

## Meter Reader

A Weekly Analysis of Energy Stocks Using the McDep Ratio

December 16, 2002

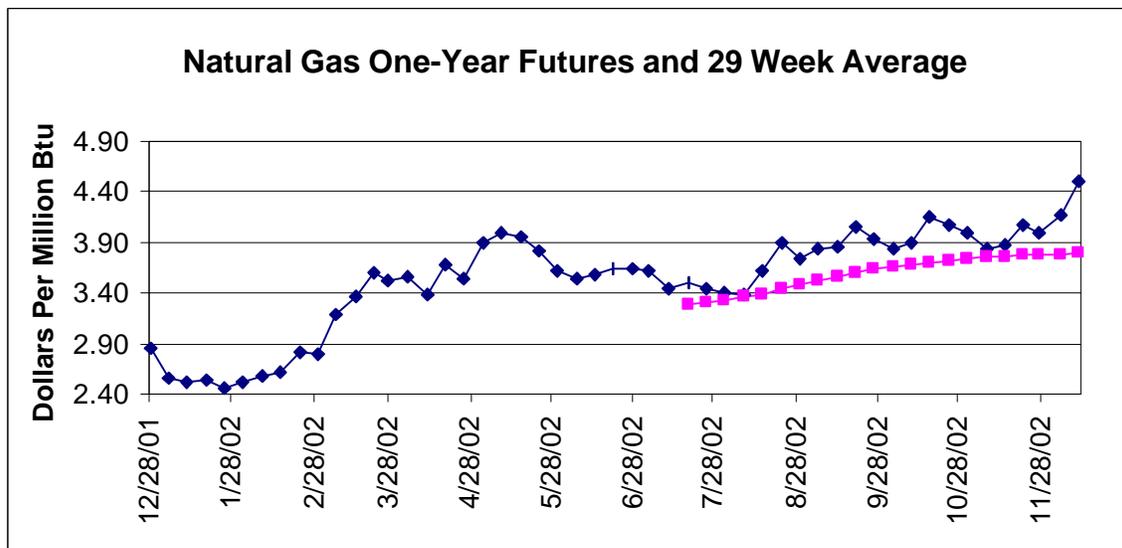
# Energy Price Breakout

## Summary and Recommendation

Early wintry weather boosting demand for heating fuels drives natural gas price sharply higher taking oil along, too. At the same time we are less concerned about oil price downside post-Saddam or in the face of feared deflation. Commodity strength ought to translate to gains for the McDep Energy Portfolio of recommended stocks.

Recommended natural gas producers with low McDep Ratios include **Encana (ECA)**, **San Juan Basin Royalty Trust (SJT)** and **Burlington Resources (BR)**. After declining surprisingly steeply in stock price this year, recommended integrated oil stocks seem especially appealing including **ChevronTexaco (CVX)**, **ConocoPhillips (COP)** and **Marathon (MRO)**. Drawn from our wide ranging research, two lesser-known oil producers appear to have particularly unrecognized potential, **Canadian Oil Sands Trust (COS\_u.TO)** and the Chinese producer, **CNOOC Ltd. (CEO)**. Not looking for payment from the companies we analyze, we have five sells among energy partnerships that not only have “high-greed” general partner compensation, but also meet our definition of Ponzi schemes in that the entities pay cash “income” to unitholders that exceeds equity cash flow. We initiate specific recommended negative weightings for **Enbridge (EEP, EEQ)** partnerships on the short side of the McDep Energy Portfolio. We also recap our sell recommendation of **Kinder Morgan (KMI, KMR, KMP)**. Finally, we rank 85 stocks by McDep Ratio and unlevered cash flow multiple (see Tables L-1, L-2, M-1, M-2, S-1, S-2).

