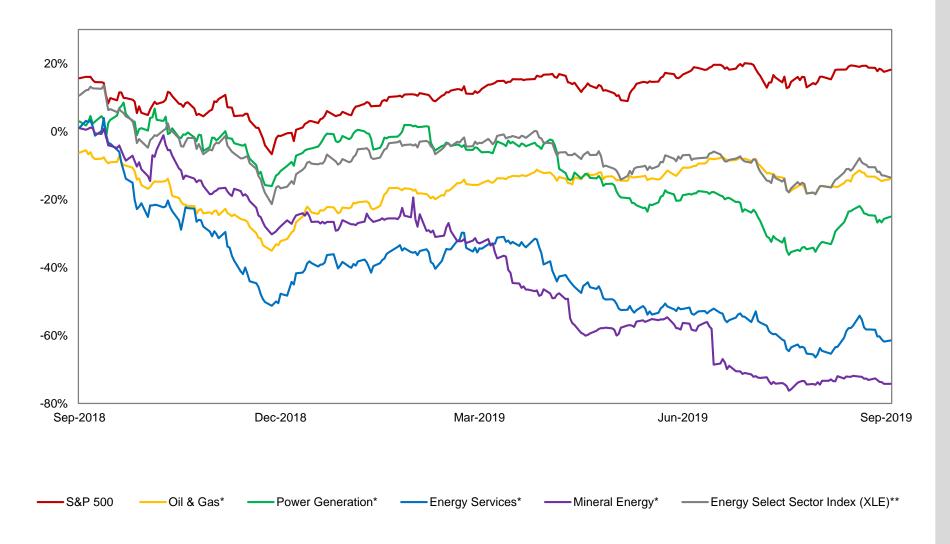


ENERGY SECTOR NEWSLETTER

ENERGY SECTOR LTM EQUITY PERFORMANCE



^{*} Noble Proprietary Sector (index composed of companies in the comparable table)

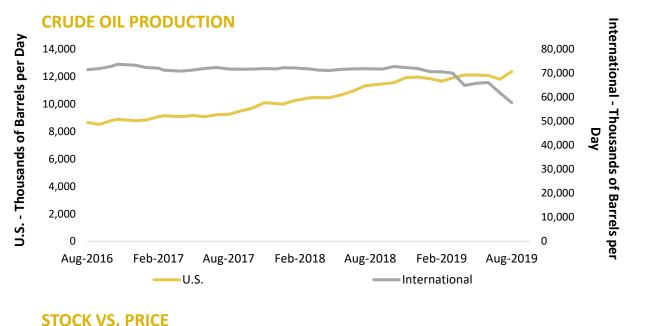
NOBLE CAPITAL MARKETS

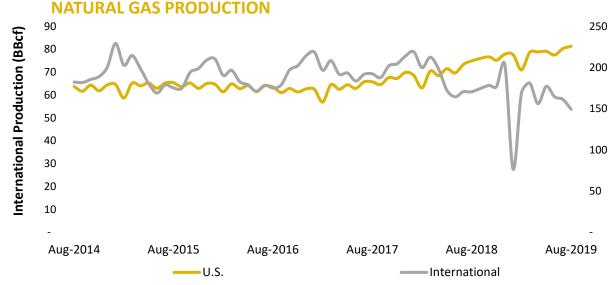
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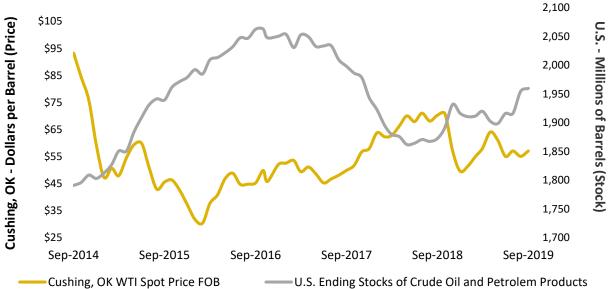
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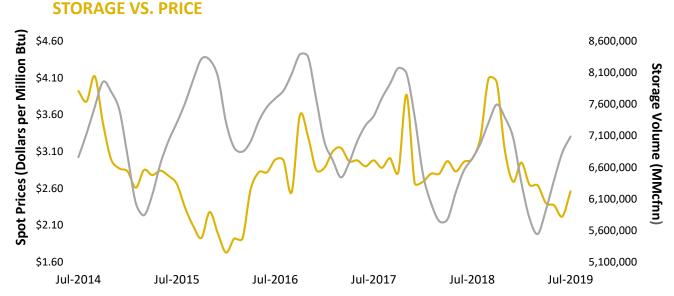
^{**} Energy Select Sector SPDR ETF (refer to disclosure section for more information)

ENERGY FUNDAMENTAL DATA









·Henry Hub Natural Gas Spot Price (Dollars per Million Btu) ——U.S. Natural Gas Underground Storage Volume (MMcf)

Source: Energy Information Administration as of 09/30/2019

NOBLE CAPITAL MARKETS

U.S. Production (BBcf)



ENERGY INDUSTRY OUTLOOK

Summer's End Brings No Relief For Energy Stocks

Energy stocks reported another disappointing quarterly as oil prices continued their decline. The XLE Energy Select Sector SPDR Fund fell 9.3% over the three months ended September 30, 2019. This compared to a decline of 1.3% for the S&P 500 Index. This is the second consecutive quarter in which the XLE has underperformed the overall market by approximately 8%. As is usually the case, one need only to look at the performance of oil prices to explain the poor stock performance.

Oil prices, as measured by the WTI November 2019 future price, declined 9.3% from \$59.14 per barrel to \$53.62 per barrel. The path downward, however, was anything but steady. Oil prices rose sharply in June and again in September to levels above \$60 per barrel in response to tension in the Persian Gulf. Higher prices were short lived. Both times, oil prices sank \$10 per barrel to a level in the low fifties in the three weeks following the rise. Natural gas prices, as measured by Henry Hub November 2019 futures, were essentially flat rising a modest 0.8% from \$2.266 per thousand cubic feet (mcf) to \$2.283 per mcf. This is not unusual during the summer quarter when there are few heating degree days.

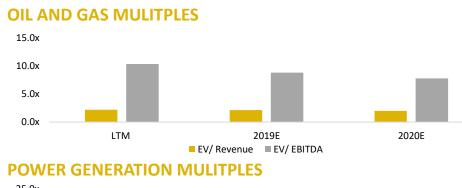
Oil inventories continue to rise with the EIA reporting consolidated oil stocks of approximately 2 million BBLS (as of 9/27), up 1.7% from a year ago. Of note, domestic production rose approximately 15% year over year and net imports fell 33%. The EIA estimates that the United States could become a net exporter of energy in 2020. Rising domestic production, combined with concerns of a global economic slowdown, seem to be having a bigger impact on oil prices than political tension in the Persian Gulf.

The oil future's curve is relatively flat at prices near current levels. Many energy companies took advantage of the oil price spikes to add to their hedge positions. For those who didn't, the opportunity has passed. Longer-term oil prices do not show any relief to producers.

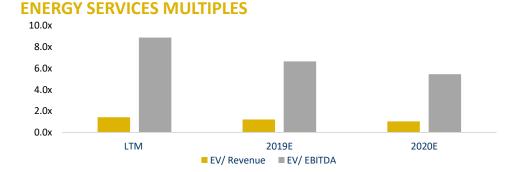
The current outlook for the energy sector remains somewhat negative. Companies are under pressure to lower their operating costs to justify production at \$50 per barrel prices. Most companies try to limit expenses to a level within their generated cash flow. With prices down, that means cutting back on operating costs and capital expenditures. A prolonged period at prices near or below \$50 per barrel could test the liquidity of companies with burdensome debt levels or high operating costs.

