

Meter Reader

A Weekly Analysis of Energy Stocks Using the McDep Ratio

February 20, 2003

Blizzard of '03

Summary and Recommendation

When the Northeast was buried in snow in 1978 as it is in 2003, it was followed by the best ever years for energy investment in 1979 and 1980. While that connection may be tenuous, we can say that six-year futures for oil at \$26 a barrel appear 25% below the average inflation adjusted price for the full stock market cycle from 1966 to 2002. Six-year futures for natural gas appear to be 24% below the trend relative to oil since natural gas was fully decontrolled in 1989. The history encourages us in recommending the largest independent producer, **Encana Corporation (ECA)** at a time when management takes a more cautious view toward its natural gas discovery offshore Nova Scotia. Our other buy recommendations also have a favorable outlook while our sell recommendations face valuation, financial and business model risks (see Tables L-1, L-2, M-1, M-2, S-1, S-2). We add some written discussion to a graphic on valuation from our recent presentation in Canada that has prompted comments from clients and from visitors who have made the presentation a popular hit on our website.

Oil Price Under Trend

Six-Year Oil and Gas Price, 2003-2008

	<i>Futures</i> <i>2/19/03</i>	<i>Trend</i>	<i>Over/ Under</i>
Oil, 2002 Dollars (\$/bbl)		30.00	
Inflation (3.1%/yr)		1.11	
Oil (\$/bbl)	24.95	33.40	25%
Natural Gas/Oil	1.07	1.05	
Natural Gas (\$/mmbtu)	4.47	5.90	24%

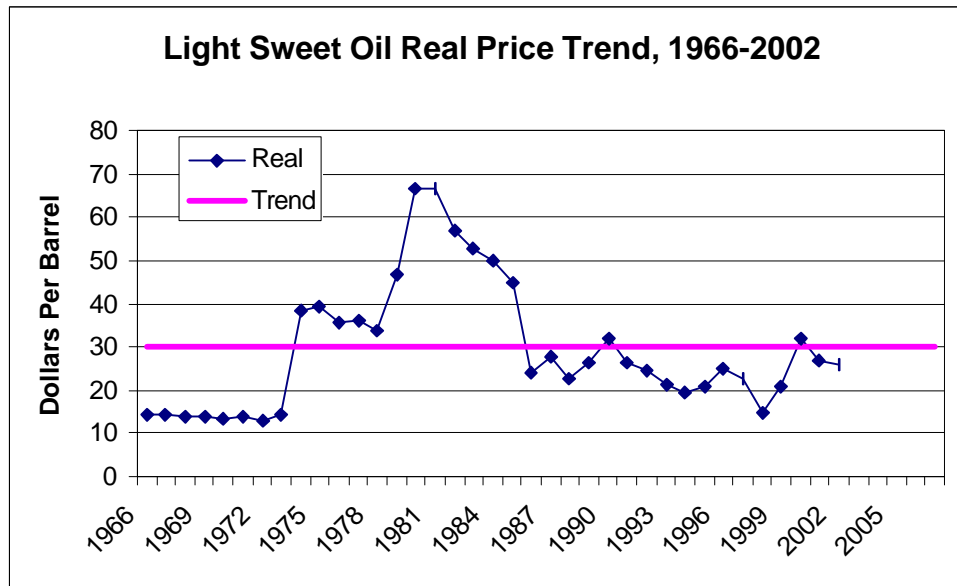
Are recent oil price increases temporary or is a new upward cycle underway? Our view is that it is the latter, but of course only time will tell. Taking a more neutral position we assume that the trend is flat in real terms at the average inflation-adjusted price for the full stock market cycle (see Chart). Downloading historical prices from the Energy Information Administration website, we modified the reported numbers to be more consistent with the higher quality of Light Sweet Crude, the widely quoted grade that is the standard in the futures market.

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Just as past prices are adjusted for inflation, we escalate the real price for inflation to reflect expected actual prices in the future. Last week we calculated a 3.1% inflation rate for 90 years and now we apply that rate for the next six years. As a result the trend oil price for the next six years is about \$33 a barrel. That implies that futures prices are low by 25% and it further implies that oil reserves are probably cheap and that oil producer stocks are also probably cheap.

