

Meter Reader

A Weekly Analysis of Energy Stocks Using the McDep Ratio

November 15, 2005

\$10 Natural Gas

Summary and Recommendation

Our long-term expectation of natural gas price underlying McDep Ratios looks high compared to six-year futures, but not to one-year futures. Smart as futures traders have been in anticipating oil price increases, the commodity specialists seem to be overlooking the long-term implications for natural gas. Part of the explanation may lie in the less advanced state of natural gas trading recently plagued with the hurricane-induced shutdown of the central pricing point. In any event we like the prospects for buy-recommended natural gas producers including **Anadarko (APC)**, **Devon Energy (DVN)**, **Cimarex (XEC)**, **Norsk Hydro (NHY)** and **Total (TOT)**.

Futures Traders May be Wrong on Natural Gas

A new client asks, "Why do you use \$10 gas assumptions when the 72-month strip is about \$8? You are conservative on oil using \$50 when the 72 month strip is \$56. Shouldn't you be using \$7.50 gas?"

The latest recap supports the question (see table Oil and Gas Commodity and Stock Price). The prices listed in the column headed **McDep Ratio Denominator** are the long-term assumptions in our calculation of present value.

Oil and Gas Commodity and Stock Price
Monday, November 14, 2005

	<u>Units</u>	<u>Futures Price</u>	<u>McDep Ratio</u>		
		<u>Six-Year</u>	<u>One-Year</u>	<u>Denominator</u>	
We take the futures market at face value for our projection of next twelve months cash flow for oil and for gas. The most actively traded futures are those for the next few months. We use the futures market only as a frame of reference for refining crack and for longer term expectations.	Crude Oil	\$/barrel	56.41	59.28	50
	Natural Gas	\$/million btu	8.42	10.82	10
	Oil Refining	\$/barrel		11.59	10
	<u>Stocks</u>				<u>Median McDep Ratio</u>
	Mega Cap				0.78
	Producer/Refiner				0.83
	Independent - Large				0.75
	Independent - Small				0.69
	Income				0.98

Traditionally longer-term contracts have had a

Source: McDep Associates, Bloomberg, New York Mercantile Exchange, Yahoo and company disclosures

"backwardation" bias which adjusts prices lower artificially as time period lengthens. The best explanation we have for that bias is that counterparties have to make money. Counterparties are typically financial houses who may take the other side of a contract with a producer or consumer.

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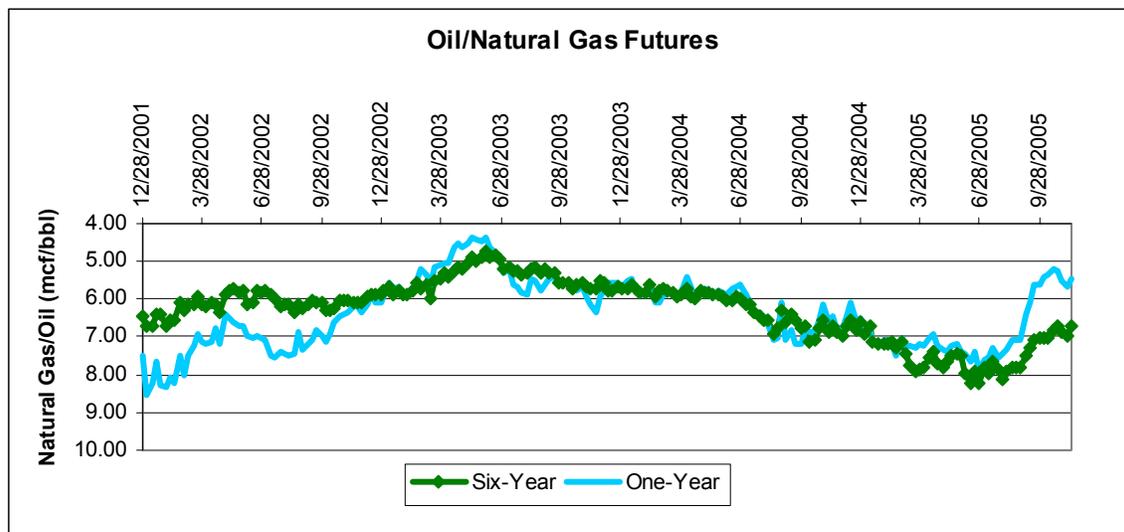
One of the remarkable adjustments of the futures market is that the oil curve is nearly flat. The price five years out is not much lower than the price today. That is more credible than steeper backwardation. We believe the curve should be ascending. Such a pattern would have the wonderful effect of minimizing the pain of current energy price while sending a clear message that consumers and producers should be adjusting to a higher price in years ahead.

