



# ENERGY

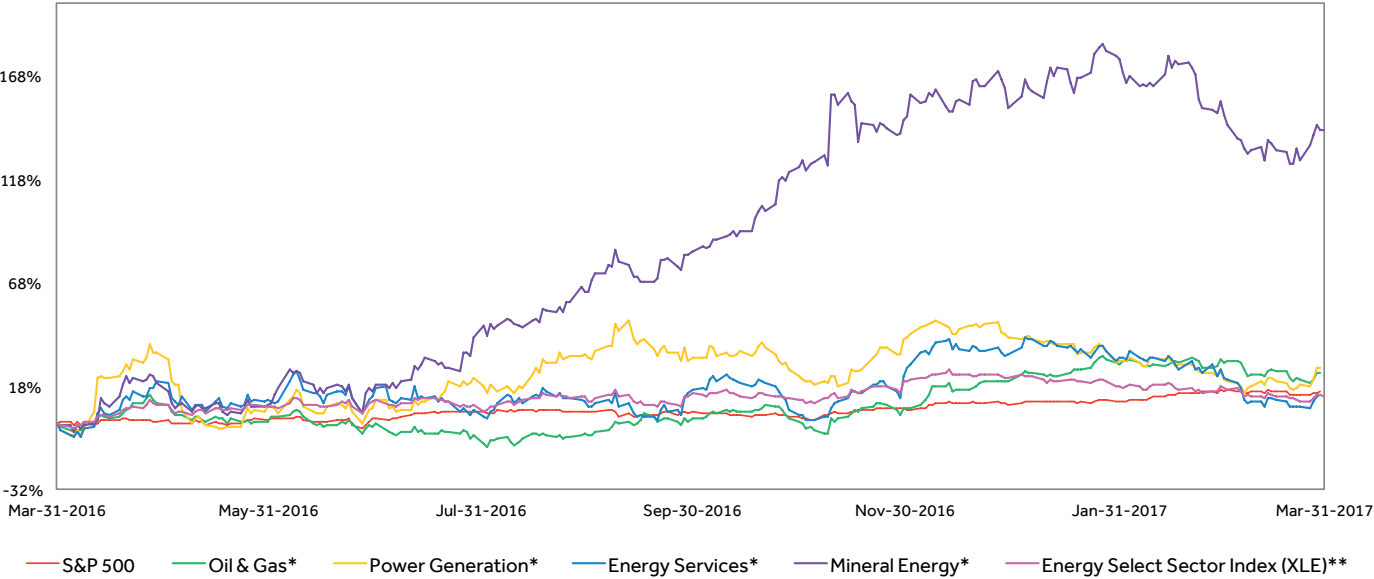
## QUARTERLY REVIEW

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# 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

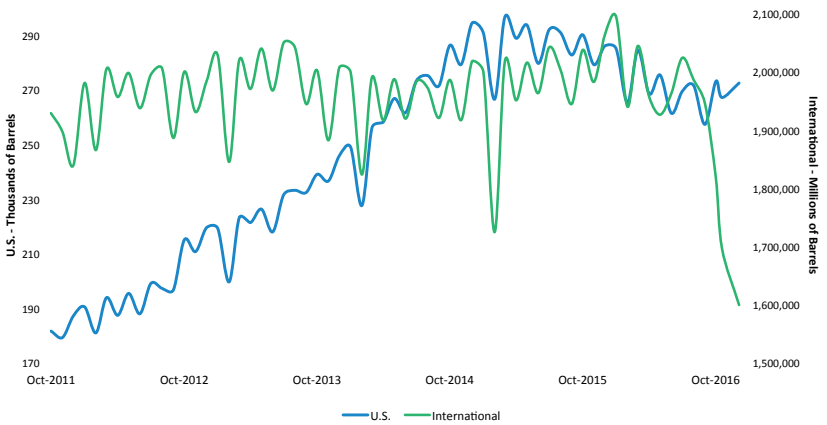
## INSIDE THIS ISSUE

Energy Industry Data	3
Outlook: Energy Industry	4
Oil & Gas Comp Tables	5
Oil & Gas Market Performance	7
Oil & Gas M&A	8
Power Generation Comp Tables	9
Power Generation Market Performance	11
Power Generation M&A	12
Energy Services Comp Tables	13
Energy Services Market Performance	15
Energy Services M&A	16
Mineral Energy Comp Tables	17
Mineral Energy Market Performance	18
Mineral Energy M&A	19
Energy Industry M&A	20
Noble Quarterly Highlights	21
Noble Overview	22

