



NOBLE CAPITAL MARKETS NEWSLETTER

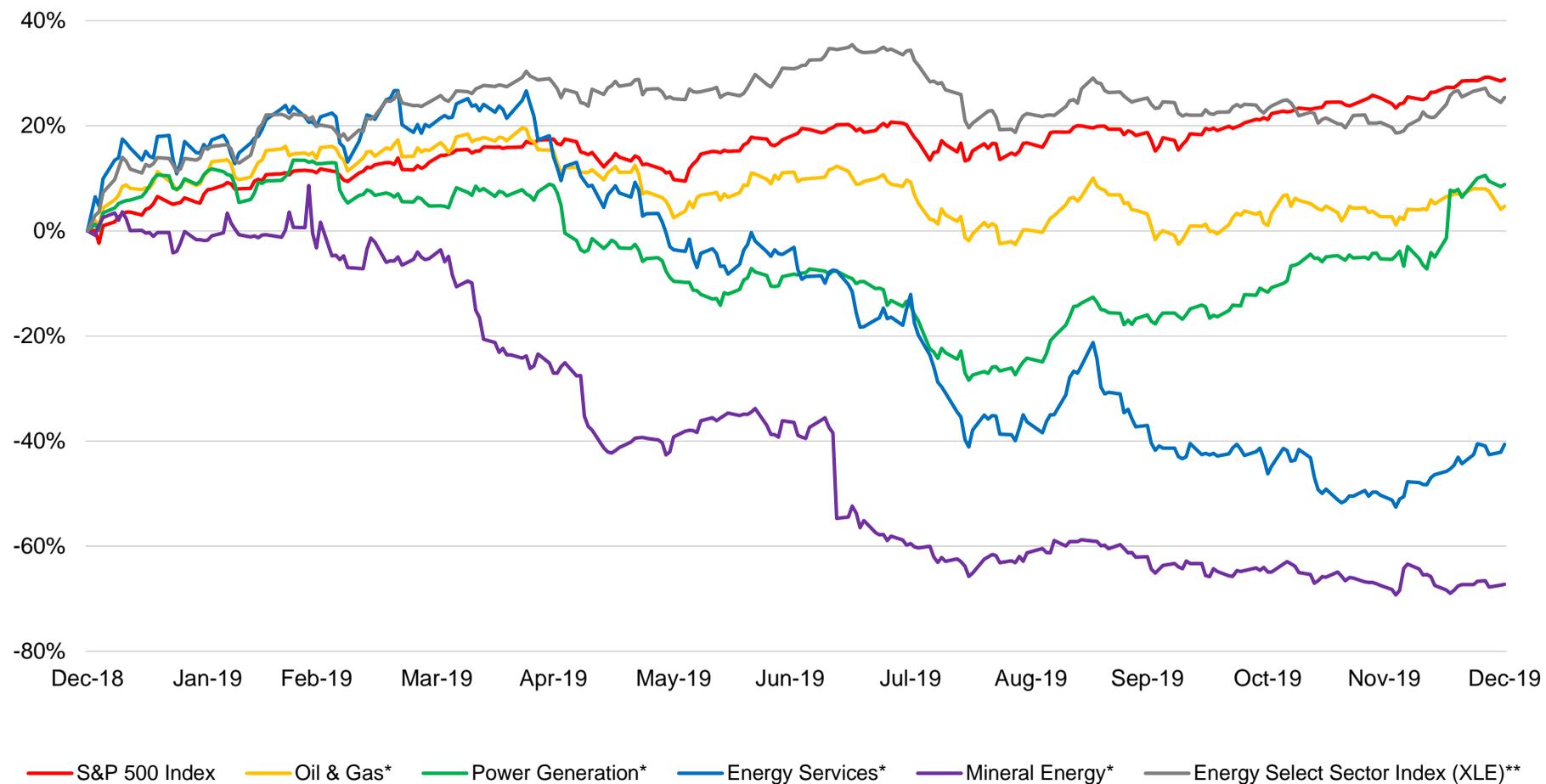
ENERGY

QUARTERLY REVIEW Q4 2019



ENERGY SECTOR NEWSLETTER

ENERGY SECTOR LTM EQUITY PERFORMANCE



* Noble Proprietary Sector (index composed of companies in the comparable table)
 ** Energy Select Sector SPDR ETF (refer to disclosure section for more information)

Source: Capital IQ as of 12/31/2019
 VOLUME 3, ISSUE 4 | January 2020



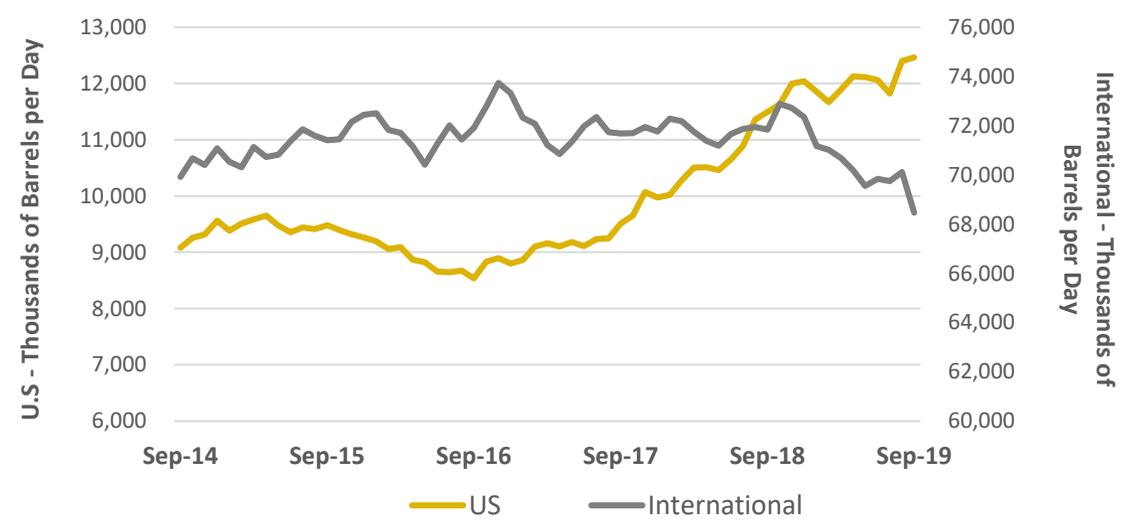
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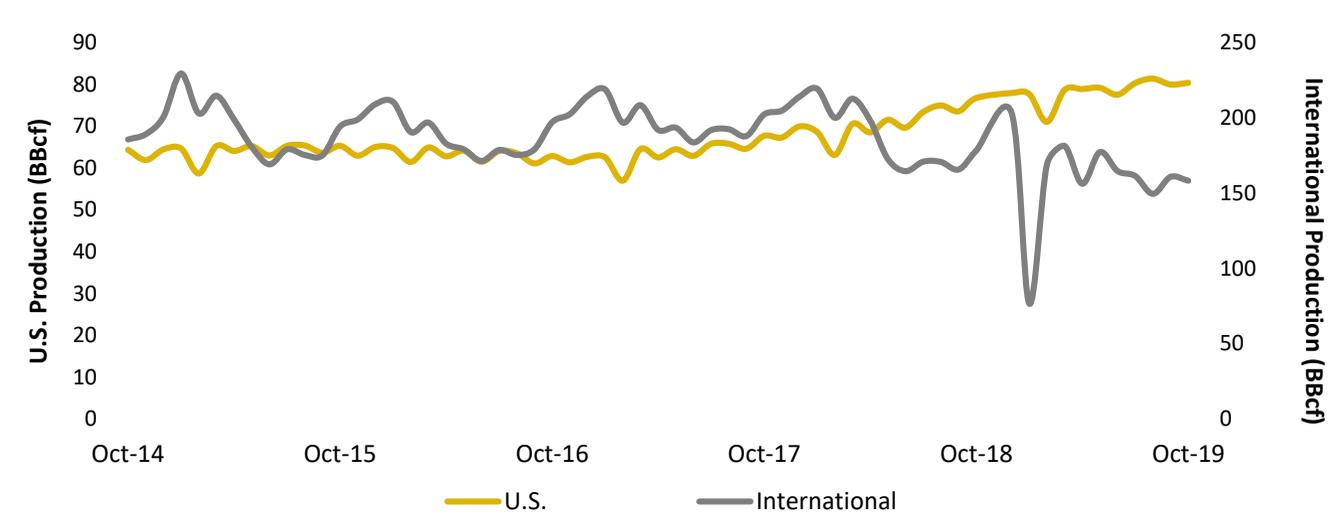


