

MUSINGS FROM THE OIL PATCH

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Note: *Musings from the Oil Patch* reflects an eclectic collection of stories and analyses dealing with issues and developments within the energy industry that I feel have potentially significant implications for executives operating oilfield service companies. The newsletter currently anticipates a semi-monthly publishing schedule, but periodically the event and news flow may dictate a more frequent schedule. As always, I welcome your comments and observations. Allen Brooks

What to Make of the Oil Price Collapse?

As the string of days marked by falling crude oil futures prices grew, one could almost hear the CNBC talking heads crowing and in the background the band striking up “Happy Days Are Here Again” as the bull market on Wall Street was resurrected. For much of the past several years, rising crude oil prices depressed the general stock market. Rising oil prices and high gasoline pump prices were cited as instigators of inflation that would force the Fed to raise interest rates and depress economic activity – not good for stocks.

The string of seven consecutive down days in early September stirred the market’s juices

Crude oil futures prices broke below the \$70 threshold in late August. However, it was the string of seven consecutive down days in early September that stirred the market’s juices. Between August 25 and September 14, crude oil prices declined on 10 of those 13 trading days. The oil price dropped by \$9.29, or almost 13%. If calculated from the peak price this July, when hurricanes and geopolitical conditions fueled the oil market, to the low last Friday, oil prices dropped by over 26%. Any correction of greater than 20% is generally considered to constitute the start of a bear market.

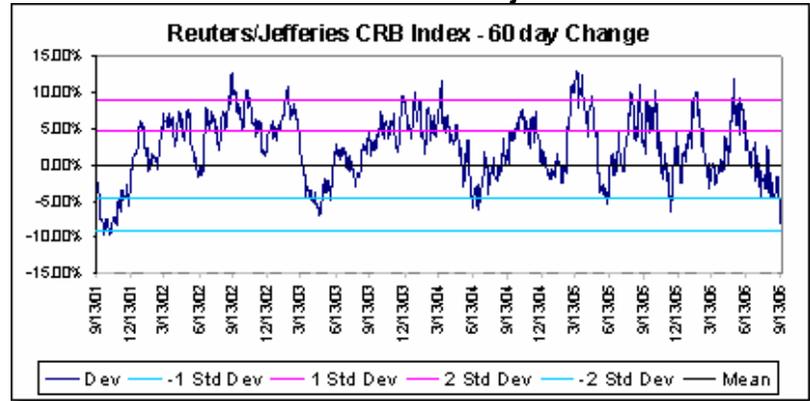
The Reuters/Jeffries CRB Index has experienced its biggest three-week decline in more than 25 years

The issue of a bear market for oil and even all commodities has become a topic of discussion. The Reuters/Jeffries CRB Index of 19 commodities has experienced its biggest three-week decline in more than 25 years due to moderating economic growth. The current decline has put the index at an extreme level. There have only been two times in the last five years that this large of a correction over 60 trading days has occurred.

From talk about \$80 and \$100 per barrel prices, the focus has shifted to how low prices can drop. Most forecasts call for oil to slip back into the \$55 per barrel range as the risk premium for oil shrinks. Continued growth in petroleum inventories, OPEC’s recent

decision not to cut its production, the possibility of an early restart of

Exhibit 1. Commodities Have Had A Major Reversal



Source: Reuters, Jefferies

Pressuring oil prices were another round of global oil demand markdowns

Alaskan oil production, the prospect of huge new oil reserves in the Gulf of Mexico and the cooling of geopolitical tensions have combined to shrink the risk premium in oil prices. Further pressuring oil prices were another round of global oil demand markdowns by the leading forecasters – the International Energy Agency (IEA) and OPEC. Not only are they cutting 2006 second half demand estimates, but they are lowering their 2007 demand growth estimates, too.

Exhibit 2. Significant Oil Price Corrections

Date	\$ Decline	Pct. Drop
2006		
14-Jul	77.03	
14-Sep	63.22	13.81
2006		
30-Jan	68.35	
15-Feb	57.65	10.70
2005		
30-Aug	69.81	
18-Nov	56.14	13.67
2004		
26-Oct	55.17	
10-Dec	40.71	14.46
2003		
26-Feb	37.70	
29-Apr	25.24	12.46
2001		
17-Sep	28.81	
11-Dec	18.08	10.73
2000		
7-Mar	34.13	
10-Apr	23.85	10.28

Source: EIA, NYMEX, PPHB

Crude oil futures prices dropped \$10.70 per barrel, or 15.7%, in the first half of February

