

Oil & Gas Upstream Market Monthly Newsletter

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About Trefethen Advisors, LLC

Trefethen Advisors is a privately held investment bank. Trefethen is unique in its ability to maximize value for its clients by providing strategy-led, consultative investment banking services in situations requiring specialized industry, analytical, and/or structuring expertise. We offer skilled transaction execution capabilities and a full range of financial and strategic advisory services:

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- Corporate Finance
- Financial Restructuring and Distressed M&A
- ESOP Buyouts

Corporate Finance Products Include:

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- Venture Capital
- Debt/Sub-Debt
- Private Equity
- Financial Companies
- Sale-Leaseback Financing

For more company information, please visit our website at www.trefethenib.com

For more Oil & Gas information, please contact Brian Humenesky at bhumenesky@trefethenib.com

Trefethen Advisors, LLC is pleased to bring you this monthly edition of its monthly market update. This periodical is designed to provide current information on the public equity markets, oil & gas upstream markets, supply & demand trends, M&A activity as well as market and sector commentary. If you would like to add any colleagues to this newsletter, please contact Brian Humenesky at bhumenesky@trefethenib.com

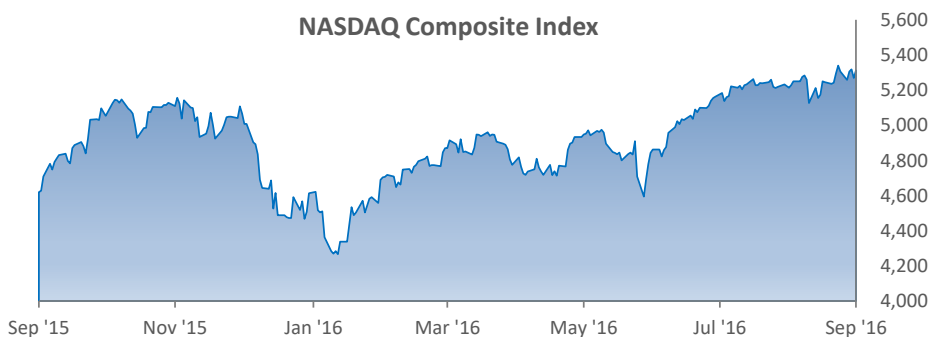
Market Summary

Volatility returned to the equity markets in September, sparked by the Bank of Japan (BOJ), European Central Bank (ECB) and Federal Reserve (Fed) meetings, namely BOJ's decision on keeping policy at its current state, rather than easing further. Overall, S&P 500 and NASDAQ rose -0.12% and 1.89%, respectively. After the two-day meeting, Fed decided not to increase interest rate as expected by many economists and investors. Globally, OPEC's oil production reached a new high in September 2016, producing 33.75 million barrels a day. However, this seems to be the end of it, at least for the near future. OPEC, at the unofficial summit in Algiers, announced a surprising preliminary agreement to limit oil production by 1-2%. The announcement caused oil prices to surge, with WTI Crude Oil ending the month up 8.0%.

S&P 500 Index



NASDAQ Composite Index



Treasury Rates

	9/30/2016	- 1 Wk.	- 1 Mo.	- 6 Mo.	- 12 Mo.
1-Year	0.59%	0.60%	0.61%	0.61%	0.33%
10-Year	1.60%	1.62%	1.57%	1.83%	2.06%
30-Year	2.32%	2.34%	2.23%	2.65%	2.87%

Treasury Yields rose modestly to their highest levels since BREXIT vote. The yield on 10-year Treasury note stayed flat during the month of September as a result of Fed deciding not to raise rates and not giving the market any reason to expect a rate hike before the U.S. presidential election.

10-Year Treasury Yield

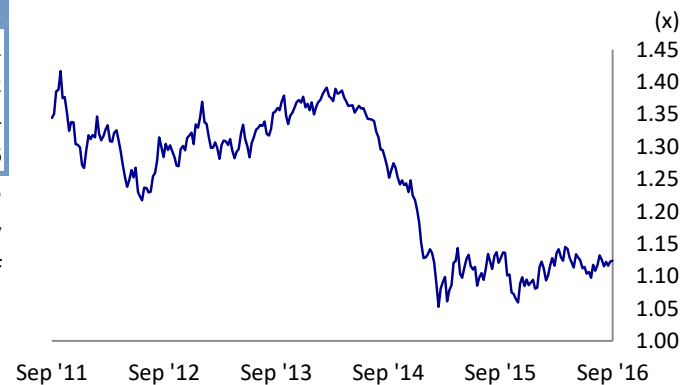


Exchange Rates

	9/30/2016	- 1 Wk.	- 1 Mo.	- 6 Mo.	- 12 Mo.
GBP/USD	1.30	1.30	1.31	1.44	1.51
EUR/USD	1.12	1.12	1.11	1.13	1.12
USD/JPY	101.28	100.99	102.93	112.55	119.74
USD/CNY	6.67	6.67	6.68	6.48	6.36

The Euro traded relatively flat against the Dollar over the past month as a drop in German economic activity weighed on the Euro and speculation over the chances of the Fed raising interest rates in the near term faded.

EUR/ USD

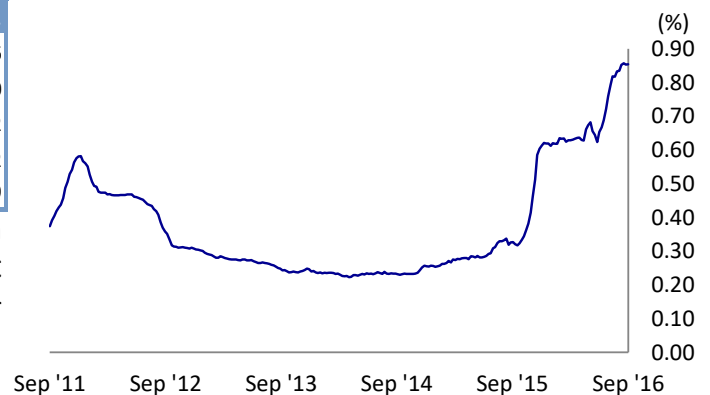


Commodity Markets

	9/30/2016	- 1 Wk.	- 1 Mo.	- 6 Mo.	- 12 Mo.
Crude Oil	48.82	45.07	47.62	39.66	45.56
Gold	1317.10	1337.50	1313.00	1228.60	1115.20
Silver	19.21	19.73	18.58	15.21	14.52
Wheat	4.02	4.04	3.92	4.64	5.12
Corn	48.24	44.48	46.35	38.32	45.09

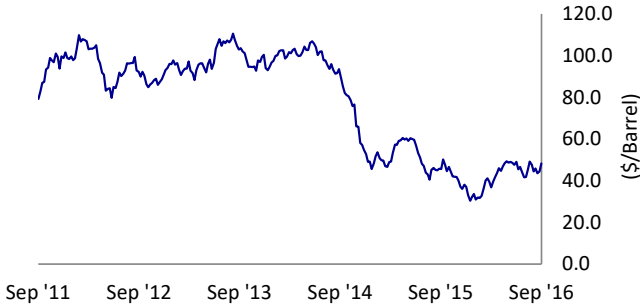
Despite OPEC reportedly reaching ever higher production levels during September, at the Algiers Summit, OPEC reached an agreement to reduce daily production by 1 or 2% or approximately 700,000 barrels per day.

LIBOR (3 Month)



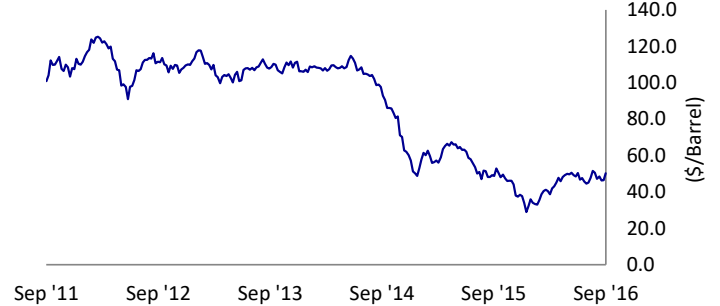
WTI Crude Oil

One-Month High	48.2	5-Year High	110.5
One-Month Low	43.2	5-Year Low	27.5
Monthly Change	4.1%	5-Year Change	(39.1%)



Brent Crude Oil

One-Month High	50.4	5-Year High	125.3
One-Month Low	45.8	5-Year Low	27.9
Monthly Change	2.1%	5-Year Change	(50.2%)



Henry Hub Natural Gas

One-Month High	3.1	5-Year High	5.5
One-Month Low	2.7	5-Year Low	1.6
Monthly Change	2.8%	5-Year Change	(20.7%)



Gasoline(RBOB)

One-Month High	1.6	5-Year High	3.4
One-Month Low	1.5	5-Year Low	0.9
Monthly Change	(11.1%)	5-Year Change	(52.0%)



Coal(Central Appalachian)

One-Month High	40.5	5-Year High	74.6
One-Month Low	40.0	5-Year Low	39.5
Monthly Change	0.0%	5-Year Change	(45.7%)