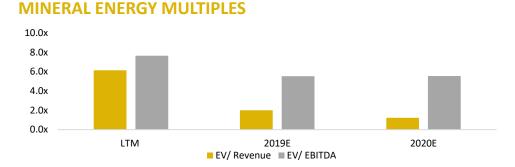
We remain cautious regarding energy stocks. We favor companies with low debt levels, high hedge positions and low operating costs.

WOBLE CAPITAL MARKETS











OIL & GAS

COMPARABLE TABLES

Exploration and Production Index

	CHANGE IN STOCK PRICE			% OF				LT	М		EV / REVENUE	1		EV / EBITDA			
				SHARE	52 WEEK	MARKET	TOTAL	ENT.	REVENUES	EBITDA							EBITDA
	TICKER	3-MONTH	12-MONTH	PRICE	HIGH	CAP (\$M)	DEBT (\$M)	VALUE (\$M)	(\$M)	(\$M)	LTM	2019E	2020E	LTM	2019E	2020E	MARGIN
Torchlight Energy Resources, Inc.	NasdaqCM:TRCH	(17%)	23%	\$1.18	60%	87	20	107	1	(3)	NM	NM	NM	NM	NM	NM	NM
Journey Energy Inc.	TSX:JOY	(10%)	NM	\$1.71	55%	67	95	161	76	35	2.1x	1.4x	1.3x	4.6x	4.2x	4.4x	46%
Lilis Energy, Inc.	AMEX:LLEX	(80%)	(80%)	\$0.33	7%	31	123	378	74	15	5.1x	5.7x	4.4x	NM	13.6x	10.5x	21%
BNK Petroleum Inc.	TSX:BKX	(33%)	(66%)	\$0.11	25%	26	30	53	21	16	2.5x	NM	NM	3.3x	NM	NM	74%
Jericho Oil Corporation	TSXV:JCO	(4%)	(49%)	\$0.22	37%	28	-	26	-	(2)	NM	NM	NM	NM	NM	NM	NM
Approach Resources, Inc.	NasdaqGS:AREX	(52%)	(94%)	\$0.14	6%	13	419	424	89	47	4.8x	4.9x	5.0x	8.9x	13.7x	11.2x	53%
										Mean	3.6x	4.0x	3.5x	5.6x	10.5x	8.7x	49%
										Median	3.6x	4.9x	4.4x	4.6x	13.6x	10.5x	50%

Midstream Index

	CHANGE IN STOCK PRICE			% OF				LT	M	ı	EV / REVENU	ΙE		EV / EBITDA	<u> </u>		
				SHARE	52 WEEK	MARKET	TOTAL	ENT.	REVENUES	EBITDA							EBITDA
	TICKER	3-MONTH	12-MONTH	PRICE	HIGH	CAP (\$M)	DEBT (\$M)	VALUE (\$M)	(\$M)	(\$M)	LTM	2019E	2020E	LTM	2019E	2020E	MARGIN
PBF Logistics LP	NYSE:PBFX	0%	(2%)	\$21.15	89%	1,314	769	2,063	312	185	6.6x	6.1x	5.9x	11.2x	10.7x	9.6x	59%
Dorian LPG Ltd.	NYSE:LPG	15%	30%	\$10.36	93%	568	683	1,229	37	90	NM	4.5x	4.3x	NM	6.8x	5.1x	NM
USD Partners LP	NYSE:USDP	(7%)	8%	\$10.45	87%	282	229	507	111	45	4.6x	0.0x	0.0x	11.2x	0.0x	0.0x	41%
Third Coast Midstream, LLC	NYSE:AMID	(100%)	(100%)	\$0.00	0%	421	1,076	1,760	772	34	2.3x	NM	NM	NM	NM	NM	4%
Sanchez Midstream Partners LP	AMEX:SNMP	(84%)	(95%)	\$0.37	4%	7	171	530	87	46	6.1x	NM	NM	11.4x	6.9x	6.6x	54%
Southcross Energy Partners, L.P.	OTCPK:SXEE.Q	(77%)	(98%)	\$0.01	1%	1	674	542	545	22	1.0x	NM	NM	24.7x	NM	NM	4%

Mean	4.1x	3.5x	3.4x	14.6x	6.1x	5.3x	32%
Median	4.6x	4.5x	4.3x	11.3x	6.8x	5.8x	41%





OIL & GAS

COMPARABLE TABLES

Refining and Marketing Index

		CHANGE IN STOCK PRICE			% OF				LT	М		EV / REVENUE			EV / EBITDA		
				SHARE	52 WEEK	MARKET	TOTAL	ENT.	REVENUES	EBITDA							EBITDA
	TICKER	3-MONTH	12-MONTH	PRICE	HIGH	CAP (\$M)	DEBT (\$M)	VALUE (\$M)	(\$M)	(\$M)	LTM	2019E	2020E	LTM	2019E	2020E	MARGIN
Par Pacific Holdings, Inc.	NYSE:PARR	11%	12%	\$22.86	97%	1,166	1,046	2,106	4,390	178	0.5x	0.4x	0.4x	11.8x	9.1x	7.7x	4%
Clean Energy Fuels Corp.	NasdaqGS:CLNE	(23%)	(21%)	\$2.07	60%	423	110	439	324	26	1.4x	1.4x	1.3x	NM	9.1x	6.5x	8%
Sprague Resources LP	NYSE:SRLP	(0%)	(34%)	\$17.70	64%	402	589	986	3,619	126	0.3x	0.3x	0.3x	7.8x	9.0x	7.8x	3%
Calumet Specialty Products	NasdaqGS:CLMT	(13%)	(43%)	\$3.64	55%	282	1,728	1,850	3,550	261	0.5x	0.6x	0.7x	7.1x	7.9x	6.2x	7%
Trecora Resources	NYSE:TREC	(6%)	(36%)	\$9.02	63%	223	114	332	283	23	1.2x	1.2x	1.1x	NM	10.2x	8.5x	8%
										Mean	0.8x	0.8x	0.8x	8.9x	9.1x	7.3x	6%
										Median	0.5x	0.6x	0.7x	7.8x	9.1x	7.7x	7%

Retail and Commerce

	CHANGE IN STOCK PRICE			% OF				LT	М		EV / REVENUE			EV / EBITDA			
				SHARE	52 WEEK	MARKET	TOTAL	ENT.	REVENUES	EBITDA							EBITDA
	TICKER	3-MONTH	12-MONTH	PRICE	HIGH	CAP (\$M)	DEBT (\$M)	VALUE (\$M)	(\$M)	(\$M)	LTM	2019E	2020E	LTM	2019E	2020E	MARGIN
NGL Energy Partners LP	NYSE:NGL	(6%)	20%	\$13.91	89%	1,781	3,104	5,110	24,809	425	0.2x	0.2x	0.2x	12.0x	10.0x	7.5x	2%
Superior Plus Corp.	TSX:SPB	(11%)	(7%)	\$9.08	66%	1,588	1,434	2,981	2,243	352	1.3x	1.0x	0.9x	8.5x	5.8x	5.7x	16%
Global Partners LP	NYSE:GLP	(2%)	8%	\$19.61	91%	662	1,709	2,427	13,230	269	0.2x	0.2x	0.2x	9.0x	10.7x	10.6x	2%
CrossAmerica Partners LP	NYSE:CAPL	6%	(6%)	\$17.06	89%	588	675	1,261	2,207	89	0.6x	0.6x	0.5x	14.2x	11.1x	9.8x	4%
Star Group, L.P.	NYSE:SGU	(5%)	(3%)	\$9.47	92%	467	165	624	1,748	65	0.4x	NM	NM	9.6x	NM	NM	4%

