# **Do You Have Enough Inflation Protection?**

#### Summary and Recommendation

Energy investments are attractive components of a diversified investment portfolio for their inflation protection along with growth potential. Don't bet entirely on the thesis that inflation is dead. Be prepared for a return to the long-term trend of 3% per year up from less than 2% per year that the market currently expects. Our recommendations for a diversified energy portfolio that we expect to outperform on a risk-adjusted basis include in descending order of market cap, **Exelon Corporation (EXC)**, **American Electric Power (AEP)**, **USX-Marathon Group (MRO)**, **Burlington Resources Inc. (BR)**, **PetroChina (PTR)** and **Energy Partners Limited (EPL)**.

#### Deflation, Growth and Inflation Trends Reflected in Yields of Treasury Securities

The goals of most investment portfolios can be summarized by just three measures - deflation, growth and inflation. Each portfolio will have its own degree of protection from deflation and inflation while seeking growth.

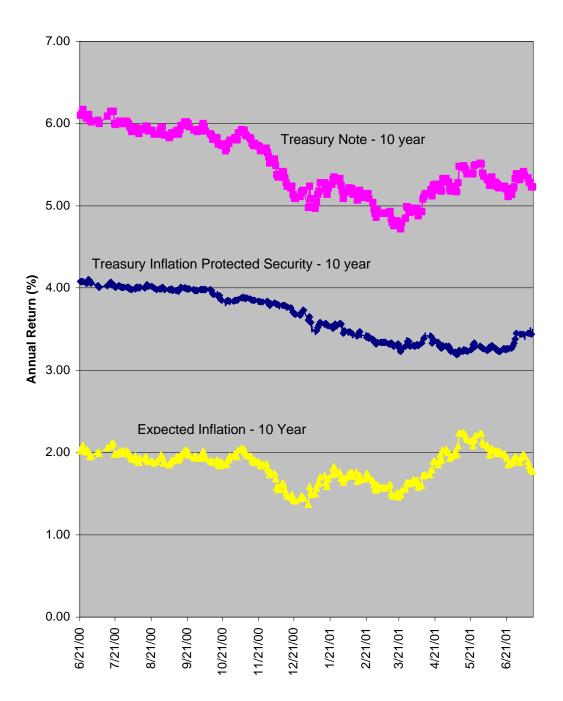
Along with normal growth, energy investments promise more inflation protection than any other broad sector. The main reason is that as the largest physical commodity, energy is priced on a worldwide basis without being unduly influenced by the monetary value of any single currency.

The three performance measures are tracked in the yields of Treasury securities. We track the yields because we use them in calculating present value of oil and gas property.

For the first performance category, deflation, we visualize fixed rate government securities as most effective in offering protection. High quality long-term bonds' shining hour occurred in the 1930s when their value in a diversified portfolio went up as much as the stock market went down. Remembering that bond value, or price, moves in opposite direction to yield, we interpret the declining yield in a fixed rate security as a measure of increasing expectation of deflation and vice versa (see top line of chart on next page).

During 2000, following with a lag the interest rate <u>hikes</u> by the Federal Reserve, yield on the ten-year note declined. During 2001, following with a lag the interest rate <u>cuts</u> by the Federal Reserve, yield on the ten-year note is rising. Last year investors were worried that the Fed was driving the economy toward deflation. This year investors' fears of deflation are diminishing.

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 research by Kurt Wulff is accessible at <u>http://www.mcdep.com</u>. Owning shares in energy stocks, neither Mr. Wulff nor his spouse act contrary to a buy or sell rating. Mr. Wulff is not paid by covered companies.



**Deflation, Growth and Inflation** 

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For the second performance category, growth, we look at the yield for the fixed portion of TIPS (see middle line of chart). Expectations for real growth may just be turning up after declining.

One might visualize the growth offered by the stock market as merely a more volatile version of the real growth offered by TIPS. According to Ibbotson Associates data, large cap stocks returned 11% per year for the past 75 years. Inflation during the same time was 3% per year. Therefore the real return in stocks was about 8% per year. As a result stocks may offer some 4% per year more than TIPS. To get that extra 4% and keep it requires management and diversification of risk.