Natural Gas Price Under Trend

Turning to natural gas the most objective historical analysis that makes sense to us is the trend in price relative to oil since natural gas was free to trade without price controls. More than thirty years of price controls were finally lifted completely in 1989. Since then natural gas has traded from less than half the heating value of oil to a slight premium today (see Chart). We draw a statistically fitted trend and project it to an average of 1.05 for the next six years. In our opinion, the trend understates the case. We are looking for 1.20 in several years. Yet there has been a cyclical pattern around the trend suggesting that after the unusual recent strength the relative price may fall back some. Thus the trend value of 1.05 is more conservative.

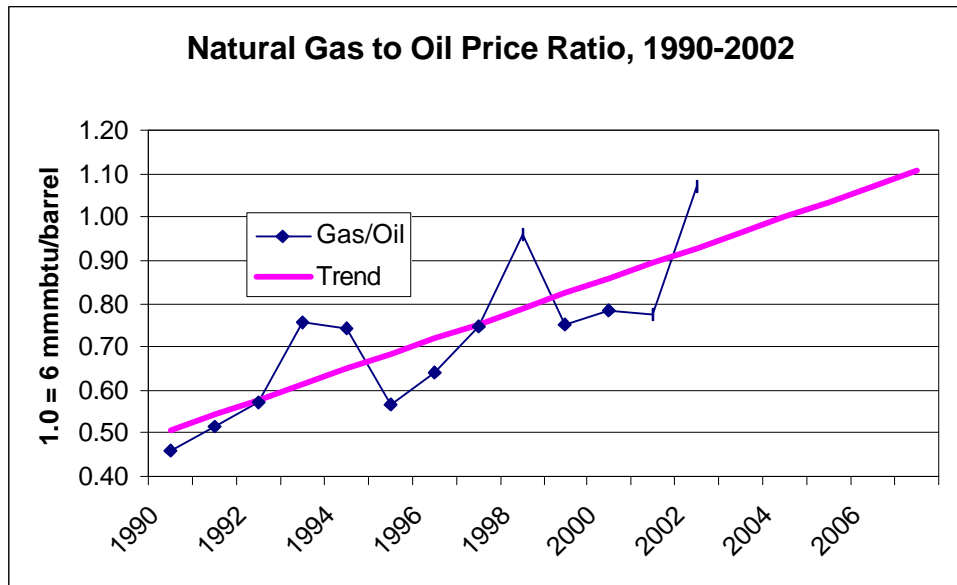
Trend value of oil times the trend in the ratio of natural gas to oil gives us a trend price for natural gas for the next six years of about \$6 per million British Thermal Units compared to a six-year futures quote of under \$5 per mmbtu. That implies that futures prices are low by 24% and it further implies that natural gas reserves are probably cheap and that natural gas producer stocks are also probably cheap.

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Encana Asks More Time on Deep Panuke

We continue to recommend purchase of Encana common stock for large cap natural gas investment despite management's announcement of a delay in developing natural gas offshore Nova Scotia. Though we are disappointed to learn development of Deep Panuke has been postponed, we are not completely surprised. We know it is hard to find economical oil and gas and that is the primary reason we want to be invested in the resources from which Encana already produces.

Comments Behind A Slide on Valuation

Our recent presentation on Energy Trusts and Partnerships at the Peters Energy Conference in Lake Louise, Alberta, Canada, summarizes many of the points on those income stocks we have made in *Meter Reader*, *Natural Gas Royalty Trusts* and *Independent Stock Ideas*. More than twenty thousand investors have apparently hit the page on our website that reproduces the slides. Because valuation analysis underlies all of our conclusions we add some discussion of a slide on valuation that prompted questions. The questions referred to the equation below that appeared on a slide entitled "Valuation - McDep Ratio".

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$$\text{Present Value} = \text{Ebitda} \times \frac{\text{PV}}{\text{Ebitda}}$$

The right side of the equation is supposed to equal the left side. Thus, those who suggested that Ebitda cancels Ebitda and all the equation means is Present Value = PV are correct, of course. The usefulness comes in separating the two parts on the right side. The equation is just like $P = E \text{ times } P/E$.