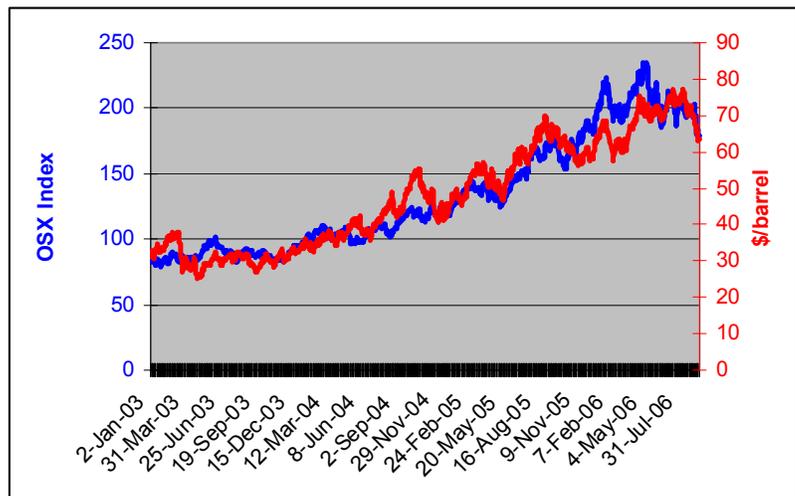
It only takes one geopolitical event or a Gulf of Mexico hurricane to reverse the downward course of oil futures prices

Is the drop in crude oil prices the start of a new bear market? If we look at past crude oil price declines this most recent drop is not unique. Using closing futures prices rather than futures highs and lows, the most recent decline (so far) of \$13.81 per barrel, or 17.9%, is not the largest or most severe decline the commodity has experienced this decade. Percentage-wise, this decline has been the second most modest, although you could not tell that from the media reporting of the correction. It seems the financial media can't remember much history since crude oil futures prices dropped \$10.70 per barrel, or 15.7%, in the first half of February this year.

Dollar-wise the current oil price decline was exceeded this decade by the 2004 decline of \$14.46 per barrel. The most dramatic oil price decline, however, coincided with the start of the first Gulf War in 1990 when oil prices dropped by \$15.92, or over 63% in a matter of two months. That oil price spike and subsequent collapse coincided with a global recession. The supply/demand imbalances created made for the difficult 1990s decade for crude oil.

At the present time, there seems to be an absence of any potential catalyst to reverse the downward trend in crude oil prices. That said, it only takes one geopolitical event or a Gulf of Mexico hurricane to reverse the downward course of oil futures prices. There is little doubt that this oil price correction has depressed energy stock prices. Even if oil prices do not fall further, it is hard to see investor money flowing into energy stocks. That could produce an unusual situation whereby energy stock prices do not rise during the fall and early winter as is their traditional trading pattern.

Exhibit 3. Oil Prices and the OSX Have Tracked Closely

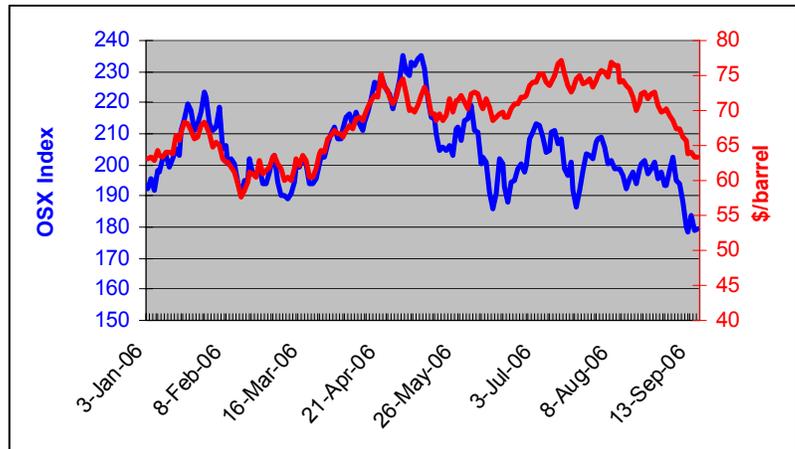


Source: Yahoo Finance, EIA, PPHB

If we look at the history of the Philadelphia Oil Service Stock Index (OSX), since the late 2002 low the index has essentially gone straight up until spring of this year. Interestingly, even with the periodic significant oil price corrections, the OSX either briefly

corrected or continued to advance. However, this summer, the OSX was unable to recover from its spring peak despite crude oil climbing to record highs and all industry activity measures at high levels.