For the third performance category, inflation, we look at the difference between the Treasury note and TIPS. Remember that the semiannual payment by the government as borrower to holders of TIPS as lenders is a fixed percentage in cash plus an inflation component in adjustment to principal. Moreover in each succeeding payment the fixed percentage for the cash distribution is applied to the adjusted principal. The yield on TIPS is calculated assuming no inflation. As a result, subtracting the real yield on TIPS from the nominal yield on the Treasury note closely approximates the expected rate of inflation. Inflation expectations trended down in 2000 and now appear to be trending up in 2001 (see lower line of chart).

#### By Historical Standards, Inflation is a Buy

The long-term inflation rate has been at least 3 % per year, not less than 2% as implied by the pricing of TIPS. In fact 2% is only the low end of the range we so fortunately experienced in the past decade. The current rate is 3.5%. As a result the current cash payment and inflation adjustment on TIPS is about 1.5% higher than on the Treasury note.

Had TIPS been available at the time, they would have greatly outperformed the stock market from 1966 to 1982. When the Dow Jones Industrial Average remained flat for 16 years, the inflation rate approached 10% per year. An investment in TIPS might have quadrupled over the same time. Of course, during part of that period when the stock market was stagnant, energy stocks performed quite well.

#### **Inflation Could Surprise Us**

Few opinion leaders would publicly forecast a negative inflation trend. It could be considered as fanning the flames that might consume economic progress. As a result, an inflation problem could arise with little warning. One possible source of inflationary surprise could be a weakening of the dollar.

During the 1980s the yen reigned supreme among world currencies, as Japan's economic might appeared invincible. Excessive positive expectations were sharply reversed.

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During the 1990s the American dollar reigned supreme over the other two world currencies, the yen and the euro. Now American economic might appears invincible.

Meanwhile we apparently face a watershed on January 1, 2002, when all national currencies of euro member countries must be completely converted or be worthless, we understand. Holders of national currency may be converting some of their marks, francs, lira, pesos, etc. to the dollar instead of the euro. As a result the deadline may be contributing some artificial demand for dollars that would disappear five and a half months from now.

#### Not Ringing the Alarm, Just Recommending Protection

We will probably continue to be surprised by economic and political developments that are unpredictable. Nonetheless we are confident that our recommended energy investments can add an attractive combination of growth and protection from inflation to a diversified investment portfolio (see Tables L-1, L-2, S-1 and S-2)

#### A Week of More Deals

Turning from the long-term outlook for inflation to the events of the recent past we feel it is important to comment on deals involving stocks in our coverage. Natural gas acquisitions by Calpine call attention to the aggressive expansion plans of that company that we would like to discuss more fully at another time. We are cautious about Calpine stock as it appears to have a high McDep Ratio. Yet we can say without hesitation that we would like to own what Calpine is buying. Meanwhile the price paid appears in line with the present value that we recalculate weekly for some small cap stocks (see table).

	Amount (\$mm)	Production (mmcfd)	Price (\$/cfd)	Reserves (bcf)	Price (\$/mcf)	Reserves/ Production
Calpine Acquisitions	405	49	8.30	236	1.72	13.2
Dorchester Hugoton	150	18	8.30			
San Juan Basin Royalty Trust	650	97	6.70			
Hugoton Royalty Trust	520	80	6.50			
Synergy (by Penn Virginia)	112	19	5.90	59	1.90	8.5

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#### **Calpine Corporation Acquires More Natural Gas to Back Electric Generation**

The aggressively expanding power company announced another acquisition of natural gas reserves following the deal to acquire Encal, the Canadian producer early this year. With the latest purchase the company may be a quarter of the way to its goal of owning 6.7 trillion cubic feet of natural gas reserves to fuel 25% of its power production. The company has announced 41,000 megawatts of generating capacity toward its goal of 70,000 megawatts operating by the end of 2005.

Calpine acquired two different sets of properties, but did not identify a separate price for each. Most of the acquired reserves were in Texas while some were in the San Juan Basin of New Mexico.

#### Penn Virginia Acquires Texas Reserves

In addition to the Calpine transaction we also include a comparison with a transaction by another covered company, coal and natural gas producer, **Penn Virginia.** The low McDep Ratio, Appalachian company is diversifying to Texas with its acquisition of the Synergy properties. The price paid was higher on reserves while lower on production than Calpine's deal. The difference is timing. Longer-life reserves are not worth as much per unit in the ground, but a unit of daily production from longer-life reserves is worth more as an indicator of value because the production will last longer.

