

Energy of Last Resort

Summary and Recommendation

After more than 50 years of analyzing energy, we think that the economic and strategic outlook for oil and gas may be better than it has ever been. Abundant supply at low cost along with comparative safety and comparative environmental advantage appear to strengthen the competitive position against other fuels, including coal, nuclear, hydro, biomass, wind and solar in declining order of current economic importance. Though there has always been political tension between consuming states and producing states, oil and gas have continually adapted to political threats. More recently cheap prices for oil and gas are undercutting the rationale for subsidies and carbon taxes to justify otherwise uneconomic alternatives. Consumers seem to be increasingly opposing taxes and penalties to promote energy sources whose theoretical advantage may never be proven except over many decades, if then.

At the same time, volatility complicates the near-term outlook. A rising trend in interest rates is contradicted by recent declines in nominal and real rates as well as in inflation expectations (see chart [U.S. Ten-Year Interest and Inflation](#) on page 2). More dramatically, prices for crude oil and natural gas have diverged sharply (see chart [U.S. Crude Oil and Natural Gas Price](#) on page 2). The inventory picture supports the opposing fuel price trends.

Natural gas inventories are dramatically lower than in the past five years (see chart [Working Gas in Underground Storage](#) on page 3). Though production is strong, it is already up 20% in four years. Odds look higher than normal that cold weather demand stresses the combination of production and withdrawals from storage (see chart [Supply/Demand](#) on page 3). Moreover, EIA projects that LNG export capacity will expand by 1.3 Bcf/day this month and another 4 Bcf/day next year. Natural gas stocks do not seem to have responded much to natural gas price yet.

In contrast, oil inventories above the five-year range present a less favorable picture for price (see chart [U.S. Crude Oil Stocks](#) on page 4). A steep increase in U.S. production exceeded short-term demand (see chart [U.S. Crude Oil Production](#) on page 4). A similar situation developed overseas when production was increased to meet a shortfall in exports from Iran, which did not materialize.