## Natural Gas Price Breakout



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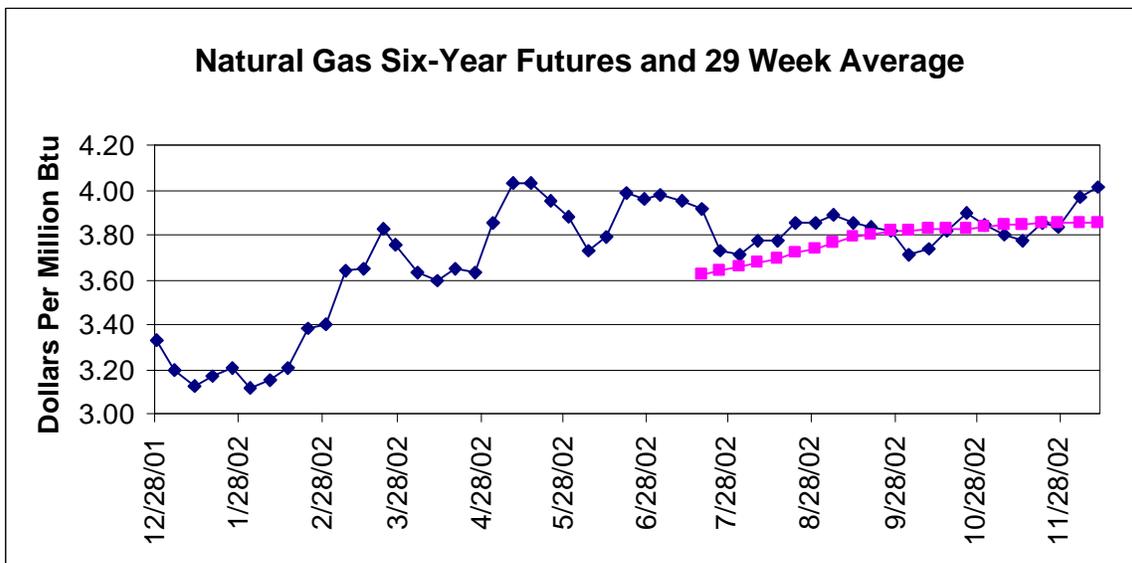
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The underlying North American natural gas market is proving to be quite tight. Any inventory that may have seemed surplus a few weeks ago has been more than sopped up by cold weather. Now at the middle of December we face an uncertain winter during which sharp price gains as we experienced two years ago appear increasingly possible. Thus, One-Year Natural Gas Futures may have ample scope for continued gains as well as risk of setbacks (see Chart above). The huge volumes traded lend credibility to the data.

While one-year futures are a sensitive indicator of Next Twelve Months cash flow, six-year futures translate the short-term into the longer-term. A more consistent rising trend in one-year futures may have contributed to improving decisiveness in the rising trend in Six-Year Natural Gas Futures (see Chart below).



## Oil Price Downside Limited

The Six-Year Oil Futures Trend looks a lot like its natural gas counterpart. Oil clusters around \$23 a barrel since early in the year just as natural gas clusters around \$3.80 per million btu. Coincidentally that is almost exactly heating equivalency of 6 million btu per barrel. Because natural gas is a cleaner fuel, we expect it to be priced increasingly at a premium to heating equivalency. Yet should there be surprising weakness in oil price there might be some effect on gas price also.

The widely espoused fear that seems to contribute to low prices for oil stocks appears to be that once a regime change is achieved in Iraq, the spigots will be opened wide for Iraqi oil to flood the market and drive down the price. Hearing independent Russian expert,

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Marshall Goldman, speak recently we were interested to hear that the same expectation was of paramount concern to each of the Russian leaders Mr. Goldman contacted. The difference is that oil exports are far and away the most important contributor of foreign currency that has helped the Russian economy to grow again after suffering a 1930s style depression. Oil price is practically a matter of economic life and death for Russia.

At the same time Professor Goldman keenly observes the close relationship that has developed between the U.S. leader, Mr. Bush, and the Russian leader, Mr. Putin. Professor Goldman apparently believes that Mr. Bush has given Mr. Putin assurances that Iraqi oil will not kill the market for the Russians or for anyone else. That and perhaps additional assurance that the Russians may be repaid the \$8 billion they think Iraq owes them helps to secure Mr. Putin's support for Mr. Bush's foreign policy initiatives.

The other important change that limits oil price downside in our view is the apparent new willingness of the Federal Reserve Board to print money to avoid a deflation of economic activity. Fed Governor Bernanke says as much in a widely noticed speech on November 21, "Deflation: Making Sure "It" Doesn't Happen Here". The speech, reprinted on the Federal Reserve website, would have had an incendiary impact on the markets had it been delivered 30 years ago, in our opinion. Today, it appears to have been right for the time from the point of view of calming concerns of deflation recently aroused after decades of inflation.

Already the Fed has lowered short-term interest rates below the rate of inflation. Mr. Bernanke suggests willingness, if necessary, to lower long-term rates below inflation as well. In such circumstances the Federal Reserve Board would essentially pay borrowers just to buy and hold oil, as an example of a widely used good that would hold its real value.

Thus, if the downside in oil price is not as great as widely feared, energy producer stocks should be worth more. Similarly with the downside better protected we might look more at the upside as we are seeing now in natural gas.