#### **Present Value Analysis Validated**

Those recent purchases seem to validate our present value estimates for three natural gas producers (see table on next page). It looks like the current market price for **Dorchester Hugoton** may be a little higher than the purchase prices and for **San Juan Basin Royalty Trust** and **Hugoton Royalty Trust** lower than the going rate. That is consistent with our McDep Ratio ranking of the three producers. The two royalty trusts have reserve lives closer to that for the Calpine purchase. Dorchester's reported reserve life is closer to that of the Synergy properties. Reserves are quite subjective while current production is what it is.

#### Amerada Hess Offers a High McDep Ratio for Triton Energy

The largest deal of the past week went for much more than our analysis suggested. At \$45 a share in cash the deal implies a McDep Ratio of 1.64. Obviously, in the eyes of Amerada Hess, our estimate of present value was low. Our estimate took account of the rapid growth in production offshore Africa expected for Triton in the next twelve months. While recent news promised further excitement, we remember that Triton's stock price dived unexpectedly on several occasions in the past.

#### Kurt H. Wulff, CFA

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

		Price			Net		
		(\$/sh)		Market	Present	Debt/	
	Symbol/	13-Jul	Shares	Cap	Value	Present	McDep
	Rating	2001	(mm)	(\$mm)	(\$/sh)	Value	Ratio
Mega Cap							
Exxon Mobil Corporation	XOM	85.98	3,510	302,000	74.30	0.09	1.14
BP PLC	BP	48.00	3,720	179,000	48.90	0.17	0.99
TOTAL Fina Elf S.A.	TOT	68.50	1,400	96,000	72.00	0.16	0.96
Royal Dutch/Shell	RD	56.26	3,580	201,000	60.80	0.09	0.93
Chevron (incl. Texaco)	CHV	89.40	1,060	94,800	103.40	0.15	0.89
Total or Median				873,000		0.15	0.96
Power							
Enron Corp.	ENE	48.78	814	39,700	16.90	0.68	1.60
Dynegy Inc.	DYN	48.24	338	16,300	20.60	0.56	1.59
Calpine Corporation	CPN	44.53	313	13,900	21.40	0.48	1.56
Mirant Corporation	MIR	36.20	353	12,800	11.70	0.75	1.54
AES Corporation	AES	38.42	538	20,700	15.80	0.73	1.39
Duke Energy Corporation	DUK	41.36	752	31,100	20.90	0.62	1.37
El Paso Corporation	EPG	52.19	521	27,200	30.00	0.57	1.32
Williams Companies	WMB	32.78	485	15,900	16.60	0.69	1.30
American Electric Power Co. Inc.	AEP 2	47.35	324	15,300	25.90	0.73	1.22
Southern Company	SO	23.34	683	15,900	16.90	0.54	1.17
Exelon Corporation	EXC 2	64.89	324	21,000	55.30	0.51	1.08
Total or Median				230,000		0.62	1.37
Natural Gas and Oil							
Occidental Petroleum	OXY	27.00	370	10,000	35.60	0.46	0.87
Burlington Resources, Inc	BR 1	38.99	215	8,400	50.50	0.21	0.82
Anadarko Petroleum Corp.	APC	50.59	263	13,300	66.30	0.24	0.82
Phillips (incl. Tosco)	Р	55.82	383	21,400	75.90	0.31	0.82
Conoco Inc.	COC.B	28.85	623	18,000	48.00	0.21	0.68
ENI S.p.A.	E	59.20	800	47,400	91.90	0.10	0.68
Total or Median				119,000		0.22	0.82
Service							
Schlumberger Ltd.	SLB	50.45	581	29,300	37.70	0.14	1.29
Halliburton Company	HAL	32.15	430	13,800	27.20	0.13	1.16

Buy/Sell rating after symbol: 1 - Strong Buy, 2 - Buy

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.