ENERGY FUNDAMENTAL DATA

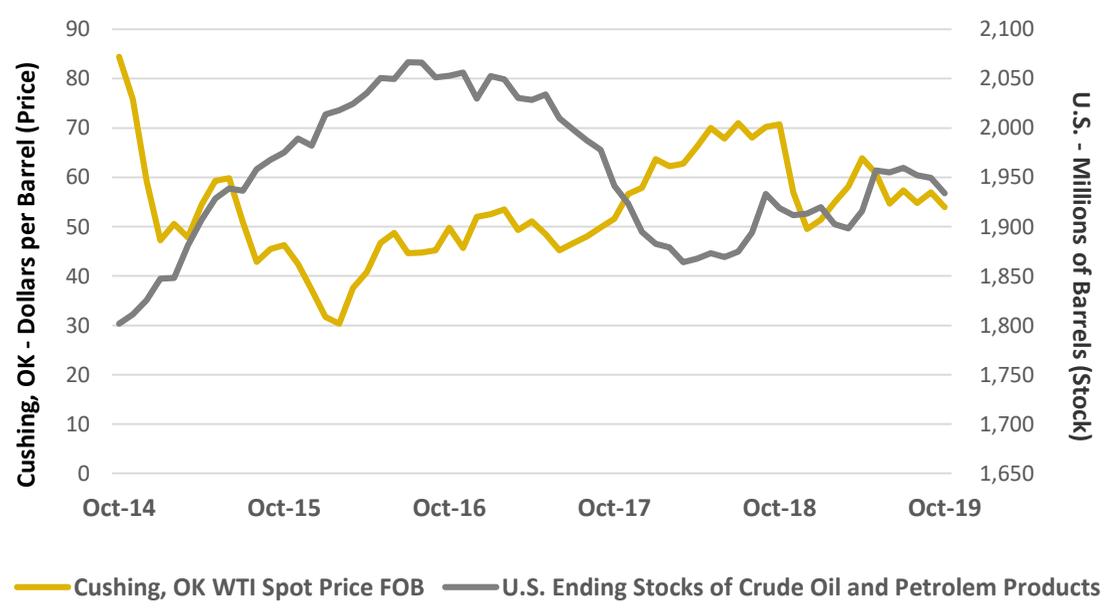
CRUDE OIL PRODUCTION



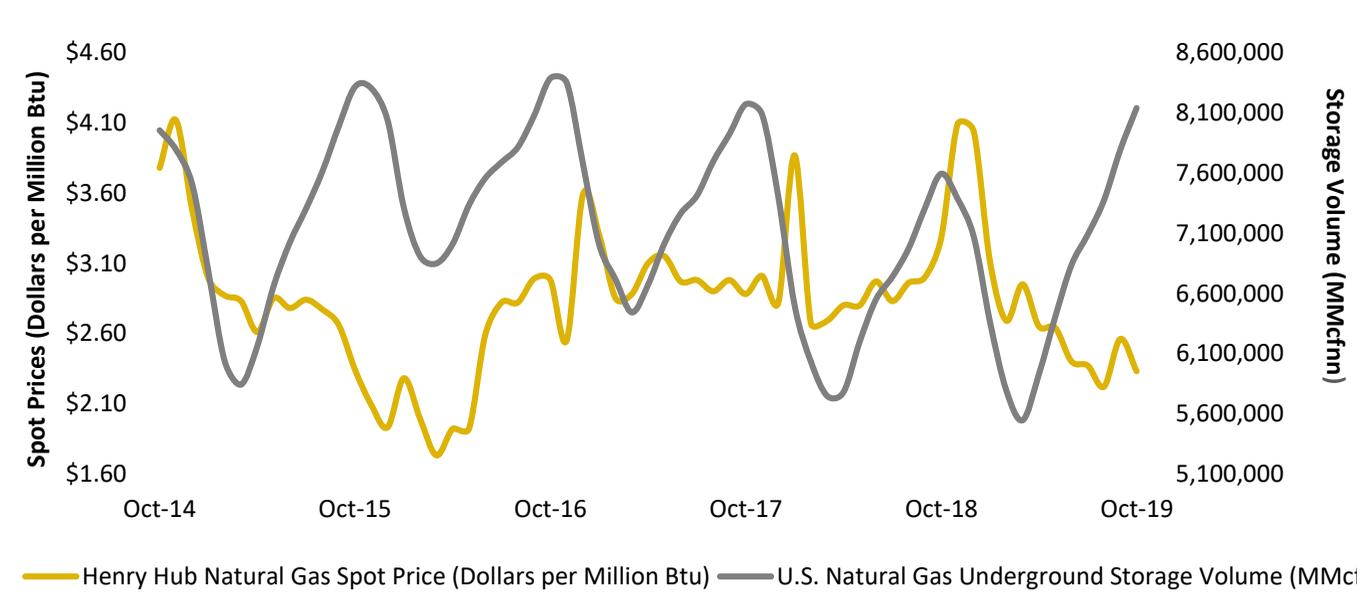
NATURAL GAS PRODUCTION



STOCK VS. PRICE



STORAGE VS. PRICE



Source: Energy Information Administration as of 12/31/2019



ENERGY INDUSTRY OUTLOOK

Exploration and Production: 2019 Review and Outlook

Exploration and production companies were glad to see the ball drop on 2019 and close out a frustrating year. A strong performance in the fourth quarter (XLE E&P index rose 6.9%) offset declines in the second and third quarter and left the index in the green (up 1.8%) for the year. Of course, this performance paled in comparison to the annual returns of the broader market (S&P 500 up 26.7% and the Russell 2000 up 18.7%). As expected, the performance of the XLE mirrored oil prices, which rose in the first quarter, fell in the second and third, and then rose again in the fourth. The rise in the February 2020 oil contract rose from \$54 per barrel to \$62/BBL in the fourth quarter in response to an improved global economic outlook and growing tension in the Middle East.

The market seems to be dismissing the long-term impact of the president's political saber rattling with Iran. We would note that future oil prices are below the current spot price. Clearly the market has grown weary of the constant threats of war by both countries and discounts the probability of war. Or, as we have discussed in the past, the market realizes the diminished role OPEC and the Middle East now have on West Texas Intermediate oil pricing.

When companies report December quarter and year-end results next month, we expect most management to report an increase in their hedge position and an increase in their drilling budgets. Most energy companies still set capital expenditures to stay within their operating cash flow but are anxious to turn on the spigots. With higher prices and cash flow, look for modest increases in drilling.

If energy investors are looking away from oil for relief, they won't get any help from gas producers. The February Henry Hub natural gas contract began the year near \$3.00 per thousand cubic feet (mcf) and closed the year at \$2.19 per mcf. The year's decline was largely felt in the last two months of the year when the contract fell \$0.67 in response to mild weather.

Outlook

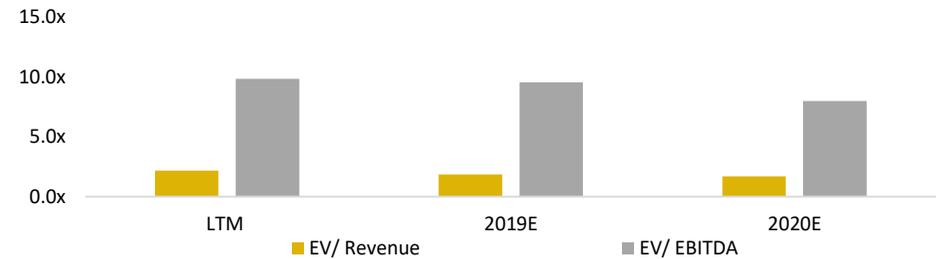
As we look towards the new year, the outlook for energy stocks is improved but not yet positive. We continue to believe that oil prices are essentially locked in a range of \$50-\$65 per barrel. Any movement outside that range will cause domestic producers to react by increasing/decreasing drilling and thus production which will eventually move prices back into the range. We view the current movement to the upper end of the range as driven largely by political events and thus temporary.

Unfortunately, at prices within the \$50-\$65 range, most small energy companies are struggling to operate within free cash flow. They have cut operating costs, restructured debt, and focused on only the most profitable areas of production. Those with high leverage are vulnerable to line of credit downgrades that could create financial strain.