Natural gas trading is not as advanced as oil futures. The natural gas curve has steep backwardation which to us is unrealistic relative to oil. The fundamental justification is the long-term trend for natural gas price to increase relative to crude oil. We think the environmental superiority of the fuel has a lot to do with it. Thirty five years ago natural gas was priced at the oil price divided by 30 as we recall. Forward thinkers visualized a divisor of 10 that eventually prevailed for awhile. Today the common equivalency quoted by practically every producer is a divisor of 6. In our opinion 5 lies just around the corner.

Electricity will likely be the great driver of natural gas demand. Electricity is our fastest growing, highest form of bulk energy. The *Wall Street Journal* reports on November 14 that the new generation of computer servers uses disproportionately more electricity. Natural gas is the preferred fuel for generating electricity particularly in geographic areas of intense computer usage.

There is no practical limit to what electric generators can pay for natural gas compared to the value of the electricity at a peak period in a critical industry. Natural gas priced at crude oil divided by 5 generates electricity at the same cost as diesel or jet fuel. Yet, the latter fuels are not as clean and some areas do not allow them to be substituted for natural gas.

We have already been to 5 in a cold winter (see chart [Natural Gas/Oil Futures](#)). Briefly natural gas price exceeded the divisor of 5 for the near-month futures only a few weeks ago. Thus, if we have been there before, we are likely to be there again. That technical analysis impression is backed up by fundamental justification, in our opinion.



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Is There a \$20 a Barrel Speculation in the Price of Oil?

The chairman of buy-recommended **ExxonMobil (XOM)** appeared to endure largely unjustified beratement by our political leaders last week with anticipated self-control. Among statements attributed to Mr. Raymond was the comment that there was \$20 a barrel of speculation in the price of oil. Who knows what further misguided indignation might have rained on him had he said instead that higher oil prices were justified. Any public statements by a major oil company executive have to be guarded.

The view appears common among those conditioned by the oil market during the decade of the 1990s. It was reinforced by major oil companies who emphasized how careful they were to invest in new projects that could make money at the low oil price presumed to prevail indefinitely.

Blaming the speculators, or speculation, is one of the oldest excuses in recorded history. People like stability and dislike disruption. Those who are smart enough to anticipate change often get blamed unfairly for causing the change.

We repeat our observation that during the 1970s the smartest people we identified in anticipating change in oil and natural gas price were those who made acquisitions of independent producers at prices that seemed high at the time. During the 2000s the smartest people we identify in anticipating change in oil price are futures traders. In both times there were investors and executives in large companies whose stock prices lagged behind industry fundamentals.

Select Stocks on Valuation and Strategic Considerations

Stocks are ranked in descending order of McDep Ratio to suggest “buy low and sell high” (see table [Rank by McDep Ratio](#)). We recommend representation in each of the five groups from Mega Cap to Income with emphasis on low McDep Ratio stocks.

Next Twelve Months Cash Flow, Ebitda, changes continuously with futures prices for natural gas and oil (see table [Rank by EV/Ebitda](#)). We regularly check the correlation of present value with cash flow multiple by business and expected life of production.

