

PetroChina Company Limited **Ground Floor Opportunity in Natural Gas**

<i>Symbol</i>	<i>Price (\$/sh) 8-Jun 2001</i>	<i>Floating Shares (mm)</i>	<i>Market Cap (\$mm)</i>	<i>Net Present Value (\$/sh)</i>	<i>Debt/ Present Value</i>	<i>McDep Ratio</i>	<i>EV/ Sales NTM</i>	<i>EV/ Ebitda NTM</i>	<i>P/E NTM</i>	<i>Div'd NTM (%)</i>	<i>PV/ Ebitda NTM</i>
PTR	21.60	176	3,800	32.50	0.15	0.71	1.5	2.9	4.9	7.9	4.0

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

EV = Enterprise Value = Market Cap and Debt:

\$mm 4,800

Ebitda = Earnings before interest, tax, depreciation and amortization:

\$mm 1,683

NTM = Next Twelve Months Ended March 31, 2002; P/E = Stock Price to Earnings

PV = Present Value of energy businesses:

\$mm 6,730

Shares, Market Cap, EV, Ebitda and PV for 10% of company publicly traded. 90% government owned.

Summary and Recommendation

We recommend current purchase of the American Depositary Shares of PetroChina because they offer a ground floor opportunity to buy a future Mega Cap Energy Company at an unusually low price/earnings multiple of 5 and high dividend yield of nearly 8%. PTR has half the oil and gas production of **Exxon Mobil**, but trades at only one eighth the market cap and pays almost four times the dividend yield of the industry leader. Already China's most profitable company on the strength of its streamlined oil production, PTR ought to be profitable in refining/marketing and it has a huge growth opportunity in natural gas. Owning 90% of the company, the Chinese government presumably wants to sell more shares and at a higher price. That can happen only if current investors have a rewarding experience. Political risks may not be what they seem and in any event are diversifiable.

Creating Value Through Improving Operations

Cash flow (Ebitda) has been growing rapidly in the past two years coinciding with the transformation of PTR to a company with publicly traded stock (see table of Half-Year Results). For the year 2001 we arbitrarily project a continuation at the level of the second half of 2000. We expect actual results to be better as volumes and prices hold up and cost cutting should be continuing.

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PetroChina Company Limited Half-Year Results

	<i>H1</i>	<i>H2</i>	<i>Year</i>	<i>H1</i>	<i>H2</i>	<i>Year</i>	<i>Year</i>
	<i>6/30/99</i>	<i>12/31/99</i>	<i>1999</i>	<i>6/30/00</i>	<i>12/31/00</i>	<i>2000</i>	<i>2001E</i>
Revenue (\$mm)	9,005	12,249	21,254	13,405	15,823	29,228	31,646
Expense	4,751	6,660	11,410	6,244	7,409	13,653	14,818
Ebitda (\$mm)	4,254	5,589	9,843	7,161	8,414	15,574	16,828
Exploration	303	1,033	1,336	467	581	1,048	1,162
Deprec., Deplet., & Amort.	1,534	1,309	2,842	2,175	1,902	4,078	3,805
Other Non Cash							
Ebit	2,418	3,247	5,665	4,518	5,930	10,448	11,861
Interest	342	926	1,268	345	173	518	347
Ebt	2,076	2,321	4,397	4,173	5,757	9,930	11,514
Income tax	729	407	1,136	1,387	1,872	3,259	3,745
Net Income	1,348	1,913	3,261	2,786	3,885	6,671	7,769
Shares (millions)					1,758	1,758	1,758
Per share (\$)					2.21	3.79	4.42
Ebitda Margin	47%	46%	46%	53%	53%	53%	53%
Tax Rate	35%	18%	26%	33%	33%	33%	33%
RMB Currency to USD							
Period End	0.121	0.121	0.121	0.121	0.121	0.121	0.121
Average	0.121	0.121	0.121	0.121	0.121	0.121	0.121
Revenue (RMBmm)	74,557	101,412	175,969	110,986	131,006	241,992	262,012
Cost	39,332	55,139	94,471	51,700	61,344	113,044	122,688
Ebitda	35,225	46,273	81,498	59,286	69,662	128,948	139,324
Exploration	2,508	8,556	11,064	3,869	4,811	8,680	9,622
Deprec., Deplet., & Amort.	12,698	10,835	23,533	18,009	15,751	33,760	31,502
Other non-cash items					-		
Ebit	20,019	26,882	46,901	37,408	49,100	86,508	98,200
Interest	2,828	7,669	10,497	2,857	1,435	4,292	2,870
Ebt	17,191	19,213	36,404	34,551	47,665	82,216	95,330
Income tax	6,032	3,371	9,403	11,482	15,503	26,985	31,006
Net Income	11,159	15,842	27,001	23,069	32,162	55,231	64,324

The projections lead to an unlevered cash flow multiple (EV/Ebitda) of only 2.9 times. That is practically a record low level for a conservatively financed company with long life reserves that dominates the industry in its home country.