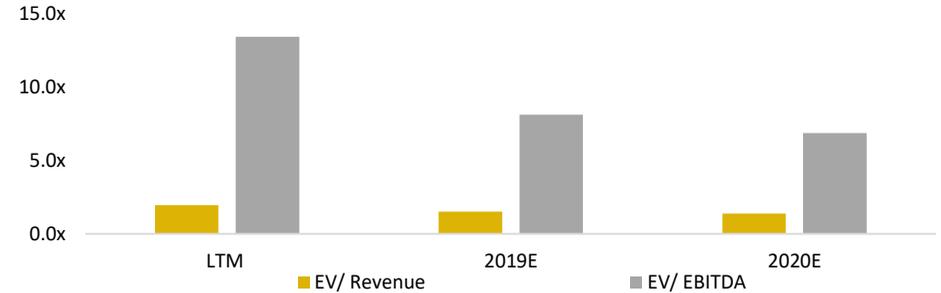
We favor energy companies with a large portfolio of drilling prospects and a strong balance sheet to fund future drilling or other expenditures. We believe energy companies with strong financial positions could begin to consider share repurchases in 2020 if energy prices remain strong and stock prices have not responded. While too early to become positive on the group, we believe investors should maintain a modest exposure to energy stocks as a way to play any potential rise in energy prices.

Source: Capital IQ as of 01/08/2020; Michael Heim

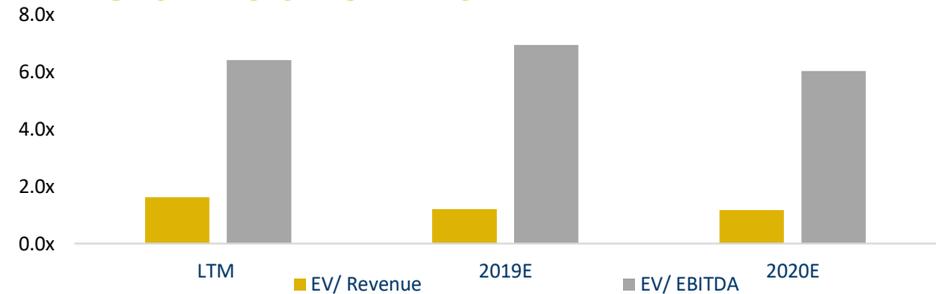
OIL AND GAS MULTIPLES



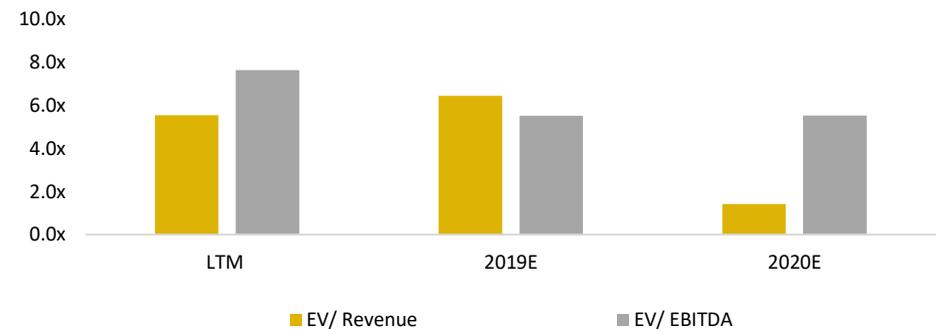
POWER GENERATION MULTIPLES



ENERGY SERVICES MULTIPLES



MINERAL ENERGY MULTIPLES



Source: Capital IQ as of 12/31/2019

OIL & GAS

COMPARABLE TABLES

Exploration and Production Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	LTM	2019E	2020E	LTM	2019E	2020E	
Torchlight Energy Resources, Inc.	NasdaqCM:TRCH	(36%)	35%	\$0.76	38%	56	21	77	1	(3)	NM	NM	NM	NM	NM	NM	NM
Journey Energy Inc.	TSX:JOY	(23%)	(8%)	\$1.31	42%	56	93	151	70	31	2.2x	1.4x	1.2x	4.8x	3.9x	3.1x	45%
Lilis Energy, Inc.	AMEX:LLEX	(77%)	(77%)	\$0.38	17%	35	116	385	66	18	5.8x	5.7x	4.8x	21.8x	13.2x	9.0x	27%
BNK Petroleum Inc.	TSX:BKX	(29%)	(66%)	\$0.08	23%	19	27	44	18	16	2.4x	NM	NM	2.8x	NM	NM	84%
Jericho Oil Corporation	TSXV:JCO	(23%)	(44%)	\$0.17	34%	22	-	20	-	(1)	NM	NM	NM	-13.7x	NM	NM	NM

Mean	3.4x	3.5x	3.0x	3.9x	8.6x	6.0x	52%
Median	2.4x	3.5x	3.0x	3.8x	8.6x	6.0x	45%

Midstream Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	LTM	2019E	2020E	LTM	2019E	2020E	
PBF Logistics LP	NYSE:PBFX	(4%)	1%	\$20.25	85%	1,258	802	2,007	328	192	6.1x	6.0x	5.4x	10.4x	10.1x	8.9x	59%
Dorian LPG Ltd.	NYSE:LPG	49%	166%	\$15.48	99%	838	669	1,461	39	139	NM	5.2x	4.5x	10.5x	7.7x	6.1x	NM
USD Partners LP	NYSE:USDP	(5%)	(5%)	\$9.91	83%	267	228	492	111	43	4.4x	NM	NM	11.4x	NM	NM	39%
Sanchez Midstream Partners LP	AMEX:SNMP	(18%)	(82%)	\$0.30	8%	6	423	424	89	50	4.7x	NM	NM	8.5x	NM	NM	56%

Mean	5.1x	5.6x	5.0x	10.2x	8.9x	7.5x	51%
Median	4.7x	5.6x	5.0x	10.5x	8.9x	7.5x	56%

OIL & GAS

COMPARABLE TABLES

Refining and Marketing Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	-	-	-	-	-	-	
Par Pacific Holdings, Inc.	NYSE:PARR	(6%)	52%	\$21.60	84%	1,106	1,027	2,022	4,881	199	0.4x	0.4x	0.4x	10.2x	8.9x	7.6x	4%
Clean Energy Fuels Corp.	NasdaqGS:CLNE	26%	51%	\$2.60	75%	532	108	553	321	27	1.7x	1.7x	1.6x	20.9x	12.9x	9.1x	8%
Sprague Resources LP	NYSE:SRLP	(6%)	15%	\$16.69	81%	380	623	995	3,583	137	0.3x	0.3x	0.3x	7.3x	8.9x	7.9x	4%
Calumet Specialty Products	NasdaqGS:CLMT	25%	106%	\$4.55	91%	353	1,658	1,859	3,526	273	0.5x	0.6x	0.6x	6.8x	7.3x	6.3x	8%
Trecora Resources	NYSE:TREC	(18%)	(5%)	\$7.38	70%	182	104	243	272	25	0.9x	0.9x	0.9x	9.7x	8.2x	7.0x	9%

Mean	0.8x	0.8x	0.8x	11.0x	9.2x	7.6x	7%
Median	0.5x	0.6x	0.6x	9.7x	8.9x	7.6x	8%

Retail and Commerce

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	-	-	-	-	-	-	
NGL Energy Partners LP	NYSE:NGL	(11%)	25%	\$11.98	76%	1,534	2,974	5,186	24,096	550	0.2x	0.3x	0.3x	9.4x	10.7x	7.7x	2%
Superior Plus Corp.	TSX:SPB	7%	37%	\$9.72	71%	1,700	1,449	3,157	2,191	357	1.4x	1.1x	1.0x	8.8x	6.1x	6.0x	16%
Global Partners LP	NYSE:GLP	2%	23%	\$20.03	93%	678	1,598	2,337	13,007	310	0.2x	0.2x	0.2x	7.5x	9.9x	10.1x	2%
CrossAmerica Partners LP	NYSE:CAPL	4%	27%	\$17.98	94%	620	668	1,282	2,100	90	0.6x	0.6x	0.7x	14.3x	12.0x	9.8x	4%
Star Group, L.P.	NYSE:SGU	1%	2%	\$9.49	93%	448	153	595	1,754	66	0.3x	NM	NM	9.0x	NM	NM	4%