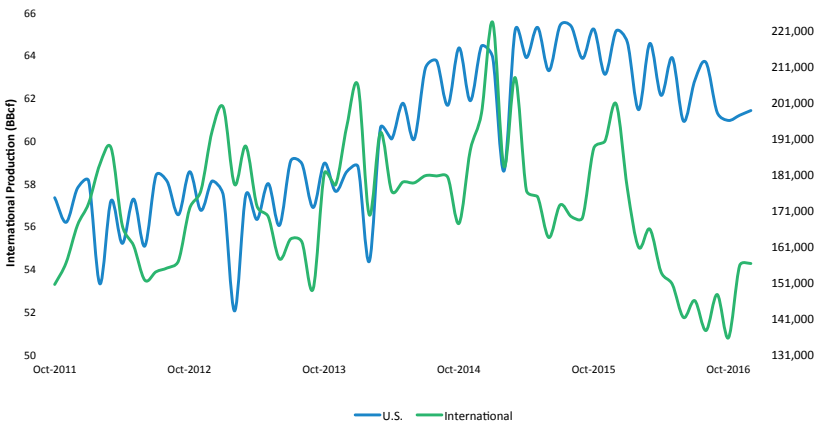


# ENERGY – FUNDAMENTAL DATA (5 Year Period)

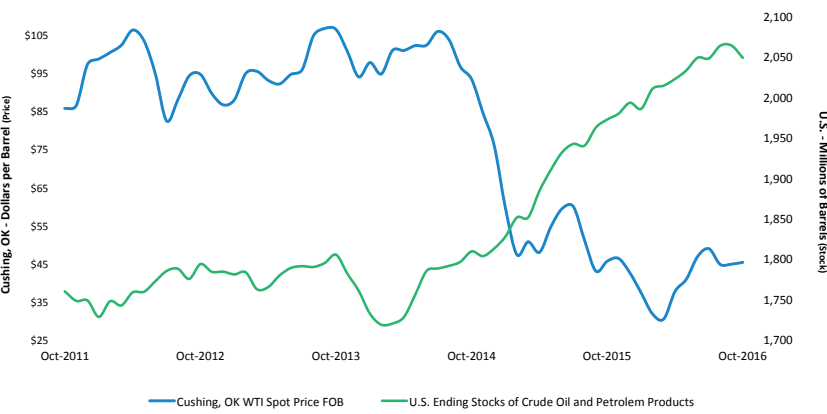
## CRUDE OIL PRODUCTION



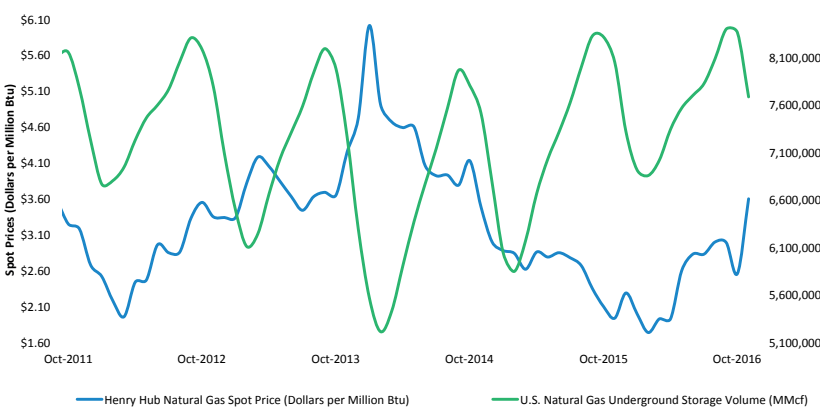
## NATURAL GAS PRODUCTION



## STOCK VS. PRICE



## STORAGE VS. PRICE



Source: Energy Information Administration, JODI

VOLUME 1, ISSUE 1 | APRIL 2017

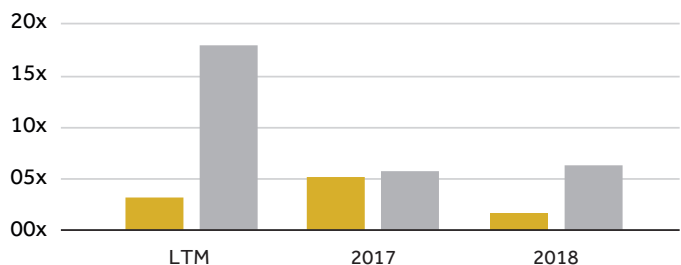


# ENERGY INDUSTRY OUTLOOK

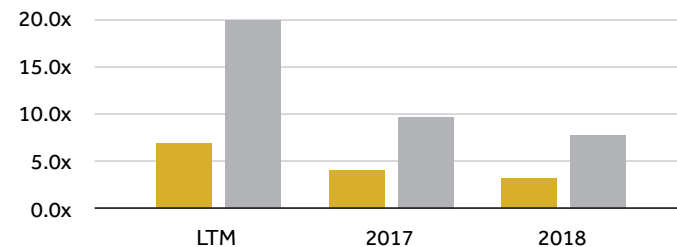
## OIL & GAS ENERGY INDUSTRY OUTLOOK

Exploration and production companies rode a bit of a roller coaster ride in the first quarter declining steadily in January, February and most of March before surging the last week of the quarter. At trough, the group was down approximately 10% but finished the quarter down only 5%. As one would expect, the performance of the energy sector largely tracked changes in oil prices. West Texas Intermediate oil prices dropped from the mid-fifties to a price of \$47.73 on March 27, before rising back above \$50. We continue to maintain a cautious outlook towards the group. We expect energy prices to move in a narrow range. Any increase in energy prices is likely to be met quickly with increased drilling. Companies generally have an inventory of projects ready to go if the economics warrant the investment. Meanwhile, technological advances continue as horizontal drilling and fracking are fine tuned for individual areas and that will continue to put downward pressure on pricing.

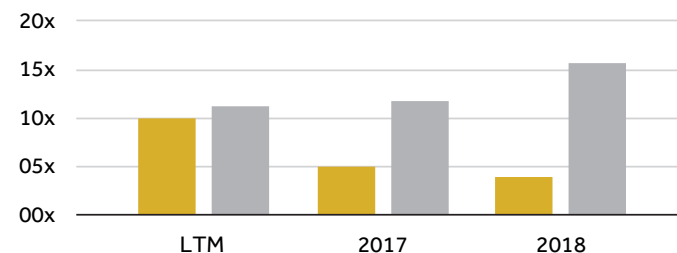
## MINERAL ENERGY MULTIPLES



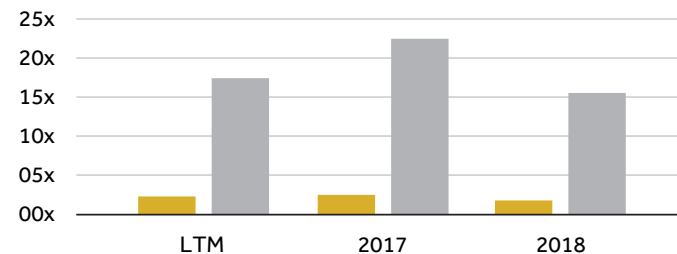
## OIL AND GAS MULTIPLES



## POWER GENERATION MULTIPLES



## ENERGY SERVICES MULTIPLES



■ EV/Revenue ■ EV/EBITDA

\*LTM data as of 3/31/16  
Source: Capital IQ



# OIL & GAS

## COMPARABLE TABLES

### Exploration and Production Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	LTM		EV/REVENUE			EV/EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	
Hyperdynamics Corporation	OTCPK:HDYN	-23.4%	198.2%	\$1.67	53.0%	36	-2	34	0	-13	NM	NA	NA	NM	NA	NA	NM
Jones Energy, Inc.	NYSE:JONE	-42.4%	-13.5%	2.65	54.0%	165	689	1,396	122	7	11.4x	5.9x	3.9x	NA	9.0x	5.8x	6.1%
Contango Oil & Gas Company	AMEX:MCF	-22.4%	-38.5%	7.25	51.3%	183	54	237	78	19	3.0x	2.5x	2.0x	12.7x	5.3x	3.3x	23.9%
Gastar Exploration Inc.	AMEX:GST	-3.2%	36.4%	1.50	67.9%	279	333	612	59	18	10.3x	7.6x	6.0x	34.6x	13.1x	10.9x	29.9%
Comstock Resources, Inc.	NYSE:CRK	-10.2%	131.2%	8.85	65.9%	134	979	1,113	171	78	6.5x	3.6x	3.0x	14.3x	5.5x	4.8x	45.6%
Lilis Energy, Inc.	NasdaqCM:LLEX	29.0%	134.1%	4.00	76.6%	98	19	131	3	-12	38.2x	NA	NA	NM	NA	NA	NM

Mean	11.6x	4.9x	3.7x	62.2x	8.2x	6.2x	26.4%
Median	8.4x	4.8x	3.4x	24.4x	7.3x	5.3x	26.9%

### Midstream Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	LTM		EV/REVENUE			EV/EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	
Dorian LPG Ltd.	NYSE:LPG	26.9%	10.9%	\$10.42	83.4%	573	735	1,308	204	112	6.4x	8.2x	6.8x	11.7x	15.7x	13.2x	55.0%
CONE Midstream Partners LP	NYSE:CNNX	-5.1%	78.6%	22.34	87.4%	1,419	161	1,953	239	153	8.2x	7.5x	6.8x	12.8x	14.2x	12.0x	64.0%
PennTex Midstream Partners, LP	NasdaqGS:PTXP	13.8%	68.2%	17.06	94.8%	695	156	850	77	28	11.0x	8.3x	6.7x	30.9x	11.3x	9.4x	35.6%
Martin Midstream Partners L.P.	NasdaqGS:MMLP	4.9%	-4.1%	19.25	75.8%	732	808	1,548	827	162	1.9x	1.9x	1.8x	9.5x	9.7x	9.3x	19.6%
American Midstream Partners, LP	NYSE:AMID	-20.1%	110.3%	14.55	78.9%	764	1,060	2,063	234	50	8.8x	6.6x	6.0x	41.5x	10.5x	9.6x	21.3%
Noble Midstream Partners LP	NYSE:NBLX	42.4%	63.2%	51.25	96.2%	1,630	-53	1,649	161	122	10.3x	7.5x	5.2x	13.5x	13.6x	9.1x	75.7%

Mean	7.8x	6.7x	5.6x	20.0x	12.5x	10.4x	45.2%
Median	8.5x	7.5x	6.4x	13.2x	12.5x	9.5x	45.3%