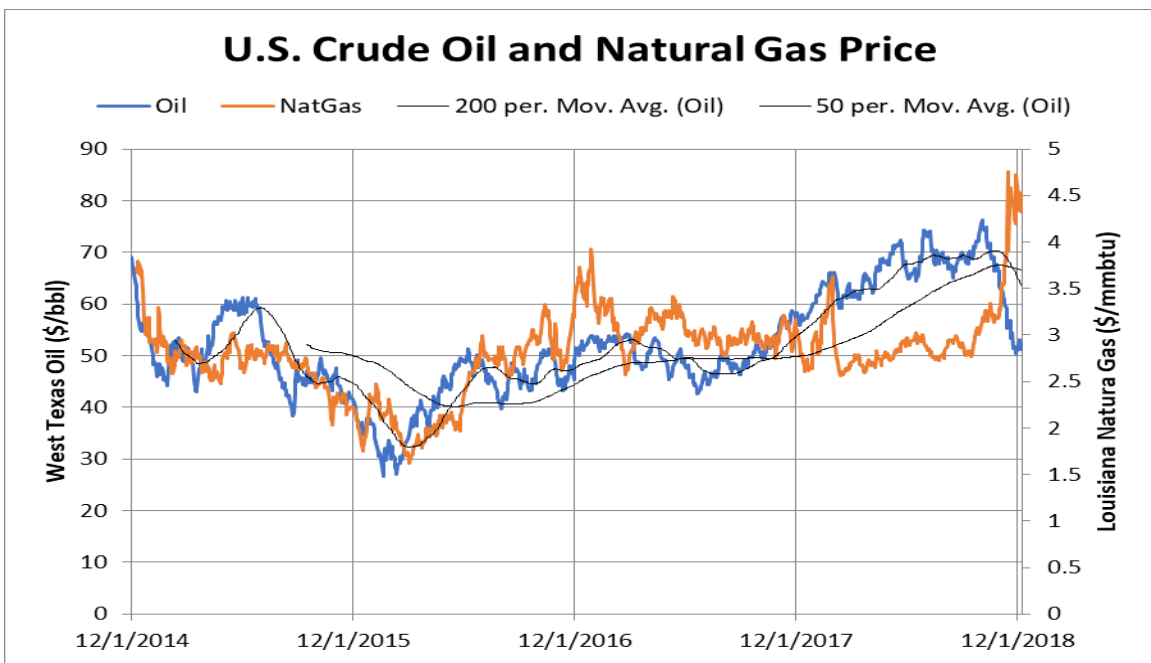
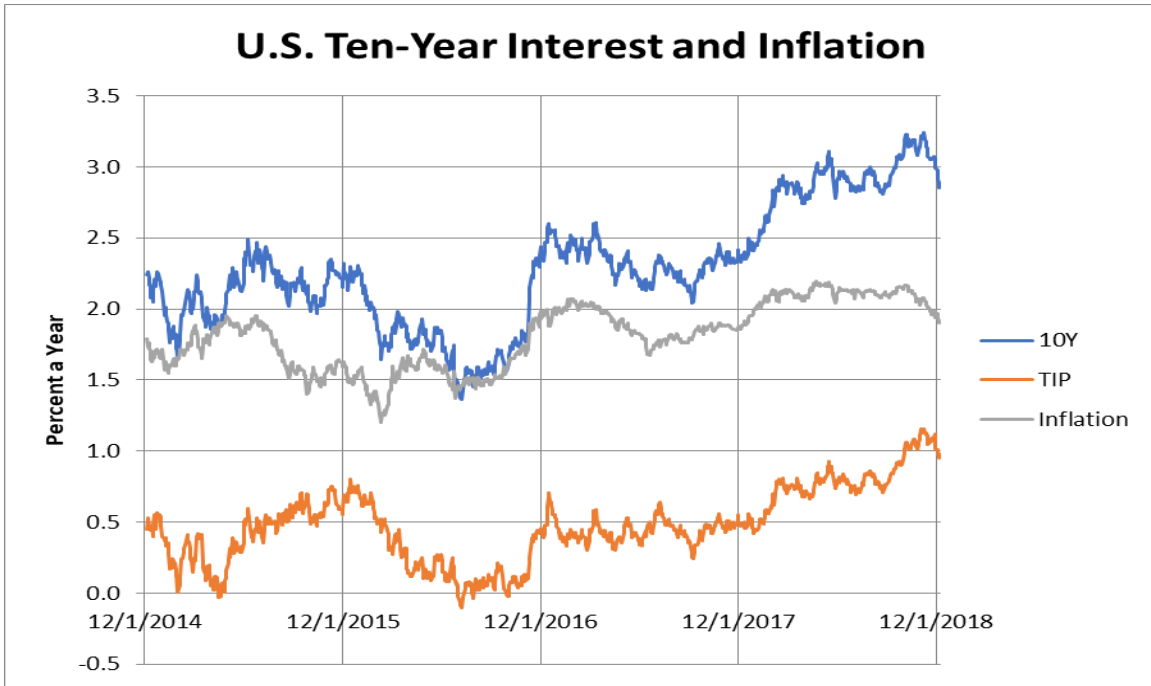
We advocate sticking to a plan that includes oil and gas in a diversified portfolio. Most of our stocks can contribute positively to long-term performance results (see [Tables 1-4](#) on pages 5-8). Past analyses provide more detail (see [Index of Recent Research](#) on page 9).