Ebitda for one year is fairly straightforward for energy companies, except for potential accounting deception more likely to occur with high debt, high greed issues. The multiple is more complicated. In the case of our weekly calculations for royalty trusts we try to quantify most of the variables that affect PV. When PV is separated into Ebitda times PV/Ebitda we find that Ebitda for the first year is influenced most by one-year commodity futures. It turns out that PV/Ebitda is influenced mostly by reserve life initially and then by ongoing fluctuations in six-year futures prices that can be different for oil vs. gas. The latter point can be a differentiator of oil vs. gas when the ratio of six-year futures to one-year futures for oil is a lot different than for gas. After doing a lot of present value calculations one gets a sense for PV as a multiple of Ebitda.

The pipeline bulls in effect say the Ebitda will last forever. The oil and gas bulls in effect say that prices will be higher to offset volume decline, or that volume will not really decline as much as one might think.

Our valuation tables are set up for users to judge our estimate of PV. One would first consider whether our Ebitda estimate is up-to-date. Some estimates are not as fresh as others. Then one can look at PV/Ebitda in our - 2 (e.g. Tables 1-2, 2-2, 3-2) valuation tables and ask oneself whether differences in the mix of business among stocks justifies differences in PV/Ebitda.

One could say that most investors judge stocks on a P/E basis. We are not comfortable doing that in energy for two reasons. First, debt is too important in many cases not to be handled explicitly. That is why we use the McDep Ratio because it is unlevered. We cited work in the Financial Analysts Journal by Martin Leibowitz, which makes the argument that P/E ratio, by definition a levered ratio, should be adjusted for debt. In other words, high debt companies can look too good on the P/E ratio. One might even extend that as an argument that current P/E ratios overstate value in the market as a whole because most companies have much more debt than historically. In energy, infrastructure

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companies have gorged on debt, but not integrated companies and producers for the most part.

Second, we don't think earnings are meaningful for energy valuation because, as the companies are capital intensive, earnings depend too much on historic costs, which by definition will be low because of inflation for mature companies and high for new companies. It is better to have earnings than not, but we wouldn't pay for it. Ebitda estimates are theoretically independent of historic costs. Ebitda has its own drawbacks that are overcome partly by our use of next twelve months estimates that can be adjusted for other distortions in past results that we may identify.

Finally another advantage of PV/Ebitda, or EV/Ebitda, is that it is easy to relate it to acquisitions of businesses as well as to the pricing of stocks. And that leads us to intriguing questions as to why a particular business might be priced so much higher or lower in the stock market.

Kurt H. Wulff, CFA

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Table L-1
Mega Cap and Large Cap Energy Companies
Rank by McDep Ratio: Market Cap and Debt to Present Value

	<i>Symbol/ Rating</i>	<i>Price (\$/sh) 19-Feb 2003</i>	<i>Shares (mm)</i>	<i>Market Cap (\$mm)</i>	<i>Net Present Value (\$/sh)</i>	<i>Debt/ Present Value</i>	<i>McDep Ratio</i>
Mega Cap							
Exxon Mobil Corporation	XOM	33.78	6,787	229,000	37.00	0.09	0.92
BP plc	BP	38.46	3,735	144,000	52.00	0.14	0.78
TotalFinaElf S.A.	TOT	65.69	1,336	87,700	90.00	0.15	0.77
Royal Dutch/Shell	RD B	39.56	3,481	138,000	60.00	0.15	0.71
ChevronTexaco Corporation	CVX B	64.41	1,062	68,400	101.00	0.17	0.70
	<i>Total or Median</i>			<i>667,000</i>		<i>0.15</i>	<i>0.77</i>
Energy Infrastructure							
Southern Company	SO	28.30	701	19,800	23.90	0.47	1.10
Duke Energy Corporation	DUK	14.19	822	11,700	15.00	0.73	0.99
American Electric Power Co. Inc.	AEP N	20.79	326	6,800	27.40	0.74	0.94
Enel S.p.a. (32%)	EN	28.78	388	11,200	32.70	0.39	0.93
Dominion Resources	D	55.06	269	14,800	76.20	0.45	0.85
Exelon Corporation	EXC N	49.42	323	16,000	70.80	0.45	0.83
El Paso Corporation	EP N	4.00	590	2,400	20.00	0.66	0.73
	<i>Total or Median</i>			<i>63,000</i>		<i>0.56</i>	<i>0.89</i>
Natural Gas and Oil							
Occidental Petroleum Corp.	OXY	28.98	380	11,000	35.00	0.36	0.89
Encana Corporation	ECA B	31.03	470	14,600	38.00	0.27	0.87
AOO Lukoil	LUKOY	59.00	299	17,700	70.00	0.08	0.86
Devon Energy	DVN	46.70	158	7,400	65.00	0.42	0.84
ENI S.p.A.	E	72.24	776	56,100	90.00	0.17	0.84
Burlington Resources	BR B	44.44	202	9,000	60.00	0.26	0.81
Anadarko Petroleum Corp.	APC	43.89	258	11,300	60.00	0.25	0.80
ConocoPhillips	COP B	49.49	680	33,700	75.00	0.36	0.78
Unocal Corporation	UCL	26.10	245	6,400	40.00	0.37	0.78
Marathon Oil Corporation	MRO B	22.08	310	6,800	40.00	0.37	0.72
Petroleo Brasileiro S. A.	PBR N	14.03	1,086	15,200	30.00	0.27	0.61
	<i>Total or Median</i>			<i>178,000</i>		<i>0.27</i>	<i>0.80</i>
Service							
Baker Hughes Inc.	BHI	30.11	339	10,200	25.00	0.09	1.19
Schlumberger Ltd.	SLB	39.84	581	23,100	44.00	0.22	0.92
Halliburton Company	HAL	19.40	434	8,400	22.00	0.25	0.91