### **Refining Crack Futures Breakout**

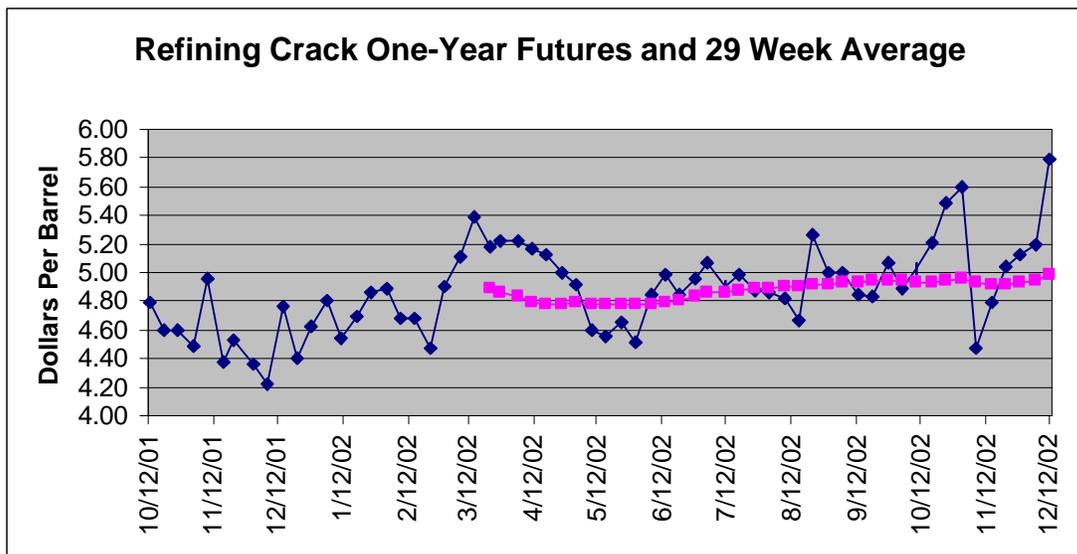
Refining may be a dull business, but it's perceived prospects have a large, exaggerated, in our opinion, impact on the valuation of giant stocks. As a result, it is gratifying to see sharply higher expectations for the profitability of the downstream for the next year (see Chart). That may be what is needed to help reverse the steep stock price decline of CVX, COP and MRO.

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## Add New Sells to the McDep Energy Portfolio

### McDep Energy Portfolio: McDep Ratio

	<i>Symbol/ Rating</i>	<i>Price (\$/sh) 12-Dec 2002</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>
El Paso Energy Partners	EPN S	28.43	57	1,600	5.60	0.64	2.46
Kinder Morgan Energy Partners, L.P.	KMP S	34.15	135	4,600	14.00	0.47	1.75
Enbridge Energy Partners, L.P.	EEP S	40.79	35	1,400	14.90	0.64	1.63
Kinder Morgan Management, LLC	KMR S	28.74	40	1,100	14.00	0.47	1.56
Kinder Morgan, Inc.	KMI S	42.02	123	5,200	8.10	0.87	1.52
Enbridge Energy Management, L.L.C	EEQ S	35.95	35	1,300	14.90	0.64	1.51
Energy Partners Ltd.(30%)	EPL B	10.78	8	90	10.00	0.38	1.06
XTO Energy Inc.	XTO B	25.25	125	3,200	26.00	0.25	0.98
Encana Corporation	ECA B	30.21	470	14,200	35.00	0.28	0.90
San Juan Basin Royalty Trust	SJT B	13.53	47	600	16.30	-	0.83
Burlington Resources	BR B	43.00	202	8,700	57.00	0.28	0.82
CNOOC Limited (19%)	CEO B	25.49	78	2,000	33.00	-	0.77
Royal Dutch/Shell	RD B	42.70	3,481	148,600	60.00	0.15	0.75
ConocoPhillips	COP B	49.25	680	33,500	80.00	0.32	0.74
ChevronTexaco Corporation	CVX B	67.87	1,063	72,100	101.00	0.17	0.73
PetroChina Company Ltd (10%)	PTR B	19.83	176	3,500	30.00	0.17	0.72
Marathon Oil Corporation	MRO B	21.37	310	6,600	40.00	0.37	0.71
Canadian Oil Sands Trust (US\$)	COS_u.T(B	22.14	57	1,300	40.00	0.13	0.61

Since we last printed the portfolio four weeks ago it has gained nearly 6% while the S&P 500 is unchanged. Sell recommendations, by going up rather than down, shaved the gain by about 0.2%. Aside from slightly different weightings of individual stocks, the new

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portfolio includes two more stocks on the short side. The new stocks are actually the same idea in two forms (see *Independent Stock Idea: Enbridge (EEP, EEQ) – Sell*, November 20, 2002).