Kurt H. Wulff, CFA

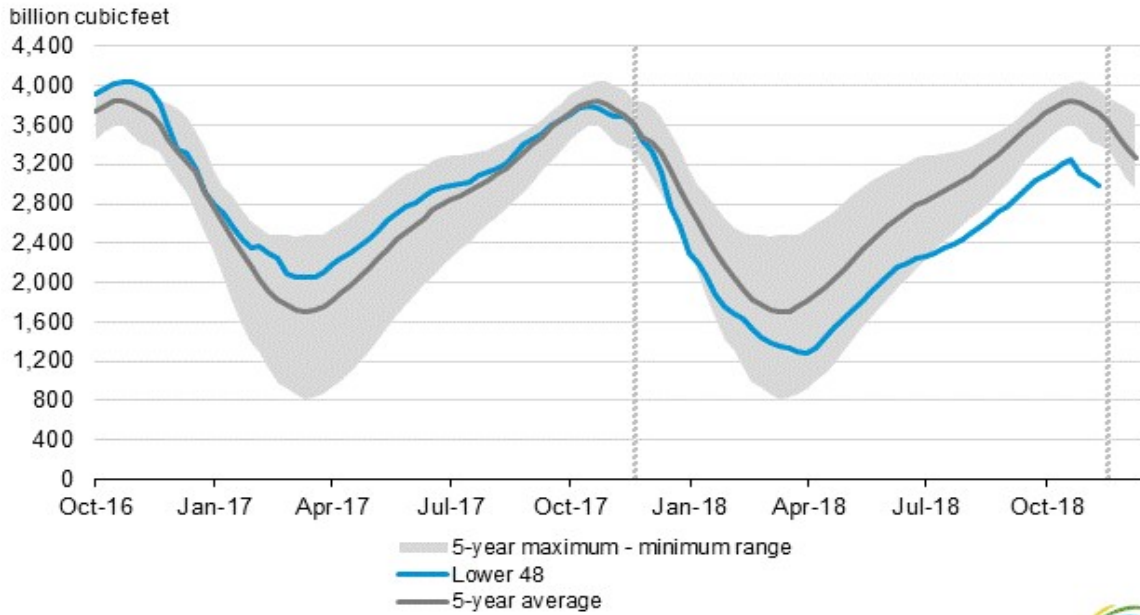


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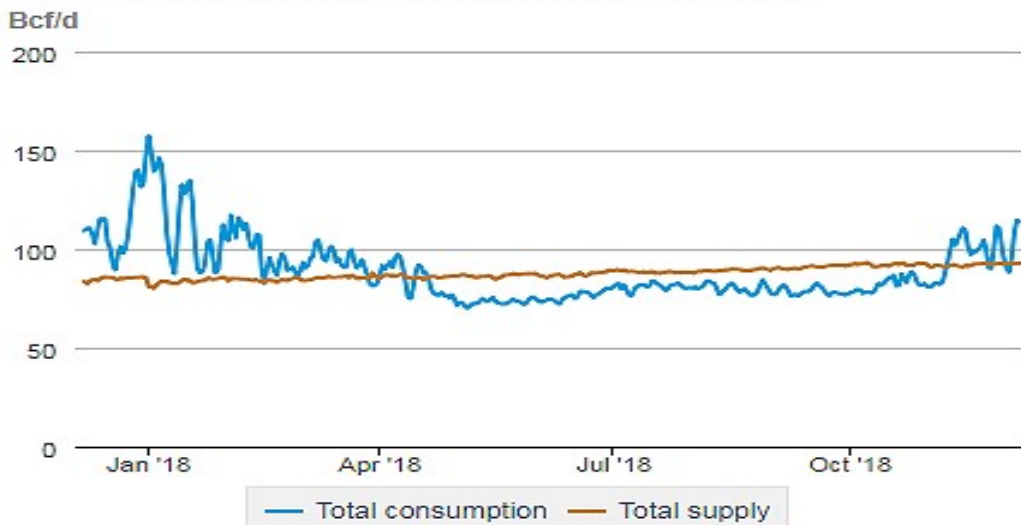
Working gas in underground storage compared with the 5-year maximum and minimum