Buy/Sell rating after symbol: B - Buy, N - Neutral, S - Sell

McDep Ratio = **M**arket cap and **D**ebt to **p**resent value of oil and gas and other businesses

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Table L-2
Mega Cap and Large Cap Energy Companies
Rank by EV/Ebitda: Enterprise Value to Earnings Before Interest, Tax, Deprec.

	Symbol/ Rating	Price (\$/sh) 19-Feb 2003	EV/ Sales NTM	EV/ Ebitda NTM	P/E NTM	Dividend or Distribution NTM (%)	PV/ Ebitda NTM
Mega Cap							
Exxon Mobil Corporation	XOM	33.78	1.2	8.2	16	2.7	8.9
TotalFinaElf S.A.	TOT	65.69	1.1	6.8	13	3.9	8.8
BP plc	BP	38.46	0.9	6.7	14	3.7	8.6
Royal Dutch/Shell	RD	39.56	0.9	6.1	13	4.3	8.6
ChevronTexaco Corporation	CVX	64.41	0.9	5.8	12	4.3	8.2
	<i>Median</i>		<i>0.9</i>	<i>6.7</i>	<i>13</i>	<i>3.9</i>	<i>8.6</i>
Energy Infrastructure							
Southern Company	SO	28.30	3.4	9.9	16	4.7	9.0
Duke Energy Corporation	DUK	14.19	2.4	9.5	10	7.8	9.6
American Electric Power Co. Inc.	AEP	20.79	0.5	8.4	7	11.5	9.0
Enel S.p.a. (32%)	EN	28.78	2.3	8.4	35	5.6	9.0
Dominion Resources	D	55.06	3.2	7.6	11	4.7	9.0
Exelon Corporation	EXC	49.42	2.3	7.5	11	3.6	9.0
El Paso Corporation	EP	4.00	2.1	5.6	2	21.8	7.7
	<i>Median</i>		<i>2.3</i>	<i>8.4</i>	<i>11</i>	<i>5.6</i>	<i>9.0</i>
Natural Gas and Oil							
ConocoPhillips	COP	49.49	0.7	5.8	9	3.2	7.4
ENI S.p.A.	E	72.24	1.5	5.6	11	5.1	6.7
Encana Corporation	ECA	31.03	2.1	4.9	9	0.8	5.7
Anadarko Petroleum Corp.	APC	43.89	3.4	4.8	8	0.9	6.0
Burlington Resources	BR	44.44	3.5	4.7	9	1.2	5.8
Occidental Petroleum Corp.	OXY	28.98	2.2	4.6	6	3.6	5.1
Marathon Oil Corporation	MRO	22.08	0.4	4.3	6	4.2	6.0
Devon Energy	DVN	46.70	2.7	4.3	6	0.4	5.1
Unocal Corporation	UCL	26.10	2.0	4.2	8	3.1	5.4
OAO Lukoil	LUKOY	59.00	1.5	3.5	7	1.8	4.1
Petroleo Brasileiro S. A.	PBR	14.03	1.2	3.0	3	9.6	4.9
	<i>Median</i>		<i>2.0</i>	<i>4.6</i>	<i>8</i>	<i>3.1</i>	<i>5.7</i>
Service							
Baker Hughes Inc.	BHI	30.11	2.1	12.8	36	1.5	10.8
Schlumberger Ltd.	SLB	39.84	2.2	8.2	29	1.9	8.9
Halliburton Company	HAL	19.40	1.0	8.2	17	2.6	9.0