Mean	0.6x	0.5x	0.5x	9.8x	9.7x	8.4x	6%
Median	0.3x	0.4x	0.5x	9.0x	10.3x	8.7x	4%

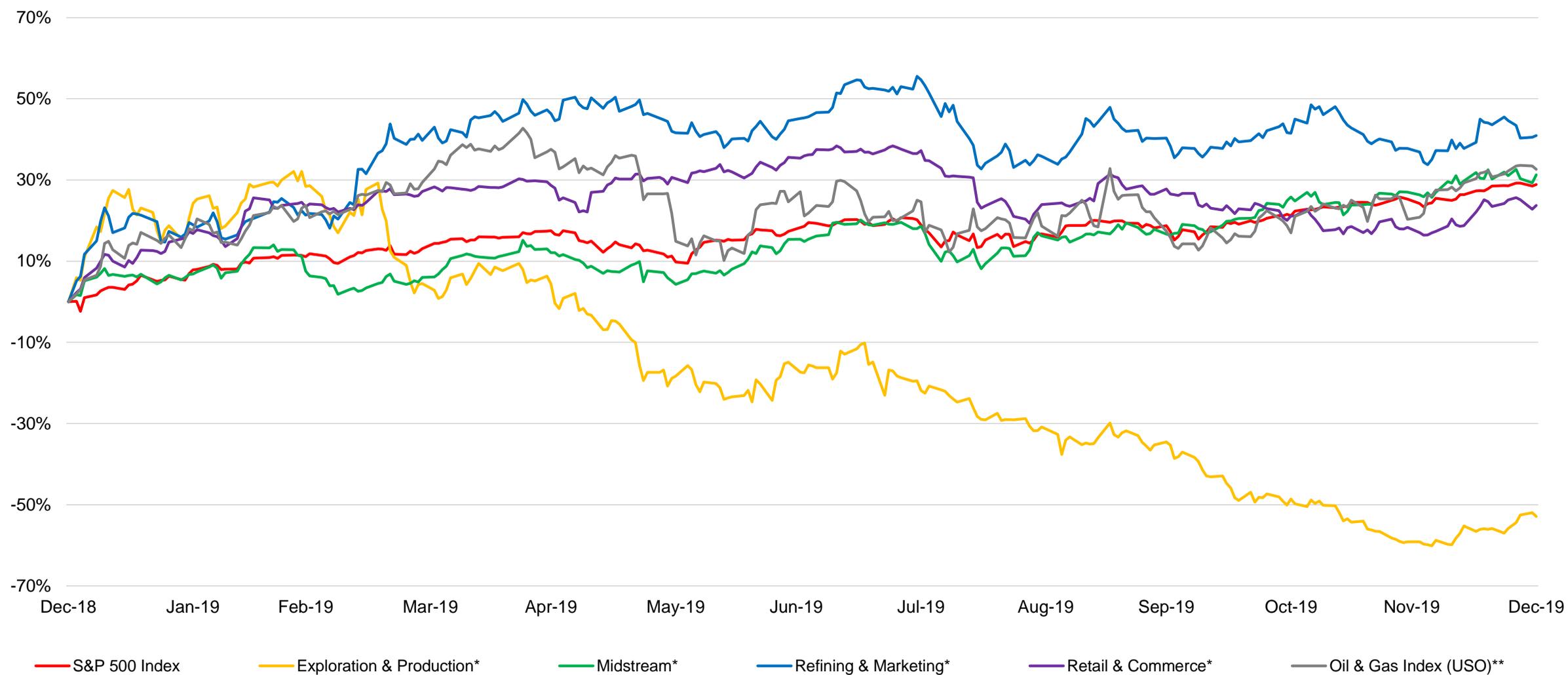
Source: Capital IQ as of 12/31/2019

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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
11/01/19	Cona Resources Ltd.	Pengrowth Energy Corporation	553.37	1.5	6.4
10/28/19	MOL Magyar Olaj- es Gazipari Nyilvanosan Mukodo Reszvenytarsasag (BUSE:MOL)	SLOVNAFT, a.s.	51.35	0.4	7.1
10/15/19	Seplat Petroleum Development Company Plc (LSE:SEPL)	Eland Oil & Gas PLC	474.26	2.1	3.8
10/14/19	Parsley Energy, Inc. (NYSE:PE)	Jagged Peak Energy Inc. (NYSE:JAG)	2,418.69	4.3	4.3
10/01/19	Citizen Energy Operating, LLC	Roan Resources, Inc.	1,020.86	2.6	2.3
09/18/19	-	Byron Energy Limited (ASX:BYE)	1.86	5.1	6.8
09/16/19	Energy Transfer LP (NYSE:ET)	SemGroup Corporation	5,260.27	2.0	13.5
09/04/19	Leif Höegh & Co AS	Höegh LNG Holdings Ltd. (OB:HLNG)	9.94	5.7	9.8
08/21/19	Pembina Pipeline Corporation (TSX:PPL)	Kinder Morgan Canada Limited (TSX:KML)	2,319.45	7.5	16.3
07/15/19	Callon Petroleum Company (NYSE:CPE)	Carrizo Oil & Gas, Inc.	2,747.94	2.8	3.2
07/01/19	DP World PLC (DIFX:DPW)	Topaz Energy and Marine Limited	1,079.00	3.1	5.7
06/12/19	-	Antero Resources Corporation (NYSE:AR)	99.30	2.0	5.8
06/10/19	Comstock Resources, Inc. (NYSE:CRK)	Covey Park Energy LLC	2,707.59	3.9	6
05/10/19	IFM Investors Pty Ltd	Buckeye Partners, L.P.	10,501.81	2.7	18.6
05/08/19	MPLX LP (NYSE:MPLX)	Andeavor Logistics LP	3,275.84	6.0	11.9
04/24/19	Occidental Petroleum Corporation (NYSE:OXY)	Anadarko Petroleum Corporation	59,856.21	4.4	7.6
03/19/19	BW Group Limited	Epic Gas Ltd. (OB:EPIC-ME)	337.12	2.4	10.4
03/19/19	BW Group Limited	Epic Gas Ltd. (OB:EPIC-ME)	33.40	2.7	11
03/16/19	-	Shanghai Lonyer Fuels Co., Ltd. (SHSE:603003)	24.31	0.1	22.7
02/14/19	-	Magnolia Oil & Gas Corporation (NYSE:MGY)	51.70	3.1	4.1
01/28/19	Aramco Overseas Company B.V.	Hyundai Oilbank Co., Ltd.	1,200.00	0.6	12.5
01/17/19	CVR Energy, Inc. (NYSE:CVI)	CVR Refining, LP	60.38	0.3	2.9
01/11/19	Workplace Safety & Insurance Board; APG Asset Management NV	Compañía Logística de Hidrocarburos CLH, S.A.	573.59	8.8	14.2
01/08/19	Israel Oil Company Ltd.	Isramco, Inc.	89.04	4.6	11.1
12/31/18	Medco Energi Global Pte. Ltd.	Ophir Energy Plc	889.53	1.9	3.5
12/31/18	Equitrans Gathering Holdings, LLC	EQGP Holdings, LP	221.95	10.6	12.7
		MEAN		3.5x	9.0x
		MEDIAN		2.7x	7.3x

Source: Capital IQ as of 12/31/2019

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POWER GENERATION

COMPARABLE TABLES

Renewable and Cleantech Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	LTM	2019E	2020E	LTM	2019E	2020E	
Renewable Energy Group, Inc.	NasdaqGS:REGI	76%	3%	\$26.43	89%	1,030	262	1,224	2,140	(5)	0.6x	0.6x	0.5x	NM	NM	6.9x	NM
Green Plains Inc.	NasdaqGS:GPRE	25%	1%	\$13.26	75%	478	590	945	3,144	(69)	0.3x	0.3x	0.4x	NM	NM	10.6x	-2%
Polaris Infrastructure Inc.	TSX:PIF	6%	41%	\$10.62	67%	167	186	313	72	57	4.4x	4.3x	3.7x	5.5x	5.3x	4.5x	80%
Pacific Ethanol, Inc.	NasdaqCM:PEIX	23%	(19%)	\$0.69	42%	35	290	321	1,402	(21)	0.2x	0.2x	0.2x	NM	16.6x	9.5x	-1%
Synthesis Energy Systems, Inc.	NasdaqCM:SES	308%	13%	\$7.14	27%	11	6	17	0	(5)	NM	NM	NM	NM	NM	NM	NM

Mean	1.4x	1.4x	1.2x	5.5x	10.9x	7.9x	25%
Median	0.4x	0.5x	0.4x	5.5x	10.9x	8.2x	(1)%