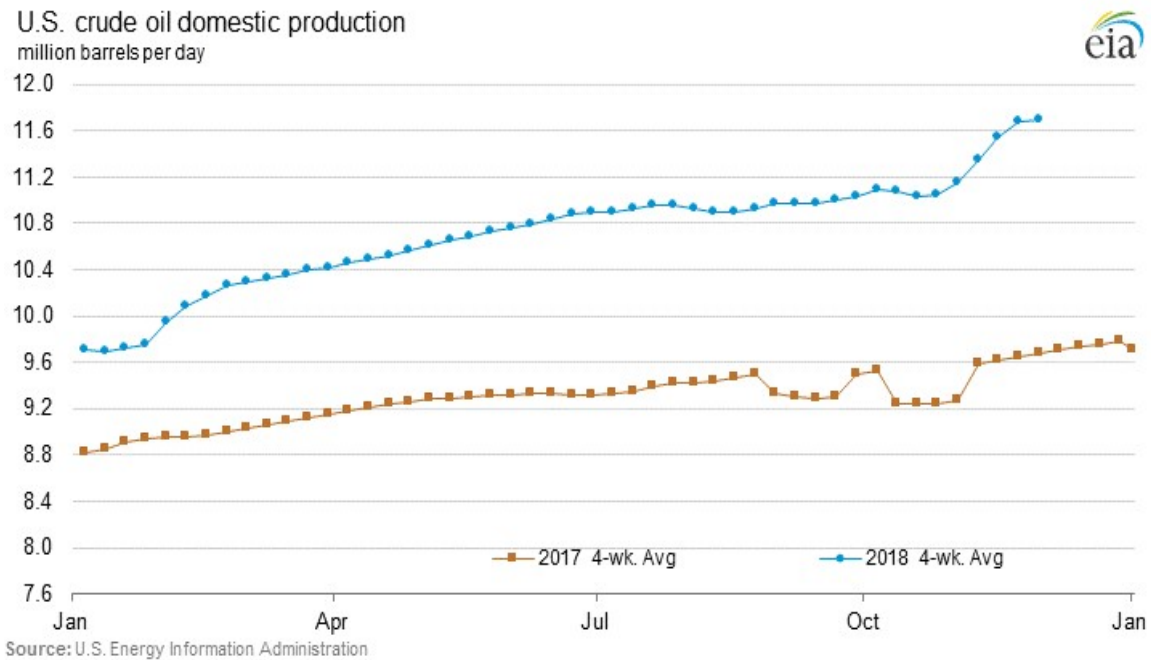
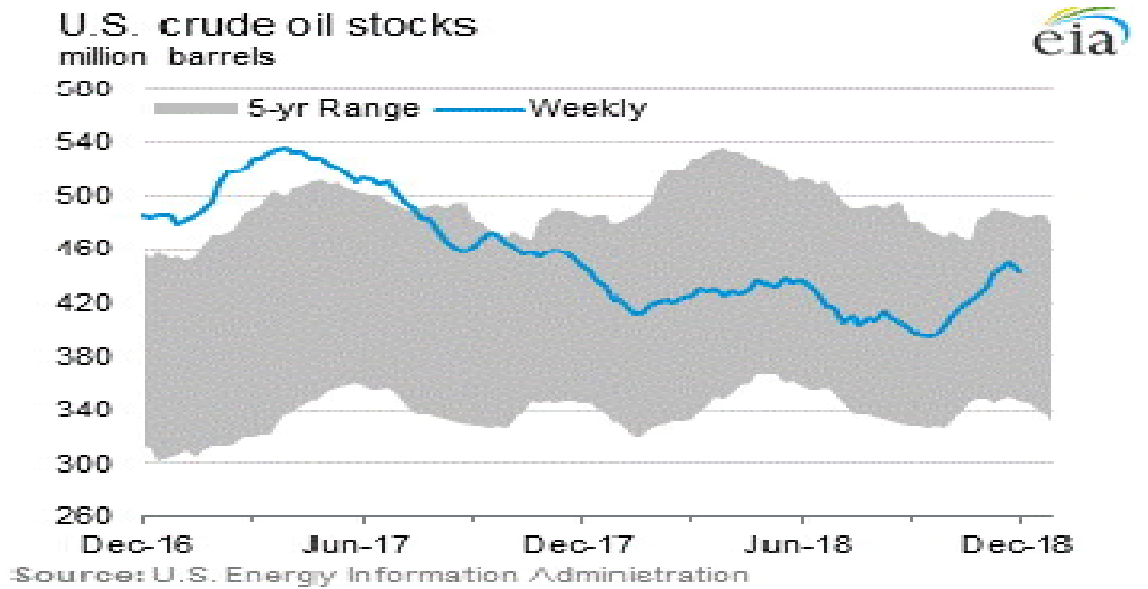
Source: U.S. Energy Information Administration



Total supply/demand balance (last 365 days)



Source: OPIS PointLogic Energy, an IHS Company





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Table 1
McDep Energy Stocks
Ranked by McDep Ratio