# OIL & GAS

## COMPARABLE TABLES

### Refining and Marketing Index

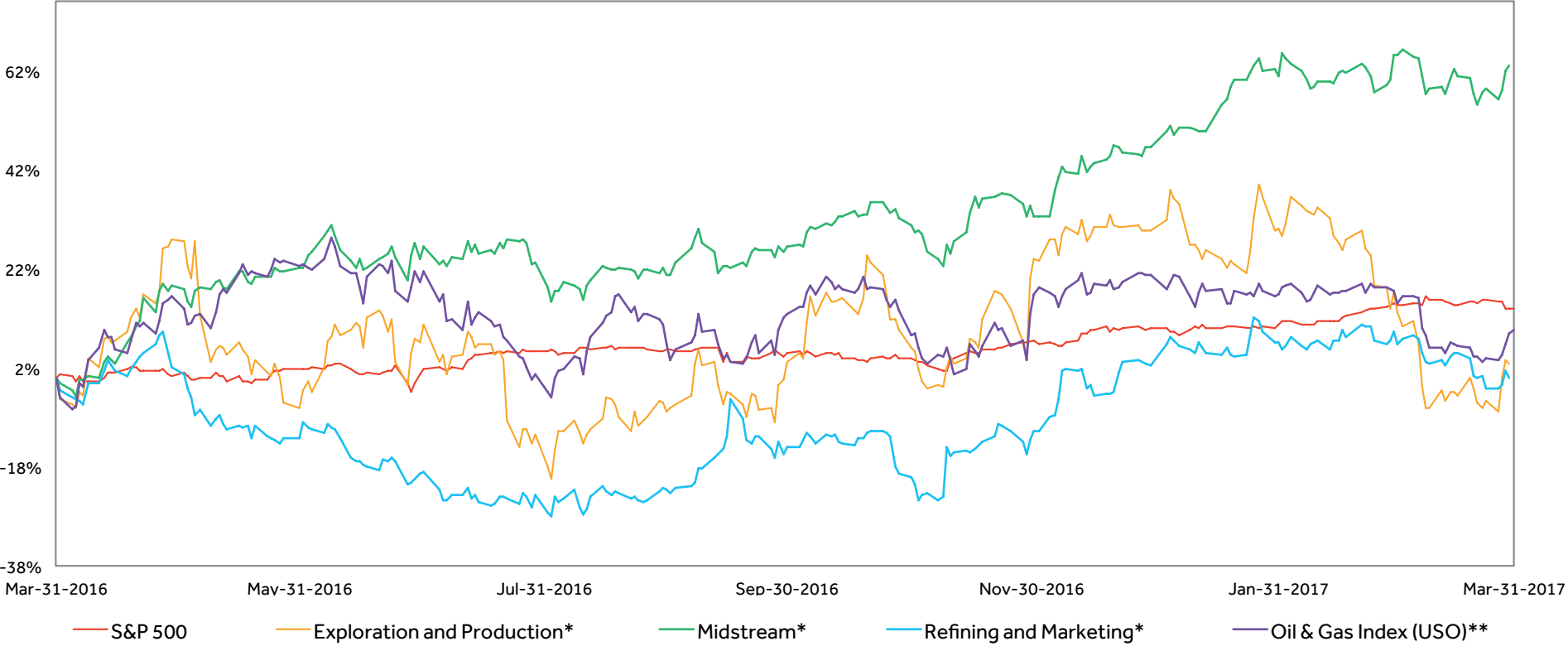
	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	LTM		EV/REVENUE			EV/EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	
Alon USA Energy, Inc.	NYSE:ALJ	6.4%	17.3%	\$12.11	93.1%	865	433	1,359	3,832	80	0.4x	0.3x	0.3x	17.0x	6.9x	7.2x	2.1%
Par Pacific Holdings, Inc.	AMEX:PARR	11.8%	-13.3%	16.26	81.3%	740	324	1,065	1,865	20	0.6x	0.4x	0.4x	52.2x	9.4x	8.4x	1.1%
Sprague Resources LP	NYSE:SRLP	-3.9%	32.0%	27.00	89.0%	578	558	1,135	2,390	61	0.5x	0.4x	0.4x	18.7x	9.1x	8.5x	2.5%
Emerge Energy Services LP	NYSE:EMES	9.2%	170.4%	13.44	55.0%	404	143	554	93	-66	6.0x	1.5x	1.1x	NM	18.4x	6.1x	NM
Trecora Resources	NYSE:TREC	-19.9%	15.4%	11.10	75.0%	269	75	344	212	28	1.6x	1.4x	1.4x	12.1x	9.2x	7.9x	13.4%
CVR Refining, LP	NYSE:CVRR	-10.1%	-22.6%	9.35	70.6%	1,380	227	1,607	4,431	186	0.4x	0.3x	0.3x	8.6x	5.6x	5.0x	4.2%

Mean	1.6x	0.7x	0.7x	21.7x	9.8x	7.2x	4.7%
Median	0.5x	0.4x	0.4x	17.0x	9.2x	7.5x	2.5%



# 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)

Source: Capital IQ



## OIL & GAS LTM GLOBAL M&A ACTIVITY

DATE	BUYER	TARGET	TV (\$M)	EV / EBITDA	EV / REVENUE
02/28/2017	EIG Global Energy Partners	Elba Liquefaction Company	555.0	-	-
02/06/2017	Antero Midstream	Sherwood Midstream	155.0	-	-
01/23/2017	Targa Resources Partners	Outrigger Delaware Operating	925.24	-	-
01/20/2017	PERN Przyjazni	Polski Koncern Naftowy ORLEN Spolka Akcyjna	366.68	4.6x	0.5x
01/03/2017	Venado EF	SM Energy ST	747.4	-	-
12/17/2016	REN - Redes Energéticas Nacionais	Electrogas	180.0	-	-
12/15/2016	São Martinho	Nova Fronteira Bioenergia	118.98	-	-
12/07/2016	Glencore Plc	Public Joint Stock Company	11,290.32	5.3x	1.2x
11/08/2016	Siccar Point Energy	OMV	1,000.0	-	-
10/31/2016	Dominion Midstream Partners	Questar Pipeline	1,721.2	10.0x	6.7x
10/24/2016	Buckeye Partners	Vitol Tank Terminals International B.V.	1,150.0	-	-
10/13/2016	RSP Permian	Silver Hill Energy Partners	1,231.12	-	-
10/06/2016	Public Joint Stock Company	Public Joint Stock Oil Company Bashneft	7,102.95	6.4x	1.4x
09/22/2016	Allianz Capital Partners	Gas Connect Austria GmbH	675.39	-	5.0x
09/15/2016	ONGC Videsh	ZAO Vankorneft	2,200.0	-	-
08/08/2016	Inter Pipeline	Williams Energy Canada	666.58	-	-
07/14/2016	Wolf Infrastructure	Access Pipeline Inc.	1,199.65	-	-
07/10/2016	The Southern Company	Southern Natural Gas Company	2,674.5	10.3x	7.3x
07/07/2016	Riverstone Holdings	Centennial Resource Production	1,528.43	30.5x	20.9x
07/01/2016	Gran Tierra Energy	Petrolatina Energy	525.0	13.3x	6.4x
06/25/2016	Beijing Enterprises Group Company Limited	PJSC Verkhnechonskneftegaz	1,100.0	-	-
06/20/2016	Marathon Oil Corporation	PayRock Energy	888.0	-	-
06/15/2016	Dutch Infrastructure Fund	Thyssengas GmbH	787.36	-	-
06/09/2016	Aker BP ASA	BP Norge AS	1,680.35	-	1.7x
05/16/2016	Range Resources Corporation	Range Resources - Louisiana, Inc.	6,937.25	9.0x	-
04/27/2016	Suncor Energy	Syncrude Canada	741.35	-	-
04/21/2016	Con Edison Gas Pipeline and Storage	Stagecoach Gas Services	975.0	-	-
03/24/2016	Xinneng (Hong Kong) Energy Investment Limited	Santos Limited	755.0	10.9x	4.5x
03/20/2016	Charter Power Investment Limited	Bankers Petroleum	559.79	4.1x	2.0x
Mean			1,739.23	10.4x	5.6x

