

Energy and Innovation: Why Oil Prices Will Decline



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[Designing Energy Out](#)

Page 2 ▼

[Demand and the Economy](#)

Page 2 ▼

[Inventories and Prices](#)

Page 3 ▼

[Major Economic Indicators, Trends & Calendar of Events](#)

Page 4 ▼

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Summary:

The increase in the price of oil in the past two months has not been supported by fundamentals either within the general economy or within the oil industry itself. Supply has been increasing much faster than demand leading to a substantial increase in inventories that is now starting to put downward pressure on prices. I expect further price declines in the months ahead with the price eventually settling in the \$35 to \$40 per barrel range. One important reason for this is the changes in demand brought about by innovation. Strong economic growth no longer means strong growth in oil consumption.

Critical Action Items:

- ✓ **Oil and gas companies have seen a huge jump in share prices this year. Now is the time to take profits. As the price of oil falls, so will these shares.**
- ✓ **The increase in oil prices has been partially driven by a broad-based commodity speculation boom. Expectations of soaring global demand for all kinds of industrial commodities have boosted prices of copper, aluminum, nickel and steel among others. These commodities are also likely to see price declines in the months ahead.**



Other Critical Action Items:

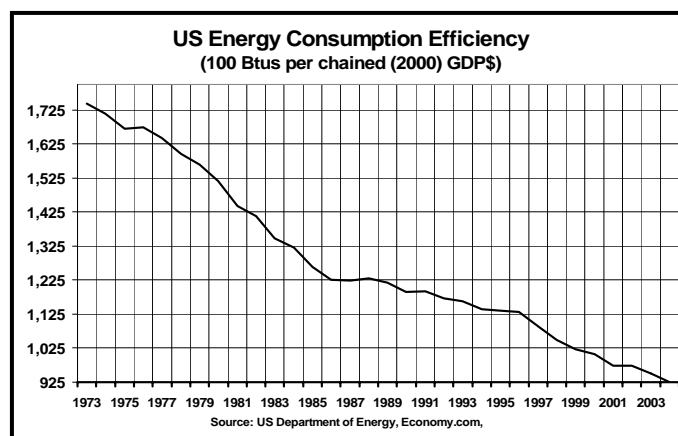
- Although I expect oil prices to fall from the current lofty levels, they will remain high enough to make exploration an attractive activity. I expect the price of oil to settle in the \$35 per barrel range. This price makes the risks associated with discovering new oil more attractive and should lead to a higher level of exploration and discovery. As the price of oil has risen this year, shares of oil drilling companies have also climbed. But this segment of the industry has not shown the same strength as other activities. This suggests that the exploration sector has greater upside potential than other oil industry sectors.

Overview:

Back in the early 1980s when I was a consultant to corporations we made a presentation to one of the largest industrial equipment manufacturers in the US, a company that made everything from light bulbs to radars to nuclear power plants. A team of planners came to get our forecast for the long-term outlook for the US economy with special emphasis on the forecast for the price of oil, a pervasive concern at that time. Oil was considered a unique commodity because of its use throughout the economy and its broad impact on economic activity. The economy at that time was in the midst of the most severe recession since the Depression of the 1930s and it had begun following the tripling of oil prices in the late 1970s and early 1980s. In a little over two years, from December 1978 to March 1981, the price of oil increased from \$12.93 per barrel to \$37.48 per barrel.

As with most other forecasters at that time, we expected oil prices to climb steadily and projected a price in the range of \$80 per barrel by the end of the decade. At that point, one of the planners told us: "That's why we are designing energy out of our products." And they did. Instead of not paying any attention to the amount of energy a product consumed, manufacturers throughout the economy took energy into account as they designed new products and redesigned existing goods.

Of course, the price of oil never reached \$80 per barrel and by the mid 1980s it was back down to about \$11.00 per barrel. Part of the reason for the sharp decline in the 1980s was a tectonic shift in the economy caused by the response to the high oil prices at the beginning of the decade. It took a while, but once the changes occurred, they were not reversible. If a company can design a machine to use less electricity, it is not going to later go back to using more electricity. And as use the machine becomes more widespread, the increase in efficiency spreads throughout the economy. It was not just a change in the design of products that occurred in the 1970s and 1980s, it was a change in attitude epitomized by that planner. Energy consumption became a design variable with the same importance as performance and other aspects of products, not just one time, but for all products going forward.