#### McDep Energy Portfolio: Position Weights

		Price (\$/sh)	Market	Unlev	Equity	Sub	Non-
	Symbol	12-Dec 2002	Cap/EV	Postn	Weight	Sector	U.S.
San Juan Basin Royalty Trust	SJT	13.53	1.00	1.00	13.7%	NANG	
XTO Energy Inc.	XTO	25.25	0.75	1.00	10.2%	NANG	
Encana Corporation	ECA	30.21	0.69	1.00	9.5%	NANG	X
Burlington Resources	BR	43.00	0.66	1.00	9.0%	NANG	
Energy Partners Ltd.(30%)	EPL	10.78	0.64	0.50	4.4%	NANG	
CNOOC Limited (19%)	CEO	25.49	1.00	0.50	6.8%	OIL	X
Canadian Oil Sands Trust (US\$)	COS_u.TC	22.14	0.79	0.50	5.4%	OIL	X
Royal Dutch/Shell	RD	42.70	0.80	1.00	11.0%	OILINT	X
ChevronTexaco Corporation	CVX	67.87	0.76	1.00	10.4%	OILINT	
ConocoPhillips	COP	49.25	0.57	1.00	7.7%	OILINT	
Marathon Oil Corporation	MRO	21.37	0.48	1.00	6.6%	OILINT	
PetroChina Company Ltd (10%)	PTR	19.83	0.77	0.50	5.2%	OILINT	X
	<i>Total</i>			10.0	100.0%		
Enbridge Energy Partners, L.P.	EEP	40.79	0.61	-0.25	-2.1%	INFRA	
Enbridge Energy Management, L.I	EEQ	35.95	0.58	-0.25	-2.0%	INFRA	
El Paso Energy Partners	EPN	28.43	0.74	-0.50	-5.1%	INFRA	
Kinder Morgan, Inc.	KMI	42.02	0.43	-0.50	-2.9%	INFRA	
Kinder Morgan Energy Partners, L	KMP	34.15	0.73	-0.25	-2.5%	INFRA	
Kinder Morgan Management, LLC	KMR	28.74	0.70	-0.25	-2.4%	INFRA	
	<i>Total</i>			-1.50	-12.9%		

The portfolio is an exercise to stimulate thinking that could be implemented by some investors, but need not be fully replicated. Several principles are evident.

First and most distinctive, the choice of stocks is influenced by the McDep Ratio, an unlevered valuation measure. There is a sharp gap between the ratio for buys and for sells.

Second, a broad swath of the energy industry is represented from natural gas producers to infrastructure stocks. The portfolio could be the energy component of a diversified investment program.

Third, as a portfolio, it is diversified. Something should be working most of the time. Currently natural gas is working best and integrated oil is lagging. There are likely to be

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times when natural gas rests and integrated oil surges. Non-U.S. stocks offer some of the most attractive potential.

Fourth, weightings attempt to neutralize financial risk. Equity positions in high debt stocks are lower than equity positions in low debt stocks.

Fifth, the portfolio carries sell recommendations as negative positions. That could be a measure of opportunity preserved by making sales. Yet most investors probably never owned the specific sell recommendations. The sells could also be short positions for those investors who can and are willing to sell short.

### **Kinder Morgan a Sell Despite Recent Recovery in Stock Price**

Because stocks go up and down there are always times when bulls can appear to be right and bears can appear to be right. While buy recommendations have been advancing in the past month so have sell recommended **Kinder Morgan (KMI, KMR KMP)** securities. Have the facts changed? Should we change our opinion? No, the facts still justify a negative stance in our view.

First, the valuation is high. In our experience, high McDep Ratio stocks usually crash ultimately.

Second, the debt is high, particularly for KMI. Because KMI does not show KMP debt on its balance sheet, KMI looks like a sounder investment than it really is, in our opinion.

Third, general partner compensation is excessive at 40% of current distributions and 50% of incremental distributions. Excessive compensation appears to have encouraged management to take on too much debt and to use deceptive accounting as we see it.

Finally, the entities are, in effect, a Ponzi scheme that pays distributions in excess of equity cash flow. Unnaturally high distributions seem to contribute to unnaturally high stock price that apparently facilitates an unnatural amount of capital raising to finance acquisitions that primarily benefit the general partner we believe.