Investors can diversify political risk by owning stocks of companies headquartered in other countries (see table [Home Country and Business Segments](#)). Russian stocks offer potential resource value beyond that reflected in the McDep Ratio. Finally, we recommend balance among business segments. Investors should be sure to be represented in the stocks of companies with strong natural gas concentration. Nor should that be at the expense of reasonable downstream exposure in other stocks.

Timely analyses are available on all recommended stocks (see table [Index of Recent Research](#)).

Kurt H. Wulff, CFA

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Oil and Gas Producers Rank by McDep Ratio: Market Cap and Debt to Present Value

	Symbol/ Rating		Price (\$/sh) 14-Nov 2005	Shares (mm)	Market Cap (\$mm)	Net Present Value (\$/sh)	Debt/ Present Value	McDep Ratio
Mega Cap								
BP plc	BP	B	65.50	3,501	229,000	77.00	0.11	0.87
Total S.A.	TOT	B	124.36	1,176	146,000	160.00	0.12	0.80
Exxon Mobil Corporation	XOM	B	56.65	6,303	357,000	74.00	0.04	0.78
Royal Dutch Shell plc	RDS-A	B	60.56	3,352	203,000	84.00	0.10	0.75
Chevron Corporation	CVX	B	56.60	2,256	128,000	85.00	0.13	0.71
<i>Total or Median</i>					<i>1,063,000</i>		<i>0.11</i>	<i>0.78</i>
Producer/Refiners - Large Cap and Mid Cap								
Kinder Morgan, Inc.	KMI	S2	89.13	123	10,960	20.00	0.76	1.84
Imperial Oil Limited (30%)	IMO	B	89.73	102	9,170	84.00	0.10	1.06
Marathon Oil Corporation	MRO	B	58.31	368	21,470	65.00	0.27	0.93
Lukoil Oil Company	LUKOY	B	56.05	830	47,000	65.00	0.03	0.87
Petro-Canada	PCZ	B	34.91	525	18,340	42.00	0.18	0.86
Suncor Energy	SU	B	52.55	461	24,230	68.00	0.11	0.80
Norsk Hydro ASA	NHY	B	98.00	251	24,590	130.00	0.11	0.78
ConocoPhillips	COP	B	63.33	1,418	89,800	100.00	0.15	0.69
Gazprom (50%)	OGZPF	B	60.10	1,022	61,400	90.00	0.03	0.68
PetroChina Company Ltd (10%)	PTR	B	74.94	176	13,170	120.00	0.01	0.63
<i>Total or Median</i>					<i>320,000</i>		<i>0.11</i>	<i>0.83</i>
Independent Natural Gas and Oil - Large Cap and Mid Cap								
Encana Corporation	ECA	B	43.15	876	37,800	51.00	0.20	0.88
XTO Energy Inc.	XTO	B	39.06	370	14,450	48.00	0.20	0.85
Burlington Resources	BR	B	66.80	381	25,500	86.00	0.09	0.80
CNOOC Limited (29%)	CEO	B	63.15	119	7,530	84.00	0.01	0.75
Devon Energy Corporation	DVN	B	54.80	454	24,900	86.00	0.15	0.69
Occidental Petroleum Corp.	OXY	B	74.41	404	30,100	120.00	0.11	0.66
Anadarko Petroleum Corp.	APC	B	85.67	238	20,400	140.00	0.12	0.66
<i>Total or Median</i>					<i>161,000</i>		<i>0.12</i>	<i>0.75</i>
Independent Natural Gas and Oil - Small Cap								
Berry Petroleum Company	BRY	B	57.52	23	1,290	65.00	0.11	0.90
Encore Acquisition Company	EAC	B	31.81	50	1,580	50.00	0.21	0.71
Energy Partners Ltd.	EPL	B	22.25	41	910	38.00	0.19	0.66
Cimarex Energy Company	XEC	B	37.14	85	3,160	64.00	0.11	0.63
<i>Total or Median</i>					<i>6,900</i>		<i>0.15</i>	<i>0.69</i>
Income								
Kinder Morgan Energy Partners, L.P.	KMP	S3	48.45	159	7,710	15.00	0.55	2.00
Kinder Morgan Management, LLC	KMR	S3	46.02	57	2,600	15.00	0.55	1.92
Pengrowth Energy Trust	PGH		20.97	157	3,290	20.00	0.16	1.04
San Juan Basin Royalty Trust	SJT		39.29	47	1,830	40.00	-	0.98
Enerplus Resources Fund	ERF		41.10	105	4,310	42.00	0.13	0.98
Penn West Energy Trust	PWTFF	B	27.09	176	4,760	28.00	0.15	0.97
Canadian Oil Sands Trust (US\$)	COSWF	B	90.78	93	8,420	136.00	0.11	0.70
<i>Total or Median</i>					<i>32,900</i>		<i>0.15</i>	<i>0.98</i>