		Price			Div	DI/	
		(\$/sh)	EV/	EV/		tribution	PV/
	~	13-Jul	Sales	Ebitda	P/E	NTM	Ebitda
	Symbol	2001	2001E	NTM	NTM	(%)	NTM
Mega Cap						• •	
Exxon Mobil Corporation	XOM	85.98	1.5	8.0	16	2.0	7.0
BP PLC	BP	48.00	1.2	6.9	11	2.9	7.0
TOTAL Fina Elf S.A.	TOT	68.50	1.0	6.7	16	1.6	7.0
Royal Dutch/Shell	RD	56.26	1.4	6.5	14	2.5	7.0
Chevron (incl. Texaco)	CHV	89.40	1.0	5.3	10	2.9	6.0
Median			1.2	6.7	14	2.5	7.0
Power							
Enron Corp.	ENE	48.78	0.4	16.0	28	1.0	10.0
Dynegy Inc.	DYN	48.24	0.4	14.3	23	0.6	9.0
Calpine Corporation	CPN	44.53	4.1	14.1	22	-	9.0
Mirant Corporation	MIR	36.20	0.7	12.3	18	-	8.0
AES Corporation	AES	38.42	4.0	11.1	19	-	8.0
Duke Energy Corporation	DUK	41.36	0.9	11.0	16	2.7	8.0
Williams Companies	WMB	32.78	3.3	10.4	14	1.8	8.0
El Paso Corporation	EPG	52.19	0.7	9.2	16	1.6	7.0
American Electric Power Co. Inc.	AEP 2	47.35	0.7	8.5	13	5.1	7.0
Southern Company	SO	23.34	2.7	8.2	14	5.7	7.0
Exelon Corporation	EXC 2	64.89	2.6	7.6	14	2.6	7.0
Median			0.9	11.0	16	1.6	8.0
Natural Gas and Oil							
Burlington Resources, Inc	BR 1	38.99	4.4	7.4	33	1.4	9.0
Phillips (incl. Tosco)	Р	55.82	0.8	5.7	9	2.6	7.0
Occidental Petroleum	OXY	27.00	1.3	5.2	8	3.7	6.0
Anadarko Petroleum Corp.	APC	50.59	2.2	4.9	8	0.4	6.0
Conoco Inc.	COC.B	28.85	0.6	4.1	8	2.6	6.0
ENI S.p.A.	Е	59.20	1.1	3.4	6	2.7	5.0
Median			1.2	5.1	8	2.6	6.0
Service							
Halliburton Company	HAL	32.15	1.1	9.3	22	1.6	8.0
Schlumberger Ltd.	SLB	50.45	2.6	9.0	25	1.5	7.0

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciationand amortization; NTM = Next Twelve Months Ended March 31, 2002; P/E = Stock Price toEarnings; PV = Present Value of oil and gas and other businesses

A Weekly Analysis of Energy Stocks Using the McDep Ratio July 16, 2001

# Table S-1Mid Cap and Small Cap Energy CompaniesRank by McDep Ratio: Market Cap and Debt to Present Value

	Symbol/ Rating	Price (\$/sh) 13-Jul 2001	Shares (mm)	Market Cap (\$mm)	Net Present Value (\$/sh)	Debt/ Present Value	McDep Ratio
Power							
Constellation Energy Group	CEG	42.14	152	6,400	37.10	0.45	1.07
CMS Energy Corporation	CMS	27.05	128	3,500	19.80	0.80	1.07
Sempra Energy	SRE	27.50	203	5,600	23.10	0.65	1.07
Consol Energy Inc.	CNX	23.32	79	1,800	19.70	0.65	1.06
Total or Median				17,300		0.65	1.07
Natural Gas and Oil							
Triton Energy Limited	OIL	44.43	59	2,600	24.50	0.24	1.62
TEPPCO Partners, L.P.	TPP	29.65	38	1,130	13.20	0.65	1.44
PanCanadian Pete (15%)(US\$)	PCP.TO	28.63	38	1,090	37.00	0.08	0.79
Unocal Corporation	UCL	33.45	256	8,600	51.90	0.27	0.74
Norsk Hydro ASA (49%)	NHY	41.95	128	5,400	61.60	0.16	0.73
Petro-Canada	PCZ	24.00	272	6,500	35.20	0.09	0.71
Valero Energy Corp.(with UDS)	VLO	34.95	112	3,900	70.70	0.42	0.71
Devon Energy Corporation	DVN	51.50	135	7,000	80.10	0.16	0.70
Marathon Oil Corporation	MRO 1	28.57	309	8,800	48.00	0.24	0.69
PetroChina Company Ltd (10%)	PTR 2	20.42	176	3,600	32.50	0.15	0.69
Total or Median				48,600		0.20	0.72
Small Cap							
Dorchester Hugoton, Ltd.*	DHULZ	13.96	10.7	150	12.80	-	1.09
Cross Timbers Royalty Tr*	CRT	16.40	6.0	98	17.30	-	0.94
Encore Acquisition Corporation	EAC	15.20	30.0	460	16.40	0.15	0.94
San Juan Basin Royalty Tr*	SJT	13.98	46.6	650	15.50	-	0.90
Hugoton RoyaltyTrust*	HGT	13.10	40.0	520	16.30	-	0.80
Penn Virginia Corporation	PVA	35.03	8.8	310	44.20	0.00	0.79
Energy Partners Ltd.*	EPL 2	13.37	27.0	360	18.90	0.04	0.72
Total or Median				2,550		-	0.90
Micro Cap							
Purcell Energy, Ltd. (US\$)	PEL.TO	2.43	26.0	63	3.70	0.07	0.69