		Price (US\$/sh)	Market Cap (US\$mm)	Enterprise Value (\$mm)	EV/ Market Cap	EV/ Ebitda NTM	PV/ Ebitda NTM	Oil Prod'n/ Ebitda (%)	Dist. Yield NTM (%)	McDep Ratio (EV/PV)
	Symbol/Rating	10-Dec 2018								
Integrated										
	XOM	76.53	327,000	417,000	1.27	8.6	9.7	44	4.3	0.88
	CVX	114.92	220,000	277,000	1.26	6.9	8.6	57	3.9	0.80
	SU	31.17	51,000	69,000	1.36	7.0	10.1	69	3.5	0.69
	RDS-B	60.07	251,000	357,000	1.42	6.8	10.0	46	6.3	0.68
	<i>Total or Median</i>		<i>849,000</i>	<i>1,120,000</i>	<i>1.32</i>	<i>6.9</i>	<i>9.9</i>	<i>51</i>	<i>4.1</i>	<i>0.75</i>
Large Independent										
	OXY	64.42	49,200	62,200	1.26	7.7	8.7	59	4.8	0.89
	COP	65.21	77,000	97,000	1.27	7.1	8.4	74	1.9	0.85
	EOG	101.70	59,200	65,900	1.11	7.2	9.0	89	0.9	0.80
	PXD	140.56	24,000	26,800	1.12	8.1	11.1	93	0.2	0.73
	<i>Total or Median</i>		<i>209,400</i>	<i>251,900</i>	<i>1.19</i>	<i>7.5</i>	<i>8.9</i>	<i>81</i>	<i>1.4</i>	<i>0.82</i>
Mid-Size Independent										
	HES	51.49	15,300	24,500	1.60	9.7	10.1	89	1.9	0.96
	CLR	45.65	17,100	23,300	1.36	6.1	8.5	79	-	0.72
	XEC	72.39	6,900	8,300	1.20	5.4	9.7	81	1.0	0.56
	DVN	26.26	13,000	19,600	1.51	6.2	11.5	85	1.2	0.54
	MRO	15.30	12,990	19,700	1.52	5.2	10.7	87	1.3	0.48
	<i>Total or Median</i>		<i>65,300</i>	<i>95,400</i>	<i>1.51</i>	<i>6.1</i>	<i>10.1</i>	<i>85</i>	<i>1.2</i>	<i>0.56</i>
Small Independent										
	CRC	20.51	900	7,700	8.7	7.1	10.3	90	-	0.69
	RRC	13.20	3,300	7,900	2.43	6.5	11.9	42	0.6	0.54
	WLL	28.84	2,700	5,800	2.21	4.5	9.5	97	-	0.47
	BIREF	2.42	700	1,300	1.94	4.5	10.7	44	3.1	0.42
	<i>Total or Median</i>		<i>7,600</i>	<i>22,700</i>	<i>2.32</i>	<i>5.5</i>	<i>10.5</i>	<i>67</i>	<i>0.3</i>	<i>0.51</i>
Income										
	SBR	38.24	560	560	1.00	11.7	15.4	68	8.5	0.76
	PBT	6.26	290	290	1.00	10.9	15.7	80	9.3	0.70
	DMLP	16.63	540	540	1.00	8.3	12.0	86	9.4	0.69
	SJT	4.80	220	220	1.00	8.2	13.7	-	10.3	0.60
	CRT	13.84	80	80	1.00	8.1	14.7	39	9.9	0.55
	<i>Total or Median</i>		<i>1,690</i>	<i>1,690</i>	<i>1.00</i>	<i>8.3</i>	<i>14.7</i>	<i>68</i>	<i>9.4</i>	<i>0.69</i>

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation, amort.
 Estimated Ebitda (cash flow) tied to one-year prices of US\$60 a barrel and \$3 a million btu. NTM = Next Twelve Months ending 12/31/19.
 Estimated Present Value (PV) presumes a long-term price for oil of US\$70 a barrel and natural gas, \$4.00 a million btu.
 McDep Ratio = Market cap and Debt to present value of oil and gas and other businesses. For historical research see www.mcdep.com