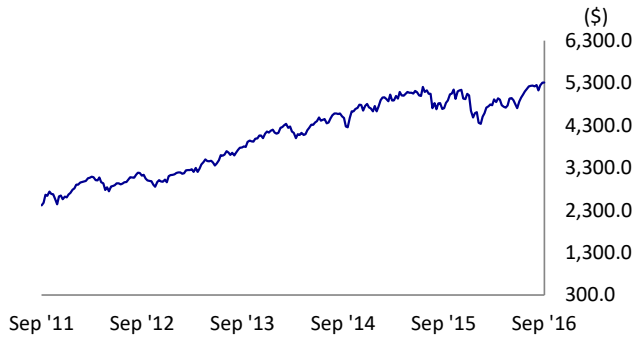
GDP Growth Forecast ¹

Region	2016E	2017P	Region	2016E	2017P
Global	2.4%	2.8%	China	6.7%	6.5%
United States	1.9	2.2	Brazil	(4.0)	(0.2)
Euro Area	1.6	1.6	Japan	0.5	0.5

Source: Capital IQ, ¹World Bank

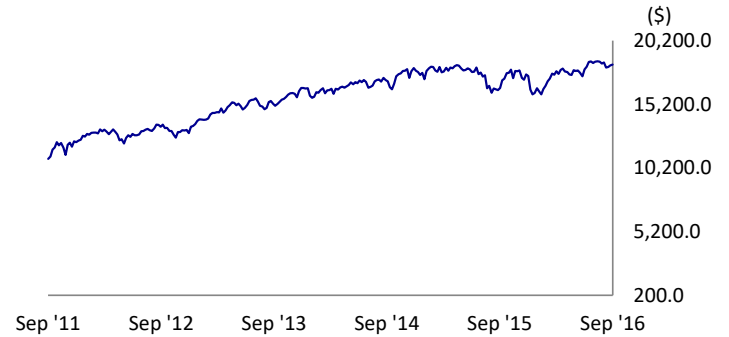
NASDAQ Index

One-Month High	4,869.9	5-Year High	5,218.9
One-Month Low	4,558.0	5-Year Low	2,335.8
Monthly Change	6.8%	5-Year Change	75.1%



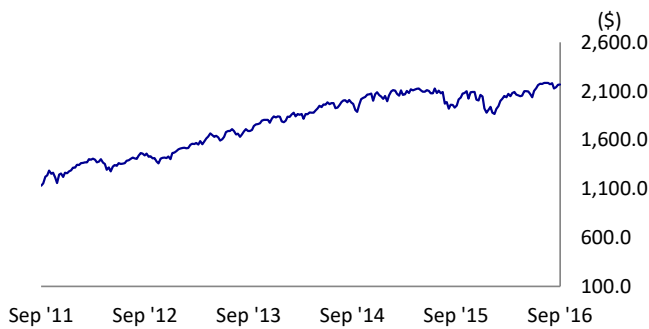
Dow Jones Industrial Average Index

One-Month High	17,716.7	5-Year High	18,312.4
One-Month Low	16,516.5	5-Year Low	10,655.3
Monthly Change	7.1%	5-Year Change	43.6%



S&P 500 Index

One-Month High	2,063.9	5-Year High	2,130.8
One-Month Low	2,000.5	5-Year Low	1,099.2
Monthly Change	(1.6%)	5-Year Change	58.0%



S&P U.S. Energy Index

One-Month High	515.8	5-Year High	737.1
One-Month Low	485.1	5-Year Low	388.6
Monthly Change	(0.3%)	5-Year Change	(9.7%)



S&P Global Energy Index

One-Month High	30.3	5-Year High	49.5
One-Month Low	30.4	5-Year Low	23.9
Monthly Change	(1.7%)	5-Year Change	(24.3%)



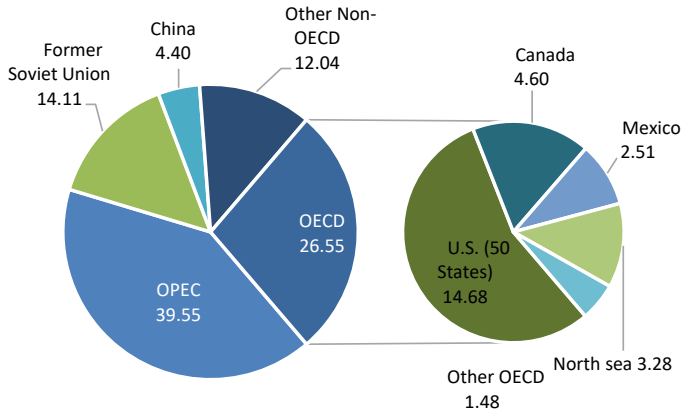
Dow Jones U.S. Oil & Gas Index

One-Month High	578.6	5-Year High	855.7
One-Month Low	541.3	5-Year Low	433.9
Monthly Change	(0.5%)	5-Year Change	(12.1%)

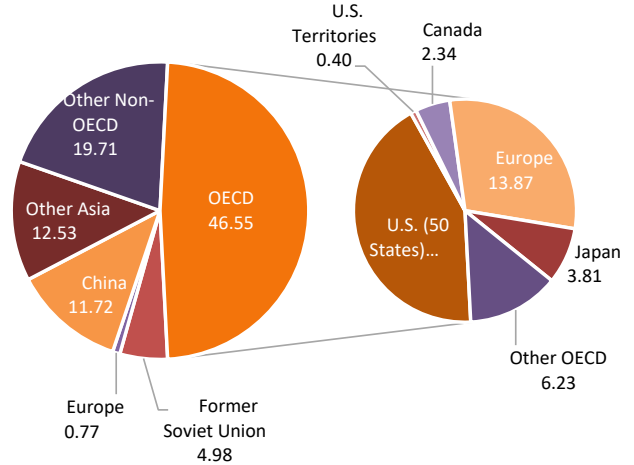


Source: Capital IQ

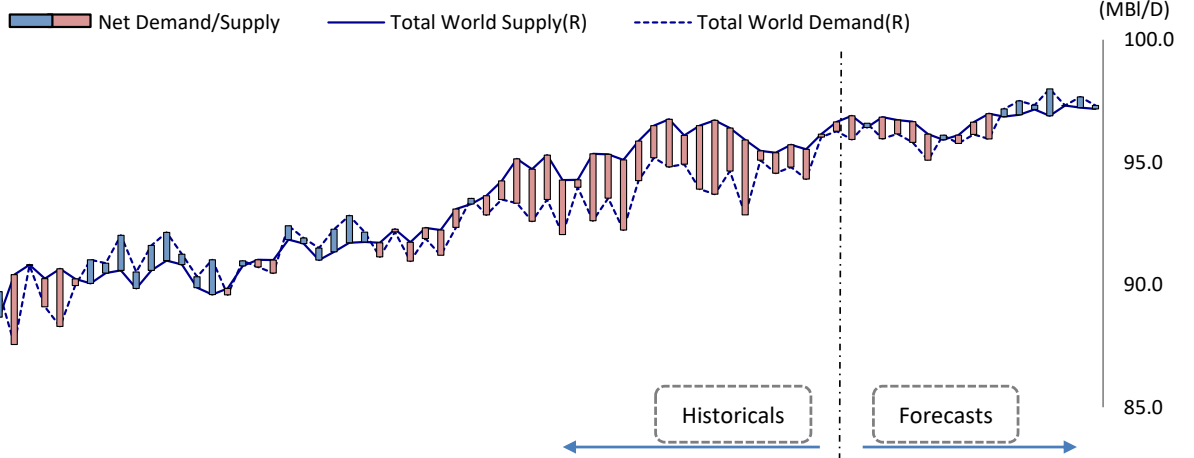
Supply (MBI/d)



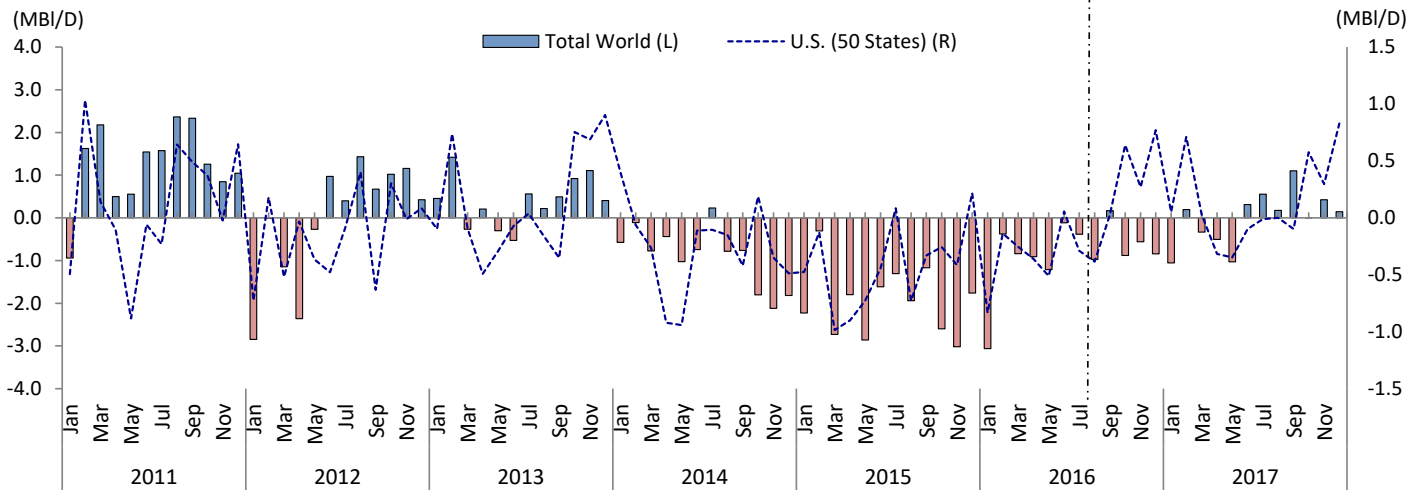
Demand (MBI/d)