Utilities and Independent Power Producers Index

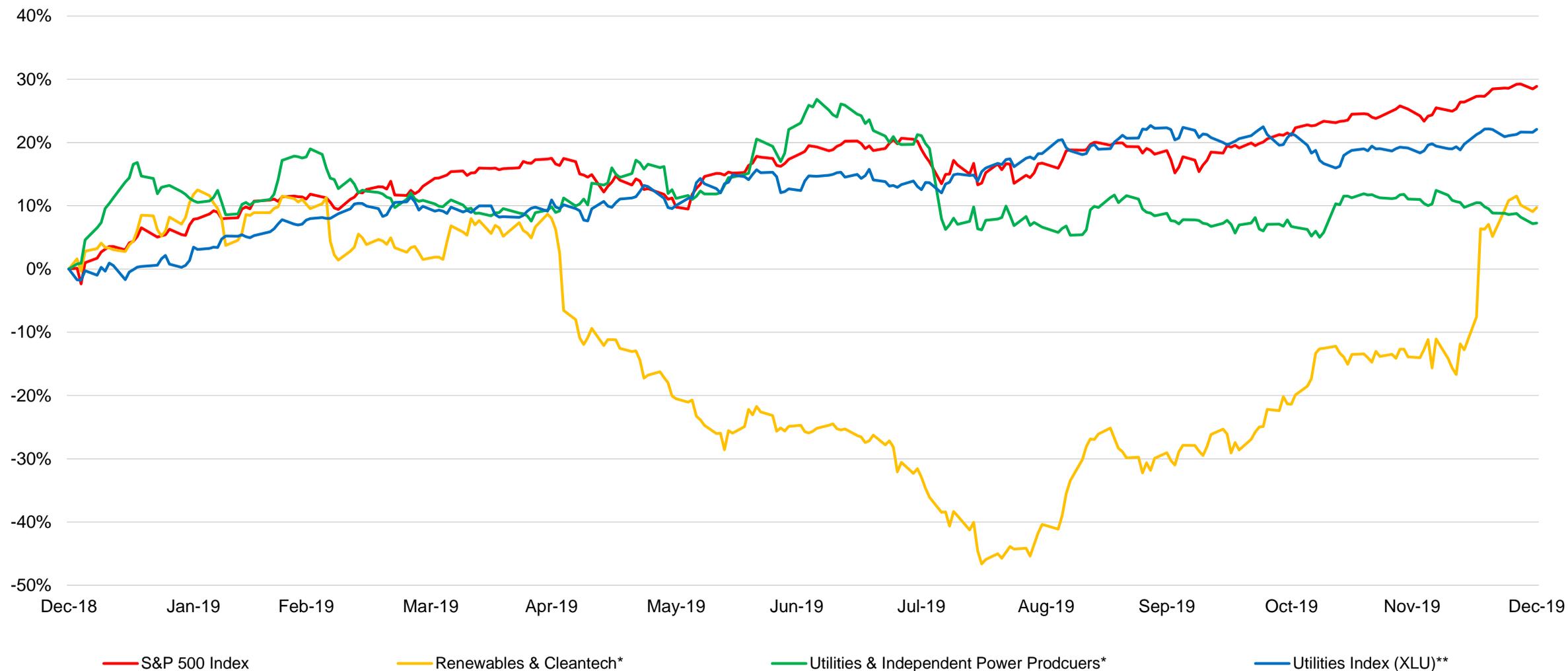
	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	LTM	2019E	2020E	LTM	2019E	2020E	
Genie Energy Ltd.	NYSE:GNE	3%	27%	\$7.67	64%	205	6	180	282	7	0.6x	0.6x	0.6x	26.2x	10.0x	8.9x	2%
Atlantic Power Corporation	TSX:ATP	3%	11%	\$2.41	60%	263	657	1,056	286	117	3.7x	3.7x	3.7x	9.0x	5.4x	5.7x	41%
RGC Resources, Inc.	NasdaqGM:RGCO	(7%)	(9%)	\$27.33	88%	221	104	323	67	19	4.8x	NM	NM	16.9x	NM	NM	29%
Spark Energy, Inc.	NasdaqGS:SPKE	(8%)	30%	\$9.68	83%	139	120	322	853	30	0.4x	0.4x	0.4x	10.6x	3.9x	3.5x	4%
Maxim Power Corp.	TSX:MXG	8%	(12%)	\$1.40	64%	74	-	62	25	1	2.5x	2.0x	1.7x	NM	NM	4.9x	4%
Etrion Corporation	TSX:ETX	26%	NM	\$0.21	79%	55	338	381	22	11	NM	NM	NM	NM	NM	NM	48%

Mean	2.4x	1.7x	1.6x	15.7x	6.5x	5.8x	21%
Median	2.5x	1.3x	1.2x	13.7x	5.4x	5.3x	16%



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
12/19/2019	Equinor ASA (OB:EQNR)	Scatec Solar ASA (OB:SSO)	84.09	15.8	20.4
12/4/2019	SembCorp Utilities Pte Ltd.	Sembcorp Energy India Limited	56.90	3.3	9.5
11/19/2019	Schloss Bros., L.P.	Pure Cycle Corporation (NasdaqCM:PCYO)	5.38	12.1	57.6
11/1/2019	Spark Power Corp.	One Wind Services Inc.	12.93	0.7	3.9
10/29/2019	Georgia Capital PLC (LSE:CGEO)	Hydrolea LTD	38.50	-	14.3
10/9/2019	-	Pure Cycle Corporation (NasdaqCM:PCYO)	26.17	10.9	52.0
9/24/2019	Global Power Synergy Public Company Limited (SET:GPSC)	Glow Energy Public Company Limited	200.33	3.1	10.9
8/30/2019	Shenzhen Xianglong Investment Partnership Enterprise	Liaoning Hongyang Energy Resource Invest Co.,Ltd (SHSE:600758)	82.19	1.6	11.2
8/22/2019	Shell Energy Australia Pty Ltd	ERM Power Limited	577.04	0.2	7.2
8/8/2019	AGL Energy Limited (ASX:AGL)	Perth Energy Pty Ltd	63.32	0.3	2.6
7/24/2019	QIC Private Capital Pty Ltd	Pacific Energy Limited	375.73	4.4	8.2
7/23/2019	REN - Redes Energéticas Nacionais, SGPS, S.A. (ENXTLS:RENE)	Empresa de Transmisión Eléctrica Transemel S.A.	193.23	20.4	28.3
6/14/2019	Yangtze Ecology and Environment Co., Ltd.	Wuhan Sanzhen Industry Holding Co.,Ltd (SHSE:600168)	109.12	6.9	11.8
6/14/2019	Amundi (ENXTPA:AMUN)	Red Eléctrica Corporación, S.A. (BME:REE)	356.86	7.5	9.9
6/10/2019	Zhejiang Energy International Limited; Zhejiang Energy Capital	Zheneng Jinjiang Environment Holding Company Limited (SGX:BWM)	392.66	5.2	12.8
5/20/2019	AC Energy, Inc.	AC Energy Philippines, Inc. (PSE:ACEPH)	-	0.8	45.0
5/7/2019	-	GS E&R Corp.	18.70	2.3	11.6
4/5/2019	Primeo Energy AG; EOS Holding SA	Alpiq Holding AG	488.22	0.5	150.0
4/2/2019	UGI Corporation (NYSE:UGI)	AmeriGas Partners, L.P.	5,308.23	2.2	10.5
3/11/2019	Japan NK Investment K.K.	Sky Solar Holdings, Ltd. (NasdaqCM:SKYS)	38.03	5	14.0
3/2/2019	Waaree Energies Limited	Sangam Renewables Limited (BSE:534618)	0.02	14	31.0
2/19/2019	Grupo Energía Bogotá S.A. E.S.P. (BVC:GEB)	Dunas Energía S.A.A.	284.96	2.6	11.8
2/7/2019	Vistra Energy Corp. (NYSE:VST)	Crius Energy Trust (TSX:KWH.UN)	526.20	0.4	7.1
1/18/2019	Cosan S.A. (BOVESPA:CSAN3)	Companhia de Gás de São Paulo - COMGÁS (BOVESPA:CGAS5)	210.05	1.9	8.7
		MEAN		5.3x	22.9x
		MEDIAN		3.1x	11.7x

Source: Capital IQ as of 12/31/2019
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ENERGY SERVICES

COMPARABLE TABLES

Oilfield Services Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	-	-	-	-	-	-	
Tidewater Inc.	NYSE:TDW	28%	1%	\$19.28	77%	756	434	833	469	31	1.8x	1.7x	1.5x	NM	12.4x	6.5x	7%
SEACOR Holdings Inc.	NYSE:CKH	(8%)	17%	\$43.15	84%	871	471	1,260	821	128	1.5x	1.5x	1.5x	9.8x	10.4x	9.5x	16%
Newpark Resources, Inc.	NYSE:NR	(18%)	(9%)	\$6.27	65%	563	193	702	878	89	0.8x	0.9x	0.9x	7.9x	9.2x	7.3x	10%
ION Geophysical Corporation	NYSE:IO	(5%)	68%	\$8.68	50%	131	167	272	207	61	1.3x	1.4x	1.3x	4.5x	6.3x	5.0x	29%