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation and amortization; NTM = Next Twelve Months Ended December 31, 2003; P/E = Stock Price to Earnings; PV = Present Value of oil and gas and other businesses

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Mid Cap Energy Companies
Rank by McDep Ratio: Market Cap and Debt to Present Value

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Energy Infrastructure							
Kinder Morgan Energy Partners, L.P.	KMP S	35.16	141	5,000	14.00	0.47	1.79
Kinder Morgan Management, LLC	KMR S	30.90	40	1,200	14.00	0.47	1.63
Kinder Morgan, Inc.	KMI S	45.71	123	5,600	14.00	0.80	1.44
Constellation Energy Group	CEG	25.95	164	4,300	20.00	0.69	1.09
Dynegy Inc.	DYN	2.00	418	800	1.00	0.94	1.06
Williams Companies	WMB	2.90	521	1,500	1.00	0.97	1.05
Calpine Corporation	CPN N	2.72	375	1,000	1.00	0.97	1.05
AES Corporation	AES	3.12	543	1,700	1.00	0.98	1.05
Sempra Energy	SRE	23.39	207	4,800	24.30	0.64	0.99
Valero Energy Corporation	VLO	36.79	115	4,300	40.00	0.60	0.97
CMS Energy Corporation	CMS	4.46	137	600	8.70	0.90	0.95
Mirant Corporation	MIR	1.63	413	700	4.00	0.86	0.92
	<i>Total or Median</i>			<i>31,500</i>		<i>0.83</i>	<i>1.05</i>
Natural Gas and Oil							
Petro-Canada	PCZ	33.84	262	8,900	31.00	0.11	1.08
Murphy Oil Corporation	MUR	42.68	92	3,900	41.00	0.24	1.03
Suncor Energy	SU	17.34	454	7,900	17.00	0.25	1.01
Ocean Energy, Inc.	OEI	18.60	178	3,300	20.00	0.30	0.95
XTO Energy Inc.	XTO B	24.25	125	3,000	26.00	0.25	0.95
Imperial Oil Limited (30%)	IMO	30.65	114	3,500	33.00	0.13	0.94
CNOOC Limited (19%)	CEO B	26.80	78	2,090	33.00	-	0.81
Norsk Hydro ASA (49%)	NHY	38.44	126	4,800	54.00	0.18	0.76
PetroChina Company Ltd (10%)	PTR B	20.72	176	3,600	30.00	0.17	0.74
	<i>Total or Median</i>			<i>41,000</i>		<i>0.18</i>	<i>0.95</i>
Coal Producers (Small Cap)							
Penn Virginia Res. Part, L.P.	PVR	23.23	15	400	18.00	-	1.31
Consol Energy Inc.	CNX	15.13	79	1,200	5.00	0.88	1.24
Peabody Energy	BTU	26.80	55	1,500	18.00	0.75	1.12
Alliance Res. Part, L.P.	ARLP	22.55	16	400	20.00	0.45	1.07
Arch Coal	ACI	16.74	48	800	18.00	0.61	0.97
Fording Inc (US\$)	FDG	22.05	52	1,200	23.00	0.04	0.96
Massey Energy	MEE	7.88	75	600	18.00	0.37	0.65
				<i>6,100</i>		<i>0.45</i>	<i>1.07</i>