Total World S & D



Total Inventory Net Withdrawals



Source: EIA

*Fuel includes crude oil, natural gas plant liquids, biofuels, other liquids, and refinery processing gains

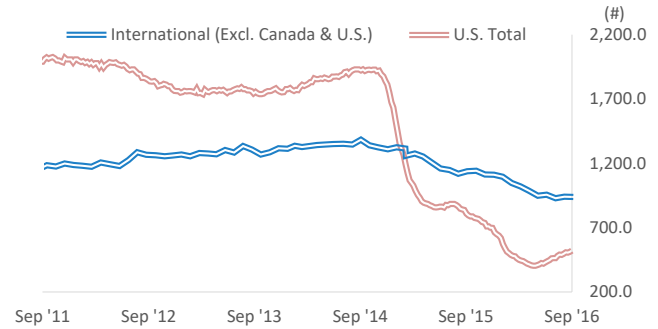
Rig Counts by Category

	9/30/2016	1/1/2016	- 1 Mo.	- 1 Yr.
U.S. Total	522	698	489	838
U.S. Oil	425	536	406	641
U.S. Gas	96	162	81	197
International (Excl. Canada & U.S.)	937	1045	938	1137
Horizontal / Directional	458	609	427	715
Vertical	64	89	62	123

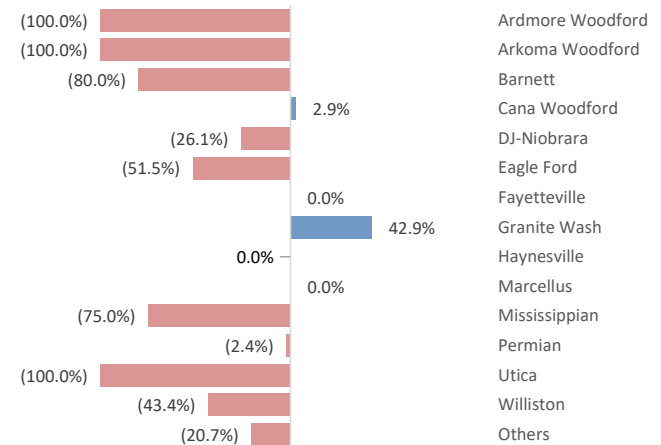
Rig Count by Region (Oil + Gas)

	9/30/2016	1/1/2016	- 1 Mo.	- 1 Yr.
Ardmore Woodford	0	2	1	4
Arkoma Woodford	4	8	2	8
Barnett	1	7	4	6
Cana Woodford	35	38	32	40
DJ-Niobrara	17	23	16	29
Eagle Ford	36	76	35	85
Fayetteville	1	1	0	3
Granite Wash	10	15	9	12
Haynesville	13	25	14	26
Marcellus	32	41	25	49
Mississippian	3	12	3	14
Permian	204	217	199	250
Utica	15	15	13	20
Williston	30	53	27	67
Others	121	165	109	225
Total	522	698	489	838

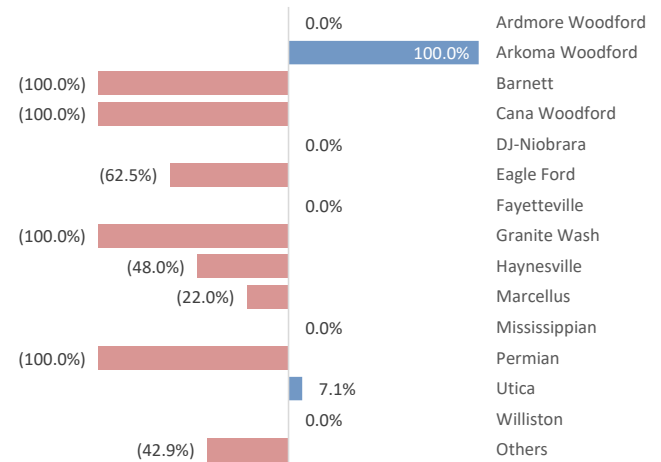
Total Rig Counts (Oil + Gas)