Oil Production Generates Current Profits

Just about all of Ebitda last year was derived from Exploration and Production (see table of Segment Results, 2000). Oil was 88% of volume by heating value. Unit cash flow of \$17 a barrel is competitive. As a result a gap has been closed in oil profitability.

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PetroChina Company Limited Segment Results, 2000

	<i>Total</i>	<i>Exploration and Production</i>	<i>Refining and Marketing</i>	<i>Chemicals</i>	<i>Natural Gas</i>	<i>Other</i>
Revenue (\$mm)	29,228	20,645	19,463	4,030	865	(15,775)
Expense	13,653	5,526	19,803	3,329	788	(15,793)
Ebitda	15,574	15,119	(340)	700	77	18
Exploration	1,048	1,048				
Deprec., Deplet., & Amort.	4,078	2,579	716	692	75	15
Other Non Cash						
Ebit	10,448	11,491	(1,056)	8	2	3
Interest	518					
Ebt	9,930					
Income tax	3,259					
Net Income	6,671					
Shares (millions)	1,758					
Per share (\$)	3.79					
Ebitda Margin	53%	73%	-2%	17%	9%	0%
Tax Rate	33%					
RMB Currency to USD	0.121	0.121	0.121	0.121	0.121	0.121
Revenue (RMBmm)	241,992	170,928	161,148	33,364	7,163	(130,611)
Expense	113,044	45,751	163,963	27,566	6,525	(130,761)
Ebitda	128,948	125,177	(2,815)	5,798	638	150
Exploration	8,680	8,680				
Deprec., Deplet., & Amort.	33,760	21,354	5,927	5,728	624	127
Other non-cash items						
Ebit	86,508	95,143	(8,742)	70	14	23

Chemicals have become profitable while refining/marketing operations have further improvement ahead of them. Since R/M is a narrower margin business than production, a billion dollar swing from negative to positive is what one might expect in an ordinary year.

Natural Gas to Provide Future Profits

The comments below first appeared in Meter Reader, *Natural Gas for Lifetime Investment*, dated March 12, 2001.

Posting Meter Reader from Beijing, China, after a week of energy meetings and field trips in Southeast Asia, we are struck by the progress and potential of natural gas as a contributor of clean energy. Investors have profited along the way and are likely to continue to profit in the decades ahead. For example China is just now embarking on the conversion from coal to gas that the U.S. undertook in the 1940s, 1950s, and 1960s and that Europe undertook in the 1970s, 1980s and 1990s.

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China Plans Pipeline System

As a young American boy growing up during the 1940s, I occasionally shoveled coal into a “stoker” that fed the furnace that heated our home. It was a dirty job. The smoke that went out the chimney was dirty too, but it dissipated rapidly and was not objectionable in a small rural community.

As a young consultant in the 1960s, I worked on a study of the market for natural gas in the U.K. for a company with new North Sea discoveries. The English still relied heavily on coal for residential heating, a sign of an underdeveloped energy economy.

In both cases, enormous investment opportunity unfolded with the displacement of coal by natural gas. Now China, the largest remaining user of coal for heating, is embarking on a conversion program.

Petrochina, one of the three publicly traded Chinese oil companies, is taking the lead in planning the construction of a national natural gas transportation system. We have initiated our relationship and hope to develop more investment insight.

The company’s results for 2000, released since our visit to the Far East, disclosed natural gas reserves of more than 32 trillion cubic feet, a 32% increase over the previous year. Last year’s production was less than 2% of reserves implying ample capacity for rapid growth. The volume of natural gas reserves is equal to about 20% of that in the U.S. As in the U.S., much of the resource is in the western part of the country a long way from markets in the East. The planned pipeline project would bring the distant volumes to consumers. There are undoubtedly further reserves to be proven after transportation has been developed.

International Oil Leaders Investing with PetroChina

BP plc owns 2% of PTR purchased at about the time of the company’s initial public offering. Several companies including Exxon Mobil are negotiating to invest with PTR in natural gas production and the long distance pipeline to fill a national grid. The selection of partners should be announced within days or weeks. Construction may begin before yearend.