Buy/Sell rating after symbol: 1 - Strong Buy, 2 - Buy

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

\* For small cap stocks marked with asterisk, estimated present value recalculated weekly.

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#### Table S-2

## Mid Cap and Small Cap Energy Companies Rank by EV/Ebitda: Enterprise Value to Earnings Before Interest, Tax, Deprec.

		Price (\$/sh)	EV/	EV/	Div Dis	PV/	
		(\$,511) 13-Jul	Sales	Ebitda	P/E	NTM	Ebitda
	Symbol	2001	2001E	NTM	NTM	(%)	NTM
	29/11001	2001	20012			(, )	
Power							
Constellation Energy Group	CEG	42.14	2.2	7.5	13	1.1	7.0
CMS Energy Corporation	CMS	27.05	0.9	7.5	10	5.4	7.0
Sempra Energy	SRE	27.50	1.2	7.5	11	3.6	7.0
Consol Energy Inc.	CNX	23.32	2.0	7.4	8	4.8	7.0
Median			1.6	7.5	10	4.2	7.0
Natural Gas and Oil							
TEPPCO Partners, L.P.	TPP	29.65	0.7	11.5	15	7.1	8.0
Triton Energy Limited	OIL	44.43	6.2	9.7	24	-	6.0
Unocal Corporation	UCL	33.45	1.6	4.4	12	2.4	6.0
PanCanadian Pete (15%)(US\$)	PCP.TO	28.63	1.2	4.3	7	0.9	5.5
Petro-Canada	PCZ	24.00	1.0	3.9	9	1.1	5.5
Valero Energy Corp.(with UDS)	VLO	34.95	0.3	3.9	4	0.9	5.5
Norsk Hydro ASA (49%)	NHY	41.95	0.8	3.6	8	2.5	5.0
Devon Energy Corporation	DVN	51.50	2.7	3.5	7	0.4	5.0
Marathon Oil Corporation	MRO 1	28.57	0.4	3.5	6	3.2	5.0
PetroChina Company Ltd (10%)	PTR 2	20.42	1.5	2.7	5	8.4	4.0
Median			1.1	3.9	8	1.8	5.5
Small Cap							
Dorchester Hugoton, Ltd.*	DHULZ	13.96	7.2	9.4	11	7.7	8.6
Cross Timbers Royalty Tr*	CRT	16.40	5.6	9.0	10	10.5	9.5
San Juan Basin Royalty Tr*	SJT	13.98	6.3	8.0	11	9.3	8.9
Hugoton RoyaltyTrust*	HGT	13.10	5.1	7.3	10	10.2	9.1
Encore Acquisition Corporation	EAC	15.20	3.8	5.6	13	-	6.0
Penn Virginia Corporation	PVA	35.03	3.4	4.8	11	2.6	6.0
Energy Partners Ltd.*	EPL 2	13.37	2.1	3.4	15	-	4.7
Median			5.1	7.3	11	7.7	8.6
Micro Cap							
Purcell Energy, Ltd. (US\$)	PEL.TO	2.43	3.2	4.1	14	-	6.0

EV = Enterprise Value = Market Cap and Debt; Ebitda = Earnings before interest, tax, depreciationand amortization; NTM = Next Twelve Months Ended June 30, 2002; P/E = Stock Price toEarnings; PV = Present Value of oil and gas and other businesses

\* For small cap stocks marked with asterisk, estimated present value recalculated weekly.