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**

	Symbol/ Rating	Price (\$/sh) 12-Dec 2002	Shares (mm)	Market Cap (\$mm)	Net Present Value (\$/sh)	Debt/ Present Value	McDep Ratio
<b>Mega Cap</b>							
Exxon Mobil Corporation	XOM	34.88	6,787	237,000	36.00	0.09	0.97
BP plc	BP	39.49	3,738	148,000	50.00	0.15	0.82
TotalFinaElf S.A.	TOT	66.59	1,346	89,600	90.00	0.14	0.78
Royal Dutch/Shell	RD B	42.70	3,481	149,000	60.00	0.15	0.75
ChevronTexaco Corporation	CVX B	67.87	1,063	72,100	101.00	0.17	0.73
<i>Total or Median</i>				<i>696,000</i>		<i>0.15</i>	<i>0.78</i>
<b>Energy Infrastructure</b>							
Southern Company	SO	27.85	701	19,500	23.90	0.47	1.09
American Electric Power Co. Inc.	AEP N	25.80	326	8,400	27.40	0.74	0.98
Enel S.p.a. (32%)	EN	25.15	388	9,800	32.70	0.39	0.86
Exelon Corporation	EXC N	52.31	323	16,900	70.80	0.45	0.86
Dominion Resources	D	52.98	269	14,300	76.20	0.45	0.83
Duke Energy Corporation	DUK	19.32	792	15,300	30.40	0.48	0.81
El Paso Corporation	EP N	6.88	590	4,100	20.00	0.66	0.78
<i>Total or Median</i>				<i>69,000</i>		<i>0.47</i>	<i>0.85</i>
<b>Natural Gas and Oil</b>							
Occidental Petroleum Corp.	OXY	28.60	376	10,800	32.00	0.38	0.93
Devon Energy	DVN	48.00	165	7,900	55.00	0.48	0.93
Anadarko Petroleum Corp.	APC	49.51	266	13,200	56.00	0.26	0.92
OAo Lukoil	LUKOY	62.50	299	18,700	70.00	0.08	0.90
Encana Corporation	ECA B	30.21	470	14,200	35.00	0.28	0.90
ENI S.p.A.	E	72.15	776	56,000	85.00	0.18	0.88
Burlington Resources	BR B	43.00	202	8,700	57.00	0.28	0.82
Unocal Corporation	UCL	31.12	245	7,600	45.00	0.33	0.79
ConocoPhillips	COP B	49.25	680	33,500	80.00	0.32	0.74
Marathon Oil Corporation	MRO B	21.37	310	6,600	40.00	0.37	0.71
Petroleo Brasileiro S. A.	PBR N	13.25	1,086	14,400	30.00	0.27	0.59
<i>Total or Median</i>				<i>181,000</i>		<i>0.28</i>	<i>0.85</i>
<b>Service</b>							
Baker Hughes Inc.	BHI	33.28	339	11,300	25.00	0.09	1.30
Schlumberger Ltd.	SLB	45.13	581	26,200	44.00	0.22	1.02
Halliburton Company	HAL	20.00	434	8,700	22.00	0.25	0.93

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

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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) 12-Dec 2002	EV/ Sales NTM	EV/ Ebitda NTM	P/E NTM	Dividend or Distribution NTM (%)	PV/ Ebitda NTM
<b>Mega Cap</b>								
Exxon Mobil Corporation	XOM		34.88	1.2	9.4	20	2.6	9.6
BP plc	BP		39.49	1.0	7.5	16	3.6	9.1
Royal Dutch/Shell	RD	B	42.70	1.0	7.2	16	4.0	9.5
TotalFinaElf S.A.	TOT		66.59	1.1	7.0	14	3.8	9.0
ChevronTexaco Corporation	CVX	B	67.87	0.9	6.6	15	4.1	9.0
		<i>Median</i>		<i>1.0</i>	<i>7.2</i>	<i>16</i>	<i>3.8</i>	<i>9.1</i>
<b>Energy Infrastructure</b>								
Southern Company	SO		27.85	3.4	9.8	16	4.8	9.0
American Electric Power Co. Inc.	AEP	N	25.80	0.5	8.9	9	9.3	9.0
Enel S.p.a. (32%)	EN		25.15	2.1	7.8	30	6.4	9.0
Exelon Corporation	EXC	N	52.31	2.3	7.7	12	3.4	9.0
Dominion Resources	D		52.98	3.1	7.5	11	4.9	9.0
Duke Energy Corporation	DUK		19.32	0.7	7.3	8	5.7	9.0
El Paso Corporation	EP	N	6.88	2.2	6.0	4	12.6	7.7
		<i>Median</i>		<i>2.2</i>	<i>7.7</i>	<i>11</i>	<i>5.7</i>	<i>9.0</i>
<b>Natural Gas and Oil</b>								
Burlington Resources	BR	B	43.00	4.6	6.9	23	1.3	8.4
Devon Energy	DVN		48.00	3.1	6.9	48	0.4	7.4
ConocoPhillips	COP	B	49.25	0.8	6.7	14	3.2	9.1
ENI S.p.A.	E		72.15	1.6	6.4	14	4.7	7.3
Anadarko Petroleum Corp.	APC		49.51	2.7	6.1	11	0.8	6.7
Occidental Petroleum Corp.	OXY		28.60	1.4	5.6	10	3.5	6.0
Encana Corporation	ECA	B	30.21	2.5	5.5	11	0.8	6.1
Marathon Oil Corporation	MRO	B	21.37	0.4	5.3	10	4.3	7.6
Unocal Corporation	UCL		31.12	2.2	4.9	11	2.6	6.2
OAOLukoil	LUKOY		62.50	1.6	4.4	9	1.7	4.9
Petroleo Brasileiro S. A.	PBR	N	13.25	1.2	3.0	3	10.2	5.0
		<i>Median</i>		<i>1.6</i>	<i>5.6</i>	<i>11</i>	<i>2.6</i>	<i>6.7</i>
<b>Service</b>								
Baker Hughes Inc.	BHI		33.28	2.3	14.0	40	1.4	10.8
Schlumberger Ltd.	SLB		45.13	2.4	9.1	33	1.7	8.9
Halliburton Company	HAL		20.00	1.0	8.4	18	2.5	9.0