Political Risk Higher for Investors in California Than in China

Few major industries invest as broadly around the globe as energy. Political risk is a fact of life. Energy executives have long joked that political risk is higher in California than in developing countries. Ironically what was originally said in jest has a greater ring of truth every day with the most recent example being a \$3 billion award to a single individual and his lawyers in a tobacco lawsuit. Even more profound, the negative implications of political failure in electricity in that state cause us more concern than any political risk in energy since Federal price controls on oil and gas.

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Looking at the positive side, we were impressed on our visit to China by the earnestness of many smart people who are working hard for a better life. Since then the recent military aviation incident fortunately did not spiral out of control. Meanwhile energy is fundamental to economic progress and energy companies must be successful if the country is going to do well. Similarly investment from external sources provides a beneficial catalyst to the rapid gains so strongly desired.

The man who built a major Wall Street trading house wrote that he likes to hire PhDs. He was referring not to Doctor of Philosophy, but rather to Poor, Hungry and Driven. China has many PhDs.

Of course, a reasonable political environment is necessary for PhDs to thrive. As Americans, we believe in democracy although our system has its flaws as we see in our most populous state. China seems to have what might be characterized as a corporate society. The head of state is much like a Chief Executive Officer. A good CEO can be very effective. The CEO has to pay attention to what employees think and he must depend on them to make good decisions in a decentralized fashion. Employees that work hard can get ahead, but a corporation is not a democracy even if it does have voting for directors. Employees in turn must get along or they might not be treated well.

PetroChina Stock Attractive for a Diversified Energy Portfolio

One can put all of one's energy money in Mega Cap stocks and not worry about it. The Mega Caps will be invested in China also. Or one might ask "Why pay 7 times Ebitda for the safety of a Mega Cap that will invest in China among other areas when one can pay 3 times Ebitda to invest in China through its largest company?"

As for safety one can own several energy stocks for diversification. If those stocks are bought at low McDep Ratios, one might argue that the valuation risk may even be lower than in a Mega Cap. Finally, one can own some Mega Caps, too, particularly if liquidity is a concern (see Valuation Tables where PetroChina is classified as MidCap considering the limited number of its shares publicly held currently).

We believe that in a global context, the shares of PetroChina are an attractive investment to be included in a diversified energy portfolio. On the optimistic side, we might be getting in on the ground floor of the equivalent of **Royal Dutch/Shell** and **Exxon Mobil** when those companies played the dominant private role in the development of natural gas in Western Europe three and four decades ago. To this day, natural gas profits from Europe continue to help cement the leadership position of the two largest private companies in the industry one of which is the most profitable publicly held company in the world.

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) 8-Jun 2001</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	89.39	3,510	314,000	74.30	0.09	1.19
BP PLC	BP	53.20	3,720	198,000	48.90	0.17	1.07
TOTAL Fina Elf S.A.	TOT	74.02	1,400	104,000	72.00	0.16	1.02
Royal Dutch/Shell	RD	61.03	3,580	219,000	60.80	0.09	1.00
Chevron (incl. Texaco)	CHV	96.44	1,060	102,200	103.40	0.15	0.94
	<i>Total or Median</i>			<i>937,000</i>		<i>0.15</i>	<i>1.02</i>
Power							
Enron Corp.	ENE	51.13	814	41,600	16.90	0.68	1.65
Calpine Corporation	CPN	45.80	313	14,300	21.40	0.48	1.59
Dynegy Inc.	DYN	47.01	338	15,900	20.60	0.56	1.57
Mirant Corporation	MIR	37.50	353	13,200	11.70	0.75	1.56
Williams Companies	WMB	37.66	485	18,300	16.60	0.69	1.39
Duke Energy Corporation	DUK	41.97	752	31,600	20.90	0.62	1.39
AES Corporation	AES	41.37	538	22,300	23.00	0.65	1.28
American Electric Power Co. Inc.	AEP 2	48.27	324	15,600	25.90	0.73	1.23
El Paso Corporation	EPG	57.00	521	29,700	40.00	0.50	1.21
Southern Company	SO	22.99	683	15,700	16.90	0.54	1.17
Exelon Corporation	EXC	64.69	324	21,000	55.30	0.51	1.08
	<i>Total or Median</i>			<i>239,000</i>		<i>0.62</i>	<i>1.39</i>
Natural Gas and Oil							
Occidental Petroleum	OXY	29.51	370	10,900	35.60	0.46	0.91
Burlington Resources, Inc	BR 2	45.40	215	9,800	56.30	0.19	0.85
ENI S.p.A.	E	65.50	800	52,400	91.90	0.10	0.74
Phillips (incl. Tosco)	P	62.50	379	23,700	102.10	0.27	0.72
Anadarko Petroleum Corp.	APC	59.88	249	14,900	90.90	0.17	0.72
Conoco Inc.	COC.B	29.99	623	18,700	48.00	0.21	0.70
	<i>Total or Median</i>			<i>130,000</i>		<i>0.20</i>	<i>0.73</i>
Service							
Halliburton Company	HAL	44.80	430	19,300	27.20	0.13	1.56
Schlumberger Ltd.	SLB	60.30	581	35,000	44.00	0.12	1.32

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

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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.

