

## **Energy Vision and Reality**

### **Summary and Recommendation**

Our vision is an oil price in 2010 of \$150 a barrel while the reality is that our current buy recommendations are premised on \$50 a barrel in today's dollars. Our vision for natural gas is an international commodity priced at a premium to crude oil in the market place, a reality reflected in near-term, but not yet in long-term price. Our vision for refined products is more investment stimulated by increasingly stringent environmental standards. After stock price for the typical buy recommendation advanced 50% in 2005, we are prepared for more modest change in 2006, but look for larger gains perhaps as soon as 2007-2008. Buy recommendations include oil producers **Suncor (SU)** and **Encore Acquisition (EAC)**, natural gas producer **XTO Energy (XTO)** and mega cap **BP plc (BP)**.

### **Vision: Oil Price Multiplies Seven and a Half Times in Ten Years**

Crude oil price multiplied some ten times in the decade of the 1970s. Tripling in the first half of the 2000s, the price would be up nine times after another tripling in a half decade. Yet we recall with hindsight that oil price was too high for a few years after 1980. Instead we think that if oil price went up just 7.5 times in the 2000s, \$20 to \$150, the ending level could be better sustained.

Those who forecast lower price often cite inventory statistics to conclude "the market is well supplied". The statement presumes there is enough oil flowing and in storage to meet immediate needs. It says little about tomorrow. Let's hope the market is always well supplied because we do not want to see actual shortages.

Forecasts from government agencies and consultants often seem complacent. There are a few forecasts of difficult times that may be ahead for energy supply. We feel neither complacent nor alarmist. We see limits on long-term supply at current price and we see demand that rarely lets up.

In the end, each individual makes his or her own call on the future. The commodity markets reflect the choices of many individuals. The continuing trend is for choices to be made increasingly for higher energy price than for lower energy price.

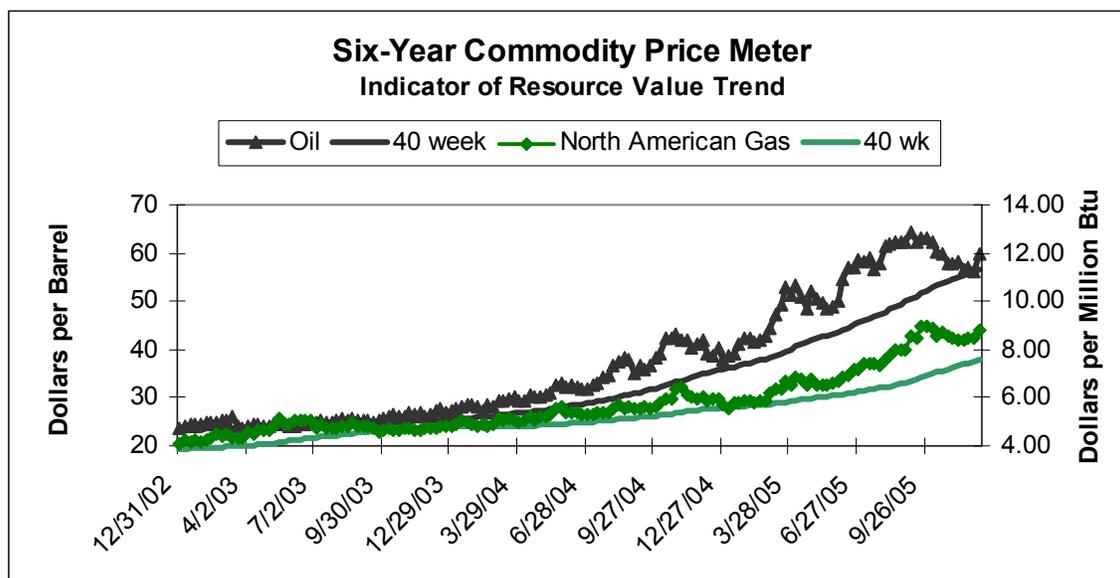
### **Reality: Four of Five Commodity Price Momentum Measures Positive**

The two long-term value indicators, six-year futures for oil and natural gas, trend upward in a steady pattern (see chart Six-Year Commodity Price Meter). Oil dipped to the 40-week average much as it did a year ago. It rebounded upward again last year and it looks like the same may be happening now.