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	Symbol/Rating	Price	Upstream NTM				Down-	Total	Distrib./ Ebitda (%)	Distrib. NTM (\$/sh)
		(US\$/sh) 10-Dec 2018	Volume (mmboe)	Equiv. Price (\$/boe)	Ebitda Margin (%)	Ebitda (\$/boe)	stream Uplift (\$/boe)	Ebitda NTM (\$mm)		
Integrated										
Royal Dutch Shell	RDS-B	60.07	1390	44.14	59	26.10	11.51	52,274	30	3.76
Exxon Mobil Corporation	XOM	76.53	1446	48.48	44	21.50	12.17	48,687	29	3.28
Chevron Corporation	CVX	114.92	1114	48.87	59	28.90	7.18	40,189	21	4.48
Suncor Energy	SU	31.17	307	52.73	42	22.31	9.93	9,884	18	1.10
	<i>Total or Median</i>		<i>4256</i>	<i>48.68</i>	<i>52</i>	<i>24.20</i>	<i>10.72</i>	<i>44,438</i>	<i>25</i>	
Large Independent										
ConocoPhillips	COP	65.21	496	48.44	57	27.40	0.00	13,595	11	1.22
EOG Resources, Inc.	EOG	101.70	305	42.42	71	29.92	0.00	9,136	6	0.88
Occidental Petroleum Corp.	OXY	64.42	263	40.04	50	20.00	10.71	8,086	29	3.12
Pioneer Natural Resources	PXD	140.56	125	38.78	69	26.60	0.00	3,329	2	0.32
	<i>Total or Median</i>		<i>1190</i>	<i>41.23</i>	<i>63</i>	<i>27.00</i>	<i>0.00</i>	<i>8,611</i>	<i>8</i>	
Mid-Size Independent										
Continental Resources	CLR	45.65	119	40.39	79	32.00	0.00	3,810	-	-
Marathon Oil Corporation	MRO	15.30	162	36.50	64	23.50	0.00	3,800	4	0.20
Devon Energy Corporation	DVN	26.26	203	30.07	52	15.50	0.00	3,143	5	0.32
Hess Corporation	HES	51.49	113	42.54	53	22.50	0.00	2,535	12	1.00
Cimarex Energy Company	XEC	72.39	94	25.86	62	16.10	0.00	1,519	5	0.72
	<i>Total or Median</i>		<i>691</i>	<i>36.50</i>	<i>62</i>	<i>22.50</i>	<i>0.00</i>	<i>3,143</i>	<i>5</i>	
Small Independent										
Whiting Petroleum Corporation	WLL	28.84	49	40.77	66	26.80	0.00	1,308	-	-
Range Resources	RRC	13.20	142	20.25	42	8.60	0.00	1,223	2	0.08
California Resources	CRC	20.51	49	49.40	44	21.80	0.00	1,078	-	-
Birchcliff Energy Ltd.	BIREF	2.42	23	17.72	71	12.50	0.00	284	7	0.08
	<i>Total or Median</i>		<i>263</i>	<i>30.51</i>	<i>55</i>	<i>17.15</i>	<i>0.00</i>	<i>1,151</i>	<i>1</i>	
Income										
Dorchester Minerals, L.P.	DMLP	16.63	2.50	37.11	69	25.73	0.00	64	78	1.56
Sabine Royalty Trust	SBR	38.24	1.98	28.59	84	24.01	0.00	47	100	3.25
San Juan Basin Royalty Trust	SJT	4.80	3.75	14.81	49	7.28	0.00	27	85	0.50
Permian Basin RT	PBT	6.26	1.14	40.47	58	23.48	0.00	27	101	0.58
Cross Timbers Royalty Trust	CRT	13.84	0.40	41.45	62	25.53	0.00	10	80	1.37
	<i>Total or Median</i>		<i>10</i>	<i>37.11</i>	<i>62</i>	<i>24.01</i>	<i>0.00</i>	<i>27</i>	<i>85</i>	
For historical research see www.mcdep.com										



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Table 3
McDep Energy Stocks
Net Present Value Per Share

		<i>Price</i>				<i>Devel.</i>	<i>Undev/</i>	<i>Nat</i>	<i>Top</i>	<i>Net</i>	
		<i>(US\$/sh)</i>				<i>Resrvs/</i>	<i>Devel.</i>	<i>Gas/</i>	<i>Line/</i>	<i>Present</i>	
	<i>Symbol/Rating</i>	<i>10-Dec</i>	<i>Shares</i>	<i>Debt</i>	<i>P/E</i>	<i>Prod</i>	<i>Resrvs</i>	<i>Ebitda</i>	<i>Ebitda</i>	<i>Value</i>	
		<i>2018</i>	<i>(mm)</i>	<i>(\$mm)</i>	<i>NTM</i>	<i>NTM</i>	<i>(%)</i>	<i>(%)</i>	<i>(%)</i>	<i>(US\$/sh)</i>	
Integrated											
	Chevron Corporation	CVX	114.92	1,917	56,349	16	6.8	57	29	150.00	
	Royal Dutch Shell	RDS-B	60.07	4,177	106,120	12	7.1	22	34	100.00	
	Exxon Mobil Corporation	XOM	76.53	4,271	89,839	16	9.6	52	31	90.00	
	Suncor Energy	SU	31.17	1,628	18,374	14	8.3	87		50.00	
	<i>Median</i>					7.7	55				
Large Independent											
	Pioneer Natural Resources	PXD	140.56	171	2,800	36	7.2	9	7	200.00	
	EOG Resources, Inc.	EOG	101.70	582	6,742	19	4.5	43	11	130.00	
	ConocoPhillips	COP	65.21	1,173	20,375	15	7.1	31	26	80.00	
	Occidental Petroleum Corp.	OXY	64.42	763	13,000	18	7.3	35	8	75.00	
	<i>Median</i>					7.1	33				
Mid-Size Independent											
	Cimarex Energy Company	XEC	72.39	96	1,349	12	4.4	35	19	140.00	
	Continental Resources	CLR	45.65	375	6,174	17	5.1	121	21	70.00	
	Devon Energy Corporation	DVN	26.26	494	6,627	14	8.6	24	15	60.00	
	Hess Corporation	HES	51.49	297	9,177		6.4	59	11	55.00	
	Marathon Oil Corporation	MRO	15.30	849	6,744	18	5.6	60	13	40.00	
	<i>Median</i>					5.6	59				
Small Independent											
	Whiting Petroleum Corporation	WLL	28.84	92	3,198	(51)	6.9	84	3	100.00	
	California Resources	CRC	20.51	43	6,800		8.9	41	10	100.00	
	Range Resources	RRC	13.20	247	4,657	20	9.8	83	58	40.00	
	Birchcliff Energy Ltd.	BIREF	2.42	268	614	19	7.2	228	56	9.00	
	<i>Median</i>					8.0	83				
Income											
	Sabine Royalty Trust	SBR	38.24	15	-	12	9.0	3	33	100	50.00
	Cross Timbers Royalty Trust	CRT	13.84	6	-	10	13.1	-	69	80	25.00
	Dorchester Minerals, L.P.	DMLP	16.63	32	-	14	6.4	-	16	71	24.00
	Permian Basin RT	PBT	6.26	47	-	11	6.8	-	24	50	9.00
	San Juan Basin Royalty Trust	SJT	4.80	47	-	10	11.2	-	100	-	8.00
	<i>Median</i>					9.0					