Source: Capital IQ

VOLUME 1, ISSUE 1 | APRIL 2017



# POWER GENERATION

## COMPARABLE TABLES

### Renewable and Cleantech Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	LTM		EV/REVENUE			EV/EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	
Green Plains Inc.	NasdaqGS:GPPE	-13.8%	50.4%	\$24.00	80.4%	928	805	1,849	3,411	180	0.5x	0.5x	0.5x	10.3x	6.6x	6.0x	5.3%
8point3 Energy Partners LP	NasdaqGS:CAFD	6.1%	-6.3%	13.77	79.4%	387	372	1,367	61	47	22.3x	20.3x	13.3x	28.9x	12.2x	10.3x	77.3%
Pacific Ethanol, Inc.	NasdaqCM:PEIX	-28.9%	44.2%	6.75	61.6%	293	131	454	1,625	58	0.3x	0.3x	0.2x	7.9x	15.5x	17.1x	3.6%
Renewable Energy Group, Inc.	NasdaqGS:REGI	4.6%	7.5%	10.15	95.8%	391	145	540	2,041	98	0.3x	0.3x	0.3x	5.5x	5.5x	6.5x	4.8%
Synthesis Energy Systems, Inc.	NasdaqGM:SYMXX	-16.2%	-25.1%	0.84	57.8%	73	-9	63	6	-13	11.0x	NA	NA	NM	NA	NA	NM
Vivint Solar, Inc.	NYSE:VSLR	9.8%	5.7%	2.80	69.0%	309	671	1,220	135	-117	9.0x	4.6x	3.6x	NM	NM	NM	NM

Mean	7.2x	5.2x	3.6x	13.1x	10.0x	10.0x	22.7%
Median	4.8x	0.5x	0.5x	9.1x	9.4x	8.4x	5.0%

### Utilities Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	LTM		EV/REVENUE			EV/EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	
Valener Inc	TSX:VNR	3.7%	6.2%	\$21.74	93.4%	842	89	1,029	69	0	14.9x	NA	NA	NA	13.9x	NA	0.0%
Spark Energy, Inc.	NasdaqGS:SPKE	4.3%	75.6%	31.60	88.7%	205	52	350	547	114	0.6x	0.6x	0.5x	3.1x	3.6x	3.4x	20.8%
Genie Energy Ltd.	NYSE:GNE	23.3%	-6.8%	7.09	83.6%	175	-34	144	212	10	0.7x	NA	NA	14.3x	NA	NA	4.7%
Chesapeake Utilities Corporation	NYSE:CPK	3.4%	9.9%	69.20	97.9%	1,130	355	1,485	499	123	3.0x	2.8x	2.6x	12.0x	11.4x	9.9x	24.7%
Delta Natural Gas Company, Inc.	NasdaqGS:DGAS	3.5%	31.1%	30.36	97.0%	217	42	258	67	19	3.9x	NA	NA	13.6x	NA	NA	28.6%
Gas Natural Inc.	AMEX:EGAS	0.4%	61.3%	12.60	98.1%	133	63	195	99	10	2.0x	1.6x	NA	20.0x	11.3x	NA	9.8%

Mean	4.2x	1.7x	1.6x	12.6x	10.0x	6.7x	14.8%
Median	2.5x	1.6x	1.6x	13.6x	11.3x	6.7x	15.3%

Source: Capital IQ

VOLUME 1, ISSUE 1 | APRIL 2017



# POWER GENERATION

## COMPARABLE TABLES

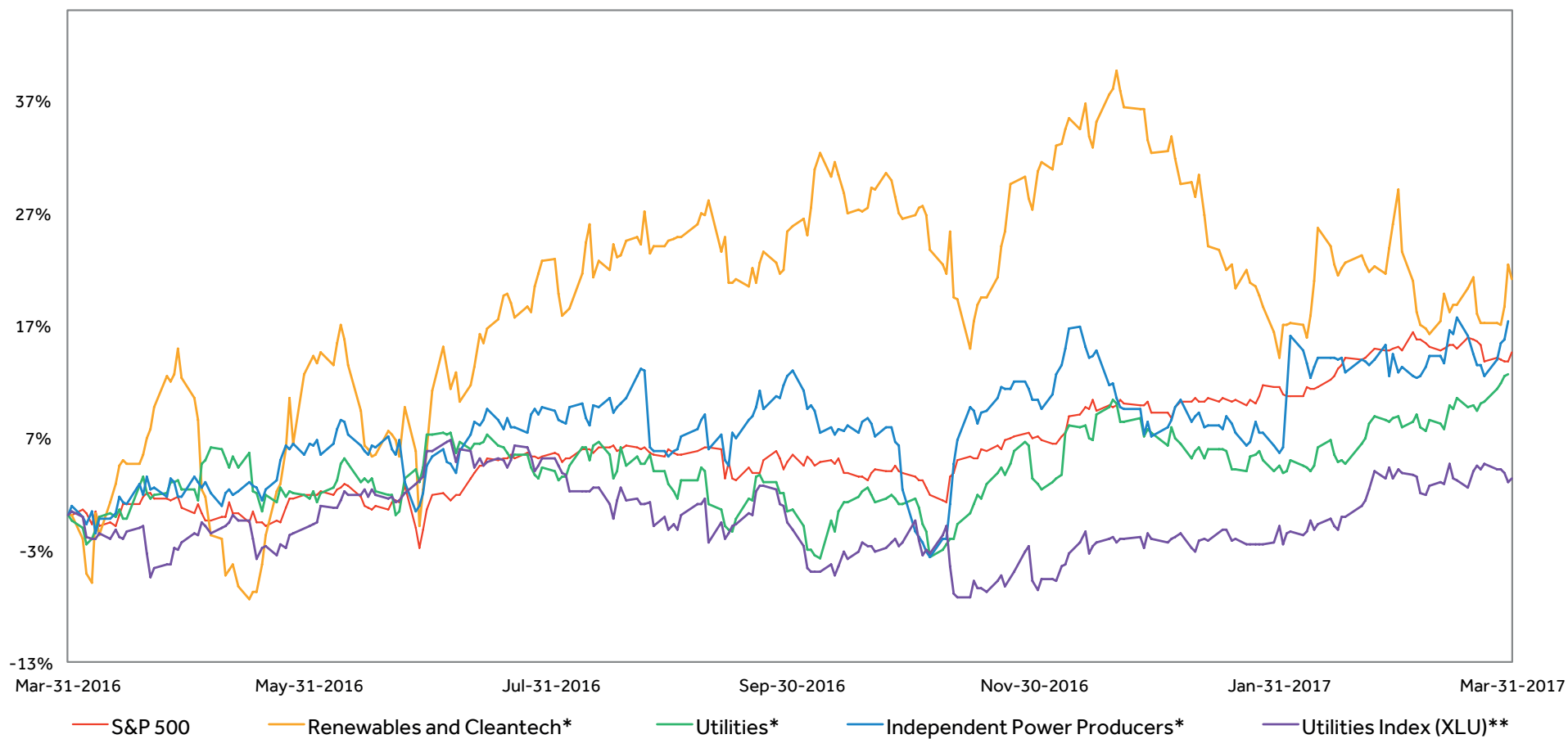
### Independent Power Producers Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	LTM		EV/REVENUE			EV/EBITDA			EBITDA MARGIN	
		3-MONTH	12-MONTH						REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E		
Transeastern Power Trust	TSXV:TEP.UN	39.5%	-29.0%	\$0.53	70.1%	26	63	89	2	2	54.0x	NA	NA	36.9x	NA	NA	146.5%	
Synex International Inc.	TSX:SXI	2.3%	10.0%	0.44	97.8%	15	16	31	4	2	7.7x	NA	NA	18.1x	NA	NA	42.7%	
Atlantic Power Corporation	TSX:ATP	1.8%	7.8%	3.44	93.7%	394	876	1,868	399	154	3.5x	3.1x	3.4x	12.2x	6.1x	NM	38.5%	
Maxim Power Corp.	TSX:MXG	-8.5%	-8.5%	2.70	72.2%	147	-15	132	6	-23	20.3x	11.2x	8.3x	NM	NM	87.7x	NM	
Etrion Corporation	TSX:ETX	5.4%	-4.8%	0.30	72.8%	99	252	395	15	0	19.3x	11.8x	9.9x	NM	29.0x	17.4x	-0.5%	
U.S. Geothermal Inc.	AMEX:HTM	1.0%	2.0%	4.13	76.5%	79	93	198	31	15	6.3x	6.1x	5.4x	13.1x	11.2x	9.5x	48.0%	
											Mean	18.5x	8.0x	6.8x	20.1x	15.4x	30.4x	55.0%
											Median	13.5x	8.7x	6.8x	15.6x	11.2x	13.5x	42.7%