YTD Change in U.S. Oil Rig Count

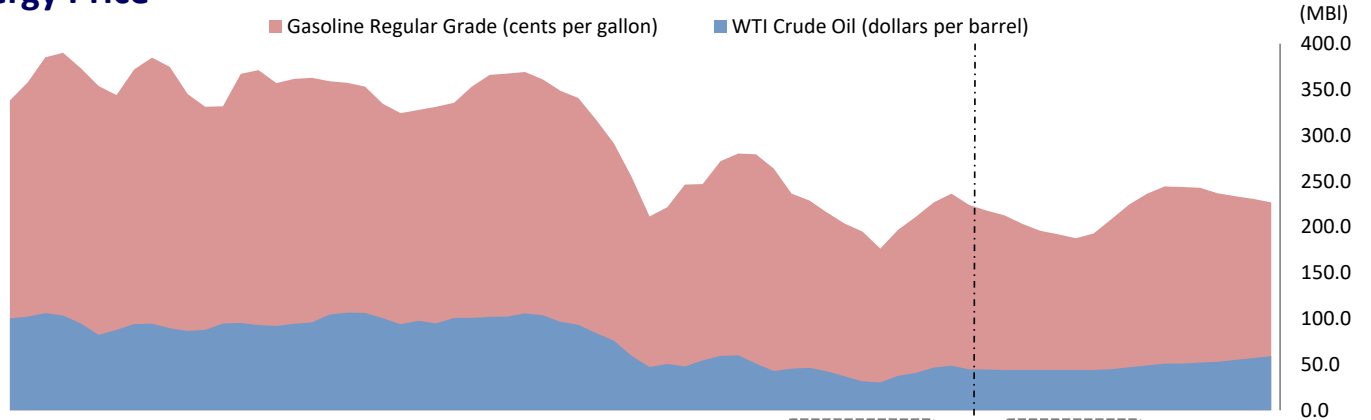


YTD Change in U.S. Gas Rig Count

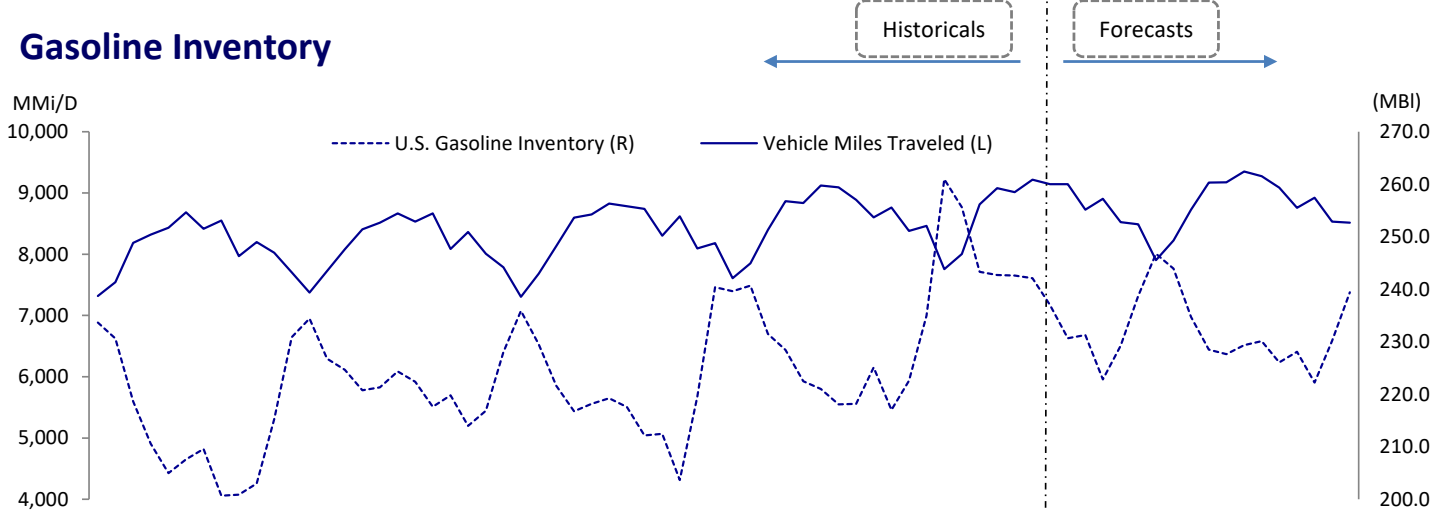


Source: Baker Hughes

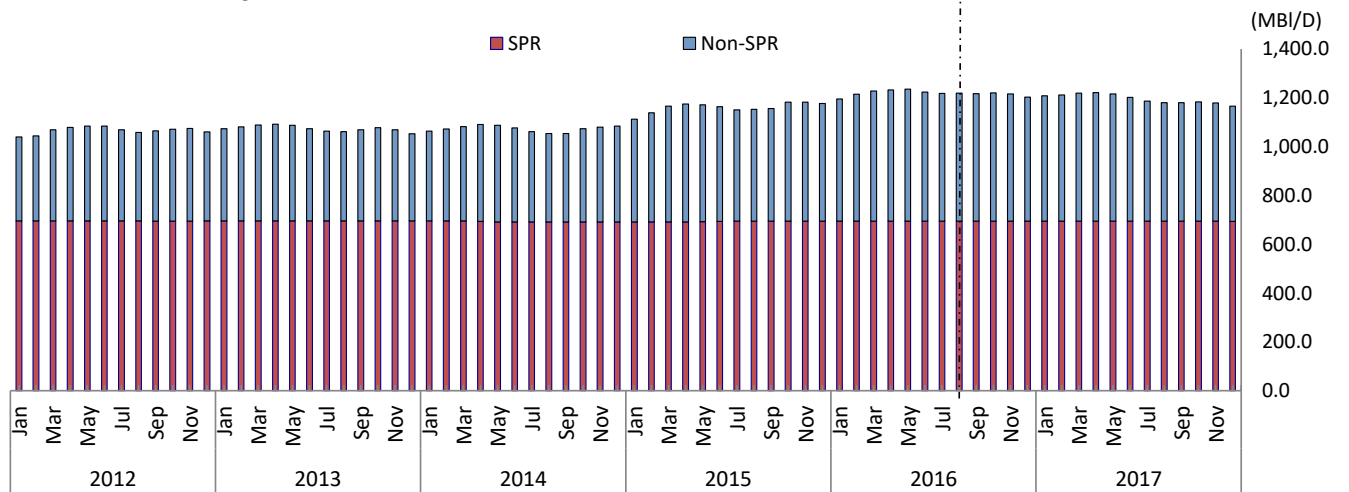
Energy Price



Gasoline Inventory



Crude Oil Inventory



Source: EIA

Equity Markets

(\$ in USD)			Selected Financial Data															
Security	Ticker	Latest FY Ended	Last 09/30/16	52 Wk. High	52 Wk. Low	% of 52 Wk. high	Market Cap	Enterprise Value	EV / EBITDA		EBITDA Margin		Net Debt / EBITDA		P / E		Dividend Yield	
									CY15A	CY16E	CY15A	CY16E	CY15A	CY16E	CY15A	CY16E		
Oil & Gas Drilling																		
CONSOL Energy Inc.	NYSE:CNX	12/31/2015	19.2	19.4	5.0	99.1%	4,405	7,875	7.5x	12.1x	23.9%	27.8%	4.9x	4.8x	NM	NM	-	
Chevron Corporation	NYSE:CVX	12/31/2015	102.9	107.0	78.3	96.2%	195,481	250,492	7.3x	10.9x	19.6%	19.0%	1.0x	1.6x	24.5	78.5	4.2%	
Diamond Offshore Drilling, Inc.	NYSE:DO	12/31/2015	17.6	26.1	14.8	67.4%	2,416	4,826	4.7x	7.5x	44.2%	40.2%	2.0x	3.4x	8.2	18.8	-	
Enasco plc	NYSE:ESV	12/31/2015	8.5	18.3	6.6	46.3%	2,562	8,265	4.4x	6.9x	52.6%	46.2%	2.7x	3.4x	3.5	6.9	0.5%	
Helmerich & Payne, Inc.	NYSE:HP	9/30/2015	67.3	69.8	42.9	96.5%	7,325	8,765	4.3x	19.8x	35.9%	29.1%	(0.2x)	(0.8x)	15.6	NM	4.2%	
Nabors Industries Ltd.	NYSE:NBR	12/31/2015	12.2	12.2	5.5	100.0%	3,446	7,190	5.2x	11.9x	29.2%	26.8%	3.0x	5.4x	NM	NM	2.0%	
Occidental Petroleum Corporation	NYSE:OXY	12/31/2015	72.9	78.3	59.6	93.1%	55,706	67,788	10.1x	18.0x	45.0%	35.2%	0.9x	1.2x	567.4	NM	4.2%	
Rowan Companies plc	NYSE:RDC	12/31/2015	15.2	20.9	11.2	72.5%	1,901	5,308	4.2x	6.6x	48.0%	46.9%	2.2x	2.3x	4.8	9.2	-	
Transocean Ltd.	NYSE:RIG	12/31/2015	10.7	17.0	8.2	62.8%	3,895	14,587	3.6x	8.8x	44.3%	43.0%	2.0x	3.7x	3.1	12.6	-	
Exxon Mobil Corporation	NYSE:XOM	12/31/2015	87.3	95.1	73.2	91.8%	361,920	417,033	9.1x	11.7x	15.0%	14.9%	0.9x	1.1x	20.1	37.3	3.4%	
Average							63,906	79,213	6.0x	11.4x	35.8%	32.9%	1.9x	2.6x	80.9	27.2	1.8%	
Median							4,150	8,515	4.9x	11.3x	40.0%	32.2%	2.0x	2.9x	11.9	15.7	1.2%	
Oil & Gas Equipments and Services																		
Baker Hughes Incorporated	NYSE:BHI	12/31/2015	50.5	57.3	38.9	88.0%	21,596	28,615	12.1x	103.0x	11.5%	2.8%	0.9x	(3.2x)	NM	NM	1.3%	
FMC Technologies, Inc.	NYSE:FTI	12/31/2015	29.7	35.5	22.8	83.6%	6,694	9,112	7.1x	16.9x	15.2%	12.6%	0.2x	0.5x	12.6	32.0	-	
Halliburton Company	NYSE:HAL	12/31/2015	44.9	46.9	28.5	95.8%	38,686	54,758	8.3x	27.2x	17.6%	12.6%	1.3x	4.9x	21.9	NM	1.6%	
National Oilwell Varco, Inc.	NYSE:NOV	12/31/2015	36.7	40.8	26.3	90.0%	13,885	18,894	6.4x	69.6x	15.5%	3.7%	0.8x	6.0x	11.6	NM	0.5%	
Schlumberger Limited	NYSE:SLB	12/31/2015	78.6	83.9	61.1	93.8%	109,905	134,879	10.6x	19.9x	27.7%	23.7%	1.7x	2.8x	20.5	72.7	2.5%	
Weatherford International plc	NYSE:WFT	12/31/2015	5.6	11.3	4.9	50.0%	5,036	12,785	10.4x	36.9x	13.9%	5.9%	5.4x	19.6x	NM	NM	-	
Average							32,634	43,174	9.1x	45.6x	16.9%	10.0%	1.7x	5.1x	16.6	52.3	1.0%	
Median							17,740	23,754	9.3x	32.1x	15.3%	8.7%	1.1x	3.8x	16.6	52.3	0.9%	
Oil & Gas Refining & Marketing																		
Kinder Morgan, Inc.	NYSE:KMI	12/31/2015	23.1	32.7	12.0	70.8%	51,634	95,830	10.1x	13.1x	52.5%	55.0%	5.7x	5.9x	20.5	35.4	2.2%	
Marathon Petroleum Corporation	NYSE:MPC	12/31/2015	40.6	59.3	30.7	68.4%	21,704	41,955	6.6x	9.2x	9.5%	7.4%	1.6x	2.0x	8.7	16.7	3.5%	
ONEOK Inc.	NYSE:OKE	12/31/2015	51.4	51.4	18.9	100.0%	10,814	23,607	12.2x	13.8x	18.5%	20.2%	6.2x	5.4x	16.1	30.8	4.8%	
Phillips 66	NYSE:PSX	12/31/2015	80.6	93.7	72.9	86.0%	42,341	54,659	6.7x	12.5x	7.4%	4.5%	0.8x	1.5x	10.5	22.5	3.1%	
Spectra Energy Corp.	NYSE:SE	12/31/2015	42.8	44.0	22.0	97.2%	29,996	48,965	12.3x	17.1x	52.5%	53.6%	5.3x	5.1x	20.7	36.6	3.8%	
Tesoro Corporation	NYSE:TSO	12/31/2015	79.6	118.2	68.6	67.3%	9,499	17,799	4.7x	7.6x	13.7%	9.5%	0.8x	1.4x	7.4	14.7	2.8%	
Valero Energy Corporation	NYSE:VLO	12/31/2015	53.0	73.0	47.2	72.6%	24,451	37,714	4.3x	7.9x	10.2%	6.9%	0.4x	0.5x	7.4	14.0	4.5%	
Williams Companies, Inc.	NYSE:WMB	12/31/2015	30.7	43.8	11.2	70.1%	23,068	58,171	13.1x	13.8x	55.8%	60.0%	5.9x	6.0x	47.6	45.2	2.6%	
Average							26,688	47,337	8.8x	11.9x	27.5%	27.1%	3.3x	3.5x	17.4	27.0	3.4%	
Median							23,759	45,460	8.4x	12.8x	16.1%	14.9%	3.4x	3.6x	13.3	26.7	3.3%	
Oil & Gas Exploration and Production																		
Apache Corp.	NYSE:APA	12/31/2015	63.9	63.9	34.4	100.0%	24,234	35,709	6.6x	12.4x	61.2%	54.0%	1.9x	2.6x	1,564	22.8x	1.6%	
Anadarko Petroleum Corporation	NYSE:APC	12/31/2015	63.4	73.4	30.5	86.3%	35,412	57,646	12.4x	16.1x	40.4%	43.6%	4.7x	4.5x	2,057	28.0x	0.3%	
Antero Resources Corporation	NYSE:AR	12/31/2015	27.0	30.1	19.1	89.5%	8,279	13,918	9.9x	9.9x	30.9%	69.8%	3.8x	3.0x	2,202	6.3x	-	
Black Stone Minerals, L.P.	NYSE:BSM	12/31/2015	17.8	18.9	10.8	94.3%	3,400	3,769	11.5x	14.7x	63.9%	80.2%	0.2x	1.1x	50	75.7x	6.5%	
Chesapeake Energy Corporation	NYSE:CHK	12/31/2015	6.3	9.3	1.6	67.1%	4,799	17,749	6.6x	15.0x	19.1%	29.8%	4.1x	8.2x	1,504	11.8x	-	
Cabot Oil & Gas Corporation	NYSE:COG	12/31/2015	25.8	26.5	15.0	97.4%	12,017	14,074	11.5x	22.9x	60.1%	48.6%	2.5x	1.7x	1,365	10.3x	0.3%	
ConocoPhillips	NYSE:COP	12/31/2015	43.5	56.7	31.9	76.6%	53,838	85,665	12.7x	15.1x	20.5%	22.1%	3.5x	4.5x	8,180	10.5x	2.3%	
Carrizo Oil & Gas Inc.	NasdaqGS:CRZO	12/31/2015	40.6	43.2	18.4	94.1%	2,423	3,723	6.5x	9.9x	73.0%	72.6%	2.7x	3.4x	171	21.8x	-	
Concho Resources, Inc.	NYSE:CXO	12/31/2015	137.4	137.4	72.5	100.0%	19,363	23,177	8.7x	14.6x	95.0%	94.0%	1.8x	1.8x	623	37.2x	-	
Denbury Resources Inc.	NYSE:DNR	12/31/2015	3.2	4.7	1.0	69.0%	1,269	4,353	4.3x	10.4x	53.1%	41.5%	3.5x	7.4x	289	15.1x	-	
Devon Energy Corporation	NYSE:DVN	12/31/2015	44.1	47.8	18.7	92.4%	23,096	41,764	5.3x	17.9x	40.1%	23.5%	2.1x	4.8x	2,182	19.1x	0.5%	
Energen Corp.	NYSE:EGN	12/31/2015	57.7	61.6	22.9	93.7%	5,605	6,467	5.4x	22.5x	84.2%	51.6%	1.0x	0.8x	355	18.2x	-	
EOG Resources, Inc.	NYSE:EOG	12/31/2015	96.7	96.7	60.2	100.0%	53,813	61,579	11.0x	21.7x	46.6%	39.8%	1.5x	2.2x	2,118	29.1x	0.7%	
EP Energy Corporation	NYSE:EPE	12/31/2015	4.4	7.8	1.7	56.0%	1,106	5,075	3.6x	5.0x	86.0%	91.3%	2.9x	3.9x	546	9.3x	-	
EQT Corporation	NYSE:EQT	12/31/2015	72.6	79.3	47.8	91.5%	12,583	20,835	9.0x	16.8x	59.1%	73.0%	1.1x	0.4x	1,564	13.3x	0.2%	
Diamondback Energy, Inc.	NasdaqGS:FANG	12/31/2015	96.5	98.6	57.6	97.9%	7,536	8,477	11.3x	26.3x	102.3%	68.1%	1.0x	0.9x	157	54.0x	-	
Gulfport Energy Corp.	NasdaqGS:GFOR	12/31/2015	28.3	35.6	20.3	79.4%	3,542	4,895	9.7x	12.1x	51.0%	79.3%	2.3x	1.4x	284	17.2x	-	
Hess Corporation	NYSE:HES	12/31/2015	53.6	63.4	34.4	84.6%	16,824	27,527	20.3x	19.7x	14.0%	30.0%	4.3x	2.5x	1,086	25.3x	1.9%	
Kosmos Energy Ltd.	NYSE:KOS	12/31/2015	6.4	7.8	3.5	82.1%	2,476	3,783	35.3x	17.8x	15.5%	54.5%	8.0x	5.1x	76	49.6x	-	
Laredo Petroleum, Inc.	NYSE:LPI	12/31/2015	12.9	14.0	4.1	92.4%	3,105	4,517	6.5x	10.6x	77.8%	80.5%	2.9x	3.2x	126	35.9x	-	
Marathon Oil Corporation	NYSE:MRO	12/31/2015	15.8	20.2	6.7	78.3%	13,395	23,260	4.5x	15.4x	54.7%	35.1%	1.9x	3.1x	2,163	10.8x	1.3%	
Murphy Oil Corporation	NYSE:MUR	12/31/2015	30.4	36.2	15.8	83.9%	5,235	7,958	5.4x	9.4x	40.6%	44.8%	2.3x	2.6x	774	10.3x	3.3%	
Noble Energy, Inc.	NYSE:NBL	12/31/2015	35.7	38.7	25.7	92.4%	15,317	24,541	11.6x	10.5x	57.9%	64.1%	3.9x	2.8x	1,421	17.3x	1.1%	
Newfield Exploration Co.	NYSE:NFX	12/31/2015	43.5	47.2	22.3	92.1%	8,553	11,148	7.2x	12.5x	68.7%	59.9%	2.3x	2.5x	509	21.9x	-	
Oasis Petroleum Inc.	NYSE:OAS	12/31/2015	11.5	13.8	4.3	83.4%	2,070	4,203	4.0x	8.6x	103.9%	68.1%	2.8x	4.3x	218	19.3x	-	
PDC Energy, Inc.	NasdaqGS:PDCE	12/31/2015	67.1	69.4	45.7	96.6%	3,817	4,422	6.3x	9.4x	74.4%	95.1%	1.5x	0.8x	273	16.2x	-	
Parsley Energy, Inc.	NYSE:PE	12/31/2015	33.5	34.9	15.1	96.1%	6,018	7,569	15.6x	22.7x	73.4%	71.7%	1.1x	0.9x	124	61.1x	-	
Pioneer Natural Resources Co.	NYSE:PXD	12/31/2015	185.7	188.3	107.8	98.6%	31,509	37,014	12.0x	19.2x	36.2%	53.7%	1.3x	1.0x	664	55.7x	0.0%	
Range Resources Corporation	NYSE:RRC	12/31/2015	38.8	46.5	20.5	83.4%	6,459	9,027	4.6x	14.4x	91.9%	46.8%	1.8x	4.1x	1,543	5.9x	0.2%	
Southwestern Energy Company	NYSE:SWN	12/31/2015	13.8	15.4	5.2	89.6%	6,622	13,396	6.0x	18.6x	39.5%	29.7%	3.8x	6.6x	1,036	12.9x	-	
Whiting Petroleum Corp.	NYSE:WLL	12/31/2015	8.7	22.4	3.5	39.0%	2,407	7,391	6.2x	9.5x	55.6%	56.6%						