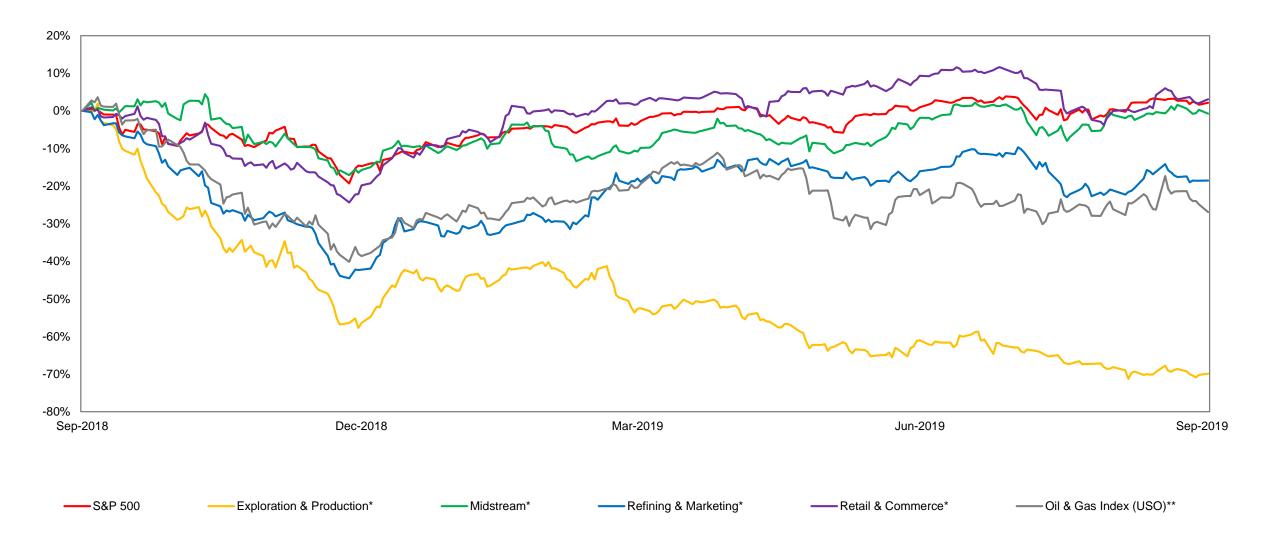
Mean	0.5x	0.5x	0.5x	10.7x	9.4x	8.4x	5%
Median	0.4x	0.4x	0.4x	9.6x	10.4x	8.6x	4%





OIL & GAS LTM EQUITY PERFORMANCE

(NOBLE INDEX SELECTION)



^{*} Noble Proprietary Sector (index composed of companies in the comparable table)

^{**} SPDR S&P Oil & Gas Exploration & Production ETF (refer to disclosure section for more information)



OIL & GAS YTD GLOBAL M&A ACTIVITY

Date	Buyer	Seller	Transaction Value (\$M)	EV/Revenue	EV/EBITDA
9/4/2019	Leif Höegh & Co AS		89.8	5.7x	9.8x
7/1/2019	DP World PLC	Standard Chartered Private Equity Limited; Renaissance Services SAOG	1079.0	3.1x	5.7x
6/28/2019	Infiniti Partners Co., Ltd.	Neoplux Co., Ltd.; KTC-NP-Growth Champ 2011-2 PEF	3000.0	7.3x	NM
6/10/2019	Comstock Resources, Inc.	Denham Capital Management LP	2707.6	3.9x	6.0x
5/31/2019	Zhongyuan Bank Co., Ltd., Investment Banking Arm	CEFC (Shanghai) Group Co., Limited	434.2	10.7x	NM
5/8/2019	MPLX LP		3275.8	6.0x	11.9x
4/24/2019	Occidental Petroleum Corporation		59856.2	4.4x	7.5x
4/16/2019	Xin Hua Petroleum (Hong Kong) Limited		0.0	1.3x	NM
3/19/2019	BW Group Limited	Jefferies Group LLC; Shipping and Intermodal Investment Management Fund II LLC	337.1	2.4x	10.4x
3/19/2019	BW Group Limited		33.4	2.7x	11.0x
1/17/2019	CVR Energy, Inc.	Icahn Enterprises Holdings L.P; American Entertainment Properties Corp.	60.4	0.3x	2.9x
1/11/2019	Workplace Safety & Insurance Board	Ardian	500.0	8.8x	14.2x
1/8/2019	Israel Oil Company Ltd.	-	89.0	4.6x	11.1x
12/31/2018	Medco Energi Global Pte. Ltd.	Sand Grove Opportunities Master Fund Ltd; Sand Grove Capital Management LLP; Sand Grove Tactical Fund LP	673.6	1.9x	3.5x
12/31/2018	Equitrans Gathering Holdings, LLC		221.9	10.6x	12.6x
12/12/2018	Xinhai Investment Limited	Transcendent Resources Limited	229.5	2.8x	4.3x
11/26/2018	DNO ASA	-	563.2	2.8x	6.5x
11/19/2018	Cimarex Energy Co.	RR Advisors, LLC; Monarch Alternative Capital LP; Kulik Partners, LP; Cuerno Largo Partners, LP; MDRA GP LP; Monarch GP LLC	1582.8	4.6x	14.3x
11/8/2018	Western Gas Equity Partners, LP	Anadarko Petroleum Corporation	12547.9	7.8x	14.4x
11/1/2018	Encana Oil & Gas (USA) Inc.		8059.3	3.1x	6.7x
10/30/2018	Chesapeake Energy Corporation	NGP Energy Capital Management, LLC; The Carlyle Group L.P.; NGP X US Holdings, L.P.; NGP IX US Holdings, L.P.; NGP XI US Holdings	4103.3	4.6x	11.4x
10/24/2018	Rubis Energie SAS	Petroholdings Limited	37925.3	0.2x	11.2x
10/22/2018	Strike Energy Limited	-	19.7	NM	NM
10/22/2018	EnLink Midstream, LLC	Global Infrastructure Partners; GIP III Stetson I, L.P.; GIP III Stetson II LP	11355.7	1.7x	12.1x
10/18/2018	Valero Energy Corporation	-	950.9	7.6x	10.5x
10/17/2018	Altinex ASA	Shell Overseas Holdings Ltd.	1910.0	1.7x	2.3x
10/11/2018	Diversified Gas & Oil PLC	Trive Capital	180.5	1.4x	6.3x
10/10/2018	International Petroleum Corporation	Burgundy Asset Management Ltd.	705.9	4.3x	22.4x
10/9/2018	Antero Midstream GP LP (nka:Antero Midstream Corporation)	Antero Resources Corporation	7359.7	7.7x	11.5x
9/28/2018	ArcLight Capital Partners, LLC; ArcLight Energy Partners Fund		1505.9	2.0x	13.4x
		ME	AN	4.4x	9.8x
		MEDI.	AN	3.9x	10.8x