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation and amortization; NTM = Next Twelve Months Ended September 30, 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**  
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<b>Energy Infrastructure</b>								
Kinder Morgan Energy Partners, L.P.	KMP	S	34.15	135	4,600	14.00	0.47	1.75
Kinder Morgan Management, LLC	KMR	S	28.74	40	1,100	14.00	0.47	1.56
Kinder Morgan, Inc.	KMI	S	42.02	123	5,200	8.10	0.87	1.52
Enterprise Products Part.	EPD		17.80	175	3,100	9.50	0.43	1.50
Constellation Energy Group	CEG		27.51	164	4,500	20.00	0.69	1.12
Calpine Corporation	CPN	N	3.47	375	1,300	1.00	0.97	1.07
AES Corporation	AES		3.21	543	1,700	1.00	0.98	1.05
Williams Companies	WMB		2.34	521	1,200	1.00	0.97	1.04
CMS Energy Corporation	CMS		9.00	137	1,200	8.70	0.90	1.00
Sempra Energy	SRE		23.95	207	5,000	24.30	0.64	1.00
Dynegy Inc.	DYN		0.90	418	400	1.00	0.94	0.99
Valero Energy Corporation	VLO		34.90	115	4,000	40.00	0.60	0.95
Mirant Corporation	MIR		1.78	413	700	4.00	0.86	0.92
		<i>Total or Median</i>			<i>34,000</i>		<i>0.86</i>	<i>1.05</i>
<b>Natural Gas and Oil</b>								
Murphy Oil Corporation	MUR		85.70	46	3,900	82.00	0.18	1.04
Ocean Energy, Inc.	OEI		20.94	178	3,700	20.00	0.30	1.03
Petro-Canada	PCZ		31.95	262	8,400	31.00	0.11	1.03
XTO Energy Inc.	XTO	B	25.25	125	3,200	26.00	0.25	0.98
Suncor Energy	SU		16.10	454	7,300	17.00	0.25	0.96
Imperial Oil Limited (30%)	IMO		28.90	114	3,300	33.00	0.13	0.89
Norsk Hydro ASA (49%)	NHY		42.15	126	5,300	54.00	0.18	0.82
CNOOC Limited (19%)	CEO	B	25.49	78	1,990	33.00	-	0.77
PetroChina Company Ltd (10%)	PTR	B	19.83	176	3,500	30.00	0.17	0.72
		<i>Total or Median</i>			<i>40,600</i>		<i>0.18</i>	<i>0.96</i>
<b>Coal Producers (Small Cap)</b>								
Consol Energy Inc.	CNX		15.86	79	1,300	5.00	0.88	1.25
Penn Virginia Res. Part, L.P.	PVR		20.77	15	300	17.00	-	1.23
Peabody Energy	BTU		26.90	55	1,500	18.00	0.75	1.12
Arch Coal	ACI		21.07	48	1,000	18.00	0.61	1.06
Fording Inc (US\$)	FDG		21.35	52	1,100	23.00	0.04	0.93
Alliance Res. Part, L.P.	ARLP		23.50	16	400	29.00	0.36	0.88
Massey Energy	MEE		9.47	75	700	18.00	0.37	0.70
					<i>6,300</i>		<i>0.37</i>	<i>1.06</i>