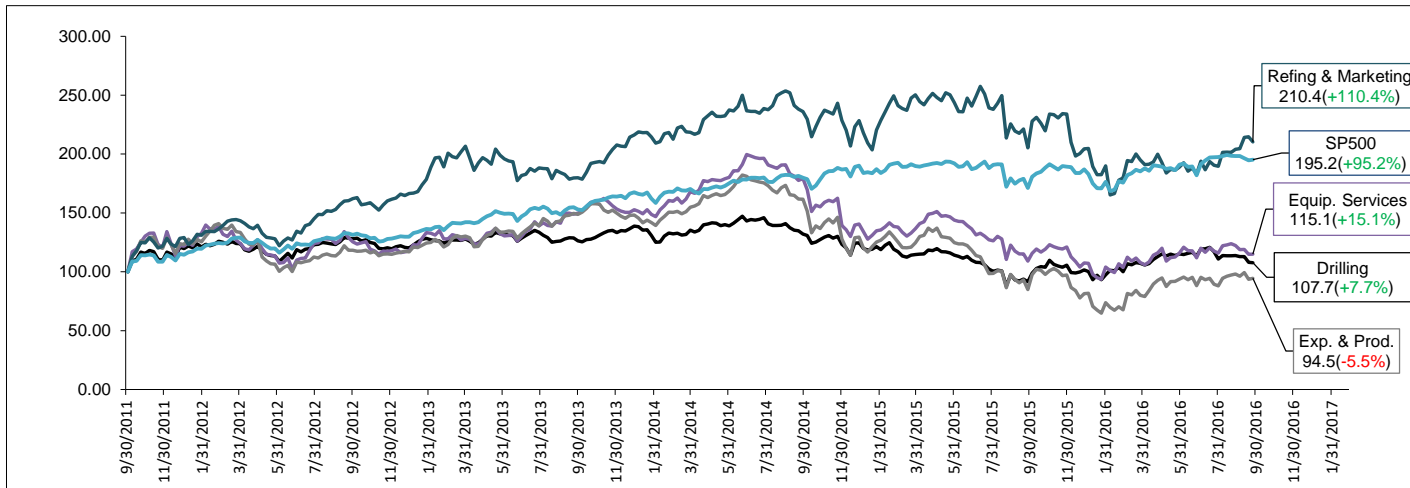
Equity Markets (Cont.)