## POWER GENERATION LTM EQUITY PERFORMANCE

(NOBLE INDEX SELECTION)



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\*\* Utilities Select Sector SPDR ETF (refer to disclosure section for more information)

Source: Capital IQ

VOLUME 1, ISSUE 1 | APRIL 2017



## POWER GENERATION LTM GLOBAL M&A ACTIVITY

DATE	BUYER	TARGET	TV (\$M)	EV / EBITDA	EV / REVENUE
01/25/2017	Fiera Infrastructure	Cedar Point II	222.32	-	-
01/13/2017	UK Green Investment Bank	Lincs Wind Farm Limited	890.56	-	-
12/26/2016	Oita Mega Solar	Oita Solar Power Corporation	341.65	-	10.2x
12/23/2016	Enea AB	ENGIE Energia Polska	299.18	-	-
12/06/2016	BRKB, Private Equity Arm	Mantiqueira Transmissora de Energia	930.85	-	-
10/31/2016	3i Infrastructure plc	Infinis	650.1	5.1x	2.9x
10/29/2016	Enel Américas	Endesa Américas	1,439.01	6.2x	3.4x
10/17/2016	Abu Dhabi Investment Authority	Scotia Gas Networks Limited	756.78	12.2x	7.4x
10/10/2016	China Three Gorges (Luxembourg) Energy	Duke Energy International Brazil Holdings	1,200.0	-	-
10/09/2016	Calpine Corporation	Noble Americas Energy Solutions	1,048.0	-	-
09/23/2016	IFM Investors Pty	Ausgrid	11,799.61	16.8x	8.1x
08/09/2016	NRG Yield Operating	CVSR Holdco	574.5	-	-
07/27/2016	Endesa Generación	Endesa Renovables	1,327.03	-	-
07/22/2016	Brookfield Colombia Investments	Isagen	625.21	18.4x	4.8x
07/05/2016	Inversiones Apalta	Gasco	737.16	6.3x	1.2x
07/01/2016	State Grid International Development Co.	CPFL Energia	1,803.22	10.4x	2.3x
06/16/2016	CMS Energy Brasil	AES Sul Distribuidora Gaúcha de Energia	831.13	10.9x	0.9x
06/13/2016	China Three Gorges Corporation	WindMW GmbH	1,800.0	-	-
06/03/2016	C/R Energy Jade	Talen Energy Corporation	5,483.68	4.6x	1.3x
05/30/2016	Capital Stage AG	CHORUS Clean Energy AG	750.76	14.5x	10.1x
05/27/2016	Beacon Electric Asset Holdings, Inc.	Global Business Power Corporation	473.33	-	-
05/16/2016	OOO Telmamskaya GES	Irkutsk Public Joint Stock Company	1,070.58	9.0x	1.8x
05/10/2016	Energinet.dk	DONG Gas Distribution A/S	352.07	6.4x	-
04/26/2016	Spire Inc.	EnergySouth	390.0	-	-
04/20/2016	GIC Pte.	ITC Holdings Corp.	1,219.59	15.0x	10.2x
04/06/2016	SALA Corporation	Chubu Gas Co.	419.66	7.5x	1.1x
03/29/2016	I Squared Capital Advisors	Viridian Group Holdings Limited	1,119.01	-	0.5x
03/15/2016	Brookfield Asset Management Inc.	Isagen	968.06	16.4x	4.7x
02/09/2016	Fortis Inc.	ITC Holdings Corp.	11,478.35	16.4x	11.0x
02/09/2016	Liberty Utilities (Central) Co.	The Empire District Electric Company	2,398.51	10.9x	4.0x
02/05/2016	BlackRock	GLID Wind Farms TopCo Limited	612.42	-	-
02/01/2016	Dominion Resources	Dominion Questar Corporation	6,114.88	9.7x	5.4x
01/20/2016	Irving Infrastructure Corp.	Capstone Infrastructure Corporation	1,479.91	12.7x	6.1x
01/13/2016	Brookfield Colombia Investments	Isagen	3,169.76	12.8x	5.2x
Mean			1,905.2	11.1x	4.9x

Source: Capital IQ

VOLUME 1, ISSUE 1 | APRIL 2017

# ENERGY SERVICES

## COMPARABLE TABLES

### Machinery and Equipment Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	LTM		EV/REVENUE			EV/EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	
Forum Energy Technologies, Inc.	NYSE:FET	-8.0%	53.4%	\$20.25	77.1%	1,946	162	2,109	588	-66	3.6x	2.8x	2.1x	NM	NM	14.1x	-11.1%
Dril-Quip, Inc.	NYSE:DRQ	-10.3%	-11.1%	53.85	77.6%	2,036	-423	1,612	539	149	3.0x	4.1x	3.5x	10.8x	36.4x	21.4x	27.7%
Secure Energy Services Inc.	TSX:SES	-16.1%	19.2%	9.83	81.6%	1,595	214	1,809	1,410	72	1.3x	0.9x	0.8x	25.1x	12.3x	9.2x	5.1%
Helix Energy Solutions Group, Inc.	NYSE:HLX	-14.5%	34.6%	7.54	63.5%	1,113	270	1,383	488	81	2.8x	2.4x	1.9x	17.1x	10.6x	6.9x	16.6%
Archrock, Inc.	NYSE:AROC	-9.1%	50.0%	12.00	73.2%	847	1,442	2,255	807	313	2.8x	2.9x	2.6x	7.2x	7.8x	6.7x	38.7%
Tesco Corporation	NasdaqGS:TESO	-3.6%	-7.7%	7.95	81.4%	371	-95	277	135	-42	2.1x	1.7x	1.2x	NM	NM	14.3x	-31.3%

Mean	2.6x	2.4x	2.0x	15.1x	23.6x	12.1x	7.6%
Median	2.8x	2.6x	2.0x	14.0x	12.3x	11.7x	10.8%

### Oilfield Services Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	LTM		EV/REVENUE			EV/EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	
Canyon Services Group Inc.	TSX:FRC	-6.8%	78.0%	\$6.55	86.4%	566	28	593	240	-32	2.5x	1.4x	1.1x	NM	17.0x	6.9x	-13.3%
Newpark Resources, Inc.	NYSE:NR	6.7%	85.2%	8.00	91.4%	678	68	746	471	-11	1.6x	1.2x	0.9x	NM	15.4x	7.7x	-2.3%
ION Geophysical Corporation	NYSE:IO	-20.8%	-41.2%	4.75	49.2%	56	106	163	173	15	0.9x	NA	NA	11.2x	NA	NA	8.4%
Geospace Technologies Corporation	NasdaqGS:GEOS	-21.1%	30.1%	16.06	65.9%	216	-38	178	64	-32	2.8x	2.9x	NA	NM	NM	NA	-50.5%
Tidewater Inc.	NYSE:TDW	-70.1%	-85.1%	1.02	10.9%	48	1,374	1,430	625	61	2.3x	3.0x	2.5x	23.6x	NM	28.2x	9.7%
Hornbeck Offshore Services, Inc.	NYSE:HOS	-39.8%	-56.2%	4.35	34.6%	159	867	1,025	224	49	4.6x	6.2x	5.0x	20.8x	NM	NM	22.0%

Mean	2.4x	2.9x	2.4x	18.5x	32.1x	28.0x	-4.3%
Median	2.4x	2.9x	1.8x	20.8x	17.0x	17.9x	3.1%