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

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## Meter Reader

### A Weekly Analysis of Energy Stocks Using the McDep Ratio

December 16, 2002

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

	<i>Symbol/ Rating</i>	<i>Price (\$/sh) 12-Dec 2002</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>
<b>Energy Infrastructure</b>							
Enterprise Products Part.	EPD	17.80	1.6	16.5	39	7.0	11.0
Kinder Morgan Energy Partners, L.P.	KMP S	34.15	3.3	14.8	17	7.1	8.4
Kinder Morgan, Inc.	KMI S	42.02	3.6	13.5	16	0.5	8.8
Kinder Morgan Management, LLC	KMR S	28.74	2.9	13.1	14	8.5	8.4
Calpine Corporation	CPN N	3.47	1.9	10.9			10.2
Constellation Energy Group	CEG	27.51	2.9	10.2	11	3.5	9.2
AES Corporation	AES	3.21	2.8	9.5			9.0
Williams Companies	WMB	2.34	1.9	9.3		-	9.0
CMS Energy Corporation	CMS	9.00	1.3	9.0	5	8.0	9.0
Sempra Energy	SRE	23.95	2.5	9.0	9	4.2	9.0
Dynegy Inc.	DYN	0.90	0.2	9.0		-	9.0
Mirant Corporation	MIR	1.78	0.4	8.3	1	-	9.0
Valero Energy Corporation	VLO	34.90	0.4	7.4	9	1.1	7.8
	<i>Median</i>		<i>1.9</i>	<i>9.5</i>	<i>11</i>	<i>3.5</i>	<i>9.0</i>
<b>Natural Gas and Oil</b>							
Suncor Energy	SU	16.10	3.5	10.4	23	1.4	10.8
Murphy Oil Corporation	MUR	85.70	1.0	8.3	40	1.8	8.0
Ocean Energy, Inc.	OEI	20.94	4.8	8.1	36	0.8	7.8
Petro-Canada	PCZ	31.95	1.9	7.6	20	0.8	7.4
Imperial Oil Limited (30%)	IMO	28.90	1.1	7.3	14	1.9	8.1
XTO Energy Inc.	XTO B	25.25	4.6	6.3	12	0.2	6.4
CNOOC Limited (19%)	CEO B	25.49	3.4	4.4	9	2.5	5.7
Norsk Hydro ASA (49%)	NHY	42.15	0.8	3.9	11	2.5	4.8
PetroChina Company Ltd (10%)	PTR B	19.83	1.6	3.6	7	6.4	5.1
	<i>Median</i>		<i>1.9</i>	<i>7.3</i>	<i>14</i>	<i>1.8</i>	<i>7.4</i>
<b>Coal Producers (Small Cap)</b>							
Penn Virginia Res. Part, L.P.	PVR	20.77	9.8	13.6	15	9.6	11.0
Consol Energy Inc.	CNX	15.86	2.0	12.2	36	3.5	9.7
Peabody Energy	BTU	26.90	1.6	10.1	23	1.5	9.0
Arch Coal	ACI	21.07	1.6	9.6	118	1.1	9.0
Fording Inc (US\$)	FDG	21.35	1.9	8.4	19	1.8	9.0
Massey Energy	MEE	9.47	1.1	6.3	237	1.7	8.9
Alliance Res. Part, L.P.	ARLP	23.50	1.3	5.3	7	8.5	6.0
			<i>1.6</i>	<i>9.6</i>	<i>23</i>	<i>1.8</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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## Meter Reader

### A Weekly Analysis of Energy Stocks Using the McDep Ratio

December 16, 2002

**Table S-1**  
**Small Cap Energy Companies**  
**Rank by McDep Ratio: Market Cap and Debt to Present Value**

	Symbol/ Rating		Price (\$/sh) 12-Dec 2002	Shares (mm)	Market Cap (\$mm)	Net Present Value (\$/sh)	Debt/ Present Value	McDep Ratio
<b>Energy Infrastructure</b>								
El Paso Energy Partners	EPN	S	28.43	57.0	1,620	5.60	0.64	2.46
Enbridge Energy Partners, L.P.	EEP	S	40.79	35.0	1,430	14.90	0.64	1.63
Plains All Amer. Pipeline	PAA		23.53	50.0	1,180	11.60	0.49	1.53
Enbridge Energy Management, L.L.C	EEQ	S	35.95	9.0	320	14.90	0.64	1.50
Northern Border Partners	NBP		36.64	44.0	1,610	20.40	0.62	1.30
TEPPCO Partners, L.P.	TPP		27.05	50.0	1,350	17.70	0.56	1.23
AmeriGas Partners, L.P.	APU		21.93	49.4	1,080	18.30	0.51	1.09
Western Gas Resources	WGR		37.17	33.8	1,260	37.60	0.28	0.99
<i>Total or Median</i>					9,900		0.59	1.40
<b>Natural Gas and Oil</b>								
Provident Energy Trust	PVX		6.75	63.5	430	5.00	0.28	1.25
Dorchester Hugoton, Ltd.	DHULZ		13.58	10.7	146	11.60	(0.17)	1.20
Newfield Exploration Company	NFX		38.79	48.9	1,900	35.00	0.24	1.08
Pogo Producing Company	PPP		38.38	64.5	2,480	35.00	0.23	1.07
Quicksilver Resources Inc.	KWK		24.10	20.4	490	22.00	0.38	1.06
Unit Corporation	UNT		18.84	40.0	750	18.00	0.03	1.05
Penn Virginia Corporation	PVA		35.52	9.0	320	38.00	0.09	0.94
Encore Acquisition Corp. (25%)	EAC		18.90	7.0	132	21.00	0.20	0.92
Spinnaker Exploration Company	SKE		22.92	34.0	780	25.00	-	0.92
Swift Energy Company	SFY		10.19	27.1	280	13.00	0.48	0.89
Enerplus Resources Fund	ERF		17.34	71.0	1,230	20.00	0.15	0.89
Forest Oil Corporation	FST	N	28.83	48.1	1,390	35.00	0.32	0.88
Stone Energy Company	SGY		34.50	26.5	910	42.00	0.28	0.87
Pengrowth Energy Trust	PGH		9.03	84.6	760	11.00	0.16	0.85
Southwestern Energy Company	SWN		11.85	26.1	310	17.00	0.46	0.84
Magnum Hunter Resources, Inc.	MHR		6.35	69.0	440	11.00	0.45	0.77
Canadian Oil Sands Trust (US\$)	COS_u.TO	B	22.50	57.3	1,290	40.00	0.13	0.62
<i>Total or Median</i>					14,000		0.23	0.92
<b>Natural Gas Royalty Trusts</b>								
Cross Timbers Royalty Trust	CRT		19.80	6.0	119	19.90	-	1.00
San Juan Basin Royalty Trust	SJT	B	13.53	46.6	630	16.30	-	0.83
Hugoton RoyaltyTrust (46%)	HGT		12.86	18.4	240	16.10	-	0.80
<b>Micro Cap</b>								
Energy Partners Ltd.(30%)	EPL	B	10.78	8.3	89	10.00	0.38	1.05
Abraxas Petroleum Corporation	ABP		0.64	30.0	19	1.00	0.91	0.97
Purcell Energy, Ltd. (US\$)	PEL.TO	N	1.60	26.6	43	2.50	0.29	0.75