(\$MM, Except per Share Data)

Security	Ticker	Revenue			Revenue Growth		EBITDA			EBITDA Margin			Avg. Margin	
		2014	2015	2016E	'14-'15	'15-'16E	2014	2015	2016E	2014	2015	2016E	'14-'15	'15-'16E
Oil & Gas Drilling														
CONSOL Energy Inc.	NYSE:CNX	3,727	3,114	2,349	(16.4%)	(24.6%)	1,053	745	652	28.3%	23.9%	27.8%	26.1%	25.8%
Chevron Corporation	NYSE:CVX	211,970	138,477	120,792	(34.7%)	(12.8%)	47,995	27,139	22,911	22.6%	19.6%	19.0%	21.1%	19.3%
Diamond Offshore Drilling, Inc.	NYSE:DO	2,815	2,419	1,593	(14.0%)	(34.1%)	1,202	1,069	641	42.7%	44.2%	40.2%	43.5%	42.2%
EnSCO plc	NYSE:ESV	4,565	4,063	2,583	(11.0%)	(36.4%)	2,356	2,137	1,194	51.6%	52.6%	46.2%	52.1%	49.4%
Helmerich & Payne, Inc.	NYSE:HP	3,720	3,165	1,523	(14.9%)	(51.9%)	1,559	1,136	443	41.9%	35.9%	29.1%	38.9%	32.5%
Nabors Industries Ltd.	NYSE:NBR	6,798	3,867	2,250	(43.1%)	(41.8%)	1,743	1,127	602	25.6%	29.2%	26.8%	27.4%	28.0%
Occidental Petroleum Corporation	NYSE:OXY	22,666	12,480	10,696	(44.9%)	(14.3%)	13,255	5,611	3,769	58.5%	45.0%	35.2%	51.7%	40.1%
Rowan Companies plc	NYSE:RDC	1,824	2,137	1,726	17.1%	(19.3%)	709	1,026	809	38.9%	48.0%	46.9%	43.4%	47.4%
Transocean Ltd.	NYSE:RIG	9,174	6,953	3,861	(24.2%)	(44.5%)	3,790	3,083	1,659	41.3%	44.3%	43.0%	42.8%	43.7%
Exxon Mobil Corporation	NYSE:XOM	411,939	268,882	238,993	(34.7%)	(11.1%)	69,213	40,325	35,601	16.8%	15.0%	14.9%	15.9%	14.9%
Average		67,920	44,556	38,637	(22.1%)	(29.1%)	14,288	8,340	6,828	36.8%	35.8%	32.9%	36.3%	34.3%
Median		5,681	3,965	2,466	(20.3%)	(29.4%)	2,049	1,636	1,002	40.1%	40.0%	32.2%	40.9%	36.3%
Oil & Gas Equipments and Services														
Baker Hughes Incorporated	NYSE:BHI	24,551	15,742	9,945	(35.9%)	(36.8%)	4,843	1,815	278	19.7%	11.5%	2.8%	15.6%	7.2%
FMC Technologies, Inc.	NYSE:FTI	7,943	6,363	4,654	(19.9%)	(26.9%)	1,299	967	540	16.3%	15.2%	11.6%	15.8%	13.4%
Halliburton Company	NYSE:HAL	32,870	23,633	15,991	(28.1%)	(32.3%)	7,174	4,155	2,011	21.8%	17.6%	12.6%	19.7%	15.1%
National Oilwell Varco, Inc.	NYSE:NOV	21,440	14,757	7,305	(31.2%)	(50.5%)	4,586	2,283	272	21.4%	15.5%	3.7%	18.4%	9.6%
Schlumberger Limited	NYSE:SLB	48,580	35,475	28,644	(27.0%)	(19.3%)	13,825	9,820	6,791	28.5%	27.7%	23.7%	28.1%	25.7%
Weatherford International plc	NYSE:WFT	14,911	9,433	5,894	(36.7%)	(37.5%)	2,974	1,307	347	19.9%	13.9%	5.9%	16.9%	9.9%
Average		25,049	17,567	12,072	(29.8%)	(33.9%)	5,783	3,391	1,706	21.3%	16.9%	10.0%	19.1%	13.5%
Median		22,996	15,250	8,625	(29.6%)	(34.6%)	4,715	2,049	443	20.7%	15.3%	8.7%	17.7%	11.6%
Oil & Gas Refining & Marketing														
Kinder Morgan, Inc.	NYSE:KMI	16,226	14,403	13,344	(11.2%)	(7.4%)	6,502	7,562	7,340	40.1%	52.5%	55.0%	46.3%	53.8%
Marathon Petroleum Corporation	NYSE:MPC	98,102	72,258	61,289	(26.3%)	(15.2%)	5,377	6,856	4,549	5.5%	9.5%	7.4%	7.5%	8.5%
ONEOK Inc.	NYSE:OKE	12,195	7,763	8,473	(36.3%)	9.1%	1,438	1,434	1,715	11.8%	18.5%	20.2%	15.1%	19.4%
Phillips 66	NYSE:PSX	164,093	100,949	96,639	(38.5%)	(4.3%)	7,183	7,502	4,357	4.4%	7.4%	4.5%	5.8%	6.0%
Spectra Energy Corp.	NYSE:SE	5,903	5,234	5,348	(11.3%)	2.2%	3,146	2,746	2,868	53.3%	52.5%	53.6%	52.9%	53.0%
Tesoro Corporation	NYSE:TZO	40,633	28,711	24,807	(29.3%)	(13.6%)	2,288	3,924	2,348	5.6%	13.7%	9.5%	9.6%	11.6%
Valero Energy Corporation	NYSE:VLO	130,844	87,804	69,789	(32.9%)	(20.5%)	7,370	8,990	4,788	5.6%	10.2%	6.9%	7.9%	8.5%
Williams Companies, Inc.	NYSE:WMB	7,637	7,360	7,036	(3.6%)	(4.4%)	3,320	4,104	4,221	43.5%	55.8%	60.0%	49.6%	57.9%
Average		59,454	40,560	35,841	(23.7%)	(6.8%)	4,578	5,390	4,023	21.2%	27.5%	27.1%	24.4%	27.3%
Median		28,430	21,557	19,075	(27.8%)	(5.9%)	4,349	5,480	4,289	8.7%	16.1%	14.9%	12.4%	15.5%
Oil & Gas Exploration and Production														
Apache Corp.	NYSE:APA	13,851	6,366	5,336	(54.0%)	(16.2%)	15,258	3,896	2,879	110.2%	61.2%	54.0%	85.7%	57.6%
Anadarko Petroleum Corporation	NYSE:APC	18,470	8,698	8,228	(52.9%)	(5.4%)	11,689	3,513	3,588	63.3%	40.4%	43.6%	51.8%	42.0%
Antero Resources Corporation	NYSE:AR	2,721	3,955	2,015	45.4%	(49.0%)	1,162	1,221	1,406	42.7%	30.9%	69.8%	36.8%	50.3%
Black Stone Minerals, L.P.	NYSE:BSM	-	393	319	NA	(18.9%)	-	251	256	NM	63.9%	80.2%	NM	72.0%
Chesapeake Energy Corporation	NYSE:CHK	20,951	12,764	3,961	(39.1%)	(69.0%)	5,084	2,435	1,182	24.3%	19.1%	29.8%	21.7%	24.5%
Cabot Oil & Gas Corporation	NYSE:COG	2,173	1,357	1,267	(37.5%)	(6.6%)	1,295	815	615	59.6%	60.1%	48.6%	59.8%	54.3%
ConocoPhillips	NYSE:COP	55,517	30,935	25,701	(44.3%)	(16.9%)	21,729	6,348	5,687	39.1%	20.5%	22.1%	29.8%	21.3%
Carrizo Oil & Gas Inc.	NasdaqGS:CRZO	697	623	520	(10.5%)	(16.7%)	533	455	377	76.6%	73.0%	72.6%	74.8%	72.8%
Concho Resources, Inc.	NYSE:CXO	2,660	1,804	1,692	(32.2%)	(6.2%)	2,033	1,713	1,590	76.4%	95.0%	94.0%	85.7%	94.5%
Denbury Resources Inc.	NYSE:DNR	2,435	1,769	1,009	(27.3%)	(43.0%)	1,370	939	419	56.3%	53.1%	41.5%	54.7%	47.3%
Devon Energy Corporation	NYSE:DVN	19,566	13,145	9,891	(32.8%)	(24.8%)	7,164	5,267	2,327	36.6%	40.1%	23.5%	38.3%	31.8%
Energizer Corp.	NYSE:EGN	1,677	879	558	(47.6%)	(36.4%)	949	740	288	56.6%	84.2%	51.6%	70.4%	67.9%
EOG Resources, Inc.	NYSE:EOG	18,035	8,757	7,134	(51.4%)	(18.5%)	8,862	4,084	2,838	49.1%	46.6%	39.8%	47.9%	43.2%
EP Energy Corporation	NYSE:EPE	3,084	1,908	1,100	(38.1%)	(42.3%)	1,547	1,641	1,005	50.2%	86.0%	91.3%	68.1%	88.7%
EQT Corporation	NYSE:EQT	2,470	2,340	1,700	(5.3%)	(27.3%)	1,722	1,382	1,240	69.7%	59.1%	73.0%	64.4%	66.0%
Diamondback Energy, Inc.	NasdaqGS:FANG	496	447	474	(9.9%)	6.1%	403	457	323	81.2%	102.3%	68.1%	91.8%	85.2%
Gulfport Energy Corp.	NasdaqGS:GPOR	671	709	511	5.7%	(27.9%)	492	362	406	73.2%	51.0%	79.3%	62.1%	65.2%
Hess Corporation	NYSE:HES	11,439	6,561	4,652	(42.6%)	(29.1%)	6,823	919	1,395	59.6%	14.0%	30.0%	36.8%	22.0%
Kosmos Energy Ltd.	NYSE:KOS	883	472	390	(46.6%)	(17.3%)	554	73	213	62.7%	15.5%	54.5%	39.1%	35.0%
Laredo Petroleum, Inc.	NYSE:LPI	794	607	530	(23.6%)	(12.6%)	598	472	427	75.3%	77.8%	80.5%	76.6%	79.2%
Marathon Oil Corporation	NYSE:MRO	11,258	5,861	4,306	(47.9%)	(26.5%)	5,465	3,206	1,511	48.5%	54.7%	35.1%	51.6%	44.9%
Murphy Oil Corporation	NYSE:MUR	5,476	3,033	1,886	(44.6%)	(37.8%)	3,274	1,230	845	59.8%	40.6%	44.8%	50.2%	42.7%
Noble Energy, Inc.	NYSE:NBL	5,101	3,133	3,657	(38.6%)	16.7%	3,175	1,815	2,343	62.2%	57.9%	64.1%	60.1%	61.0%
Newfield Exploration Co.	NYSE:NFX	2,288	1,557	1,486	(31.9%)	(4.6%)	1,445	1,070	889	63.2%	68.7%	59.9%	65.9%	64.3%
Oasis Petroleum Inc.	NYSE:OAS	1,390	790	721	(43.2%)	(8.8%)	953	820	491	68.5%	103.9%	68.1%	86.2%	86.0%
PDC Energy, Inc.	NasdaqGS:PDC	856	595	493	(30.5%)	(17.1%)	361	443	469	42.2%	74.4%	95.1%	58.3%	84.8%
Parsley Energy, Inc.	NYSE:PE	302	266	465	(11.8%)	74.9%	206	195	333	68.3%	73.4%	71.7%	70.9%	72.6%
Pioneer Natural Resources Co.	NYSE:PXO	5,055	4,825	3,593	(4.5%)	(25.5%)	2,525	1,747	1,930	50.0%	36.2%	53.7%	43.1%	45.0%
Range Resources Corporation	NYSE:RRR	1,992	1,598	1,339	(19.8%)	(16.2%)	1,170	1,469	627	58.7%	91.9%	46.8%	75.3%	69.4%
Southwestern Energy Company	NYSE:SWN	4,038	3,133	2,431	(22.4%)	(22.4%)	2,315	1,237	721	57.3%	39.5%	29.7%	48.4%	34.6%
Whiting Petroleum Corp.	NYSE:WLL	3,085	2,051	1,374	(33.5%)	(33.0%)	2,359	1,140	778	76.5%	55.6%	56.6%	66.0%	56.1%
Cimarex Energy Co.	NYSE:XEC	2,424	1,453	1,268	(40.1%)	(12.7%)	1,627	753	674	67.1%	51.8%	53.1%	59.5%	52.5%
Average		7,212	4,309	3,246	(29.0%)	(18.2%)	3,672	1,674	1,287	60.1%	57.8%	57.2%	58.8%	57.5%
Median		2,565	1,856	1,589	(32.8%)	(17.9%)	1,496	1,226	867	59.6%	58.5%	54.2%	59.8%	59.3%