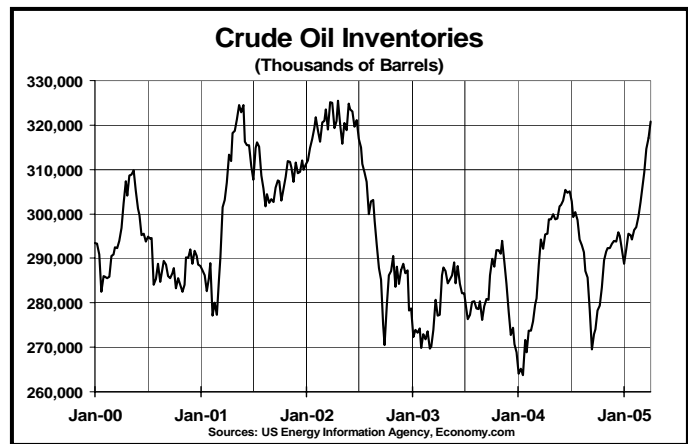
The change in attitude that accompanied the energy price spikes of the 1970s can be seen in the chart, which shows the amount of energy consumed in the US economy to produce a unit of economic output (in this case GDP in chained 2000 dollars). In 1973 it took slightly more than 174,000 BTUs (British Thermal Units) to produce a dollar of GDP. By 2004, that same dollar of output took only 92,500 BTUs to produce,

a cumulative reduction in energy consumption of 46.9%. And the pace at which efficiency is improving remains steady. In fact, the efficiency increase since 1997 has been the strongest since the first half of the 1980s.

This increase in efficiency can be seen in many aspects of economic activity from more use of insulation in homes to use of more efficient oil and gas burners for heating. One easily measurable activity is driving. Autos have become much more fuel efficient. In 1973, the average car got 13.4 miles per gallon of gas and consumed 737 gallons of gasoline in a year. In 2003, the average car got a record 22.3 miles per gallon and consumed 550 gallons of gas.

This increase in efficiency means the US economy can grow strongly without generating a huge increase in demand. However, it does not mean oil consumption is falling. Far from it. Consumption of petroleum and natural gas in the US reached a record high in 2004, 3.3% above the level of 2003. Part of the reason for this is a change in the mix of energy products consumed in the US. In 2004, oil and natural gas accounted for 62.9% of all energy consumed in the US, up from 61.9% in 2003.

Despite the growth in demand, the supply of oil in the US is rising even faster. Imports have surged to record levels and domestic production in January 2005 was the highest since last July. As a result, inventories are soaring. In the latest week (April 8), inventories of crude oil in the US were at their highest level in almost three years, since June 2002 (see chart). Crude inventories are currently 8.5% above the level of a year ago. A year ago the price of oil was about \$35 per barrel.



Thus, we have an economy that is able to grow with far less increase in energy consumption than in the past. In fact, if growth slows, energy consumption slows even more. And currently, there are signs that economic growth could be slowing. I'm not convinced, but it does appear that March was a sluggish month for the economy. (Note: sluggish for the US economy means that consumer spending, industrial output and employment were all at record highs in March!) Slower economic growth in the increasingly energy efficient US economy means energy demand may not grow at all, or if it does, the growth rate will be very slow.

All of which makes the current oil market look very, very vulnerable. The oil price increase of the past few months has been based on the belief that world demand will increase sharply in 2005 led by the US and China. Now that increase is not such a sure thing. At the same time, global production has been increasing as the OPEC countries have agreed to boost production several times during the past few months. As inventories continue to increase, and they will, the pressure on oil prices will be downward.

The same analysis is true for gasoline. The price of gasoline today has little to do with the economic fundamentals. Inventories of gasoline are currently running about 8% to 10% above the level of a year ago, when gas prices were \$1.75 per gallon. Today gasoline is averaging \$2.25 per gallon.

Oil prices surged two weeks ago when one brokerage firm put out a research report indicating oil prices could reach \$100 per barrel. This is absurd. When (not if) oil prices decline there will be a negative impact on the entire sector in equity markets. This industry is doing well, but prices are expected to drop sharply and so are equities.