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	<i>Symbol/ Rating</i>	<i>Price (\$/sh) 19-Feb 2003</i>	<i>EV/ Sales NTM</i>	<i>EV/ Ebitda NTM</i>	<i>P/E NTM</i>	<i>Dividend or Distribution NTM (%)</i>	<i>PV/ Ebitda NTM</i>
Energy Infrastructure							
Kinder Morgan Energy Partners, L.P.	KMP S	35.16	3.2	15.6	18	7.1	8.7
Kinder Morgan Management, LLC	KMR S	30.90	2.9	14.2	16	8.1	8.7
Kinder Morgan, Inc.	KMI S	45.71	3.2	12.1	14	1.3	8.4
Calpine Corporation	CPN N	2.72	1.8	10.7			10.2
Constellation Energy Group	CEG	25.95	2.8	10.0	10	3.7	9.2
Dynegy Inc.	DYN	2.00	0.2	9.5		-	9.0
Williams Companies	WMB	2.90	1.9	9.5		-	9.0
AES Corporation	AES	3.12	2.8	9.4			9.0
Sempra Energy	SRE	23.39	2.5	8.9	9	4.3	9.0
CMS Energy Corporation	CMS	4.46	1.2	8.6	3	16.1	9.0
Mirant Corporation	MIR	1.63	0.4	8.2	1	-	9.0
Valero Energy Corporation	VLO	36.79	0.4	7.6	9	1.1	7.8
	<i>Median</i>		<i>2.2</i>	<i>9.5</i>	<i>10</i>	<i>2.5</i>	<i>9.0</i>
Natural Gas and Oil							
Suncor Energy	SU	17.34	3.7	11.0	24	1.3	10.8
Petro-Canada	PCZ	33.84	2.0	8.0	21	0.7	7.4
Imperial Oil Limited (30%)	IMO	30.65	1.2	7.6	15	1.8	8.1
Ocean Energy, Inc.	OEI	18.60	4.4	7.4	32	0.9	7.8
Murphy Oil Corporation	MUR	42.68	1.1	6.9	19	1.9	6.7
XTO Energy Inc.	XTO B	24.25	4.1	5.5	10	0.2	5.8
CNOOC Limited (19%)	CEO B	26.80	3.6	4.6	9	2.3	5.7
PetroChina Company Ltd (10%)	PTR B	20.72	1.6	3.8	7	6.1	5.1
Norsk Hydro ASA (49%)	NHY	38.44	0.7	3.6	10	2.7	4.8
	<i>Median</i>		<i>2.0</i>	<i>6.9</i>	<i>15</i>	<i>1.8</i>	<i>6.7</i>
Coal Producers (Small Cap)							
Consol Energy Inc.	CNX	15.13	1.9	12.1	34	3.7	9.7
Penn Virginia Res. Part, L.P.	PVR	23.23	8.7	11.2	13	8.6	8.6
Peabody Energy	BTU	26.80	1.6	10.1	22	1.5	9.0
Arch Coal	ACI	16.74	1.4	8.8	94	1.4	9.0
Fording Inc (US\$)	FDG	22.05	2.0	8.6	20	1.7	9.0
Alliance Res. Part, L.P.	ARLP	22.55	1.2	7.5	19	8.9	7.0
Massey Energy	MEE	7.88	1.0	5.8	197	2.0	8.9
			<i>1.6</i>	<i>8.8</i>	<i>22</i>	<i>2.0</i>	<i>9.0</i>

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation and amortization; NTM = Next Twelve Months Ended December 31, 2003; P/E = Stock Price to Earnings; PV = Present Value of oil and gas and other businesses