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A Weekly Analysis of Energy Stocks Using the McDep Ratio

December 5, 2005



Among short-term cash flow indicators, one-year oil has resumed its uptrend. One-year natural gas has been in a particularly strong uptrend for most of 2005. One-year refined product margin is fluctuating above and below the 40-week average.

### Vision: Higher Six-Year Futures

Six-year futures also make a statement about one-year futures. For oil the message is that current price may not decline much. Instead, our vision of \$150 for oil in 2010 implies that six-year futures for may move up further.

For natural gas the message is that short-term price of about \$12 a million btu for one-year futures will fall back to about \$9 for six-year futures (see quote of \$8.78 in table [Oil and Gas Commodity and Stock Price](#)). Our vision is that the price of natural gas should be the price of oil divided by five in the next few years. As a result there appears to be a dual opportunity in natural gas, to catch up to oil and to increase further with oil.

### Oil and Gas Commodity and Stock Price Monday, December 05, 2005

	<u>Units</u>	<u>Futures Price</u>		<u>McDep Ratio</u>
		<u>Six-Year</u>	<u>One-Year</u>	<u>Denominator</u>
<b>Crude Oil</b>	\$/barrel	59.95	62.04	50
<b>Natural Gas</b>	\$/million btu	8.78	11.65	10
<b>Oil Refining</b>	\$/barrel		10.51	10

#### Stocks

	<u>Median McDep Ratio</u>
<b>Mega Cap</b>	0.81
<b>Producer/Refiner</b>	0.91
<b>Independent - Large</b>	0.83
<b>Independent - Small</b>	0.72
<b>Income</b>	1.15

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

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#### **Reality: Stock Market Valuation Low**

Energy investors looking for value represented in a stock can check the McDep Ratio. Present value, the denominator of the ratio, is an objective translation of long-term industry conditions to present value. For example, to value oil production we use a crude oil price of \$50 a barrel adjusted for inflation.

The McDep Ratio compares present value with enterprise value as determined in the stock market. A stock with a McDep Ratio of 1.0 presumably offers a 7% per year unlevered real return on the constant real prices stated in the table. Four of the five groups have median McDep Ratios below 1.0.

The positive fundamental appeal of low McDep Ratios is confirmed by stock price momentum. Twenty-seven of twenty-eight buy recommended stocks trade above the 200-day average.