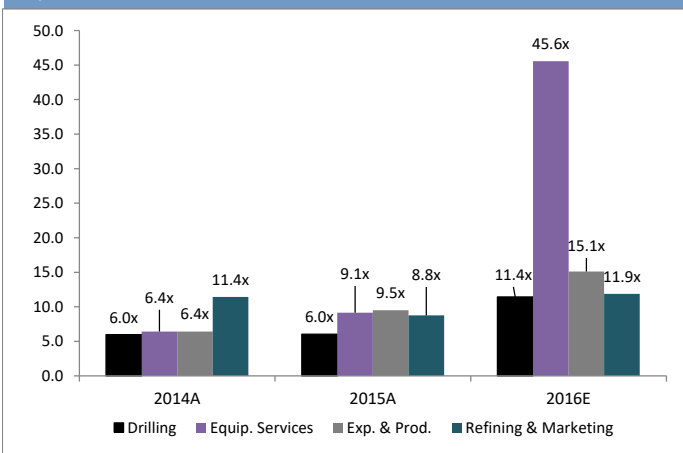
Comparison Graphics: Oil & Gas Upstream

Historical Relative Performance

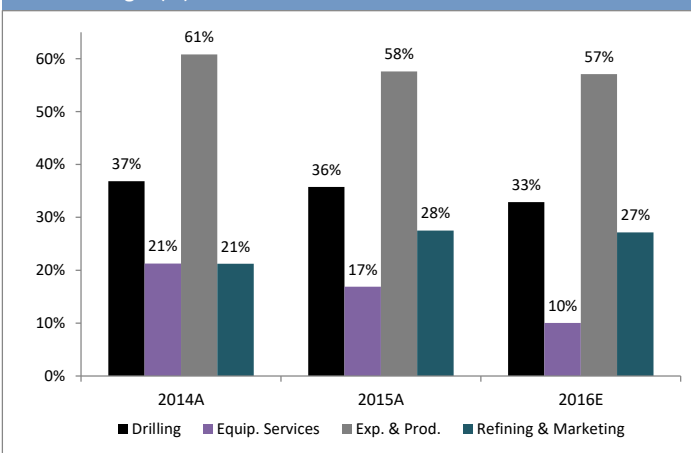


Index, 100 = October 03, 2011

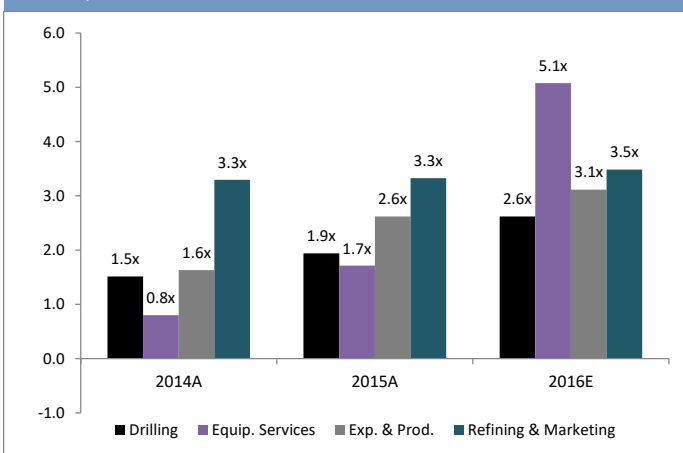
EV / EBITDA



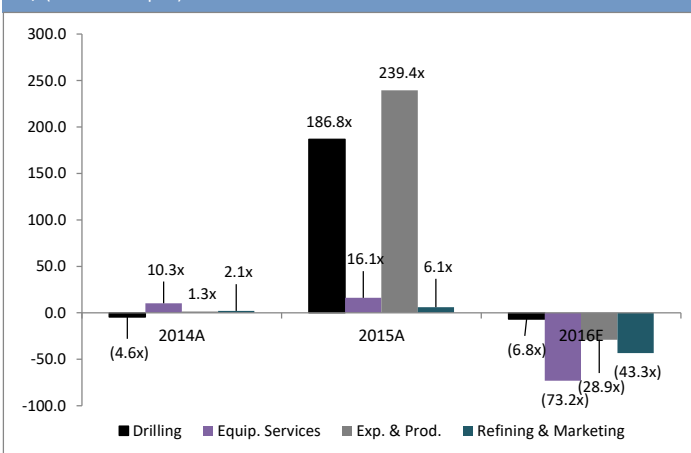
EBITDA Margin (%)



Net Debt / EBITDA



EV / (EBITDA - CapEx)