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	<i>Symbol/</i>		<i>Price</i>		<i>Market</i>	<i>Net</i>	<i>Debt/</i>	
	<i>Rating</i>		<i>(\$/sh)</i>	<i>Shares</i>	<i>Cap</i>	<i>Present</i>	<i>Present</i>	<i>McDep</i>
			<i>19-Feb</i>	<i>(mm)</i>	<i>(\$mm)</i>	<i>Value</i>	<i>Value</i>	<i>Ratio</i>
			<i>2003</i>			<i>(\$/sh)</i>		
Energy Infrastructure								
El Paso Energy Partners	EPN	S	30.25	57.0	1,720	10.60	0.60	1.75
Enbridge Energy Partners, L.P.	EEP	S	44.90	35.0	1,570	14.90	0.64	1.73
Enterprise Products Part (16%)	EPD		19.10	28.5	540	6.70	0.63	1.67
Plains All Amer. Pipeline	PAA		25.70	50.0	1,290	11.60	0.49	1.62
Enbridge Energy Management, L.L.C	EEQ	S	38.90	9.0	350	14.90	0.64	1.59
Northern Border Partners	NBP		37.46	44.0	1,650	20.40	0.62	1.31
TEPPCO Partners, L.P.	TPP		29.76	50.0	1,490	17.70	0.56	1.30
AmeriGas Partners, L.P.	APU		24.43	49.4	1,210	18.30	0.51	1.16
Western Gas Resources	WGR		32.68	33.8	1,100	37.60	0.28	0.90
	<i>Total or Median</i>				<i>10,900</i>		<i>0.60</i>	<i>1.59</i>
Natural Gas and Oil								
Provident Energy Trust	PVX		7.33	63.5	470	5.00	0.24	1.35
Dorchester Minerals, L.P.	DMLP		13.67	27.0	369	11.60	-	1.18
Unit Corporation	UNT		19.00	40.0	760	18.00	0.03	1.05
Pogo Producing Company	PPP		37.39	64.5	2,410	35.00	0.23	1.05
Pengrowth Energy Trust	PGH		9.82	110.0	1,080	9.50	0.19	1.03
Quicksilver Resources Inc.	KWK		22.45	20.4	460	22.00	0.38	1.01
Enerplus Resources Fund	ERF		18.14	75.0	1,360	18.00	0.16	1.01
Newfield Exploration Company	NFX		33.59	48.9	1,640	35.00	0.24	0.97
Encore Acquisition Corp. (25%)	EAC		17.90	7.0	125	21.00	0.20	0.88
Stone Energy Company	SGY		32.70	26.5	870	42.00	0.28	0.84
Swift Energy Company	SFY		9.01	27.1	240	13.00	0.48	0.84
Southwestern Energy Company	SWN		11.18	26.1	290	17.00	0.46	0.81
Penn Virginia Corporation	PVA		35.70	9.0	320	45.00	0.06	0.80
Forest Oil Corporation	FST	N	22.65	48.1	1,090	35.00	0.32	0.76
Spinnaker Exploration Company	SKE		18.51	34.0	630	25.00	-	0.74
Magnum Hunter Resources, Inc.	MHR		5.44	69.0	380	11.00	0.45	0.72
Canadian Oil Sands Trust (US\$)	COS_u.TO	B	22.58	76.8	1,730	40.00	0.16	0.63
	<i>Total or Median</i>				<i>14,200</i>		<i>0.23</i>	<i>0.88</i>
Natural Gas Royalty Trusts								
Cross Timbers Royalty Trust	CRT		19.09	6.0	115	20.50	-	0.93
Hugoton Royalty Trust (46%)	HGT		14.03	18.4	260	17.00	-	0.82
San Juan Basin Royalty Trust	SJT	B	14.29	46.6	670	17.70	-	0.81
Micro Cap								
Abraxas Petroleum Corporation	ABP		0.85	30.0	26	1.00	0.91	0.99
Energy Partners Ltd.(30%)	EPL	B	10.21	8.3	84	11.00	0.36	0.95
Purcell Energy, Ltd. (US\$)	PEL.TO	N	1.86	26.6	49	2.50	0.29	0.81

Buy/Sell rating after symbol: B - Buy, N - Neutral, S - Sell

McDep Ratio = Market cap and Debt to present value of oil and gas and other businesses

Analyses are prepared from original sources and data believed to be reliable, but no representation is made as to their accuracy or completeness. Independent energy investment analysis by Kurt Wulff doing business as McDep Associates is posted at www.mcdep.com. Mr. Wulff is not paid by covered companies. He and his spouse do not sell short nor act contrary to a buy or sell rating except for tax loss purposes.

Meter Reader

A Weekly Analysis of Energy Stocks Using the McDep Ratio

February 20, 2003

Table S-2
Small Cap Energy Companies
Rank by EV/Ebitda: Enterprise Value to Earnings Before Interest, Tax, Deprec.