P/E = Stock Price to Earnings. For historical research see www.mcdep.com.



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		Price (\$/sh)	Price (\$/sh)	Price Change (%)	Cash Distrib. (%)	Equity Total Return (%)	Debt Return (\$/sh)	Unlevered Total Return (%)	McDep Ratio
	Symbol/Rati	10-Dec 2018	29-Dec 2017						
Integrated									
	XOM	76.53	83.64	(9)	4	(5)	21	(4)	0.88
	CVX	114.92	125.19	(8)	4	(5)	29	(4)	0.80
	RDS-B	60.07	68.29	(12)	6	(7)	25	(5)	0.68
	SU	31.17	36.72	(15)	3	(12)	11	(9)	0.69
	<i>Median</i>			(10)		(6)		(4)	0.75
Large Independent									
	COP	65.21	54.89	19	2	21	17	16	0.85
	EOG	101.70	107.91	(6)	1	(5)	12	(5)	0.80
	OXY	64.42	73.66	(13)	4	(8)	17	(7)	0.89
	PXD	140.56	172.85	(19)	0	(19)	16	(17)	0.73
	<i>Median</i>			(9)		(7)		(6)	0.82
Mid-Size Independent									
	HES	51.49	47.47	8	2	11	31	6	0.96
	MRO	15.30	16.93	(10)	1	(8)	8	(6)	0.48
	CLR	45.65	52.97	(14)	-	(14)	16	(11)	0.72
	DVN	26.26	41.40	(37)	1	(36)	13	(27)	0.54
	XEC	72.39	122.01	(41)	0	(40)	14	(36)	0.56
	<i>Median</i>			(14)		(14)		(11)	0.56
Small Independent									
	WLL	28.84	26.48	9	-	9	35	4	0.47
	CRC	20.51	19.44	6	-	6	159	1	0.69
	RRC	13.20	17.06	(23)	0	(22)	19	(11)	0.54
	BIREF	2.42	3.50	(31)	2	(29)	2	(17)	0.42
	<i>Median</i>			(9)		(8)		(5)	0.51
Income									
	DMLP	16.63	15.20	9	11	21	-	21	0.69
	CRT	13.84	14.69	(6)	9	4	-	4	0.55
	SBR	38.24	44.60	(14)	7	(8)	-	(8)	0.76
	PBT	6.26	8.87	(29)	7	(22)	-	(22)	0.70
	SJT	4.80	8.24	(42)	6	(36)	-	(36)	0.60
	<i>Median</i>			(14)		(8)		(8)	0.69
	<i>Grand Median</i>			(12)		(8)		(6)	0.69
Natural Gas (\$/mmbtu)									
		4.52	2.95	53					
Oil -West Texas Intermediate (\$/bbl)									
		50.84	60.09	(15)					
	VDE	85.47	99.31	(14)	3	(11)			
	VTI	135.04	137.25	(2)	2	0			
	VEA	38.14	44.86	(15)	3	(12)			
	VWO	38.17	45.91	(17)	3	(13)			
	VT	68.12	74.26	(8)	2	(6)			