Major Economic Indicators and Trends

Indicator	Latest Data (Date)	Change From Preceding Period	Change From Year Earlier	Interpretation
Payroll Employment (000 Persons)	132,926 (03/05)	110	2,140	Employment growth continues to support economic expansion.
Institute for Supply Management	55.2 (03/05)	N/A	N/A	High level of activity persists. Manufacturing is one of the strongest sectors.
Gross Domestic Product (Billions of Chained 2000)	\$10,994.3 (Q4/04)	3.8%	3.9%	After growing 4.4% in 2004, I expect a solid 3.5% to 4.0% in 2005.
Producer Price Index (1982=100)	152.5 (02/05)	0.4%	4.7%	Higher commodity prices will keep PPI inflation in the 3.0% plus range in 2005.
Consumer Price Index (1982-84=100)	192.0 (02/05)	0.4%	3.0%	Inflation has risen with higher energy prices. Core rate remains around 2.0%.
Retail Sales (Billions of Dollars)	\$339.3 (03/05)	0.3%	5.6%	Consumer spending will rise strongly in 2005.
Housing Starts (Thousands of Units)	2,195 (02/05)	0.5%	15.8%	Housing should slow as interest rates rise, but remain at healthy levels.
Industrial Production Index (1997=100)	118.5 (03/05)	0.3%	3.9%	Manufacturing is strong, boosting overall growth.
Trade Balance (Billions of Dollars)	-\$61.0 (02/05)	-\$2.5	-\$15.2	The trade deficit continues to increase. But small improvement is likely in 2005.
Durable Goods Orders (Billions of Dollars)	\$200,936 (02/05)	0.5%	7.8%	The trend is solidly upward as manufacturing is now growing strongly.
vFinance Entrepreneurial Confidence Index (2002=100)	188.3 (03/05)	-1.0%	3.2%	The number of entrepreneurs seeking to start a business has flattened out over the past year.
Personal Income (Billion Dollars, Annual Rate)	\$9,996.1 (02/05)	0.3%	5.8%	Healthy income growth will continue to support consumer-spending growth.
Federal Funds Rate Target (Percent)	2.75% (04/12/05)	0.25%	1.75%	The funds rate is expected to be 3.50% by mid-year and about 4.50% by year end.
10-Year Treasury Note (Percent)	4.38% (04/12/05)	-0.10%	0.13%	Long-term rates are expected to top 4.75% by mid-year and 5.25% by year end.
Standard and Poors 500 Stock Index	1,187.8 (04/12/05)	1.0%	3.7%	Despite recent weakness, I expect solid gains in 2005.

Economic Releases for the Next Two Weeks

Date	Indicator	Previous Period	Consensus Forecast	Market Impact of Consensus
4/19/05	Producer Price Index (Mar) (Percent Change)	0.4%	0.6%	Negative
4/19/05	Housing Starts (Mar) (Thousands of Units)	2,195	2,080	Positive
4/20/05	Consumer Price Index (Mar) (Percent Change)	0.4%	0.4%	Neutral
4/21/05	Conference Board Leading Economic Indicators (Mar) (Percent Change)	0.1%	-0.1%	Negative
4/21/05	Philadelphia Federal Reserve Index (Apr) (Balance of Good Minus Bad)	11.4	15.3	Positive
4/25/05	Existing Home Sales (Mar) (Millions of Units)	6.79	NA	NA
4/26/05	New Home Sales (Mar) (Thousands of Units)	1,226	NA	NA
4/26/05	Conference Board Consumer Confidence Index (Apr) (1985=100)	102.4	NA	NA
4/27/05	Durable Goods Orders (Mar) (Percent Change)	0.5%	NA	NA
4/28/05	Gross Domestic Product (Q1-05-Advance) (Percent Change)	3.8%	NA	NA
4/29/05	Personal Income (Mar) (Percent Change)	0.3%	NA	NA
4/29/05	University of Michigan Consumer Attitudes Final, (Apr) (2/66=100)	92.6	NA	NA

Forecasts obtained from CBS MarketWatch.com

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