#### **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.

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) 5-Dec 2005	Shares (mm)	Market Cap (\$mm)	Net Present Value (\$/sh)	Debt/ Present Value	McDep Ratio
<b>Mega Cap</b>								
BP plc	BP	B	68.55	3,501	240,000	77.00	0.11	0.90
Total S.A.	TOT	B	129.05	1,176	152,000	160.00	0.12	0.83
Exxon Mobil Corporation	XOM	B	59.51	6,303	375,000	74.00	0.04	0.81
Royal Dutch Shell plc	RDS-A	B	63.31	3,352	212,000	84.00	0.10	0.78
Chevron Corporation	CVX	B	59.64	2,256	135,000	85.00	0.13	0.74
<i>Total or Median</i>					<i>1,114,000</i>		<i>0.11</i>	<i>0.81</i>
<b>Producer/Refiners - Large Cap and Mid Cap</b>								
Kinder Morgan, Inc.	KMI	S2	93.88	135	12,710	33.00	0.71	1.53
Imperial Oil Limited (30%)	IMO	B	97.47	102	9,960	84.00	0.10	1.14
Petro-Canada	PCZ	B	40.45	525	21,250	42.00	0.19	0.97
Marathon Oil Corporation	MRO	B	61.71	368	22,700	65.00	0.27	0.96
Lukoil Oil Company	LUKOY	B	59.50	830	49,000	65.00	0.03	0.92
Suncor Energy	SU	B	60.06	461	27,690	68.00	0.11	0.90
Norsk Hydro ASA	NHY	B	107.45	251	26,960	130.00	0.11	0.85
ConocoPhillips	COP	B	62.96	1,418	89,300	100.00	0.15	0.69
PetroChina Company Ltd (10%)	PTR	B	81.72	176	14,370	120.00	0.01	0.68
Gazprom (50%)	OGZPF	B	71.20	1,013	72,100	120.00	0.03	0.61
<i>Total or Median</i>					<i>346,000</i>		<i>0.11</i>	<i>0.91</i>
<b>Independent Natural Gas and Oil - Large Cap and Mid Cap</b>								
Encana Corporation	ECA	B	48.13	876	42,200	51.00	0.20	0.96
XTO Energy Inc.	XTO	B	44.40	370	16,430	48.00	0.20	0.94
Burlington Resources	BR	B	74.89	381	28,500	86.00	0.09	0.88
CNOOC Limited (29%)	CEO	B	69.40	119	8,280	84.00	0.00	0.83
Devon Energy Corporation	DVN	B	62.73	454	28,500	86.00	0.15	0.77
Occidental Petroleum Corp.	OXY	B	83.34	404	33,700	120.00	0.11	0.73
Anadarko Petroleum Corp.	APC	B	94.50	238	22,500	140.00	0.12	0.71
<i>Total or Median</i>					<i>180,000</i>		<i>0.12</i>	<i>0.83</i>
<b>Independent Natural Gas and Oil - Small Cap</b>								
Berry Petroleum Company	BRY	B	59.06	23	1,330	65.00	0.11	0.92
Encore Acquisition Company	EAC	B	33.15	50	1,640	50.00	0.21	0.73
Energy Partners Ltd.	EPL	B	23.91	41	980	38.00	0.19	0.70
Cimarex Energy Company	XEC	B	40.16	85	3,410	64.00	0.11	0.67
<i>Total or Median</i>					<i>7,400</i>		<i>0.15</i>	<i>0.72</i>
<b>Income</b>								
Kinder Morgan Energy Partners, L.P.	KMP	S3	49.64	160	7,940	15.00	0.55	2.03
Kinder Morgan Management, LLC	KMR	S3	48.27	57	2,730	15.00	0.55	1.99
Pengrowth Energy Trust	PGH		23.74	159	3,770	20.00	0.16	1.16
Enerplus Resources Fund	ERF		49.46	110	5,440	42.00	0.14	1.15
San Juan Basin Royalty Trust	SJT		45.50	47	2,120	40.00	-	1.14
Penn West Energy Trust	PWTFF	B	32.02	179	5,730	28.00	0.15	1.12
Canadian Oil Sands Trust (US\$)	COSWF	B	116.48	93	10,840	136.00	0.11	0.87
<i>Total or Median</i>					<i>38,600</i>		<i>0.15</i>	<i>1.15</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) 5-Dec 2005	Adjstd Resrvs/ Prod NTM	PV/ Ebitda NTM	EV/ Ebitda NTM	P/E NTM	Divd or Distrib NTM (%)
<b>Mega Cap</b>								
BP plc	BP	B	68.55	9.4	6.2	5.6	9	3.1
Exxon Mobil Corporation	XOM	B	59.51	11.7	6.7	5.5	10	1.9
Total S.A.	TOT	B	129.05	9.2	6.3	5.2	9	2.8
Royal Dutch Shell plc	RDS-A	B	63.31	7.5	5.5	4.3	8	3.4
Chevron Corporation	CVX	B	59.64	9.6	5.7	4.2	7	3.0
	<i>Median</i>			9.4	6.2	5.2	9	3.0
<b>Producer/Refiners - Large Cap and Mid Cap</b>								
Kinder Morgan, Inc.	KMI	S2	93.88		8.5	12.9	19	3.2
Suncor Energy	SU	B	60.06	17.6	9.1	8.2	17	0.3
Imperial Oil Limited (30%)	IMO	B	97.47	11.5	6.9	7.9	13	0.8
Gazprom (50%)	OGZPF	B	71.20	20.0	11.0	6.7	11	0.6
Petro-Canada	PCZ	B	40.45	5.7	5.0	4.9	9	0.7
Marathon Oil Corporation	MRO	B	61.71	7.4	5.0	4.8	7	2.1
Norsk Hydro ASA	NHY	B	107.45	8.0	5.2	4.4	9	2.8
Lukoil Oil Company	LUKOY	B	59.50	19.8	4.7	4.3	7	1.6
PetroChina Company Ltd (10%)	PTR	B	81.72	13.8	6.2	4.3	9	4.6
ConocoPhillips	COP	B	62.96	11.2	5.6	3.8	6	2.0
	<i>Median</i>			11.5	5.9	4.9	9	1.8
<b>Independent Natural Gas and Oil - Large Cap and Mid Cap</b>								
XTO Energy Inc.	XTO	B	44.40	10.8	5.8	5.5	9	0.5
Encana Corporation	ECA	B	48.13	7.1	4.9	4.7	9	0.6
Occidental Petroleum Corp.	OXY	B	83.34	11.0	6.2	4.5	8	1.7
CNOOC Limited (29%)	CEO	B	69.40	9.2	5.3	4.4	8	3.3
Anadarko Petroleum Corp.	APC	B	94.50	12.5	6.0	4.3	8	0.8
Burlington Resources	BR	B	74.89	10.0	4.7	4.1	8	0.5
Devon Energy Corporation	DVN	B	62.73	7.8	4.4	3.4	6	0.5
	<i>Median</i>			10.0	5.3	4.4	8	0.6
<b>Independent Natural Gas and Oil - Small Cap</b>								
Berry Petroleum Company	BRY	B	59.06	10.1	5.6	5.1	10	1.0
Encore Acquisition Company	EAC	B	33.15	14.3	6.2	4.5	9	-
Cimarex Energy Company	XEC	B	40.16	7.4	4.2	2.8	5	-
Energy Partners Ltd.	EPL	B	23.91	5.7	3.9	2.7	7	-
	<i>Median</i>			8.8	4.9	3.7	8	-
<b>Income</b>								
Kinder Morgan Energy Partners, L.P.	KMP	S3	49.64		7.9	16.1	23	6.4
Kinder Morgan Management, LLC	KMR	S3	48.27		7.9	15.8	22	6.5
Canadian Oil Sands Trust (USS)	COSWF	B	116.48	20.0	11.7	10.2	12	2.9
San Juan Basin Royalty Trust	SJT		45.50	12.1	7.2	8.2	9	11.3
Pengrowth Energy Trust	PGH		23.74	7.6	5.1	5.9	8	10.8
Enerplus Resources Fund	ERF		49.46	8.6	5.1	5.9	9	8.7
Penn West Energy Trust	PWTFF	B	32.02	8.0	4.5	5.0	7	10.0
	<i>Median</i>			8.6	7.2	8.2	9	8.7

