

Rating: Buy  
S&P 500: 1136

## **PetroChina Company Limited**

### **Emerging Mega Cap**

<i>Symbol</i>	PTR	<i>Ebitda Next Twelve Months ending 3/31/05 (US\$m)</i>	22,800
<i>Rating</i>	Buy	<i>North American Natural Gas/Ebitda (%)</i>	0
<i>Price (US\$/sh)</i>	47.49	<i>Natural Gas and Oil Production/Ebitda (%)</i>	78
<i>Pricing Date</i>	6/10/04	<i>Adjusted Reserves/Production NTM</i>	15.7
<i>Shares (mm)</i>	1758	<i>EV/Ebitda</i>	4.2
<i>Market Capitalization (US\$m)</i>	83,500	<i>PV/Ebitda</i>	7.3
<i>Debt (US\$m)</i>	11,000	<i>Undeveloped Reserves (%)</i>	37
<i>Enterprise Value (EV) (US\$m)</i>	94,500	<i>Natural Gas and Oil Ebitda (US\$/boe)</i>	19.34
<i>Present Value (PV) (US\$m)</i>	165,700	<i>Present Value Proven Reserves(US\$/boe)</i>	7.28
<i>Net Present Value (US\$/share)</i>	88	<i>Present Value Proven Reserves(US\$/mcf)</i>	1.21
<i>Debt/Present Value</i>	0.07	<i>Earnings Next Twelve Months (US\$/sh)</i>	6.04
<i>McDep Ratio - EV/PV</i>	0.57	<i>Price/Earnings Next Twelve Months</i>	8
<i>Dividend Yield (%/year)</i>	4.5	<i>Indicated Annual Dividend (US\$/sh)</i>	2.16

Note: Estimated cash flow and earnings tied to one-year futures prices for oil and natural gas.

Reported results may vary widely from estimates. Estimated present value per share revised only infrequently.

The Peoples Republic of China holds 90% of the outstanding shares.

### **Summary and Recommendation**

We continue to recommend current purchase of the American Depositary Shares of **PetroChina (PTR)** for comparable magnitude of present value of resources with more stock price appreciation potential and higher dividend yield than the median mega cap energy stock. The company has once-in-a-lifetime opportunity to profit from the conversion of the Chinese economy to natural gas. Production is only beginning to feed a new pipeline network and the price received is still modest. Stable oil production generates most of current cash flow while downstream operations are improving rapidly in profitability. We see 85% appreciation potential to net present value of US\$88 a share and a long term return of about 5% per year above inflation thereafter. To allow for political risk, investors may want to limit ownership to half a normal portfolio position.

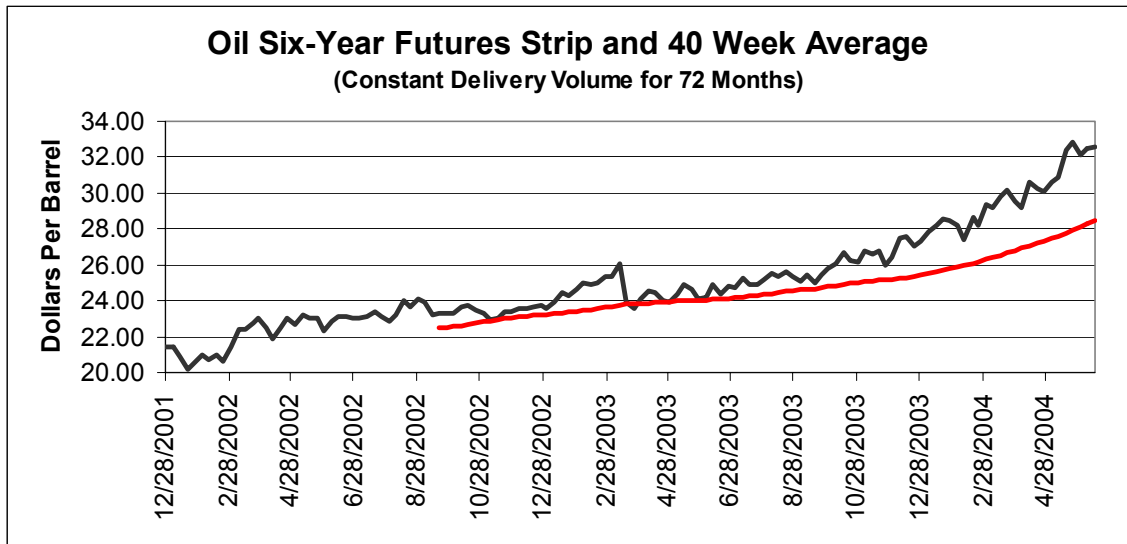
### **Oil Looks Up by the Charts, Fundamentals, Inflation and Security**

Six-year futures describe the commodity price trends most relevant to estimating resource value. The longer time horizon better matches the period during which more of current resources will actually be produced. The longer term measure also smoothes the frantic near-month fluctuations and has the potential to keep climbing even if near-month quotes drop back temporarily.