POWER GENERATION

COMPARABLE TABLES

Renewable and Cleantech Index

	CHANGE IN STOCK PRICE			% OF				LT	М		EV / REVENUE			EV / EBITDA			
				SHARE	52 WEEK	MARKET	TOTAL	ENT.	REVENUES	EBITDA							EBITDA
	TICKER	3-MONTH	12-MONTH	PRICE	HIGH	CAP (\$M)	DEBT (\$M)	VALUE (\$M)	(\$M)	(\$M)	LTM	2019E	2020E	LTM	2019E	2020E	MARGIN
Renewable Energy Group, Inc.	NasdaqGS:REGI	0%	(9%)	\$15.01	46%	585	239	758	2,151	19	0.4x	0.3x	0.3x	39.3x	-23.0x	5.7x	1%
Green Plains Inc.	NasdaqGS:GPRE	0%	(14%)	\$10.60	55%	405	956	1,283	3,349	(29)	0.4x	0.4x	0.5x	NM	-17.1x	-102.8x	-1%
Polaris Infrastructure Inc.	TSX:PIF	0%	1%	\$9.99	63%	157	188	286	72	59	4.0x	3.8x	3.3x	4.9x	4.6x	4.0x	81%
Pacific Ethanol, Inc.	NasdaqCM:PEIX	0%	(1%)	\$0.56	17%	28	294	323	1,407	(4)	0.2x	0.2x	0.2x	NM	16.7x	NM	NM
Synthesis Energy Systems, Inc.	NasdaqCM:SES	0%	(73%)	\$1.75	9%	2	6	6	0	(7)	NM	NM	NM	NM	NM	NM	NM
										Mean	1.2x	1.2x	1.1x	22.1x	-4.7x	-31.0x	27%
										Median	0.4x	0.4x	0.4x	22.1x	-6.3x	4.0x	1%

Utilities and Independent Power Producers Index

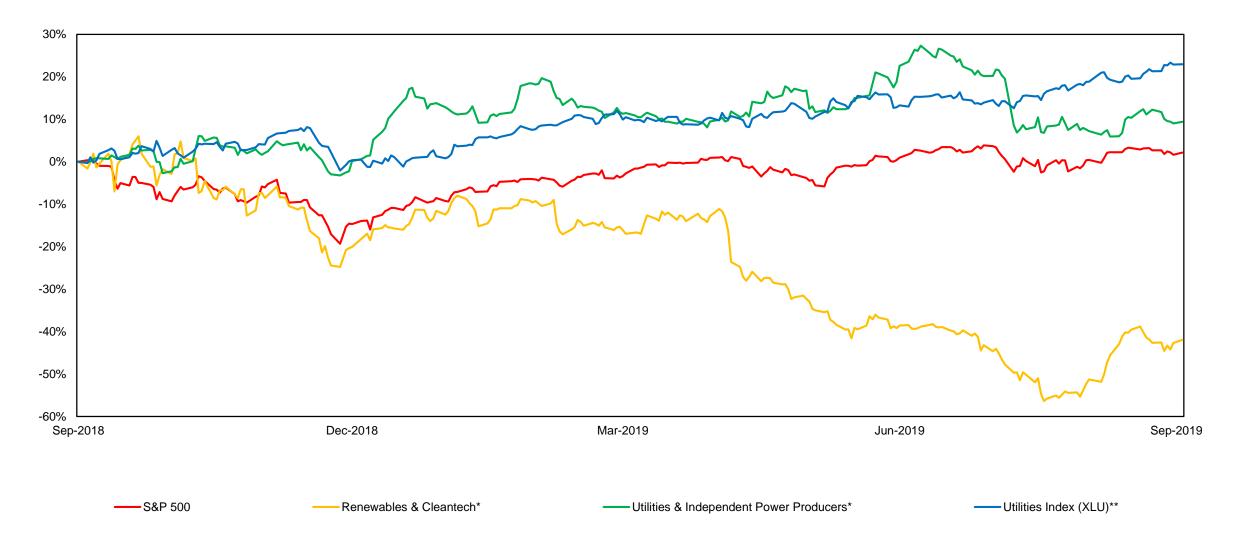
	CHANGE IN STOCK PRICE			% OF				LT	М		EV / REVENUE			EV / EBITDA			
				SHARE	52 WEEK	MARKET	TOTAL	ENT.	REVENUES	EBITDA							EBITDA
	TICKER	3-MONTH	12-MONTH	PRICE	HIGH	CAP (\$M)	DEBT (\$M)	VALUE (\$M)	(\$M)	(\$M)	LTM	2019E	2020E	LTM	2019E	2020E	MARGIN
Genie Energy Ltd.	NYSE:GNE	(30%)	38%	\$7.46	62%	203	6	184	268	8	0.7x	0.6x	0.6x	21.7x	10.0x	9.1x	3%
Atlantic Power Corporation	TSX:ATP	(3%)	9%	\$2.33	58%	255	674	1,032	280	113	3.7x	3.4x	3.5x	9.1x	5.4x	5.5x	40%
RGC Resources, Inc.	NasdaqGM:RGCO	(4%)	9%	\$29.24	94%	236	91	326	67	19	4.9x	4.7x	4.5x	NM	NM	15.3x	29%
Spark Energy, Inc.	NasdaqGS:SPKE	(6%)	28%	\$10.55	90%	152	94	318	904	14	0.4x	0.4x	0.3x	22.6x	3.7x	3.5x	2%
Maxim Power Corp.	TSX:MXG	(10%)	(52%)	\$1.30	54%	68	-	51	25	(2)	2.0x	2.0x	1.4x	NM	NM	3.7x	NM
Etrion Corporation	TSX:ETX	37%	NM	\$0.21	72%	56	340	388	22	10	17.5x	17.8x	17.8x	NM	NM	NM	47%

Mean	4.9x	4.8x	4.7x	17.8x	6.4x	7.4x	24%
Median	2.9x	2.7x	2.5x	21.7x	5.4x	5.5x	29%



POWER GENERATION LTM Equity Performance

(NOBLE INDEX SELECTION)



^{*} Noble Proprietary Sector (index composed of companies in the comparable table)
** SPDR S&P Utilities ETF (refer to disclosure section for more information)