Source: McDep LLC, Yahoo, CME Group, Bloomberg

For historical research see www.mcdep.com



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Index of Recent Research				
<i>Date</i>	<i>Series</i>	<i>Symbol</i>	<i>Subject</i>	<i>Theme</i>
27-Nov			McDep Annouces Kurt Wulff's Retirement	
21-Nov	II	CRT, DMLP, PBT, SBR, SJT		Store of Value
12-Nov	Meter Reader	XOM,CVX,RDS,DMLP,SBR,CRT,EOG,CLR,CRC		A Dip to Buy
8-Nov	II	CLR, XEC, HES, DVN, MRO		Shale Players
5-Nov	II	CVX, RDS, SU, XOM		Healthy Business
29-Oct	ISI	COP	ConocoPhillips	Timely Value
23-Oct	II	CRT, DMLP, PBT, SBR, SJT		Rising Distributions
15-Oct	Meter Reader	SU, PXD, MRO, BIREF, RRC, SJT		October Opportunity
9-Oct	ISI	XOM	ExxonMobil	Efficient Energy Producer
3-Oct	ISI	BIREF	Birchcliff Energy	Canada Energy Game Changer
19-Sep	ISI	SJT, CRT	San Juan Basin Royalty Trust	McDep Opportunity
18-Sep	Meter Reader	XOM, CVX, RDS, PXD, RRC, DMLP		Low McDep Ratio for Energy Profit
4-Sep	ISI	SU	Suncor	Oil Value Upside
28-Aug	II	CRT, DMLP, PBT, SBR, SJT		Roll Forward and Simplify
20-Aug	II	BIREF, CRC, RRC, WLL		Strategic Value, Uncertain Price
13-Aug	Meter Reader	COP,EOG,OXY,PXD		Large Cap Producers Advancing
9-Aug	II	CLR, XEC, HES, DVN, MRO		
7-Aug	ISI	DMLP	Dorchester Minerals, L.P.	Q2 on Trend
30-Jul	II	CVX, RDS, SU, XOM		Durable Cash Generators
23-Jul	II	CRT, DMLP, PBT, SBR, SJT		Energy Price Participation
18-Jul	ISI	COP	ConocoPhillips	Large Cap Cash Producer
10-Jul	Meter Reader			Terms of Trade
6-Jul	ISI	CVX	Chevron	Oil Value Upside
2-Jul	Meter Reader	Special	Outperformance in First Half 2018	Attractive Value, Auspicious Momentum
21-Jun	II	CRT, DMLP, PBT, SBR, SJT		8% Cash in Uncertain Times
12-Jun	Meter Reader			Positive Charts
6-Jun	ISI	RDS	Royal Dutch Shell	Bright Future in Integrated Gas
30-May	ISI	BIREF	Birchcliff Energy	A Play on Narrowing the Gap
24-May	ISI	DMLP	Dorchester Minerals, L.P.	Riding the Shale Trend
15-May	Meter Reader			\$70 Oil Here
9-May	ISI	XEC	Cimarex Energy	Quality Company, Lagging Stock
4-May	ISI	MRO	Marathon Oil	Raise NPV to \$40 a Share from \$30
30-Apr	ISI	XOM	ExxonMobil	Reduce NPV to \$90 from \$100 a Share
24-Apr	II	CRT, DMLP, PBT, SBR, SJT		8% Median Distribution Yield
19-Apr	ISI	DMLP	Dorchester Minerals, L.P.	11% Distribution Reinforced
17-Apr	II	COP,EOG,OXY,PXD		Positive Trends for Large Cap Independent Producers
10-Apr	Meter Reader			Transition to Moderate Growth and Inflation
3-Apr	II	SJT, CRT	San Juan Basin	Regional Natural Gas Price Softness
21-Mar	II	BIREF, CRC, RRC, WLL		Small Cap High Reward, High Risk
15-Mar	Meter Reader		ExxonMobil	Out-of-Favor Industry Leader
12-Mar	ISI	DMLP	Dorchester Minerals, L.P.	Raise Distribution Yield to 11%
1-Mar	ISI	EOG	EOG Resources	Raise NPV to \$130 on Production
28-Feb	II	CLR, XEC, HES, DVN, MRO		Oil Price Upside for Mid-Size Independent Producers
20-Feb	II	CRT, DMLP, PBT, SBR, SJT		7% Distributions Inflation Protected
13-Feb	Meter Reader			Insulate Inflation
5-Feb	ISI	HES	Hess Corporation	Repositioning for Reward
2-Feb	ISI	COP	ConocoPhillips	Raise NPV to \$80 on Higher Cash Flow
			MR = Meter Reader (published monthly on or about second or third Tuesday)	
			ISI = Independent Stock Idea	
			II = Industry Idea	
			For historical research by stock, go to mcdep.com , click on Stock Ideas , click on stock by name.	

Please see disclosures on the final page.



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Monthly Analysis of Oil and Gas Stocks

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