B = Buy, S2 = Short half unlevered position, S3 = Short quarter unlevered position

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

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Oil and Gas Producers

Rank by EV/Ebitda: Enterprise Value to Earnings Before Interest, Tax, Deprec.

	Symbol/ Rating		Price (\$/sh) 14-Nov 2005	Adjstd Resrvs/ Prod NTM	PV/ Ebitda NTM	EV/ Ebitda NTM	P/E NTM	Divd or Distrib NTM (%)
Mega Cap								
BP plc	BP	B	65.50	9.4	6.4	5.6	9	3.3
Exxon Mobil Corporation	XOM	B	56.65	11.7	6.9	5.4	9	2.0
Total S.A.	TOT	B	124.36	9.2	6.4	5.2	9	2.8
Chevron Corporation	CVX	B	56.60	9.6	6.0	4.3	7	3.2
Royal Dutch Shell plc	RDS-A	B	60.56	7.5	5.7	4.3	8	3.6
	<i>Median</i>			9.4	6.4	5.2	9	3.2
Producer/Refiners - Large Cap and Mid Cap								
Kinder Morgan, Inc.	KMI	S2	89.13		7.5	13.8	18	3.4
Gazprom (50%)	OGZPF	B	60.10	22.0	13.0	8.8	18	0.6
Suncor Energy	SU	B	52.55	17.9	9.7	7.8	16	0.4
Imperial Oil Limited (30%)	IMO	B	89.73	11.5	7.2	7.6	13	0.9
Marathon Oil Corporation	MRO	B	58.31	7.4	5.1	4.7	7	2.3
Petro-Canada	PCZ	B	34.91	5.7	5.3	4.5	8	0.8
Lukoil Oil Company	LUKOY	B	56.05	19.8	4.9	4.3	7	1.7
Norsk Hydro ASA	NHY	B	98.00	8.1	5.3	4.1	8	3.1
PetroChina Company Ltd (10%)	PTR	B	74.94	13.9	6.3	4.0	8	5.0
ConocoPhillips	COP	B	63.33	11.2	5.8	4.0	6	2.0
	<i>Median</i>			11.5	6.1	4.6	8	1.8
Independent Natural Gas and Oil - Large Cap and Mid Cap								
XTO Energy Inc.	XTO	B	39.06	10.8	6.1	5.2	9	0.5
Encana Corporation	ECA	B	43.15	7.1	5.2	4.5	8	0.7
Occidental Petroleum Corp.	OXY	B	74.41	11.0	6.5	4.3	7	1.9
Anadarko Petroleum Corp.	APC	B	85.67	12.5	6.3	4.1	8	0.8
CNOOC Limited (29%)	CEO	B	63.15	9.4	5.4	4.1	7	3.7
Burlington Resources	BR	B	66.80	10.0	4.9	3.9	8	0.6
Devon Energy Corporation	DVN	B	54.80	7.8	4.7	3.2	5	0.5
	<i>Median</i>			10.0	5.4	4.1	8	0.7
Independent Natural Gas and Oil - Small Cap								
Berry Petroleum Company	BRY	B	57.52	10.2	5.8	5.2	10	1.1
Encore Acquisition Company	EAC	B	31.81	14.3	6.5	4.7	10	-
Cimarex Energy Company	XEC	B	37.14	7.6	4.5	2.8	6	-
Energy Partners Ltd.	EPL	B	22.25	5.7	4.2	2.8	7	-
	<i>Median</i>			8.9	5.2	3.7	8	-
Income								
Kinder Morgan Energy Partners, L.P.	KMP	S3	48.45		7.9	15.8	22	6.5
Kinder Morgan Management, LLC	KMR	S3	46.02		7.9	15.2	21	6.9
Canadian Oil Sands Trust (USS)	COSWF	B	90.78	20.0	12.1	8.5	10	3.7
San Juan Basin Royalty Trust	SJT		39.29	12.1	7.9	7.7	8	12.0
Pengrowth Energy Trust	PGH		20.97	7.6	5.7	6.0	9	11.1
Enerplus Resources Fund	ERF		41.10	9.8	5.7	5.6	8	10.4
Penn West Energy Trust	PWTFF	B	27.09	8.0	4.6	4.5	6	11.6
	<i>Median</i>			9.8	7.9	7.7	9	10.4