POWER GENERATION YTD GLOBAL M&A ACTIVITY

Date	Buyer	Seller	Transaction Value (\$M) EV	//Revenue	EV/EBITDA
8/30/2019	Shenzhen Xianglong Investment Partnership Enterprise (Limited Partnership)	Tibet Shannan Jintian Investment Partnership Enterprise (Limited Partnership)	588.06	1.6x	11.2x
8/8/2019	AGL Energy Limited	Infratil Limited	93.00	0.3x	2.6x
6/14/2019	Amundi	-	318.00	7.8x	10.2x
6/10/2019	Zhejiang Energy International Limited; Zhejiang Energy Capital Holdings Co., Ltd.	China Green Energy Limited	1,634.44	5.2x	12.8x
5/20/2019	AC Energy, Inc.	-	0.00	0.8x	45.0x
4/5/2019	Primeo Energy AG; EOS Holding SA	EDF Alpes Investissements Sàrl	488.59	0.5x	150.0x
4/2/2019	UGI Corporation	Amerigas Propane, Inc.	5,308.23	2.2x	10.5x
3/22/2019	Cemig Geração e Transmissão S.A.; Light Energia S.A.	BNDES Participações S.A BNDESPAR	133.54	0.8x	NM
3/11/2019	African Rainbow Capital Proprietary Limited	-	0.02	73.3x	NM
3/2/2019	Waaree Energies Limited		1.46	14.0x	31.0x
2/19/2019	Grupo Energía Bogotá S.A. E.S.P.	Blue Water Advisors LP; Blue Water Worldwide LLC	284.96	2.6x	11.8x
2/7/2019	Vistra Energy Corp.		692.25	0.4x	7.1x
1/18/2019	Cosan S.A.	Alaska Investimentos LTDA.	806.68	1.8x	8.7x
1/18/2019	Cosan S.A.	Norges Bank; Utilico Emerging Markets Trust PLC; ICM Investment Management Limited	792.01	1.8x	8.7x
12/28/2018	Ellaktor S.A.	-	47.74	6.0x	7.3x
12/11/2018	Impala SAS	Financière Hélios SAS	31.70	3.5x	9.8x
11/30/2018	Utility Partners, LLC	-	6.71	0.4x	3.9x
11/15/2018	Equinor ASA		700.00	11.8x	15.6x
10/30/2018	Huadian Yunnan Power Generation Corporation Limited	Huaneng Lancang River Hydropower Co., Ltd.	6,117.10	18.0x	22.1x
10/29/2018	Russell Industries Corp.		1.70	9.4x	34.7x
10/19/2018	Consórcio São Paulo Energia	-	1,702.08	2.8x	10.1x
10/18/2018	Chongqing City Construction Investment (Group) Co., Ltd.	Chongqing Energy Investment Group Co. Ltd.	1,221.46	1.8x	20.7x
10/9/2018	Lianzhong New Energy Co., Ltd.	Beixin Ruifeng Fund Management Co.,Ltd.	840.96	4.9x	8.4x
8/30/2018	Severn Trent Plc		120.00	4.6x	12.0x
8/27/2018	Mansa Investments Sp. z o.o.	Generali Otwarty Fundusz Emerytalny; Generali Powszechne Towarzystwo Emerytalne S A	13.43	0.5x	9.0x
8/15/2018	Infratil Limited; Mercury NZ Limited	Tauranga Energy Consumer Trust, Endowment Arm	102.37	7.1x	10.6x
8/8/2018	KDDI Corporation; Electric Power Development Co., Ltd.	Japan Securities Finance Co., Ltd.; Japan Trustee Services Bank, Ltd.; Daiwa Securities Co., Ltd	30,161.45	0.6x	31.0x
6/20/2018	Global Power Synergy Public Company Limited	Engie Global Developments B.V.	139,034.08	3.2x	10.3x
6/20/2018	Global Power Synergy Public Company Limited	-	34,723.38	3.0x	10.6x
5/21/2018	700 Universe, LLC	The Southern Company	5,816.00	3.8x	11.8x
5/16/2018	A2A S.p.A.; Lario Reti Holding S.P.A.		42.60	2.4x	16.0x
4/23/2018	CenterPoint Energy, Inc.	•	8,148.89	3.0x	12.5x
4/17/2018	Algonquin Power & Utilities Corp.	Abengoa, S.A.	345.00	6.6x	9.5x
2/7/2018	Cleco Cajun LLC	NRG Energy, Inc.	962.17	1.5x	8.7x
1/3/2018	Dominion Energy, Inc.	SCANA Corporation Retirement Plan Trust	14,872.47	3.3x	8.8x
1/23/2017	State Grid Brazil Power Participações Ltda.	International Finance Corporation; Caixa De Previdencia Dos Funcionarios Do Banco Do Brasil	4,107.56	6.8x	10.6x
			MEAN	6.1x	17.8x
			MEDIAN	3.0x	10.6x





ENERGY SERVICES

COMPARABLE TABLES

Oilfield Services Index

	CHANGE IN STOCK PRICE		STOCK PRICE		% OF				LT	LTM EV / REVENUE		EV / EBITDA					
				SHARE	52 WEEK	MARKET	TOTAL	ENT.	REVENUES	EBITDA							EBITDA
	TICKER	3-MONTH	12-MONTH	PRICE	HIGH	CAP (\$M)	DEBT (\$M)	VALUE (\$M)	(\$M)	(\$M)	LTM	2019E	2020E	LTM	2019E	2020E	MARGIN
Tidewater Inc.	NYSE:TDW	(36%)	(52%)	\$15.11	42%	629	440	700	449	30	1.6x	1.4x	1.2x	NM	8.3x	4.7x	7%
SEACOR Holdings Inc.	NYSE:CKH	(1%)	(5%)	\$47.07	92%	946	471	1,404	821	128	1.7x	1.7x	1.6x	10.9x	11.8x	10.2x	16%
Newpark Resources, Inc.	NYSE:NR	3%	(26%)	\$7.62	70%	686	191	828	911	89	0.9x	1.0x	0.9x	9.3x	8.6x	6.7x	10%
ION Geophysical Corporation	NYSE:IO	13%	(41%)	\$9.12	52%	129	171	273	201	58	1.4x	1.4x	1.3x	4.7x	5.6x	4.5x	29%
Hornbeck Offshore Services, Inc.	NYSE:HOS	(39%)	(87%)	\$0.76	12%	29	1,317	1,203	223	22	5.4x	5.1x	4.4x	NM	NM	28.7x	10%
Key Energy Services, Inc.	NYSE:KEG	(34%)	(87%)	\$1.49	13%	30	248	249	474	8	0.5x	0.6x	0.6x	29.9x	82.1x	13.1x	2%
Emerge Energy Services LP	NASD-CTA:EMES	NM	NM	\$0.00	NM	0	227	197	314	29	0.6x	0.0x	0.0x	6.8x	0.0x	0.0x	9%

Mean	1.7x	1.6x	1.4x	12.3x	19.4x	9.7x	12%
Median	1.4x	1.4x	1.2x	9.3x	8.4x	6.7x	10%

Drillers Index

	CHANGE IN STOCK PRICE			% OF				LTM		EV / REVENUE		EV / EBITDA					
				SHARE	52 WEEK	MARKET	TOTAL	ENT.	REVENUES	EBITDA							EBITDA
	TICKER	3-MONTH	12-MONTH	PRICE	HIGH	CAP (\$M)	DEBT (\$M)	VALUE (\$M)	(\$M)	(\$M)	LTM	2019E	2020E	LTM	2019E	2020E	MARGIN
Precision Drilling Corporation	NYSE:PDS	(40%)	(67%)	\$1.14	32%	337	1,197	1,475	1,206	303	1.2x	1.0x	1.0x	4.9x	3.9x	4.1x	25%
Ensign Energy Services Inc.	TSX:ESI	(30%)	(52%)	\$2.31	36%	370	1,289	1,617	1,114	272	1.5x	1.0x	0.9x	6.0x	3.9x	3.9x	24%
Independence Contract Drilling, Inc.	NYSE:ICD	(24%)	(76%)	\$1.20	24%	91	131	212	204	53	1.0x	1.1x	1.1x	4.0x	4.7x	5.4x	26%
AKITA Drilling Ltd.	TSX:AKT.A	(57%)	(82%)	\$0.82	14%	34	67	92	126	15	0.7x	0.5x	0.5x	6.2x	4.2x	3.0x	12%
Pioneer Energy Services Corp.	OTCPK:PESX	(78%)	(98%)	\$0.06	2%	4	475	449	590	84	0.8x	0.8x	0.7x	5.3x	6.7x	6.5x	14%
Western Energy Services Corp.	TSX:WRG	8%	(71%)	\$0.19	21%	17	179	189	161	20	1.2x	1.0x	1.0x	9.6x	7.9x	7.5x	12%