Mean	1.4x	1.4x	1.3x	7.4x	9.6x	7.1x	15%
Median	1.4x	1.5x	1.4x	7.9x	9.8x	6.9x	13%

Drillers Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	-	-	-	-	-	-	
Precision Drilling Corporation	TSX:PD	31%	(13%)	\$1.50	37%	434	1,197	1,578	1,206	303	1.3x	1.0x	1.1x	5.2x	4.1x	4.3x	25%
Ensign Energy Services Inc.	TSX:ESI	(13%)	(43%)	\$2.00	31%	326	1,251	1,571	1,180	290	1.3x	1.0x	1.0x	5.4x	3.9x	4.1x	25%
Independence Contract Drilling, Inc.	NYSE:ICD	(28%)	(72%)	\$0.86	23%	66	131	188	221	54	0.8x	0.9x	1.0x	3.5x	4.2x	5.1x	24%
AKITA Drilling Ltd.	TSX:AKT.A	(1%)	(73%)	\$0.81	20%	32	66	98	140	20	0.7x	0.6x	0.5x	4.8x	4.6x	4.0x	15%
Pioneer Natural Resources Company	NYSE:PXD	17%	12%	\$146.99	82%	24,348	2,610	26,370	9,234	3,901	2.9x	2.8x	2.5x	6.8x	7.4x	6.3x	42%
Western Energy Services Corp.	TSX:WRG	22%	(31%)	\$0.23	50%	21	179	203	161	20	1.3x	1.0x	1.1x	10.4x	8.6x	8.8x	12%

Mean	1.4x	1.2x	1.2x	6.0x	5.5x	5.4x	24%
Median	1.3x	1.0x	1.0x	5.3x	4.4x	4.7x	24%

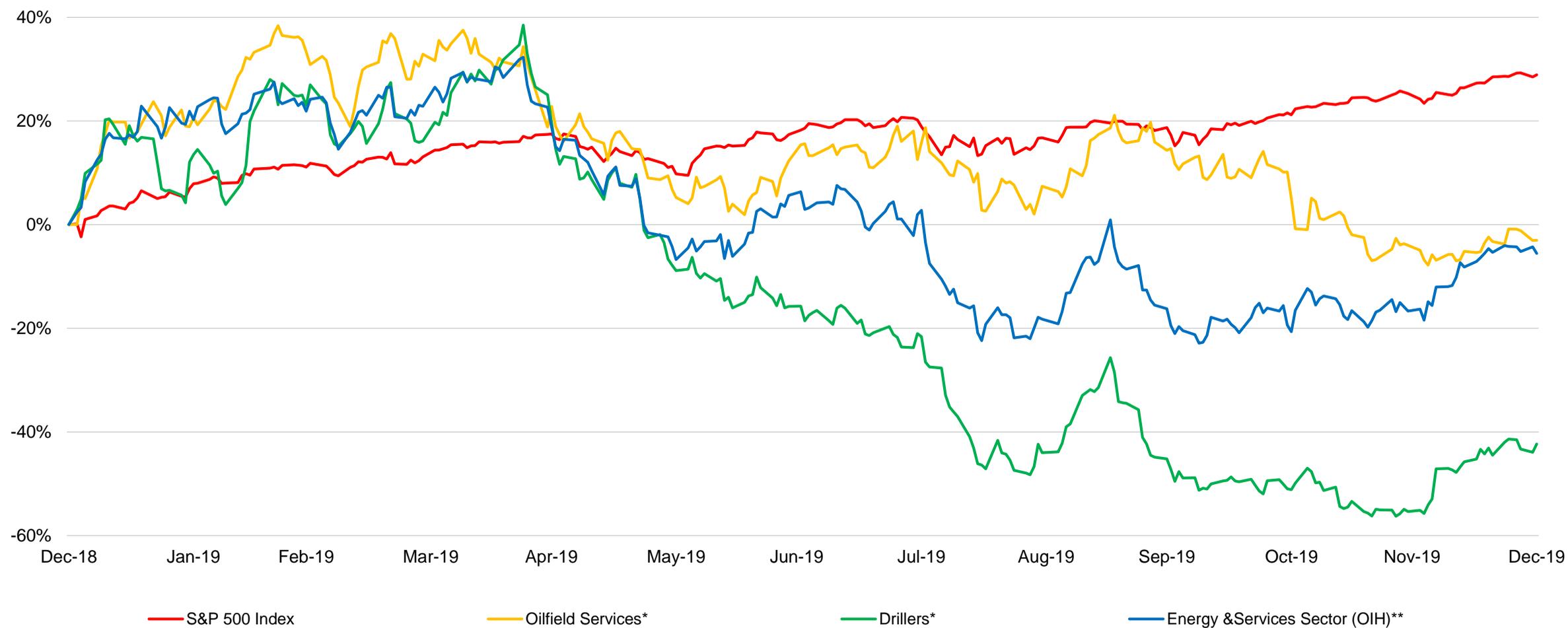
Source: Capital IQ as of 12/31/2019

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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
12/13/2019	Dialog D & P Sdn Bhd	Halliburton Bayan Petroleum Sdn. Bhd.	6.57	-	-
12/13/2019	-	Watson, Inc.	2.49	0.1	-
11/4/2019	Kuok (Singapore) Limited; Trendfield Inc; Merry Voyage Limited	PACC Offshore Services Holdings Ltd. (SGX:U6C)	1,069.69	3.8	60.6
10/28/2019	Worley Limited (ASX:WOR)	3sun Limited	25.72	0.8	-
10/7/2019	-	Vaughn Energy Services LLC	4.30	-	-
9/27/2019	Element Technical Services Inc.	Wise Intervention Services Inc.	0.59	-	-
8/29/2019	Crest Subsea International Pte. Ltd.	Offshore Subsea Services (Asia Pacific) Pte. Ltd.	-	-	-
8/27/2019	Hilcorp Alaska LLC	All Alaska Operations of BP p.l.c. and BP Pipelines (Alaska) Inc.	5,600.00	-	-
8/16/2019	Dialog D & P Sdn Bhd	Halliburton Bayan Petroleum Sdn. Bhd.	8.22	-	-
8/6/2019	Profire Energy, Inc. (NasdaqCM:PFIE)	Midflow Services, LLC	3.40	-	-
7/24/2019	MMA Offshore Limited (ASX:MRM)	Ten Companies	12.93	-	-
7/2/2019	Yinchuan Zhongneng Xincai Technology Co., Ltd.	LandOcean Energy Services Co.,Ltd. (SZSE:300157)	82.93	3.7	49.7
6/17/2019	NexTier Oilfield Solutions Inc. (NYSE:NEX)	C&J Energy Services, Inc.	788.07	0.3	2.9
6/7/2019	Mhwirth Inc.	Bronco Manufacturing, LLC	31.50	-	-
5/10/2019	Changsha Water Group Co., Ltd.	China Oil HBP Science & Technology Co., Ltd (SZSE:002554)	48.58	2.5	-
5/8/2019	Leon Overseas Pte. Ltd.	Saybolt (Singapore) Pte Ltd.	3.75	-	-
5/2/2019	TGS-NOPEC Geophysical Company ASA (OB:TGS)	Spectrum ASA	420.76	2.2	2.9
4/25/2019	Sinopec Oilfield Service Corporation	SinoFTS Petroleum Services Ltd	28.17	-	-
4/16/2019	Handal Energy Berhad (KLSE:HANDAL)	Borneo Seaoffshore Engineering Sdn Bhd	5.96	-	-
4/11/2019	Shanghai EB Pipeline Engineering Ltd	Simflexi Sdn Bhd	0.79	-	-
3/28/2019	Carimin Petroleum Berhad (KLSE:CARIMIN)	Subnautica Sdn. Bhd.	0.01	-	-
3/22/2019	Tenaris S.A. (BIT:TEN)	IPSCO Tubulars Inc.	1,145.31	0.8	6.9
3/20/2019	KLX Energy Services Holdings, Inc. (NasdaqGS:KLXE)	Red Bone Services LLC/Tecton Energy Services Ltd.	82.59	-	4.8
2/26/2019	Quorum Business Solutions, Inc.	Coastal Flow Measurement, Inc.	100.00	-	-
2/21/2019	Midgard Oilfield Services FZ LLC	Scomi Oiltools Ltd	1.50	-	-
1/29/2019	Uzma Berhad (KLSE:UZMA)	Setegap Ventures Petroleum Sdn. Bhd.	8.77	-	-
1/20/2019	Shawcor Ltd. (TSX:SCL)	ZCL Composites Inc.	243.07	1.7	13.9
1/15/2019	Pulse Seismic Inc. (TSX:PSD)	Seitel Canada Ltd.	44.15	-	-
1/11/2019	Beijing Xingkai Investment Co., Ltd.	Houpu Clean Energy Co., Ltd. (SZSE:300471)	17.37	6.3	-
1/10/2019	CSE Americas, Inc.	Blackstar Services, LLC	2.38	-	-
		MEAN		2.2x	20.2x
		MEDIAN		2.x	6.9x