	Symbol/ Rating	Price (\$/sh) 19-Feb 2003	EV/ Sales NTM	EV/ Ebitda NTM	P/E NTM	Dividend or Distribution NTM (%)	PV/ Ebitda NTM	
Energy Infrastructure								
El Paso Energy Partners	EPN	S	30.25	8.6	15.7	37	8.9	9.0
Enbridge Energy Partners, L.P.	EEP	S	44.90	2.0	15.6	34	8.0	9.0
Enterprise Products Part (16%)	EPD		19.10	1.7	15.0	26	7.2	9.0
Plains All Amer. Pipeline	PAA		25.70	0.2	14.6	21	8.4	9.0
Enbridge Energy Management, L.L.C	EEQ	S	38.90	1.9	14.3	29	9.3	9.0
Northern Border Partners	NBP		37.46	6.8	11.8	14	8.5	9.0
TEPPCO Partners, L.P.	TPP		29.76	1.0	11.7	16	8.1	9.0
AmeriGas Partners, L.P.	APU		24.43	1.7	10.5	24	9.0	9.0
Western Gas Resources	WGR		32.68	0.6	8.1	18	0.6	9.0
	<i>Median</i>			<i>1.7</i>	<i>14.3</i>	<i>24</i>	<i>8.4</i>	<i>9.0</i>
Natural Gas and Oil								
Unit Corporation	UNT		19.00	3.8	10.3	32	-	9.8
Quicksilver Resources Inc.	KWK		22.45	5.2	8.7	22	-	8.6
Dorchester Minerals, L.P.	DMLP		13.67	6.3	7.8	10	11.5	6.6
Enerplus Resources Fund	ERF		18.14	4.9	6.5	11	12.9	6.5
Swift Energy Company	SFY		9.01	3.8	6.2	34	-	7.4
Provident Energy Trust	PVX		7.33	4.1	6.1	15	19.6	4.5
Pengrowth Energy Trust	PGH		9.82	3.9	6.0	15	15.4	5.9
Pogo Producing Company	PPP		37.39	3.6	5.8	19	0.3	5.5
Magnum Hunter Resources, Inc.	MHR		5.44	3.1	5.7	22	-	7.9
Forest Oil Corporation	FST	N	22.65	3.4	5.7	16	-	7.5
Encore Acquisition Corp. (25%)	EAC		17.90	3.9	5.7	12	-	6.5
Canadian Oil Sands Trust (US\$)	COS_u.TO	B	22.58	3.2	5.5	5	5.8	8.7
Southwestern Energy Company	SWN		11.18	2.6	5.1	8	-	6.3
Penn Virginia Corporation	PVA		35.70	2.5	4.8	14	2.5	6.0
Stone Energy Company	SGY		32.70	3.2	4.5	12	-	5.3
Newfield Exploration Company	NFX		33.59	3.0	4.3	14	-	4.4
Spinnaker Exploration Company	SKE		18.51	2.7	3.1	12	-	4.3
	<i>Median</i>			<i>3.6</i>	<i>5.7</i>	<i>14</i>	<i>-</i>	<i>6.5</i>
Natural Gas Royalty Trusts								
Cross Timbers Royalty Trust	CRT		19.09	5.5	7.6	8	12.5	8.1
Hugoton RoyaltyTrust (46%)	HGT		14.03	4.3	5.7	7	13.4	7.0
San Juan Basin Royalty Trust	SJT	B	14.29	4.8	5.9	7	13.7	7.4
Micro Cap								
Abraxas Petroleum Corporation	ABP		0.85	5.7	9.4	-	-	9.5
Purcell Energy, Ltd. (US\$)	PEL.TO	N	1.86	4.2	6.4	22	-	7.8
Energy Partners Ltd.(30%)	EPL	B	10.21	2.6	4.2	-	-	4.5

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation and amortization; NTM = Next Twelve Months Ended December 31, 2003; P/E = Stock Price to Earnings; PV = Present Value of oil and gas and other businesses

Analyses are prepared from original sources and data believed to be reliable, but no representation is made as to their accuracy or completeness. Independent energy investment analysis by Kurt Wulff doing business as McDep Associates is posted at www.mcdep.com. Mr. Wulff is not paid by covered companies. He and his spouse do not sell short nor act contrary to a buy or sell rating except for tax loss purposes.