	<i>Symbol</i>	<i>Price (\$/sh) 8-Jun 2001</i>	<i>EV/ Sales 2001E</i>	<i>EV/ Ebitda NTM</i>	<i>P/E NTM</i>	<i>Dividend or Distribution NTM (%)</i>	<i>PV/ Ebitda NTM</i>	
Mega Cap								
	Exxon Mobil Corporation	XOM	89.39	1.6	8.3	17	2.0	7.0
	BP PLC	BP	53.20	1.3	7.5	12	2.6	7.0
	TOTAL Fina Elf S.A.	TOT	74.02	1.1	7.2	17	1.5	7.0
	Royal Dutch/Shell	RD	61.03	1.5	7.0	15	2.3	7.0
	Chevron (incl. Texaco)	CHV	96.44	1.1	5.7	11	2.7	6.0
	<i>Median</i>			<i>1.3</i>	<i>7.2</i>	<i>15</i>	<i>2.3</i>	<i>7.0</i>
Power								
	Enron Corp.	ENE	51.13	0.4	16.5	29	1.0	10.0
	Calpine Corporation	CPN	45.80	4.1	14.3	23	-	9.0
	Dynegy Inc.	DYN	47.01	0.4	14.1	22	0.6	9.0
	Mirant Corporation	MIR	37.50	0.7	12.5	18	-	8.0
	AES Corporation	AES	41.37	4.1	11.5	21	-	9.0
	Duke Energy Corporation	DUK	41.97	0.9	11.1	16	2.6	8.0
	Williams Companies	WMB	37.66	3.6	11.1	16	1.6	8.0
	El Paso Corporation	EPG	57.00	0.7	9.7	17	1.5	8.0
	American Electric Power Co. Inc.	AEP 2	48.27	0.7	8.6	13	5.0	7.0
	Southern Company	SO	22.99	2.7	8.2	14	5.8	7.0
	Exelon Corporation	EXC	64.69	2.6	7.6	14	2.6	7.0
	<i>Median</i>			<i>0.9</i>	<i>11.1</i>	<i>17</i>	<i>1.5</i>	<i>8.0</i>
Natural Gas and Oil								
	Burlington Resources, Inc	BR 2	45.40	3.3	5.9	9	1.2	7.0
	Occidental Petroleum	OXY	29.51	1.3	5.4	8	3.4	6.0
	Anadarko Petroleum Corp.	APC	59.88	2.0	4.3	9	0.3	6.0
	Phillips (incl. Tosco)	P	62.50	0.7	4.3	8	2.2	6.0
	Conoco Inc.	COC.B	29.99	0.6	4.2	8	2.5	6.0
	ENI S.p.A.	E	65.50	1.2	3.7	7	2.4	5.0
	<i>Median</i>			<i>1.2</i>	<i>4.3</i>	<i>8</i>	<i>2.3</i>	<i>6.0</i>
Service								
	Halliburton Company	HAL	44.80	1.5	12.5	30	1.1	8.0
	Schlumberger Ltd.	SLB	60.30	3.1	10.6	30	1.2	8.0