Source: Capital IQ as of 12/31/2019

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MINERAL ENERGY

COMPARABLE TABLES

Mineral Energy Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN	
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	-	-	-	-	-	-		
Energy Fuels Inc.	AMEX:UUUU	(6%)	(36%)	\$1.81	49%	179	18	178	8	(35)	21.7x	22.5x	2.1x	NM	NM	14.3x	NM	
Ramaco Resources, Inc.	NasdaqGS:METC	1%	(24%)	\$3.76	52%	154	17	165	229	48	0.7x	0.7x	0.7x	3.4x	2.7x	3.5x	21%	
Fission Uranium Corp.	TSX:FCU	(20%)	(45%)	\$0.22	37%	106	-	101	-	(4)	NM	NM	NM	NM	NM	NM	NM	
Ur-Energy Inc.	TSX:URE	(7%)	(13%)	\$0.57	44%	91	12	100	21	(6)	4.7x	3.5x	2.7x	NM	NM	7.5x	-28%	
Foresight Energy LP	OTCPK:FELP.U	(76%)	(98%)	\$0.07	2%	11	1,521	1,490	970	253	1.5x	NM	NM	5.9x	NM	NM	26%	
Corsa Coal Corp.	TSXV:CSO	(24%)	(53%)	\$0.25	27%	24	26	99	245	37	0.4x	0.4x	0.4x	2.6x	3.2x	2.8x	15%	
											Mean	5.8x	6.8x	1.5x	4.0x	3.0x	7.1x	9%
											Median	1.5x	2.1x	1.4x	3.4x	3.0x	5.5x	18%

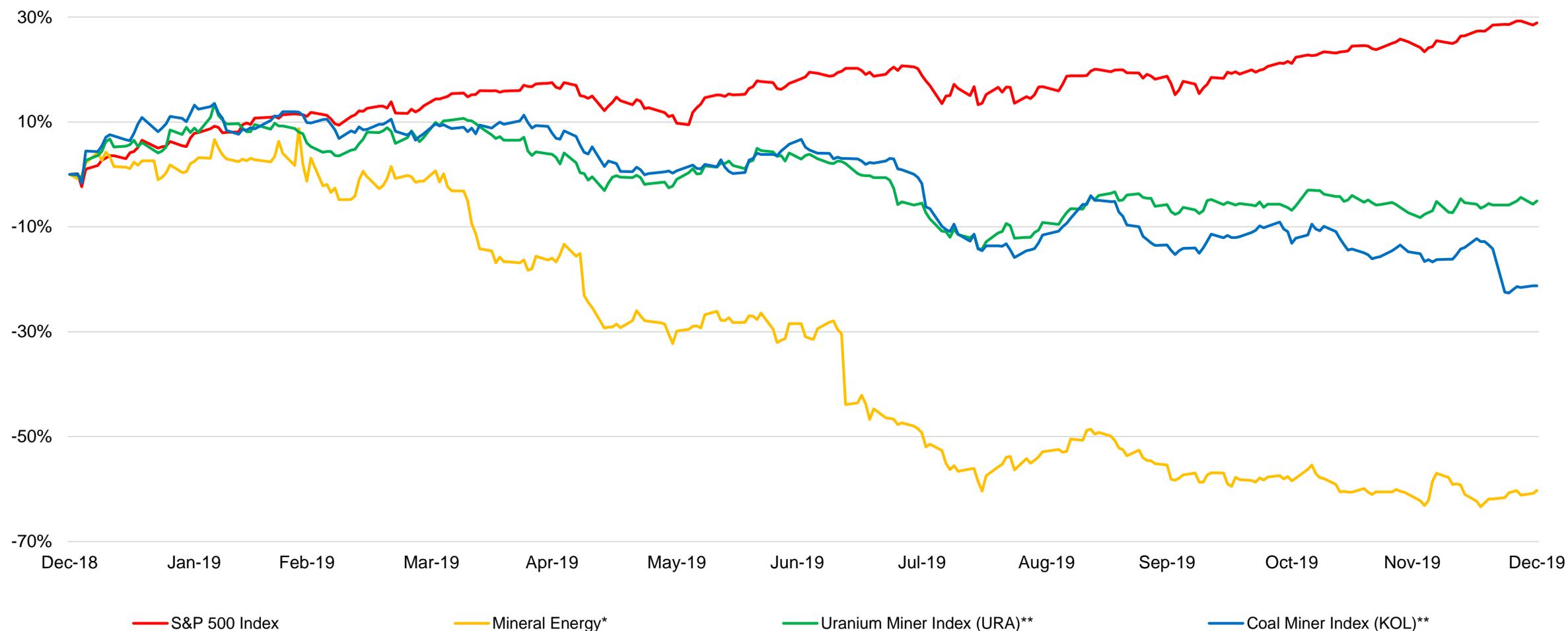
Source: Capital IQ as of 12/31/2019

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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
12/3/2019	-	Unicorn Capital Partners Limited (JSE:UCP)	-	-	-
11/12/2019	Central Asian Uranium Company Limited Liability Company	Urasia In Kyrgyzstan Limited Liability Company	0.25	-	-
11/1/2019	Palisades Goldcorp Ltd.	Radio Fuels Corp.	-	-	-
9/20/2019	-	Kalia Limited (ASX:KLH)	0.281	-	-
8/27/2019	Towarzystwo Finansowe Silesia Sp. z o.o.	Walbrzyskie Zaklady Koksownicze Victoria S.A.	-	-	-
8/23/2019	-	Clean&Carbon Energy S.A.	-	-	-
8/14/2019	Azarga Uranium Corp. (TSX:AZZ)	Urasia In Kyrgyzstan Limited Liability Company	-	-	-
7/19/2019	Indika Capital Investments Pte. Ltd.	PT Multi Tambangjaya Utama	-	-	-
7/17/2019	F-Servis	Torgovy Dom SibEnergoUgol, LLC	-	-	-
7/8/2019	Russian Coal Co	Kirbinsky Mine	-	-	-
5/31/2019	Fujian Heng Lian Group Limited	Inner Mongolia Run Heng Mining Company Limited	1.09	-	-
4/16/2019	Paradice Investment Management Pty Ltd.	Peninsula Energy Limited (ASX:PEN)	4.82	7.3	-
2/13/2019	Westmoreland Coal Company (OTCPK:WLBA.Q)	Westmoreland Resource Partners, LP (OTCPK:WMLP.Q)	-	-	-
		MEAN		7.3	NA
		MEDIAN		7.3	NA

Source: Capital IQ as of 12/31/2019

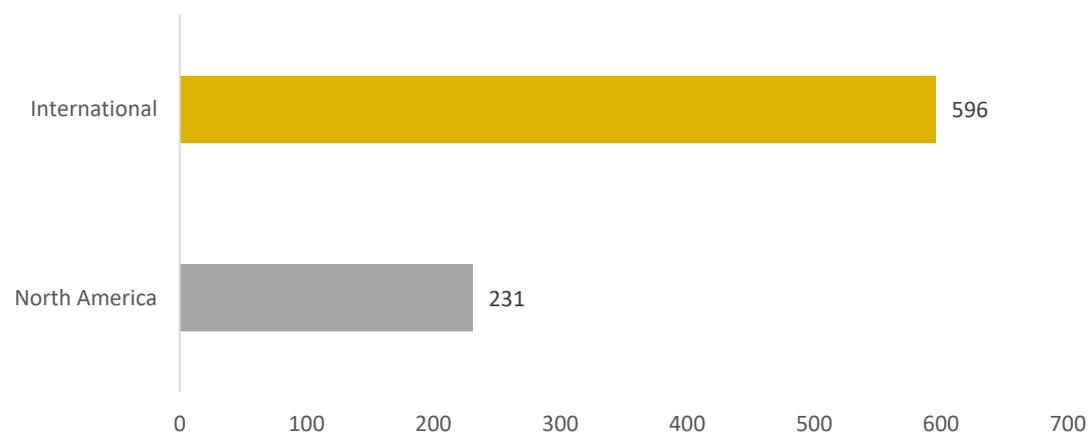
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LTM ENERGY INDUSTRY M&A SUMMARY *Update*