The plots of weekly results since the beginning of 2002 trace a trend of six-year oil price rising 16% a year (see chart). We measure momentum with the 40-week moving average. The charts look good as long as the current six-year quote remains above the trailing average.

Fundamental factors support the price trends. Oil demand is strong with world economic growth paced by developing countries, especially China. Supply is tight as the Middle East is showing maturity with the workhorse giant fields on the verge of peaking.

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Monetary factors also favor oil investment as interest rates below inflation drive investors to real assets for protection against currency debasement. Compared to Treasury Inflation Protected Securities that we also favor, oil price is likely to rise more than the official government determined inflation measure.

There appears to be little of the cost of maintaining global security reflected in the price of oil. The U.S. military presence in the Middle East may be controversial today. Yet when the U.S. supported government in Iran fell at the end of the 1970s, the world experienced its highest energy prices ever.

At some point oil price could be too strong and economic activity would be adversely affected. Six times in the past thirty years the annual gain in monthly price exceeded 70% briefly. July futures near \$40 a barrel for Light, Sweet Crude Oil would have to exceed \$52 a barrel to trigger a 70% warning.

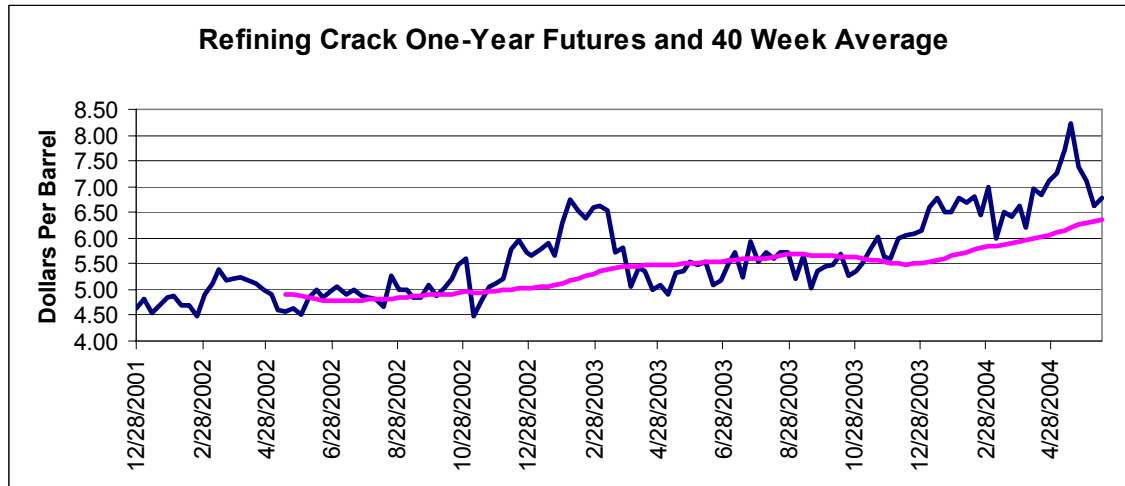
### **Downstream Trends Also Strong**

Industry people like to refer to the oil producing business as upstream and the oil refining/marketing business as downstream. Strong upstream business prospects captured in the rising trend of six-year futures are complemented by improving downstream prospects captured in the trend of one-year refining crack futures (see chart).

Compared to the two previous years, there has been no sign yet of a temporary peak in the trend. Perhaps there will be some falloff this year as in the past, but it would occur from a higher level.

The crack spread we measure is the price of two-thirds barrel of gasoline plus one-third barrel of heating oil minus a barrel of crude oil. While there are innumerable varieties of crude oil and products quoted around the world there is only one source of transparent, public quotes of futures prices for the next year, the New York Mercantile Exchange. As a result we use the Nymex

quotes as an indicator of future downstream profitability globally, recognizing that markets are linked meaningfully, if not perfectly. Finally, the crack spread should be seasonally neutral because it always includes twelve months.