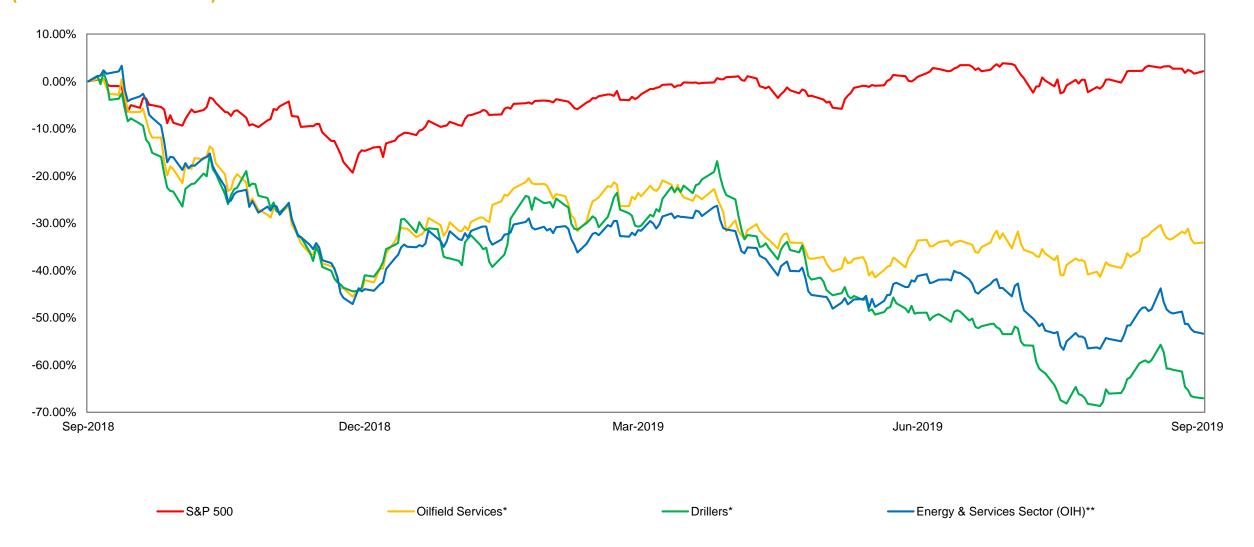
Mean	1.1x	0.9x	0.9x	6.0x	5.2x	5.1x	19%
Median	1.1x	1.0x	1.0x	5.6x	4.5x	4.7x	19%





ENERGY SERVICES LTM EQUITY PERFORMANCE

(NOBLE INDEX SELECTION)





^{*} Noble Proprietary Sector (index composed of companies in the comparable table)

** SPDR S&P Oil & Gas Equipment & Services ETF (refer to disclosure section for more information)



ENERGY SERVICES YTD GLOBAL M&A ACTIVITY

Date	Buyer	Seller	Transaction Value (\$M)	EV/Revenue	EV/EBITDA
7/2/2019	Yinchuan Zhongneng Xincai Technology Co., Ltd.	-	570.0	3.7x	49.7x
5/10/2019	Changsha Water Group Co., Ltd.		331.4	2.5x	. NM
5/2/2019	TGS-NOPEC Geophysical Company ASA	Altor Equity Partners AB; Gross Management AS; Altor Fund IV AB	3684.9	2.3x	2.9x
1/20/2019	Shawcor Ltd.		322.2	1.7x	13.9x
1/11/2019	Beijing Xingkai Investment Co., Ltd.	-	117.5	6.3x	. NM
10/29/2018	Enservco Corporation		13.0	0.7x	4.5x
10/22/2018	KLX Energy Services LLC	District 5 Investments, LP; 3M Capital, Inc.	148.2	1.5x	5.6x
10/15/2018	Nine Energy Service, Inc.; Nine Energy Canada Inc.		536.9	6.0x	23.3x
10/15/2018	The Carlyle Group L.P.; Carlyle International Energy Partners LP	Lime Rock Partners, LLC	450.0	1.2x	10.3x
10/8/2018	Ensco plc (nka:Valaris plc)	Canyon Capital Advisors, LLC; Odey Asset Management LLP	4165.8	3.8x	43.9x
		MEAN		3.0x	19.3x
		MEDIAN		2.4x	12.1x





MINERAL ENERGY

COMPARABLE TABLES

Mineral Energy Index

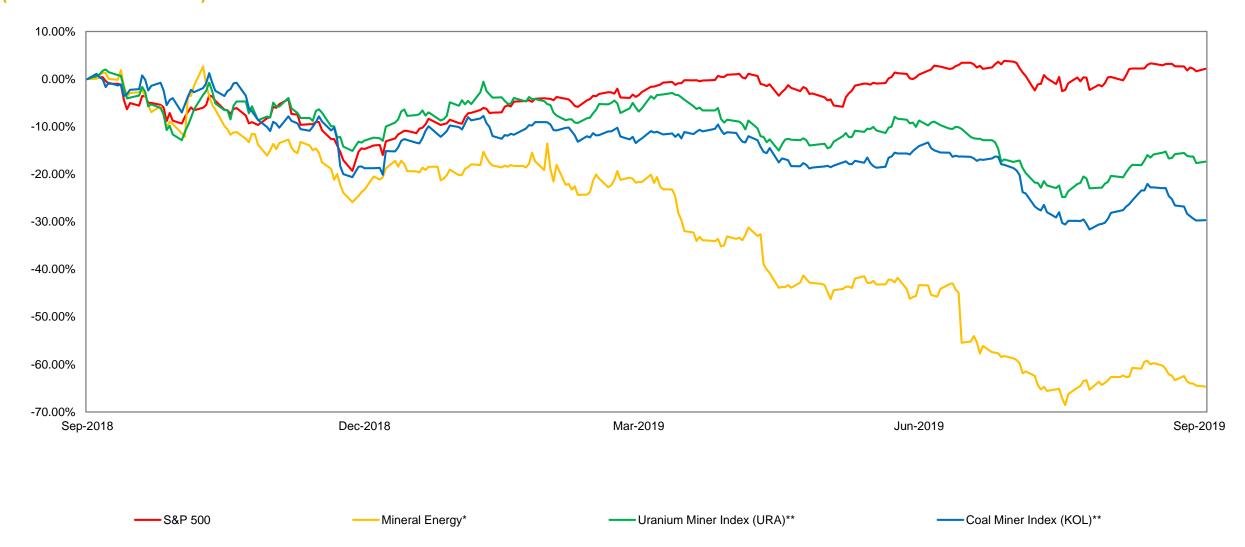
	CHANG		STOCK PRICE		% OF				LT	М		EV / REVENUE			EV / EBITDA		
				SHARE	52 WEEK	MARKET	TOTAL	ENT.	REVENUES	EBITDA							EBITDA
	TICKER	3-MONTH	12-MONTH	PRICE	HIGH	CAP (\$M)	DEBT (\$M)	VALUE (\$M)	(\$M)	(\$M)	LTM	2019E	2020E	LTM	2019E	2020E	MARGIN
Energy Fuels Inc.	AMEX:UUUU	(38%)	(41%)	\$1.93	47%	187	18	181	8	(33)	22.0x	12.4x	2.0x	NM	NM	14.6x	NM
Ramaco Resources, Inc.	NasdaqGS:METC	(30%)	(50%)	\$3.74	44%	153	15	162	230	45	0.7x	0.6x	0.6x	3.6x	2.3x	2.4x	20%
Fission Uranium Corp.	TSX:FCU	(26%)	(48%)	\$0.27	36%	132	-	126	-	(4)	NM	NM	NM	NM	NM	NM	NM
Ur-Energy Inc.	TSX:URE	(35%)	(25%)	\$0.61	47%	98	12	103	16	(4)	NM	3.6x	2.8x	NM	NM	7.8x	NM
Foresight Energy LP	NYSE:FELP	(56%)	(92%)	\$0.31	8%	45	1,485	1,527	1,081	289	1.4x	1.6x	1.6x	5.3x	6.2x	6.4x	27%
Corsa Coal Corp.	TSXV:CSO	NM	(70%)	\$0.33	24%	31	33	100	248	38	0.4x	0.4x	0.3x	2.7x	2.9x	2.4x	15%

Mean	6.1x	3.7x	1.5x	3.8x	3.8x	6.7x	21%
Median	1.1x	1.6x	1.6x	3.6x	2.9x	6.4x	20%



MINERAL ENERGY LTM EQUITY PERFORMANCE

(NOBLE INDEX SELECTION)