Oil & Gas Upstream Transactions

Announced Date	Target	States	Sector	Acquirer	Comments	Transaction Value (MM)
9/28/2016	Undisclosed	TX	E&P	Energy Hunter Resources Inc.	To acquire mineral rights under about 320 gross acres in Howard County, TX, within the Permian Basin in the core of the Midland Basin	\$ -
9/27/2016	Perpetual Energy Inc.	CAN	E&P	Undisclosed	Bought all of Perpetual's shallow gas assets and liabilities in eastern Alberta, excluding heavy oil and natural gas assets in the Mannville and Panny areas and other Bitumen leases in NE Alberta	\$ -
9/26/2016	Vantage Energy LLC; Vantage Energy II LLC	PA, OH, WV, TX	E&P	Rice Energy Inc.	To acquire Englewood, CO-based Vantage Energy, which has assets in the Marcellus, Utica and Barnett shale plays	\$ 2,700.0
9/22/2016	Whistler Ventures LLC	NM	E&P	Petrolia Energy Corp.	To purchase a 25% WI position in the Twin Lakes San Andre Unit in Chaves County, NM, within the Permian Basin; includes about 4,860 gross acres, 100% HBP	\$ 0.4
9/20/2016	IronHorse Resources LLC	CO	E&P	Unit Energy Corp.	Formed JV, as part of an earnings and participation agreement, with IronHorse in the D-J Basin to develop three core areas in the Wattenberg Field in Weld County, CO.	\$ -
9/20/2016	Abraxas Petroleum Corp.	TX	E&P	Undisclosed	To acquire 12,178 acres and 50% of Abraxas' minerals within the Permian Basin in Pecos County, TX	\$ 6.7
9/20/2016	Abraxas Petroleum Corp.	TX	E&P	Undisclosed	Bought 100% WI in the Portilla Field within the Gulf Coast region in San Patricio County, TX; includes 145 boe/d of associated production	\$ 13.0
9/19/2016	Bellatrix Exploration Ltd.	CAN	E&P	InPlay Oil Corp.	To buy certain noncore Cardium assets in the greater Pembina area of Alberta; includes formation rights in Cardium onlu and 930 boe/d of oil-weighted production	\$ 47.0
9/15/2016	Top Notch Energy Services Inc.	TX	S&S	Team Oil Tools Inc.	Purchased the Permian Basin and Eagle Ford-focused assets of Corpus Christi, TX-based Top Notch, which provides thru tubing, fishing and milling services	\$ -
9/15/2016	American Well Service LLP	ND	S&S	RockPile Energy Services LLC	Acquired Bakken Shale-focused American Well Service, based in Kenmare, ND; includes six workover rigs in the Williston Basin	\$ -
9/14/2016	Kel-Tech Inc.; Arsenal Capital Partners	TX, NM	S&S	Clariant AG	Bought Midland, TX-based Kel-Tech from PE firm Arsenal; includes operations in NM and TX within the Permian Basin.	\$ -
9/14/2016	X-Chem LLC; NCH Corp.	TX, NM	S&S	Clariant AG	To acquire Irving, TX-based X-Chem from NCH Corp.; includes operations in NM and TX within the Permian Basin	\$ -
9/14/2016	Warrior Rig Ltd.	OK, AB	S&S	Patterson-UTI Energy Inc.	To purchase Calgary, Alberta-based Warrior Rig, which designs, manufactures and services high-spec rig components; includes US office in OK City	\$ -
9/14/2016	Dolphin UK Ltd.	GBR, AUS, NOR	S&S	Petroleum Geo-Services ASA; TGS-Nopec Geophysical Co.	To jointly acquire the majority of Dolphin UK Ltd.'s multiclient library; includes assets in the Barents Sea, North Sea, NW Africa and Australia	\$ -
9/14/2016	AP Moller-Maersk AS; Maersk Oil	GBR	E&P	RockRose Energy Plc	To buy stakes in three UK North Sea fields; includes about 2,000 bbl/d of estimated production	\$ -
9/12/2016	High Mesa Inc.; Alta Mesa Holdings LP	OK	E&P	Bayou City Energy LP; BCE-MESA Holdings LLC	Purchased a preferred stock stake in High Mesa, which owns interest in Alta Mesa Holdings that controls more than 95,000 net acres in the Stack Play in Kingfisher County, OK.	\$ -
9/12/2016	Freeport-McMoRan Inc.; Freeport-McMoRan Oil & Gas LLC	-	E&P	Anadarko Petroleum Corp.	To acquire deepwater GoM assets; includes ownership interest in the Lucius development and about 80,000 net boe/d (more than 80% oil).	\$ 2,000.0
9/9/2016	Chesapeake Energy Corp.	TX	E&P	Total SA	To buy a 75% stake of Chesapeake's Barnett Shale assets in N TX.	\$ -
9/8/2016	RockPile Energy Services LLC; Triangle Petroleum Corp.	CO	S&S	White Deer Energy LP	Bought Denver-based RockPile, a subsidiary of Triangle Petroleum, which provides completions services primarily in the Williston and Permian basins.	\$ -
9/8/2016	Samson Resources Co.	ND, MT	E&P	Resources Energy Can-Am LLC	To buy certain of Samson's ND and MT properties in the Bakken Shale within the Williston Basin as part of a stalking horse agreement.	\$ 75.0

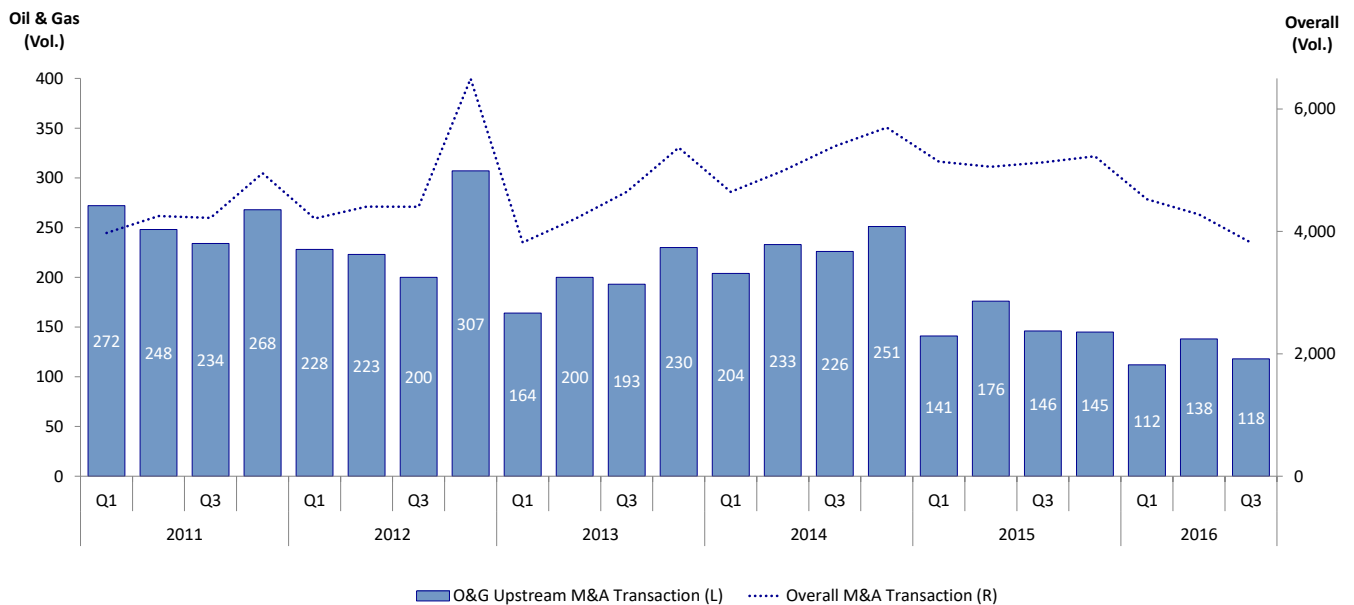
Source: Capital IQ, Oil & Gas Investor

Note: E&P = Exploration & Production; S&S = Supply & Services; R&M = Refining & Marketing

Oil & Gas Upstream Transactions

Announced Date	Target	States	Sector	Acquirer	Comments	Transaction Value (MM)
9/8/2016	Charger Shale Oil Co. LLC	TX	E&P	Oaktree Capital Management LP	Formed JV to develop more than 40,000 acres in the Delaware Basin; includes \$600 million in an initial equity commitment with an additional \$300 million runaway commitment.	\$ 900.0
9/6/2016	Plymouth Petroleum LLC; Element Petroleum LLC; ArLight Capital Partners LLC	TX	E&P	Callon Petroleum Co.	To buy certain producing properties and undeveloped acreage primarily in Howard County, TX, within the Midland Basin; includes nearly 5,700 net surface acres and about 2,300 boe/d of current net production	\$ 327.0
9/6/2016	Yates Petroleum Corp.; Abo Petroleum Corp.; MYCO Industries Inc.	NM, TX, WY	E&P	EOG Resources Inc.	To acquire the privately held company, combining large acreage positions in the Delaware and Powder River basins; includes 29,600 boe/d of net production with 48% crude oil	\$ 2,500.0
9/5/2016	BHP Billiton Ltd.	Australia	E&P	Woodside Petroleum Ltd.	To purchase 50% of BHP's Scarborough area assets in the Carnarvon Basin offshore Western Australia	\$ 400.0

M&A Closed Transactions Trends



Source: Capital IQ, Oil & Gas Investor
Note: E&P = Exploration & Production; S&S = Supply & Services; R&M = Refining & Marketing

M&A Valuation Metrics

The Oil market showed strength throughout September climbing near \$50 per barrel rising from \$43.75 to \$48.24 by the end of the month. Prices were helped by declining inventories and an agreement reached in Algiers at the end of September, which will lower OPEC production by 1 to 2 % (total OPEC production is approx. 33 million barrels per day). More important than the magnitude of the production cut is the willingness shown by OPEC to reduce production, which up until this point has seemingly been unwilling to do, as it maintained its strategy of preserving market share (most analysts still believe this will continue).

Prices were further aided by a decline in U.S. crude oil inventories with the Energy Information Administration reporting that inventories declined 3 million barrels for the week ending September 30th, which marked the 5th straight week of declines, potentially signaling that supply and demand are becoming more balanced. However, global inventories remain elevated and with U.S. shale drillers serving as the swing producer and continuing to add rigs as prices hover in the \$50 range, 1-2% production cuts by OPEC will continue to have a muted effect. A bigger benefit to prices is likely to come from the decline in energy spending over the past 2 years (and projected to continue into next year), which could slow future production and lift prices.

With prices showing stability off their lows in the beginning of the year, M&A and other transaction activity is picking up as evidenced by the recently announced \$600MM IPO of Extraction Oil & Gas, a Wattenberg Field based producer, owned by private equity fund Yorktown Partners, LLC. Other notable deals included the Total's exercise of its option to buy the remaining 75% stake in Barnett Shale assets not currently owned and Anadarko's \$2.0 billion acquisition of Freeport McMoRan Oil & Gas Gulf of New Mexico Assets.

With continued global macroeconomic uncertainty, the upcoming U.S. elections and a lack of consensus amongst OPEC members on production levels, it's hard to envision a catalyst that would drive prices much higher or lower from their current levels.

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