,165	13,075.7	31.3%	14,410.52	19.1%	15,458	14,392	7.4%
NYMEX HOT ROLLED STEEL	125	270.25	-53.8%	277.9	-55.1%	222	232	-4.7%
URANIUM	0	0	-	28.57	-99.7%	32	18	75.7%
COMEX SILVER	105,446	64,587.4	63.3%	63,219.86	66.8%	73,953	53,179	39.1%
COMEX GOLD	338,509	201,698.85	67.8%	181,668.33	86.3%	233,954	165,404	41.4%
COMEX COPPER	168,156	92,182.25	82.4%	71,361.81	135.6%	86,973	67,139	29.5%
COMEX MINY COPPER	51	38.5	32.7%	11.38	349.0%	26	36	-27.0%
COPPER	19	12.3	54.9%	1.9	900.0%	17	26	-36.1%
E-MICRO GOLD	4,579	2,133.95	114.6%	2,490.67	83.9%	3,973	1,611	146.6%
SILVER	565	302.65	86.5%	268.1	110.6%	413	355	16.3%
FERROUS PRODUCTS	8	0	-	1.43	433.3%	4	2	90.8%
METALS	0	0	-	0	-	0	0	-
IRON ORE 58 CHINA TSI FUTURES	0	0	-	0	-	0	0	-
ALUMINUM	351	127.1	176.5%	271.24	29.5%	166	34	382.9%
GOLD	0	0	-	0	-	0	0	-
Gold Kilo	228	275.95	-17.4%	176.71	29.0%	227	203	11.9%
LNDN ZINC	0	2.4	-100.0%	1.29	-100.0%	1	2	-35.6%
Aluminium MW Trans Prem Platts	469	148.9	214.7%	146.62	219.6%	287	148	94.2%
IRON ORE 62 CHINA PLATTS FUTUR	2	0	-	25.71	-91.5%	13	10	28.1%
IRON ORE 62 CHINA TSI FUTURES	1,270	878.55	44.5%	465.57	172.7%	803	538	49.3%
COMEX E-Mini GOLD	838	316.5	164.7%	328.1	155.3%	532	264	101.7%
COMEX E-Mini SILVER	81	39.35	105.1%	49.19	64.1%	60	39	55.8%
Metals Options								
PALLADIUM	218	165	32.2%	195.48	11.6%	164	170	-3.6%
NYMEX PLATINUM	172	206.8	-16.9%	176.19	-2.5%	206	230	-10.6%
COMEX SILVER	6,144	4,212.45	45.9%	5,016.05	22.5%	5,608	4,841	15.9%
COMEX GOLD	63,082	30,056.15	109.9%	39,353.9	60.3%	39,749	29,781	33.5%
COMEX COPPER	234	223.95	4.4%	241.86	-3.4%	159	107	48.0%
COPPER	0	0	-	0	-	0	0	-100.0%
SILVER	31	0.2	15566.7%	36.81	-14.9%	10	5	111.0%
GOLD	534	123.65	331.7%	287.24	85.8%	231	94	145.2%
IRON ORE 62 CHINA TSI PUT OPTIO	128	62.5	105.0%	5.71	2141.7%	139	194	-28.6%
IRON ORE 62 CHINA TSI CALL OPTIC	135	72	87.8%	36.19	273.7%	171	96	78.0%
Ags Futures								
WHEAT	306	0	-	2,113.71	-85.5%	310	0	-
Ags Options								
WHEAT	2	0	-	5	-50.5%	2	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

November 2016

Page 18 of 18

	ADV NOV 2016	ADV NOV 2015	% CHG	ADV OCT 2016	% CHG	ADV Y.T.D 2016	ADV Y.T.D 2015	% CHG
Foreign Exchange Futures								
CHILEAN PESO	0	0	-	0	-	0	0	-85.0%
TOTAL FUTURES GROUP								
Interest Rate Futures	9,148,603	5,358,804.2	70.7%	4,421,659.38	106.9%	5,739,353	5,185,312	10.7%
Equity Index Futures	2,372,537	1,863,591.65	27.3%	2,005,447.38	18.3%	2,440,734	2,232,969	9.3%
Metals Futures	647,314	384,209.7	68.5%	340,632.38	90.0%	422,936	308,948	36.9%
Energy Futures	2,366,394	1,684,209.45	40.5%	2,116,792.24	11.8%	2,094,507	1,689,427	24.0%
FX Futures	897,547	637,600.7	40.8%	699,115.67	28.4%	777,697	786,070	-1.1%
Commodities and Alternative Invest	1,176,536	1,168,403	0.7%	991,889.52	18.6%	1,097,214	1,017,489	7.8%
Ags Futures	306	0	-	2,113.71	-85.5%	310	0	-
Foreign Exchange Futures	0	0	-	0	-	0	0	-85.0%
TOTAL FUTURES	16,609,237	11,096,818.7	49.7%	10,577,650.29	57.0%	12,572,750.49	11,220,214.88	12.1%
TOTAL OPTIONS GROUP								
Interest Rate Options	2,698,948	1,506,734.95	79.1%	1,297,367	108.0%	1,793,893	1,534,210	16.9%
Equity Index Options	802,968	501,143.75	60.2%	592,709.43	35.5%	635,608	554,506	14.6%
Metals Options	70,679	35,122.7	101.2%	45,349.43	55.9%	46,436	35,518	30.7%
Energy Options	404,799	285,554.3	41.8%	291,055.24	39.1%	323,300	279,235	15.8%
FX Options	84,405	72,725.8	16.1%	63,692.62	32.5%	72,837	83,161	-12.4%
Commodities and Alternative Invest	189,676	210,791.45	-10.0%	201,260.05	-5.8%	255,106	252,745	0.9%
Ags Options	2	0	-	5	-50.5%	2	0	-
TOTAL OPTIONS	4,251,478	2,612,072.95	62.8%	2,491,438.76	70.6%	3,127,181.12	2,739,375.25	14.2%
TOTAL COMBINED								
Commodities and Alternative Invest	1,366,212	1,379,194.45	-0.9%	1,193,149.57	14.5%	1,352,320	1,270,235	6.5%
FX	981,952	710,326.5	38.2%	762,808.29	28.7%	850,534	869,232	-2.2%
Equity Index	3,175,506	2,364,735.4	34.3%	2,598,156.81	22.2%	3,076,342	2,787,474	10.4%
Interest Rate	11,847,550	6,865,539.15	72.6%	5,719,026.38	107.2%	7,533,246	6,719,522	12.1%
Energy	2,771,193	1,969,763.75	40.7%	2,407,847.48	15.1%	2,417,807	1,968,661	22.8%
Metals	717,993	419,332.4	71.2%	385,981.81	86.0%	469,372	344,466	36.3%
Ags	308	0	-	2,118.71	-85.4%	311	0	-
Foreign Exchange	0	0	-	0	-	0	0	-85.0%
GRAND TOTAL	20,860,715	13,708,891.65	52.2%	13,069,089.05	59.6%	15,699,931.61	13,959,590.14	12.5%

*** 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.