^{*} Noble Proprietary Sector (index composed of companies in the comparable table)
** VanEck Vectors Coal ETF (refer to disclosure section for more information)





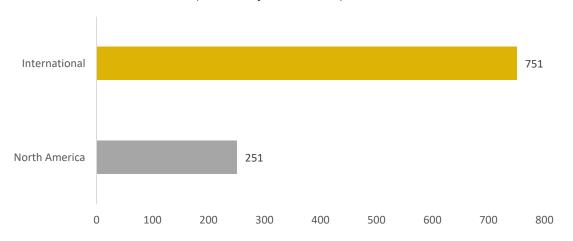
MINERAL ENERGY YTD GLOBAL M&A ACTIVITY

Date	Buyer	Seller	Transaction Value (\$M)	EV/Revenue	EV/EBITDA
09/20/2019	-	Kalia Limited	0.2	-	NM
08/27/2019	Towarzystwo Finansowe Silesia Sp. z o.o.	Walbrzyskie Zaklady Koksownicze Victoria S.A.	-	-	-
08/23/2019	-	Clean&Carbon Energy S.A.	-	-	-
08/14/2019	Azarga Uranium Corp.	Urasia In Kyrgyzstan Limited Liability Company	-	-	-
07/19/2019	Indika Capital Investments Pte. Ltd.	PT Multi Tambangjaya Utama	-	-	-
07/17/2019	F-Servis	Torgovy Dom SibEnergoUgol, LLC	-	-	-
07/08/2019	Russian Coal Co	Kirbinsky Mine	-	-	-
05/31/2019	Fujian Heng Lian Group Limited	Inner Mongolia Run Heng Mining Company Limited	7.5	-	-
04/16/2019	Paradice Investment Management Pty Ltd.	Peninsula Energy Limited	6.7	7.3x	NM
03/14/2019	Westmoreland Coal Company	Westmoreland Resource Partners, LP	-	-	-
12/25/2018	Beijing Energy Group Co., Ltd.	Beijing Haohua Energy Resource Co., Ltd.	-	-	-
12/13/2018	-	Clean&Carbon Energy S.A.	-	-	-
11/26/2018	China National Uranium Corporation Limited	Rössing Uranium Limited	106.5	-	-
10/03/2018	-	URU Metals Limited	-	-	-
		Mean		7.3x	
		Median		7.3x	

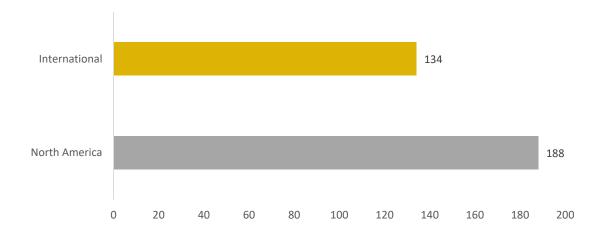


LTM ENERGY INDUSTRY M&A SUMMARY *Update*

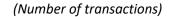
NORTH AMERICA VS INTERNATIONAL TOTAL TRANSACTIONS (Number of transactions)

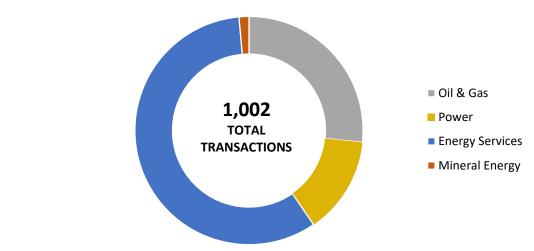


NORTH AMERICA VS INTERNATIONAL TOTAL TRANSACTIONS (Values in \$B)



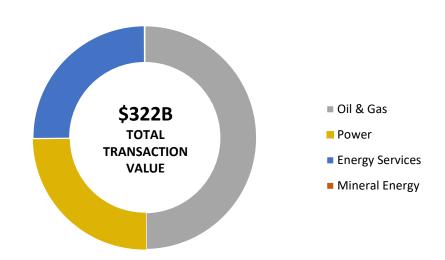
DEAL VALUE PER SECTOR





TOTAL TRANSACTION VALUE

(Values in \$B)







NOBLE QUARTERLY HIGHLIGHTS

InPlay Oil Corp. (TSX:IPO)

Industry: Energy – Development and Production

InPlay Oil Corp. is a growth-oriented light oil development and production company based in Calgary, Alberta. InPlay's primary focus is on large oil in place pools with low recovery factors, low declines, and long life reserves targeting the Cardium Formation in Alberta. Core projects are focused on light oil production and development in the prolific Willesden Green and Pembina basins. The company also has projects in the Duvernay and Mannville formations. The Company owns nearly 100,000 net acres.



3rd Quarter News Highlights:

- 11/07/2019 InPlay announced its financial and operating results for the three and nine months ended September 30, 2019. The company reported a 6% increase in production for Q3 2019 vs. Q3 2018. Inplay also reported a 14% decrease in Q3 operating costs.
- **08/07/2019** InPlay announces its financial and operating results for the three and six months ended June 30, 2019. InPlay experienced an 18% increase in production and a 19% increase in adjusted funds flow from operations ("AFF") compared to the three months ended June 30, 2018.

Jericho Oil Corporation (TSXV:JCO)

Industry: Energy – Exploration and Production

Jericho Oil is focused on domestic, liquids-rich unconventional resource plays, located primarily in the Anadarko basin STACK play of Oklahoma. Jericho's primary business objective is driving long-term shareholder value through the growth of oil and gas production, cash flow and reserves. Jericho has assembled a 55,000 net acres of positions across Oklahoma, including an interest in 16,000 net acres in the STACK play.

3rd Quarter News Highlights:

- **08/28/2019** Jericho publishes Quarterly review stating the Anadarko Basin STACK play is still primary focus. The decrease in oil prices have temporarily impacted the timing of the Company's drilling activites with plans to explore new drilling upon a return in oil prices.
- **06/03/2019** Jericho announces that preliminary 2018 full-year partnership production totaled approximately 297,000 barrels of oil equivalent ("BOE") up 33% from 2017 full-year partnership production of 222,000 BOE.



Journey Energy Inc. (TSX:JOY)

Industry: Energy – Exploration and Production

Journey Energy operates in the exploration, development, and production of crude oil and natural gas. Its principal cash generating units comprise Matziwin, Skiff, and Gilby Duvernay properties. The company was formerly known as Sword Energy Inc. and changed its name to Journey Energy in July 2012. They were founded in 2007 and are headquartered in Calgary, Canada

3rd Quarter News Highlights:

- 11/04/2019 Journey reported a Q3 net loss of \$7,055 (\$0.18 per basic and diluted share). The Company restructured the maturities on its term debt to late 2022. Journey also reported a decrease of 8% in Q3 production to 9,445 BOE/d versus 9,248 for Q2 19'.
- 09/30/2019 Journey reports encouraging update on test rates achieved by the first three wells in East Duvernay, a joint venture project with Kiwetinohk Resources Corp.

NOBLE CAPITAL MARKETS



NOBLE CAPITAL MARKETS

NOBLE CAPITAL MARKETS

Noble Capital Markets is a research-driven investment and merchant bank focused on small cap, emerging growth companies in the healthcare, technology, ENERGY and natural resources sectors. That's what we are. Who we are is what makes us different.

Our people are talented, dedicated, experienced professionals who come together with a common cause; advising on long-term client solutions by employing innovative, collaborative and responsive strategies. We're passionate and personable. We approach things from our clients' perspective.