### **Volume, Price and Costs Translate to Attractive Cash Flow**

Our process of estimating company-specific present value begins with an estimate of next twelve months cash flow. Current projections lead to a healthy level of unlevered cash flow, also known as Ebitda, short for earnings before interest, tax, depreciation and amortization. We choose the next twelve months ending June 30, 2005 as the relevant time period.

For the next twelve months we project constant natural gas and oil volume at the first quarter 2004 level. That is sufficient for our valuation calculation.

We take the futures market at face value in projecting price for the next twelve months. Henry Hub quotes may be irrelevant for natural gas in China, but point to the eventual premium value for the cleanest fossil fuel. Light Sweet Crude quotes guide our projections of oil revenue. PetroChina reports volume and prices quarterly (see table).

Cash flow is reported only semiannually (see table). The refinery crack futures guide our projections of downstream cash flow. The crack spread may be for New York Harbor, but it is the world benchmark for the year ahead. Because futures are constantly changing, our projection is adjusted accordingly. As a result, the specific amounts we project today may not be the amounts realized when the company next reports.

Compared to the median mega cap, PTR's natural gas price is low. PTR's production cash flow relative to revenue is in line. Downstream cash flow at 22% of total cash flow compared to a median at 26% implies the likelihood of further improvement for refining/marketing and chemicals.

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**PetroChina Company Limited**  
**Next Twelve Months Production**

	<i>Q1</i>	<i>Q2E</i>	<i>Q3E</i>	<i>Q4E</i>	<i>Year</i>	<i>Q1E</i>	<i>Q2E</i>	<i>Next</i>
	<i>3/31/04</i>	<i>6/30/04</i>	<i>9/30/04</i>	<i>12/31/04</i>	<i>2004E</i>	<i>3/31/05</i>	<i>6/30/05</i>	<i>Twelve</i>
								<i>Months</i>
								<i>6/30/05</i>
<b>Volume</b>								
Natural gas (bcf)	218	218	220	220	<b>875</b>	215	218	<b>872</b>
Natural Gas (mmcf)	2,390	2,390	2,390	2,390	<b>2,390</b>	2,390	2,390	<b>2,390</b>
Days	91	91	92	92	<b>366</b>	90	91	<b>365</b>
Oil (mmb)	193	193	195	195	<b>776</b>	191	193	<b>774</b>
Oil (mbd)	2,120	2,120	2,120	2,120	<b>2,120</b>	2,120	2,120	<b>2,120</b>
Total gas & oil (mmb)	229	229	232	232	<b>922</b>	227	229	<b>919</b>
Total gas & oil (mbd)	2,518	2,518	2,518	2,518	<b>2,518</b>	2,518	2,518	<b>2,518</b>
<b>Price</b>								
Natural gas (\$/mcf)								
Henry Hub (\$/mmbtu)	5.64	6.05	6.23	6.50	<b>6.11</b>	6.75	5.86	<b>6.34</b>
Company	1.98	1.98	1.98	1.98	<b>1.98</b>	1.98	1.98	<b>1.98</b>
Oil (\$/bbl)								
WTI Cushing	35.23	38.55	38.55	37.91	37.56	36.77	35.84	<b>37.27</b>
Company	28.31	30.98	30.98	30.47	<b>30.19</b>	29.55	28.81	<b>29.96</b>
Total gas & oil (\$/bbl)	25.71	27.96	27.96	27.53	<b>27.29</b>	26.75	26.13	<b>27.10</b>
<b>Revenue (\$mm)</b>								
Natural Gas	431	431	435	435	<b>1,732</b>	426	431	<b>1,727</b>
Oil	5,461	5,976	6,042	5,942	<b>23,420</b>	5,638	5,557	<b>23,178</b>
Total	5,892	6,406	6,477	6,377	<b>25,152</b>	6,064	5,987	<b>24,905</b>
Total(RMB)	48,691	52,946	53,531	52,702	<b>207,870</b>	50,112	49,481	<b>205,826</b>

**Assess Present Value Multiple Depending on Reserve Life**

The important variables in the valuation of future production are captured in base year cash flow and a multiple of that cash flow that depends on reserve life. Indeed investors do differentiate on that basis as reflected in a high correlation of unlevered cash flow multiple with adjusted reserve life. We convert the market relationship to a formula that produces an anticipatory value with somewhat more sensitivity to reserve life.