Source: Capital IQ

VOLUME 1, ISSUE 1 | APRIL 2017



# ENERGY SERVICES

## COMPARABLE TABLES

### Drillers Index

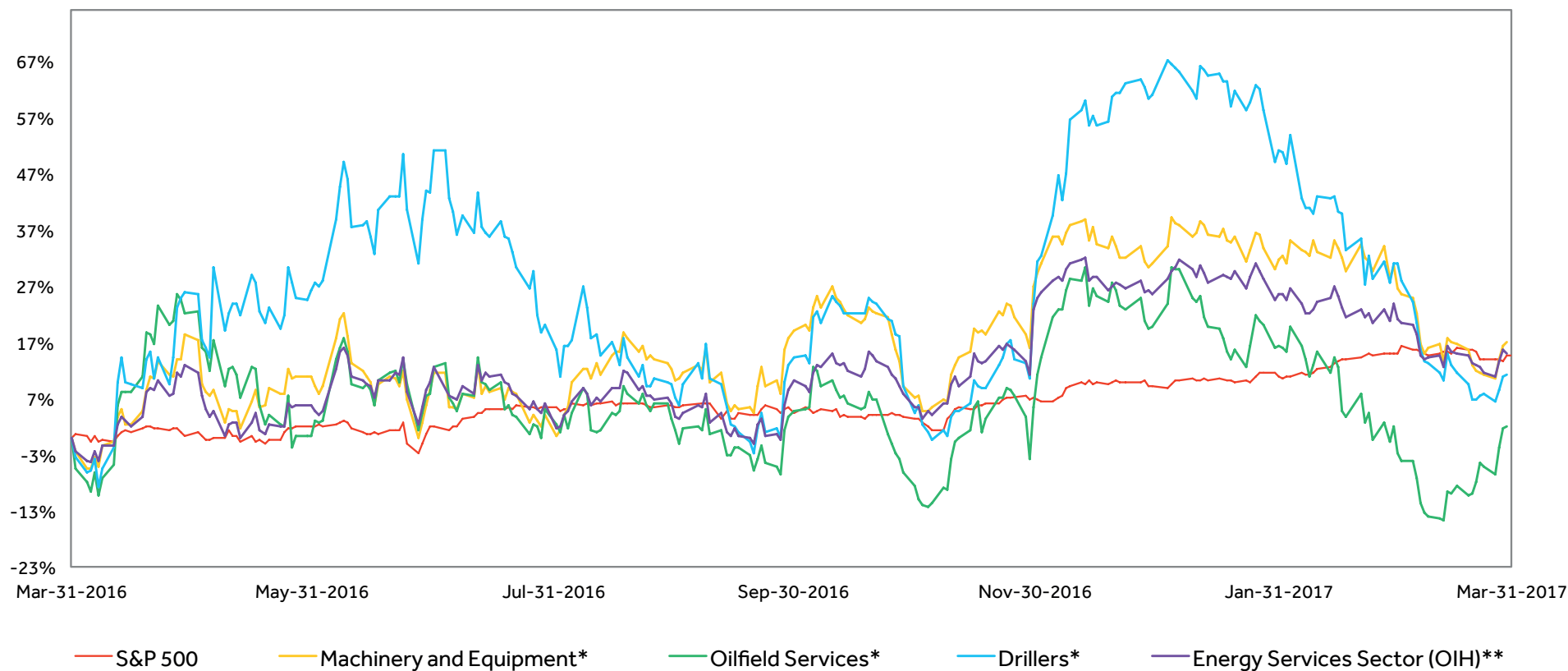
	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	LTM		EV/REVENUE			EV/EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	
Atwood Oceanics, Inc.	NYSE:ATW	-27.7%	3.5%	\$9.49	61.7%	764	1,139	1,902	832	483	2.3x	4.2x	3.9x	NM	15.5x	19.7x	58.1%
Pioneer Energy Services Corp.	NYSE:PES	-43.8%	75.0%	3.85	53.5%	298	329	627	277	12	2.3x	1.5x	1.1x	NM	11.4x	5.4x	4.3%
Savanna Energy Services Corp.	TSX:SVY	-8.1%	43.0%	1.93	86.2%	228	228	465	324	49	1.4x	1.0x	0.9x	9.5x	7.4x	5.7x	15.1%
Parker Drilling Company	NYSE:PKD	-34.6%	-19.8%	1.70	53.8%	233	457	690	427	31	1.6x	1.4x	1.0x	22.2x	11.9x	5.5x	7.3%
Xtreme Drilling Corp.	TSX:XDC	-23.2%	39.6%	2.15	70.5%	183	-115	68	42	-13	1.6x	0.9x	0.6x	NM	7.4x	2.9x	-31.9%
Paragon Offshore plc	OTCPK:PGNP.Q	-78.7%	-78.7%	0.05	3.8%	4	1,656	1,661	592	184	2.8x	3.2x	4.5x	9.0x	34.6x	NM	31.1%

Mean	2.0x	2.0x	2.0x	19.6x	14.7x	7.9x	14.0%
Median	1.9x	1.4x	1.0x	9.5x	11.6x	5.5x	11.2%



## 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)

Source: Capital IQ

VOLUME 1, ISSUE 1 | APRIL 2017



## ENERGY SERVICES LTM GLOBAL M&A ACTIVITY

DATE	BUYER	TARGET	TV (\$M)	EV / EBITDA	EV / REVENUE
01/17/2017	Subsea 7	Seaway Heavy Lifting Holding Limited	319.0	-	-
12/21/2016	Public Joint Stock Company Rosneft Oil Company	Targin OOO	67.14	-	-
10/26/2016	National Oilwell Varco	Fjords Processing	145.18	10.9x	0.6x
10/17/2016	Dril-Quip	TIW Corporation	142.7	-	-
10/17/2016	Trinity View Sdn Bhd	Yinson Holdings Berhad	87.14	17.0x	11.4x
10/13/2016	CIRCOR International	Critical Flow Solutions Inc.	214.0	8.6x	1.8x
10/10/2016	Haimo Technologies Group Corp.	Xi'An Sitan Instruments Co.	33.14	-	-
10/03/2016	Emerson Electric Co.	Permasense Limited	52.1	-	-
08/28/2016	Tercel Oilfield Products	Logan International Inc.	95.75	-	1.8x
08/23/2016	Sembcorp Marine	PPL Shipyard Pte	115.06	-	-
08/10/2016	Hi-Crush Partners	Hi-Crush Blair	179.87	-	-
08/02/2016	U.S. Silica Holdings	Sandbox Enterprises	212.47	-	-
08/01/2016	Transocean Ltd.	Transocean Partners	267.23	4.4x	2.6x
07/28/2016	Solstad Offshore	Rem Offshore	497.75	7.7x	3.5x
07/01/2016	PetroFirst Infrastructure 2 Limited	PV Keez Pte. Ltd.	166.35	-	-
06/10/2016	Nippon Yusen Kabushiki Kaisha	EMAS CHIYODA Subsea Limited	93.5	-	-
05/19/2016	Technip SA	FMC Technologies	7,836.19	8.4x	1.2x
05/19/2016	Robit Oyj	Drilling Tools Australia	47.51	-	1.9x
05/16/2016	Hong Kong HuiHua Global Technology	Anton Oilfield Services DMCC	107.28	-	3.1x
04/22/2016	Consilium AB	Micropack (Engineering)	27.32	-	-
02/17/2016	Yokogawa Electric Corporation	KBC Advanced Technologies plc	248.37	14.0x	2.1x
02/15/2016	Genesis Energy	Deepwater Gateway	25.0	-	-
02/10/2016	Exor N.V.	Welltec A/S	115.89	9.0x	3.5x
02/08/2016	Bonheur	Ganger Rolf	61.95	-	-
02/03/2016	Vallourec Tubes	Anhui Tianda Oil Pipe Company Limited	64.94	33.8x	0.6x
<b>Mean</b>			<b>448.91</b>	<b>12.7x</b>	<b>2.8x</b>