We know that developing lasting relationships is reliant upon putting our clients' interests before ours. We understand the impact of our services. Insightful advisory and effective capital procurement can change lives. Empowering our clients to create employment, engineer technological and medical breakthroughs, producing products and services that lay the foundation for the future. For more than 30 years these have been our guiding principles. While much has changed over the three decades since we began, these core values and our reputation have not. Our clients must know what to expect from us. Then we can strive to exceed expectations.

A SIMPLE FORMULA OUR VALUE PROPOSITION.

It starts with research With a fundamental belief that information guides the management process, Noble understands that there is no short-path to success. With this as a solid foundation, apply experience and execution delivered by people with passion. This is our formula to add value to your creation.

Research + Experience & Execution + People with Passion = Value

FULL-SERVICE INVESTMENT BANK

- Established 1984.
- Private firm, employee owned.
- Built on commitment to provide value and support for our clients.

FOCUSED INSTITUTIONAL SALES AND TRADING

- Seasoned sales and sales trading team.
- Long standing relationships with premier growth- focused investors.

INVESTMENT BANKING COMMITMENT

- Proven track record.
- Senior level attention to every client and transaction.
- Ability to deliver complete "mind share" of Noble on all transactions.

RESEARCH DRIVEN CAPITAL MARKETS PLATFORM

- Experience team of Research Analysts covering approximately 100 companies.
- Focus on Technology, Media, Healthcare and Natural Resources.
- Strong Institutional Sponsorship.



INVESTMENT BANKING

Our investment banking team, together with our well-recognized equity research analysts and the equity capital markets group, provide our clients with fundamental capital markets advisory and support - prior, during and most importantly, after a transaction. Noble's investment banking team works closely with the management and Board of our corporate clients in order to fully understand operational and financial objectives. With this knowledge our banking team will develop an efficient and effective advisory program which offers a variety of services including:

EQUITY CAPITAL MARKETS

- Secondary and Follow-on Offerings
- Registered Direct Offerings
- Initial Public Offerings
- At the market Offerings (ATM's)
- PIPEs/Private Sale Offerings

DEBT CAPITAL MARKETS

- Senior Debt
- Mezzanine
- Convertible Debt
- Bridge Financings

ADVISORY SERVICES

- Merger & Acquisitions
- Fairness Opinions
- Valuation Services

SELECT NATURAL RESOURCES TRANSACTIONS

















VALUATION SERVICES

Noble's Valuation and Advisory Services team specializes in providing business and intangible asset valuations, fairness opinions, financial and strategic analysis, and transaction support services covering a broad spectrum of industries and situations from early stage, middle market and Fortune 500 companies and capital market constituents. Noble's team is made up of professionals with numerous accreditations and bring excellence in accounting, taxation, and financial due diligence to provide companies with valuation advice for a multitude of purposes.

Valuation – Noble's professionals have significant experience in the valuation of privately owned and public businesses across a wide range of industries. We perform an extensive analysis of the business as well as evaluate industry trends and various other factors in order to inform our clients as to the likely range of value they can expect. Our services are characterized by intellectual and analytical rigor and our conclusions are backed by thorough documentation.

Chief Accounting Officers, Corporate Controllers, CFOs, and Corporate Boards rely on Noble's experienced valuation professionals to produce sophisticated, supportable, and timely valuations to assist in complying with financial reporting requirements, including:

- Purchase price allocation and fresh start accounting
- Goodwill and long-lived asset impairment testing
- Tangible asset valuation
- Fair Value measurement of financial assets & liabilities

Opinions - Whether our clients are looking to fulfill their fiduciary duties, mitigate risk or determine corporate value, we are there throughout the transaction process to offer objective advice based on rigorous analysis. We work on behalf of boards of directors, investors, trustees and other corporate leaders to advise and provide opinions on a wide range of transactions.

We have advised Corporate Boards, special transaction committees, independent trustees, management and other fiduciaries of middle market public and private companies on the financial aspects of a transaction. Our independent advice withstands scrutiny from shareholders, bondholders, the SEC, IRS, or counterparties to a transaction

MERCHANT BANKING

Our Principal Investment focus is primarily on private and small-cap public (\$10mill to \$50mill market caps) companies in industries within Noble's research verticals. Investments are made directly by Noble and its affiliates and may also involve syndicate participants. We work to identify those companies with game-changing or superior products and technologies that have management teams with proven track-records of success. Noble structures investments to meet a company's capital needs whether its growth capital, liquidity or debt repayment. Capital commitment ranges from \$200k to \$2million principal and \$2million above with syndicate.

The scope of our Merchant Banking activities includes:

- Targeting domestic companies within our areas of focus and expertise
- Analyzing a company's opportunities and assessing its risks within their respective industry
- Structuring, negotiating and executing the transaction
- Work in assessing the appropriate time and manner in which to harvest the investment

Noble's Merchant Banking Team works continuously with our portfolio companies to assist the management team and Board of Directors to create value and grow their businesses to facilitate long-term shareholder value. Through our extensive sector research coverage, institutional investor non-deal road shows, equity conferences and market making, we blend a powerful mix of capital markets acumen to procure success.



INVESTMENT BANKING TEAM

Richard Giles, Managing Director

rgiles@noblecapitalmarkets.com - 617.692.9346

- Joined Noble in 2010 as Head of the Technology,
 Media & Telecommunications Investment Banking Group
- 25 years of investment banking experience.
- Executed more than 100 M&A and capital raising transactions totaling \$10+ billion
- Former head of Stifel Nicolaus' Technology Group.
- Former head of A.G. Edwards' Emerging Growth.
 Group and member of Investment Committee for A.G. Edwards Capital
- A.B. Harvard College; M.B.A., Harvard Business School

Francisco Penafiel, Managing Director

fpenafiel@noblecapitalmarkets.com - 561.994.5740

- Executed M&A and capital raising transactions totaling over \$1 billion dollars in value
- 7 years of sell side equity research experience, covering enterprise & infrastructure software, business services, media, communications, and banks
- 6 years of portfolio managing experience
- Manage the business development efforts in LATAM for Noble
- Engineering, IT & Statistics, Escuela Superior
 Politecnica (Guayaquil, Ecuador); M.S. Economics,
 Florida Atlantic University

Juan Arvelo, Director

jarvelo@noblecapitalmarkets.com - 561.994.5731

- More than 18 years of corporate finance and capital markets experience, with a special focus on M&A, restructuring and capital raising transactions.
- Previous Director at Enkeros Investments and Activa Capital Markets
- Former CFO of LS Energia
- Main focus in the QSR, financial institutions and energy sectors
- Managed corporate finance and recoveries division at PricewaterhouseCoopers (PwC)
- B.S. Economics UCAB; M.S. Finance IESA; MBA Babson College

Mark Suarez, Managing Director

msuarez@noblecapitalmarkets.com - 646.790.5875

- Prior experience holding senior positions at McQuilling Partners and Euro Pacific Capital
- Main focus in marine shipping and surface transportation
- B.Com McGill University with concentrations in Economics and Finance; M.S. in Economics University of Toronto
- Holds a CFA and various FINRA licenses

Stephen McGee, Analyst Intern

smcgee@noblecapitalmarkets.com- (561) 994-5726

- Recently joined Noble and is assisting the IB team in a broad range of capacities
- Previously spent 6+ years in the MILB for various affiliated teams
- B.S. Hospitality Management FSU
- Level I CFA candidate

Guranda Kurdgelashvili, Analyst

gk@noblecapitalmarkets.com- (561) 912-1734

- Joined Noble in December 2017 and moved to the IB team in May 2019
- Previously worked as an Investment Analyst for a Tech startup in Boca Raton, FL
- M.B.A specializing in Financial Valuation and Investment Management from Lynn University



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SALES & TRADING

David Lean
Director of Institutional Sales & Trading
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