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation and amortization; NTM = Next Twelve Months Ended September 30, 2006; P/E = Stock Price to Earnings; PV = Present Value of oil and gas and other businesses

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Oil and Gas Producers Home Country and Business Segments

	Symbol/ Rating		Non- U.S. Domicile	North Amer. Natural Gas (%)	Rest of World Natural Gas (%)	Oil Prod'n (%)	Down- stream (%)	Total Present Value (US\$mm)
Mega Cap								
Exxon Mobil Corporation	XOM	B		10	19	38	33	487,000
BP plc	BP	B	UK	10	12	42	36	302,000
Royal Dutch Shell plc	RDS-A	B	UK	4	19	33	45	313,000
Chevron Corporation	CVX	B		9	9	52	29	221,000
Total S.A.	TOT	B	France	-	28	37	35	214,000
			<i>Total or Median</i>	9	19	38	35	1,537,000
Producer/Refiners - Large Cap and Mid Cap								
PetroChina Company Ltd.	PTR	B	China	-	9	71	20	213,000
Gazprom	OGZPF	B	Russia		100			190,000
ConocoPhillips	COP	B		13	7	45	35	166,800
Lukoil Oil Company	LUKOY	B	Russia	-	-	62	38	55,700
Norsk Hydro ASA	NHY	B	Norway	-	27	38	35	36,800
Suncor Energy	SU	B	Canada	5	-	89	7	35,100
Marathon Oil Corporation	MRO	B		14	8	33	46	32,900
Imperial Oil Limited	IMO	B	Canada	13	-	62	25	31,800
Petro-Canada	PCZ	B	Canada	23	4	53	20	27,100
			<i>Median</i>	9	7	58	30	789,000
Independent Natural Gas and Oil - Large Cap and Mid Cap								
Occidental Petroleum Corp.	OXY	B		15	1	73	11	54,700
Encana Corporation	ECA	B	Canada	83	-	17	-	55,600
Devon Energy Corporation	DVN	B		64	-	36	-	46,000
Anadarko Petroleum Corp.	APC	B		60	-	40	-	37,700
Burlington Resources	BR	B		69	5	26	-	36,000
CNOOC Limited	CEO	B	China	-	12	88	-	34,800
XTO Energy Inc.	XTO	B		83	-	17	-	22,100
			<i>Median</i>	64	-	36	-	287,000
Independent Natural Gas and Oil - Small Cap								
Cimarex Energy Company	XEC	B		71	-	29	-	6,080
Encore Acquisition Company	EAC	B		25	-	75	-	3,150
Berry Petroleum Company	BRY	B		15	-	85	-	1,950
Energy Partners Ltd.	EPL	B		54	-	46	-	1,930
			<i>Median</i>	40	-	60	-	13,110
Income								
Canadian Oil Sands Trust (US\$)	COSWF	B	Canada	-	-	100	-	14,200
Penn West Energy Trust	PWTFF	B	Canada	43	-	57	-	5,800
Enerplus Resources Fund	ERF		Canada	61	-	39	-	5,070
Pengrowth Energy Trust	PGH		Canada	43	-	57	-	3,720
San Juan Basin Royalty Trust	SJT			100	-	-	-	1,860
			<i>Median</i>	43	-	57	-	30,700