Source: Capital IQ

VOLUME 1, ISSUE 1 | APRIL 2017

# MINERAL ENERGY

## COMPARABLE TABLES

### Coal Miners Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	LTM		EV/REVENUE			EV/EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	
Foresight Energy LP	NYSE:FELP	1.1%	483.9%	\$6.54	78.5%	920	1,479	2,399	876	167	2.7x	2.6x	2.6x	14.4x	7.7x	8.5x	19.0%
CNX Coal Resources LP	NYSE:CNXC	-9.6%	129.8%	16.50	74.0%	385	188	655	279	77	2.3x	2.1x	1.9x	8.5x	6.4x	5.4x	27.4%
Cloud Peak Energy Inc.	NYSE:CLD	-18.5%	134.4%	4.57	56.9%	343	399	742	772	110	1.0x	0.8x	0.7x	6.7x	6.9x	7.0x	14.3%
Westmoreland Coal Company	NasdaqGM:WLB	-16.9%	103.6%	14.68	73.7%	273	1,049	1,320	1,478	257	0.9x	1.0x	1.0x	5.1x	4.5x	5.3x	17.4%
Corsa Coal Corp.	TSXV:CSO	-32.5%	50.0%	2.10	55.0%	199	17	267	97	-8	2.0x	0.9x	0.7x	NM	3.0x	2.7x	-7.8%
Paringa Resources Limited	ASX:PNL	44.8%	215.0%	0.63	95.5%	135	-11	124	0	-5	NM	21.3x	3.1x	NM	NM	11.5x	NM

Mean	1.8x	4.8x	1.7x	8.7x	5.7x	6.7x	14.1%
Median	2.0x	1.6x	1.5x	7.6x	6.4x	6.2x	17.4%

### Uranium Miners Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	LTM		EV/REVENUE			EV/EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	
Energy Fuels Inc.	TSX:EFR	29.0%	-1.0%	\$2.85	78.1%	200	13	222	55	-33	3.0x	5.8x	1.7x	NM	NM	10.9x	-59.7%
UR-Energy Inc.	AMEX:URG	25.4%	32.5%	0.67	73.2%	119	22	161	27	9	4.4x	NA	NA	17.9x	NA	NA	32.9%
UEX Corporation	TSX:UEX	26.5%	44.2%	0.31	72.9%	99	-4	95	0	-6	NM	NA	NA	NM	NA	NA	NM
Centrus Energy Corp.	AMEX:LEU	-10.3%	26.8%	5.72	60.5%	51	-27	25	311	-48	0.1x	NA	NA	NM	NA	NA	-15.5%
Uranium Resources, Inc.	NasdaqCM:URRE	29.9%	-30.5%	1.78	44.5%	44	2	46	0	-11	NM	NA	NA	NM	NA	NA	NM
Laramide Resources Ltd.	TSX:LAM	100.0%	141.7%	0.58	78.4%	54	1	66	0	-1	NM	NA	NA	NM	NM	NM	NM

Mean	1.3x	5.8x	1.7x	17.9x	NM	NM	-14.1%
Median	0.0x	5.8x	1.7x	17.9x	NM	NM	-15.5%

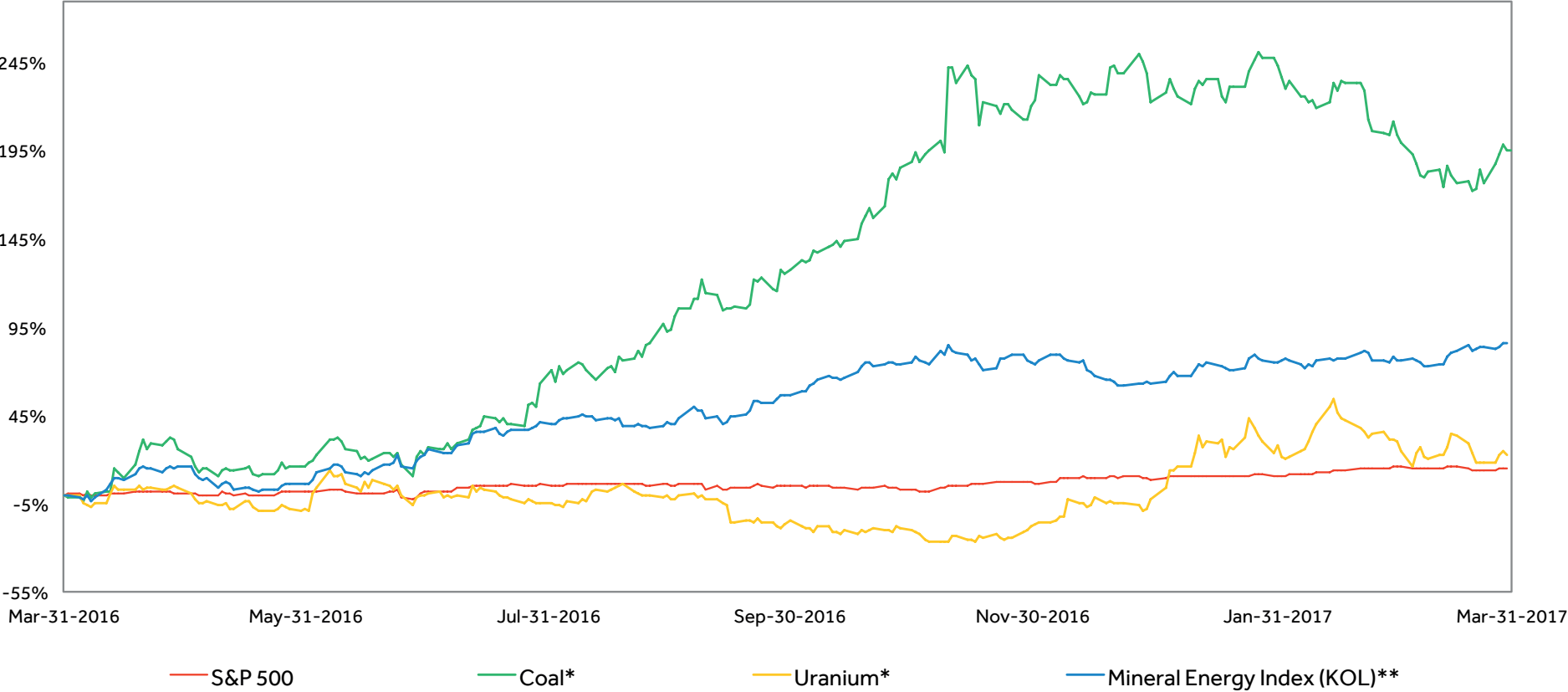
Source: Capital IQ

VOLUME 1, ISSUE 1 | APRIL 2017



# 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 LTM GLOBAL M&A ACTIVITY

DATE	BUYER	TARGET	TV (\$M)	EV / EBITDA	EV / REVENUE
01/11/2017	Voyage Wisdom Limited	SouthGobi Resources	24.04	-	8.7x
12/23/2016	Joint Stock Company Atomic Energy Power Corporation	OJSC Sibirsky Khimichesky Kombinat	-	-	-
12/14/2016	Collines Investments	Deep Yellow Limited	1.94	-	-
08/30/2016	Smart Alliance Ltd; Oceanpro Investments Limited	PT. Fajar Bumi Sakti	90.0	-	-
08/04/2016	Atrum Coal Limited	Atlantic Carbon Group plc	6.02	5.0x	1.9x
07/29/2016	AssetOwl Limited	Regalpoint Resources Limited	-	-	-
06/29/2016	Agencja Rozwoju Przemyslu	Walbrzyskie Zaklady Koksownicze Victoria	87.92	-	-
05/31/2016	Atlantic Carbon Group	Hazleton Shaft Corporation	25.0	-	-
04/28/2016	JSC ARMZ Uranium Holding Co.	Uranium One Holding	-	-	-
<b>Mean</b>			<b>39.15</b>	<b>5.0x</b>	<b>5.3x</b>