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

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December 16, 2002

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	Symbol/ Rating		Price (\$/sh) 12-Dec 2002	EV/ Sales NTM	EV/ Ebitda NTM	P/E NTM	Dividend or Distribution NTM (%)	PV/ Ebitda NTM
<b>Energy Infrastructure</b>								
El Paso Energy Partners	EPN	S	28.43	8.2	22.1	71	9.5	9.0
Enbridge Energy Partners, L.P.	EEP	S	40.79	1.9	14.7	31	8.8	9.0
Plains All Amer. Pipeline	PAA		23.53	0.2	13.7	19	9.1	9.0
Enbridge Energy Management, L.L.C	EEQ	S	35.95	1.8	13.5	27	10.0	9.0
Northern Border Partners	NBP		36.64	6.7	11.7	14	8.7	9.0
TEPPCO Partners, L.P.	TPP		27.05	0.9	11.1	14	8.9	9.0
AmeriGas Partners, L.P.	APU		21.93	1.6	9.8	21	10.0	9.0
Western Gas Resources	WGR		37.17	0.7	8.9	21	0.5	9.0
	<i>Median</i>			<i>1.7</i>	<i>12.6</i>	<i>21</i>	<i>9.0</i>	<i>9.0</i>
<b>Natural Gas and Oil</b>								
Unit Corporation	UNT		18.84	3.7	10.2	32	-	9.8
Dorchester Hugoton, Ltd.	DHULZ		13.58	6.5	9.7	13	8.9	8.1
Quicksilver Resources Inc.	KWK		24.10	5.5	9.1	23	-	8.6
Enerplus Resources Fund	ERF		17.34	5.2	7.3	20	13.5	8.3
Canadian Oil Sands Trust (US\$)	COS_u.TO	B	22.50	3.6	7.0	8	5.7	11.2
Forest Oil Corporation	FST	N	28.83	4.0	6.6	21	-	7.5
Swift Energy Company	SFY		10.19	4.1	6.6	39	-	7.4
Provident Energy Trust	PVX		6.75	3.6	6.5	69	20.9	5.2
Magnum Hunter Resources, Inc.	MHR		6.35	3.3	6.1	26	-	7.9
Encore Acquisition Corp. (25%)	EAC		18.90	4.1	5.9	12	-	6.5
Pogo Producing Company	PPP		38.38	3.7	5.9	19	0.3	5.5
Pengrowth Energy Trust	PGH		9.03	3.5	5.6	16	16.6	6.6
Penn Virginia Corporation	PVA		35.52	3.4	5.4	23	2.5	5.8
Southwestern Energy Company	SWN		11.85	2.6	5.3	8	-	6.3
Newfield Exploration Company	NFX		38.79	3.3	4.8	16	-	4.4
Stone Energy Company	SGY		34.50	3.3	4.6	13	-	5.3
Spinnaker Exploration Company	SKE		22.92	3.3	3.9	15	-	4.3
	<i>Median</i>			<i>3.6</i>	<i>6.1</i>	<i>19</i>	<i>-</i>	<i>6.6</i>
<b>Natural Gas Royalty Trusts</b>								
Cross Timbers Royalty Trust	CRT		19.80	6.6	9.3	10	10.1	9.3
San Juan Basin Royalty Trust	SJT	B	13.53	5.2	6.5	9	11.5	7.8
Hugoton RoyaltyTrust (46%)	HGT		12.86	4.7	6.4	9	11.2	8.0
<b>Micro Cap</b>								
Abraxas Petroleum Corporation	ABP		0.64	5.6	9.2		-	9.5
Energy Partners Ltd.(30%)	EPL	B	10.78	3.2	6.1		-	5.8
Purcell Energy, Ltd. (US\$)	PEL.TO	N	1.60	3.9	5.9	19	-	7.8

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