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Index of Recent Research

Stock Ideas

<u>Date</u>	<u>Symbol</u>	<u>Stock</u>	<u>Theme</u>
14-Nov	PTR	PetroChina Company Limited	Diversify Political Risk
11-Nov	SJT	San Juan Basin Royalty Trust	Record Distributions Ahead
11-Nov	EPL	Energy Partners, Ltd.	Denali Partners
10-Nov	PWTF	Penn West Energy Trust	Quality Income Stock
7-Nov	TOT	Total S.A.	Global Clean Fuel Supplier
4-Nov	BRY	Berry Petroleum	Expanding on Multiple Fronts
4-Nov	XEC	Cimarex Energy Company	Doubling Done
3-Nov	DVN	Devon Energy Corporation	No Hedges in 2006
1-Nov	CEO	CNOOC Ltd	Low Price for Natural Gas
1-Nov	OXY	Occidental Petroleum Corporation	Vintage Pending
31-Oct	CVX	Chevron Corporation	Lower Net Present Value to \$85 a Share
31-Oct	APC	Anadarko Petroleum Corporation	Long Life for Free
31-Oct	BR	Burlington Resources, Inc.	Natural Gas Beneficiary
28-Oct	XOM	Exxon Mobil Corporation	Momentum Challenge
28-Oct	RDSA	Royal Dutch Shell plc	Downstream Gains
28-Oct	SU	Suncor Energy Inc.	Up and Running Again
28-Oct	MRO	Marathon Oil Corporation	Downstream Gains
28-Oct	PCZ	Petro-Canada	Oil Sands Producer
27-Oct	COP	ConocoPhillips	Emerging Mega Cap
27-Oct	ECA	EnCana Corporation	Natural Gas Leader
27-Oct	EAC	Encore Acquisition Company	Long Life Oil Value
26-Oct	BP	BP p.l.c.	Lower Net Present Value to \$77 a Share
26-Oct	NHY	Norsk Hydro ASA	Record Results
26-Oct	COSWF	Canadian Oil Sands Trust	Distribution Doubled and Unit Split Proposed
21-Oct	* IMO	Imperial Oil Limited	The Unpromoters
21-Oct	* XTO	XTO Energy Inc.	Ready for Winter
20-Oct	* KMx	Kinder Morgan	Wheel and Deal
14-Oct	* OXY	Occidental Petroleum Corporation	Buy Despite Momentum Signal
13-Oct	* APC BR DVN OXY XTO		Edge of Panic
7-Oct	* ECA IMO PCZ SU		Exaggerated Stock Price Change
26-Sep	* LUKOY	Lukoil Oil Company	Adapting to New Russia
15-Sep	* OGZPF	Gazprom	The Ultimate Natural Gas Stock

Meter Reader - A Weekly Analysis

15-Nov		\$10 Natural Gas
8-Nov	*	World Energy Outlook
1-Nov	*	Quarterly Results and the Correlation
25-Oct	*	Back Up the Truck
18-Oct	*	Winter Rally

Natural Gas and Oil Royalty Trusts - A Weekly Analysis

11-Nov		Hold That Line
4-Nov	*	What to Do with the Money
28-Oct	*	Winter Payoff
21-Oct	*	Third Week in October

* Archived on www.mcdep.com

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