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

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

	<i>Symbol/ Rating</i>	<i>Price (\$/sh) 8-Jun 2001</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>
Power							
Constellation Energy Group	CEG	43.44	152	6,600	37.10	0.45	1.09
CMS Energy Corporation	CMS	28.75	128	3,700	19.80	0.80	1.09
Sempra Energy	SRE	26.50	203	5,400	23.10	0.65	1.05
	<i>Total or Median</i>			<i>15,700</i>		<i>0.65</i>	<i>1.09</i>
Natural Gas and Oil							
TEPPCO Partners, L.P.	TPP	29.15	38	1,110	13.20	0.65	1.42
Barrett Resources Corporation	BRR	69.85	34	2,400	53.80	0.21	1.23
Petro-Canada	PCZ	27.87	272	7,600	35.20	0.09	0.81
Unocal Corporation	UCL	37.67	256	9,600	51.90	0.27	0.80
PanCanadian Pete Ltd. (15%)	PCP.TO	32.67	38	1,250	41.80	0.07	0.80
Valero Energy Corp.(with UDS)	VLO	43.73	112	4,900	70.70	0.42	0.78
USX-Marathon Group	MRO 1	31.97	309	9,900	44.80	0.23	0.78
Devon Energy Corporation	DVN	55.90	135	7,600	80.10	0.16	0.75
PetroChina Company Ltd (10%)	PTR 2	21.60	176	3,800	32.50	0.15	0.72
Norsk Hydro ASA (49%)	NHY	42.00	128	5,400	65.90	0.15	0.69
	<i>Total or Median</i>			<i>53,560</i>		<i>0.18</i>	<i>0.79</i>
Small Cap							
Dorchester Hugoton, Ltd.*	DHULZ	14.09	10.7	151	13.00	-	1.08
Cross Timbers Royalty Tr*	CRT	17.65	6.0	106	18.10	-	0.98
Encore Acquisition Corporation	EAC	15.50	30.0	470	16.40	0.15	0.95
San Juan Basin Royalty Tr*	SJT	15.06	46.6	700	17.10	-	0.88
Hugoton RoyaltyTrust*	HGT	15.35	40.0	610	17.90	-	0.86
Energy Partners Ltd.*	EPL 1	11.10	27.0	300	18.40	0.04	0.62
	<i>Total or Median</i>			<i>2,340</i>		<i>-</i>	<i>0.92</i>

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

		<i>Price</i> <i>(\$/sh)</i>	<i>EV/</i>	<i>EV/</i>	<i>Dividend or</i>	<i>PV/</i>	
		<i>8-Jun</i>	<i>Sales</i>	<i>Ebitda</i>	<i>P/E</i>	<i>Ebitda</i>	
	<i>Symbol</i>	<i>2001</i>	<i>2001E</i>	<i>NTM</i>	<i>NTM</i>	<i>NTM</i>	
					<i>NTM</i>	<i>NTM</i>	
					<i>(%)</i>		
Power							
Constellation Energy Group	CEG	43.44	2.2	7.7	14	1.1	7.0
CMS Energy Corporation	CMS	28.75	0.9	7.6	10	5.1	7.0
Sempra Energy	SRE	26.50	1.2	7.4	10	3.8	7.0
	<i>Median</i>		<i>1.2</i>	<i>7.6</i>	<i>10</i>	<i>3.8</i>	<i>7.0</i>
Natural Gas and Oil							
TEPPCO Partners, L.P.	TPP	29.15	0.7	11.4	15	7.2	8.0
Barrett Resources Corporation	BRR	69.85	5.3	7.4	15	-	6.0
Unocal Corporation	UCL	37.67	1.7	4.8	13	2.1	6.0
Petro-Canada	PCZ	27.87	1.1	4.5	10	1.0	5.5
PanCanadian Pete Ltd. (15%)	PCP.TO	32.67	1.4	4.4	8	0.8	5.5
Valero Energy Corp.(with UDS)	VLO	43.73	0.3	4.3	5	0.7	5.5
USX-Marathon Group	MRO 1	31.97	0.4	3.9	6	2.9	5.0
Devon Energy Corporation	DVN	55.90	2.8	3.7	8	0.4	5.0
PetroChina Company Ltd (10%)	PTR 2	21.60	1.5	2.9	5	7.9	4.0
Norsk Hydro ASA (49%)	NHY	42.00	0.8	2.8	7	2.5	4.0
	<i>Median</i>		<i>1.2</i>	<i>4.3</i>	<i>8</i>	<i>1.5</i>	<i>5.5</i>
Small Cap							
Cross Timbers Royalty Tr*	CRT	17.65	5.2	7.9	8	12.1	8.1
Dorchester Hugoton, Ltd.*	DHULZ	14.09	6.0	7.6	8	8.7	7.0
San Juan Basin Royalty Tr*	SJT	15.06	5.7	7.0	9	10.9	7.9
Hugoton RoyaltyTrust*	HGT	15.35	4.9	6.8	9	11.1	8.0
Encore Acquisition Corporation	EAC	15.50	3.9	5.7	14	-	6.0
Energy Partners Ltd.*	EPL 1	11.10	1.8	2.8	10	-	4.5
	<i>Median</i>		<i>5.0</i>	<i>6.9</i>	<i>9</i>	<i>9.8</i>	<i>7.5</i>

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

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

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 <http://www.mcdep.com>. Owning shares in about 16 energy stocks, neither Mr. Wulff nor his spouse act contrary to a buy or sell rating. Mr. Wulff is not paid by covered companies.