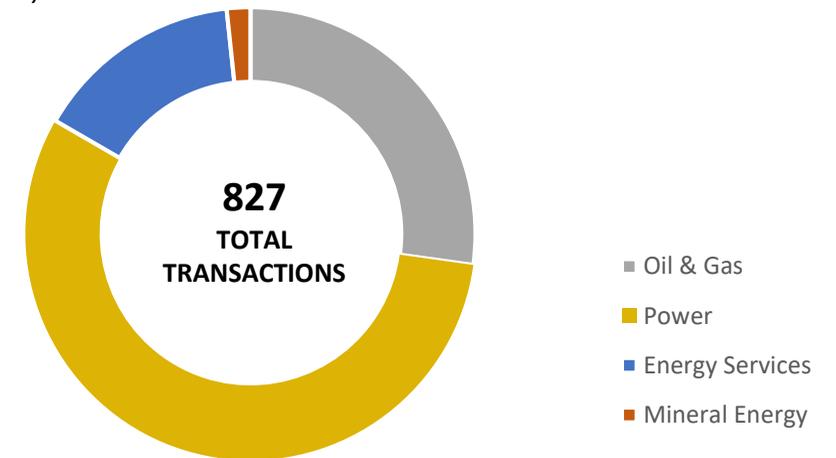
NORTH AMERICA VS INTERNATIONAL

TOTAL TRANSACTIONS (Number of transactions)



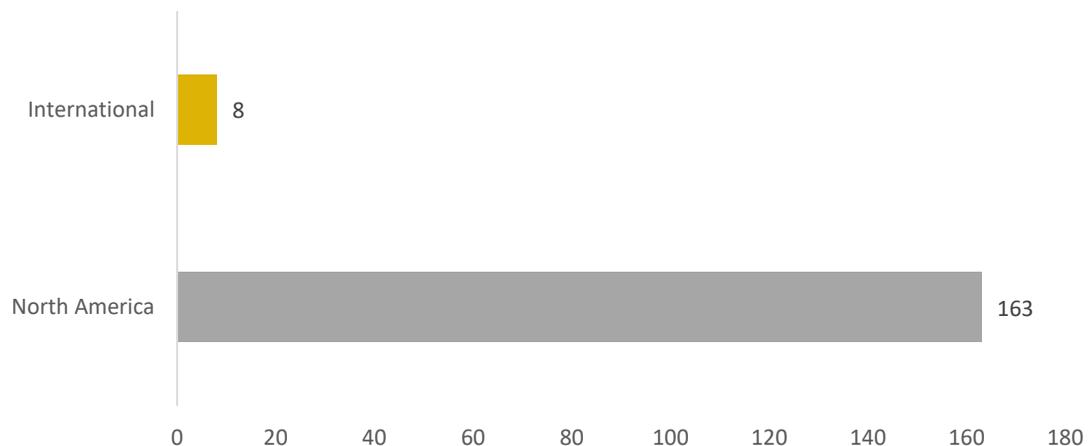
DEAL VALUE PER SECTOR

(Number of transactions)



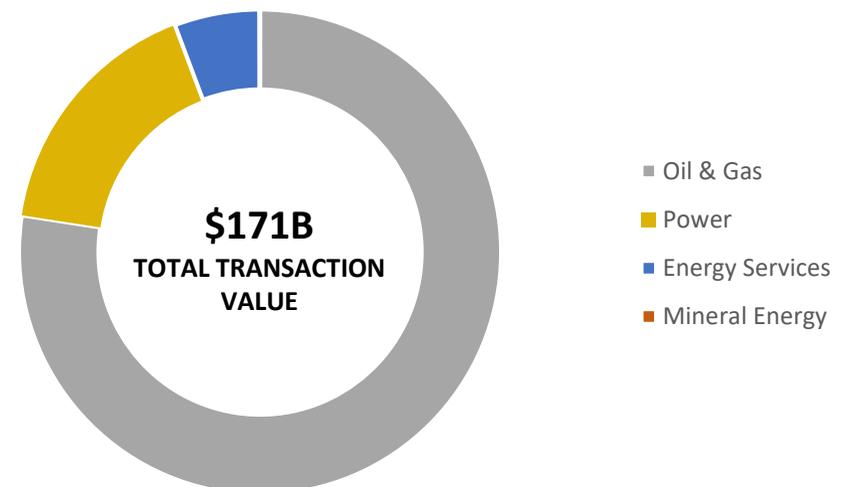
NORTH AMERICA VS INTERNATIONAL

TOTAL TRANSACTIONS (Values in \$B)



TOTAL TRANSACTION VALUE

(Values in \$B)





NOBLE QUARTERLY HIGHLIGHTS

Sundance Energy, Inc. (NasdaqGM:SNDE)

Industry: Energy – Oil & Gas Exploration and Production

Sundance Energy operates as an onshore oil and gas company in the United States. The company explores, develops, and produces oil and liquid natural gas. The company holds its operations on its 51,903 net acre position in the South Texas Eagle Ford Shale.

4th Quarter News Highlights:

December 10, 2019: Sundance Energy Inc. announces the appointment of Stephen J. McDaniel to its Board of Directors. Stephen was appointed to serve as an independent, non-executive member of the company’s BOD. After December 31, 2019 Mr. McDaniel will begin his transition into the position of Chairman of the Board, taking over for Michael D. Hannell. Stephen has served on the board for Ultra Petroleum Corporation, Encino Energy, and Bazean Corp. Mr. McDaniel also previously founded Midstates Petroleum Company.



Hi-Crush Inc. (NYSE:HCR)

Industry: Energy – Oil and Gas Equipment and Services

Hi-Crush Inc. provides proppant and logistics solutions to the petroleum industry in North America. The company offers raw frac sand used in hydraulic fracturing process for oil and natural gas wells. The company also owns and operates multiple facilities located throughout the US. Hi-Crush primarily serves pressure pumping service providers, oil and gas exploration and exploration and production companies.

4th Quarter News Highlights:

December 18, 2019: Hi-Crush entered into a non-binding letter of interest with Canadian Premium Sand Inc. The letter outlines key terms for Hi-Crush to assist in the design and construction of CPS’s Wanipigow Sand Project. The company will share its expertise in plant design, construction and operations through their NexStage™ equipment business.



Gevo, Inc. (NasdaqGM: GEVO)

Industry: Energy – Oil and Gas Refining and Marketing

Gevo, Inc. is a renewable chemicals and low-carbon fuel company focusing on the development and commercialization of renewable alternatives to petroleum-based products in the United States. The company operates through two segments: Gevo, Inc. and Gevo Development/Agri-Energy. The company researches, develops, and produces isobutanol; develops its own proprietary biocatalysts; produces and sells renewable jet and other fuels; retrofits processes of chemicals and biofuels.

4th Quarter News Highlights:

December 17, 2019: Gevo announces an agreement, entered into between the company and Delta, for 10 million gallons per year of sustainable aviation fuel. This agreement is a further move by Delta toward a sustainable future and follows Deltas previous \$2 million investment in Northwest Advanced Bio-Fuels, LLC.



Source: Company Press Releases

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ENERGY SECTOR REVIEW | 19

$$R + (e^2 + p^2) = \text{NF}$$

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.

$$R + (e^2 + p^2) = \text{TF}$$

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

Gravitas
Resources Corporation
(PRIVATE)
\$4,200,000
Private Placement
Placement Agent

February 2019

SAILFISH
(TSX-V: FISH)
Restructuring Advisory
Fairness Opinion

August 2018

ORCHLIGHT
ENERGY
(TRCH)
Advisory
Corporate Advisory

March 2018

SIERRA
METALS
\$55,000,000
At-The-Market
Offering (ATM)
Agent

October 2017

MARLIN
GOLD MINING LTD.
(MLN)
Advisory
Corporate Advisory

February 2017

SES
SYNTHESIS ENERGY SYSTEMS
(SYMX)
Advisory
Corporate Advisory

January 2017

AVINO SILVER & GOLD MINES LTD.
(ASM)
\$800,000
Private Placement of
Registered Securities
Sole Placement Agent

March 2016

$$R + (e^2 + p^2) = \pi$$

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.

$$R + (e^2 + p^2) = \gamma F$$

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 December 2019

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

$$R + (e^2 + p^2) = \text{TR}$$

SALES & TRADING

David Lean

Head Trader, Director of Institutional Sales and Trading, Chief Compliance Officer

dlean@noblecapitalmarkets.com – 561.994.5737

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