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciation and amortization; NTM = Next Twelve Months Ended December 31, 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)
<b>Mega Cap</b>								
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
<b>Producer/Refiners - Large Cap and Mid Cap</b>								
PetroChina Company Ltd.	PTR	B	China	-	9	71	20	213,000
Gazprom	OGZPF	B	Russia		100			251,000
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	35,200
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	27,200
			<i>Median</i>	9	7	58	30	850,000
<b>Independent Natural Gas and Oil - Large Cap and Mid Cap</b>								
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	-	34,600
XTO Energy Inc.	XTO	B		83	-	17	-	22,100
			<i>Median</i>	64	-	36	-	287,000
<b>Independent Natural Gas and Oil - Small Cap</b>								
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
<b>Income</b>								
Canadian Oil Sands Trust (US\$)	COSWF	B	Canada	-	-	100	-	14,300
Penn West Energy Trust	PWTFF	B	Canada	42	-	58	-	5,900
Enerplus Resources Fund	ERF		Canada	58	-	42	-	5,350
Pengrowth Energy Trust	PGH		Canada	42	-	58	-	3,790
San Juan Basin Royalty Trust	SJT			100	-	-	-	1,860
			<i>Median</i>	42	-	58	-	31,200

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#### **Index of Recent Research**

##### **Stock Ideas**

<u>Date</u>	<u>Symbol</u>	<u>Stock</u>	<u>Theme</u>
1-Dec	KMx	Kinder Morgan	Canada Deal Closed
28-Nov	OGZPF	Gazprom	Raise Net Present Value to \$120 a Share
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
14-Oct	* OXY	Occidental Petroleum Corporation	Buy Despite Momentum Signal
26-Sep	* LUKOY	Lukoil Oil Company	Adapting to New Russia

##### **Meter Reader - A Weekly Analysis**

29-Nov	*	Global Natural Gas Scramble
22-Nov	*	\$10 Refining Margin
15-Nov	*	\$10 Natural Gas
8-Nov	*	World Energy Outlook

##### **Natural Gas and Oil Royalty Trusts - A Weekly Analysis**

2-Dec		Calpine Farewell
25-Nov	*	Canadian Thanksgiving
18-Nov	*	D-Day
11-Nov	*	Hold That Line

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