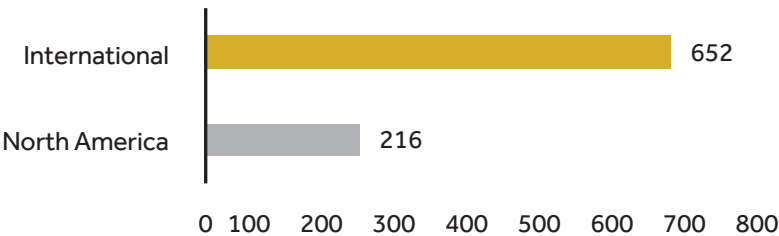
Source: Capital IQ

VOLUME 1, ISSUE 1 | APRIL 2017

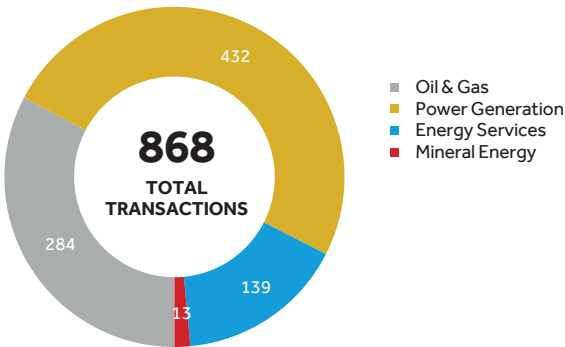


# LTM ENERGY INDUSTRY M&A SUMMARY

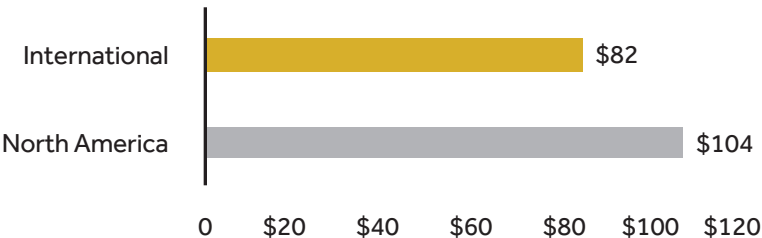
**NORTH AMERICA VS. INTERNATIONAL**  
**TOTAL TRANSACTIONS** (Number of transactions)



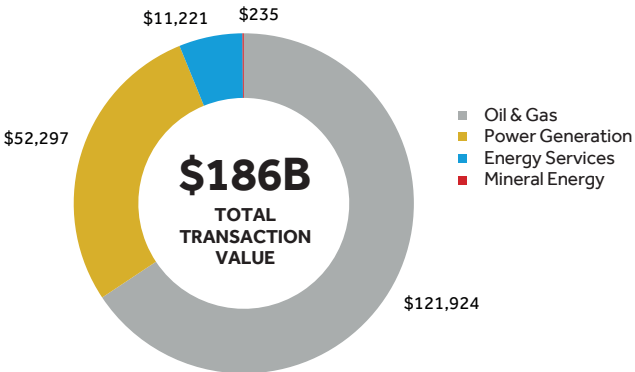
**TOTAL TRANSACTIONS** (Number of transactions)



**NORTH AMERICA VS. INTERNATIONAL**  
**TOTAL TRANSACTION VALUE** (\$B USD)



**TOTAL TRANSACTION VALUE** (\$B USD)



Source: Capital IQ (Based on Available Data)



# NOBLE QUARTERLY HIGHLIGHTS

## SYNTHESIS ENERGY SYSTEMS

Synthesis Energy Systems, Inc., an energy and gasification technology company with global presence. SES Gasification Technology (SGT) produces synthesis gas, or “syngas”, a clean and versatile source of energy. SGT proprietary technology produces clean syngas from a wide variety of natural and renewable resources. It currently has a based 12 commercial SGT systems.

### LATEST NEWS:

- Announced that now closer than ever, Synthesis Energy Systems is in the midst of forming financially impactful business platforms, all of which made possible by the successful multi-year commercialization of their technology – 02/17



## CORNING NATURAL GAS CORPORATION

Corning Natural Gas is a local distribution company with nearly 450 miles of mains that sells or transports natural gas to approximately 15,000 customers. Gas deliveries are made across 23 towns and villages, over 400 square miles, throughout the Southern Tier and central regions of New York State.

### LATEST NEWS:

- Purchased Pike County Light & Power to join Corning Natural Gas Corp. and Leatherstock Gas, in a 50% partnership with Mirabito Holding Corporation. In addition, Corning entered into a RCF with M&T Bank - 08/16



## INTERENERGY

InterEnergy Holdings owns and operates power generation and distribution assets, and fuel logistics businesses in Latin America and the Caribbean. The company operates wind farms, combined-cycle diesel fired plants, power barges, and an onshore plant; supplies electricity to the hotel and resort area in the Dominican Republic, Punta Cana, and Bávaro; and engages in the logistics and distribution of LNG to industrial users.

### LATEST NEWS:

- InterEnergy acquired a 55% ownership in a 55MW diesel plant Panama and a 100% interest in a 190 MW of diesel plant in Jamaica. In addition they are in their final stages of converting 100mw combined cycle plant to natural gas - 08/15



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

# 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, media 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.

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

## 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









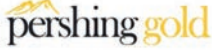





### DEBT CAPITAL MARKETS

- Senior Debt
- Mezzanine
- Convertible Debt
- Bridge Financings

### ADVISORY SERVICES

- Merger & Acquisitions
- Fairness Opinions
- Valuation Services

## SELECT NATURAL RESOURCES TRANSACTIONS

 <b>Advisory</b> Corporate Advisory  February 2017	 <b>Advisory</b> Corporate Advisory  January 2017	 <b>\$800,000</b> Private Placement of Registered Securities Sole Placement Agent  March 2016	 <b>\$4,600,000</b> Initial Public Offering (IPO) Lead Underwriter  November 2015	 <b>\$11,500,000</b> Private Placement Sole Placement Agent  April 2015	 <b>\$5,000,000</b> Private Placement of Registered Securities Sole Placement Agent  February 2014	 <b>\$57,500,000</b> Follow-on Offering Co-Manager  December 2013
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$$R + (e^2 + p^2) = \pi$$

## 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.

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

## NATURAL RESOURCE IB TEAM

### Richard Giles, Managing Director

rgiles@noblecapitalmarkets - 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.

### Stevan Grubic, Director- Valuation Services

sgrubic@noblecapitalmarkets - 323.578.4936

- 15 years of middle-market investment banking experience
- Expertise in valuations, including business valuations, fairness opinions, litigation, and valuations for financial and tax reporting purposes (ASC805, ASC350, 123R, 409A).
- Accredited Senior Appraiser with the American Society of Appraisers (ASA) and has completed over 100 valuation engagements representing well over \$1.0 billion in asset values.
- Prior experience includes Orion Valuation Group, Singer Lewak, B. Riley & Co., L.H. Friend Weinress, Frankson & Presson and North American Capital Partners.

### Francisco Penafiel, Vice President

fpenafiel@noblecapitalmarkets - 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, Investment Banking

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- 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
- Main focus in the QSR, financial institutions and energy sectors
- Managed corporate finance and recoveries division at PricewaterhouseCoopers (PwC)

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- Prior experience holding senior positions at Robotti & Company, Wynston Hill Capital, SternAegis Ventures, WestPark Capital, and Tejas Securities
- Experience working with institutional, retail and HNW clients
- B.S. SUNY Albany with concentration in Biology, Chemistry, and Physics
- Holds various Finra licenses

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- Joined Noble Capital Markets as an Investment Banking Analyst in 2016
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$$R + (e^2 + p^2) = \pi$$

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