The adjusted reserve life index is the sum of developed and half undeveloped reserves divided by next twelve months production. When we last did an industry-wide upward revaluation on March 23, we estimated cash flow multiple equal to 2.5 plus 0.5 times reserve life. That approximates present value assuming constant commodity price near the one-year quotes at that time, about \$35 a barrel for crude oil. Higher commodity prices since then imply higher cash flow and lower multiple.

In calculating an adjusted reserve life for PetroChina we arbitrarily limit proven natural gas reserves to 20 years. The resulting 13.6 years for natural gas and oil combined readily justifies our assessed present value to cash flow multiple (PV/Ebitda) of 7.3 times. That in turn is far higher than the market cash flow multiple (EV/Ebitda) of just 4.2 times.

Kurt H. Wulff, CFA

**PetroChina Company Limited**  
**Next Twelve Months Operating and Financial Results**

	<i>Year</i>	<i>H1E</i>	<i>H2E</i>	<i>Year</i>	<i>H1E</i>	<i>Next Twelve Months</i>
	<i>2003</i>	<i>6/30/04</i>	<i>12/31/04</i>	<i>2004E</i>	<i>6/30/05</i>	<i>6/30/05</i>
NY Harbor 3-2-1 (\$/bbl)	6.42	8.91	6.18	7.54	7.36	6.77
<b>Revenue (RMB)</b>						
Natural Gas						
Oil						
Upstream (from quarterly table)	<b>185,160</b>	101,637	106,233	<b>207,870</b>	99,593	<b>205,826</b>
Downstream Value Added	<b>118,619</b>	91,135	63,211	<b>154,346</b>	75,329	<b>138,540</b>
Total	<b>303,779</b>	192,773	169,443	<b>362,216</b>	174,922	<b>344,365</b>
<b>Expense</b>						
Production						
Other						
Total	<b>135,951</b>	88,417	76,752	<b>165,170</b>	79,492	<b>156,244</b>
<b>Ebitda (RMB)</b>						
Production	<b>131,027</b>			<b>153,839</b>		<b>146,871</b>
Other	<b>36,801</b>			<b>43,207</b>		<b>41,250</b>
Total	<b>167,828</b>	104,355	92,691	<b>197,046</b>	95,430	<b>188,121</b>
Exploration	<b>10,577</b>	5,766	5,766	<b>11,532</b>	5,766	<b>11,532</b>
Deprec., Deplet., & Amort.	<b>40,531</b>	19,622	19,622	<b>39,244</b>	19,622	<b>39,244</b>
Other non cash						
<b>Ebit</b>	<b>116,720</b>	78,967	67,303	<b>146,270</b>	70,042	<b>137,345</b>
Interest	<b>2,346</b>	1,159	1,159	<b>2,318</b>	1,159	<b>2,318</b>
<b>Ebt</b>	<b>114,374</b>	77,808	66,144	<b>143,952</b>	68,883	<b>135,027</b>
Income Tax	<b>40,031</b>	27,233	23,150	<b>50,383</b>	24,109	<b>47,260</b>
<b>Net Income (RMB)</b>						
Exploration and Production	<b>92,370</b>					
Other	<b>7,998</b>					
Unallocated	<b>(30,754)</b>					
Total	<b>69,614</b>	50,576	42,994	<b>93,569</b>	44,774	<b>87,768</b>
<b>Shares (millions)</b>	<b>1,758</b>	1,758	1,758	<b>1,758</b>	1,758	<b>1,758</b>
Earnings per share (RMB)	<b>39.60</b>	28.77	24.46	<b>53.22</b>	25.47	<b>49.92</b>
Ebitda Margin (E&P)	<b>71%</b>			<b>74%</b>		<b>71%</b>
Tax Rate	<b>35%</b>	35%	35%	<b>35%</b>	35%	<b>35%</b>

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**Research Methodology/Ratings Description:** McDep Associates is an independent research originator focused on oil and gas stocks exclusively. The firm applies the thirty years of experience of its analyst to estimate a present value of the oil and gas resources and other businesses of covered companies. That value is compared with a company's stock market capitalization and debt. Stocks with low market cap and debt relative to present value tend to outperform stocks with high market cap and debt relative to present value. Buy recommendations are expected to deliver a total return better than 7% per year above inflation. Hold recommendations assume the attributes of the underlying business are more than fully reflected in the current price of the stock. Sell recommendations are expected to deliver a negative total return less than 7% per year including the effects of inflation.

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