Exhibit 4. Stock Prices Slide Before Oil Prices



Source: Yahoo Finance, EIA, PPHB

Crude oil and energy stocks have substantial headwinds to contend with

If we look at the performance of oil futures and the OSX during 2006, we see some interesting and troubling patterns. When oil futures prices dropped in February 2006, the OSX declined at the same time. However, as oil futures prices began weakening in April, the OSX continued to climb. The OSX then dropped sharply in May. Oil futures prices subsequently bottomed and reversed, climbing to a peak in July, but the OSX continued to slide. As oil futures prices have dropped over the past several weeks, the OSX has collapsed. One has to wonder whether energy stocks led crude oil into a bear market rather than the other way around. Regardless of the relationship, it appears that crude oil and energy stocks have substantial headwinds to contend with for the foreseeable future.

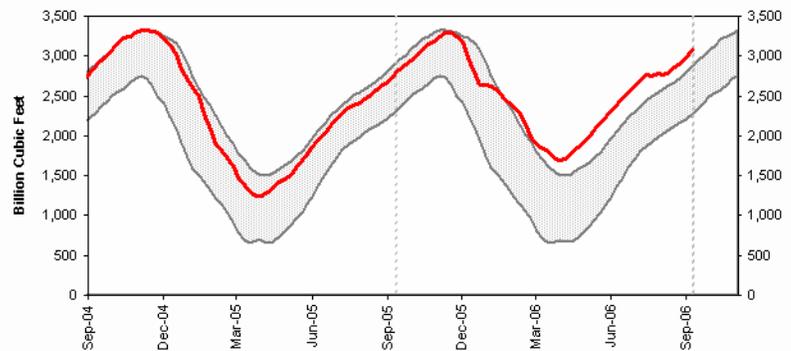
\$3 Gas – Not per Gallon, But per Mcf

Last week's injection reflects higher production, and probably weaker demand than many expected

That's right! Natural gas prices continue their swan dive as cooler than usual summer weather coupled with increased production from stepped up drilling have combined to push gas storage to near record levels. For the week ending September 8, the Energy Information Administration (EIA) reported that natural gas storage injection volumes were 108 billion cubic feet (Bcf), the first triple-digit injection since June 3, 2005. The weekly report covered the Labor Day holiday, which always experiences demand softness as industrial and commercial energy demand is lower as plants and facilities are closed. Last week's gas injection was up from 71 Bcf the week before, up from 81 Bcf for the same week a year ago and up from the 5-year average weekly injection rate of 89 Bcf. Clearly, last week's injection reflects higher production, and probably weaker demand than many expected.

Early in the summer we wrote about the potential challenge the natural gas market might face if there was no supply disruption from hurricanes and weather was cooler than normal. Both of these conditions have happened. As a result, natural gas storage volumes have reached 3.08 trillion cubic feet (Tcf), the earliest time by two weeks that storage volumes have exceeded 3 Tcf according to Enerfax Daily. Gas storage volumes now stand 339 Bcf (+12.3%) above last year and 341 Bcf (+12.4%) above the 5-year average.

Exhibit 5. Current Gas Storage Volumes Are High



Source: EIA, PPHB

Armed with the market intelligence of nearly full storage, buyers will be paying sharply lower prices

What happens if seasonal weather, i.e., weak gas demand, continues for another few weeks and hurricanes continue to curve up the East Coast? Gas storage capacity in the United States is estimated at 3.4-3.5 Tcf. Weekly projected gas storage injections of 70-80 Bcf per week will get us to full storage in 5-6 weeks. As we near full capacity, producers desiring to avoid shutting in their production will be forced to sell their gas at whatever price buyers are willing to pay. You have to believe that armed with the market intelligence of nearly full storage, buyers will be paying sharply lower prices. Could we see \$3 per Mcf gas? According to natural gas pricing services, wellhead gas prices in the Rockies are as low as \$3 already.

Last week was the first time since September 2004 that gas prices had traded below \$5 per Mcf

Roughly a year ago, natural gas prices spiked following the disruption in Gulf of Mexico production due to the series of severe hurricanes that devastated the oil and gas infrastructure along the Gulf Coast. With the spike in gas prices, analysts were projecting we could see \$20 per Mcf gas prices during the winter. From that peak, however, natural gas prices have slid steadily downward. They are down 68% from the \$15.38 peak. Last Friday, gas prices closed on the NYMEX up slightly from Thursday's closing price of \$4.89 per Mcf, but still below \$5. That was the first time since September 2004 that gas prices had traded below \$5 per Mcf. Despite that uptick, natural gas prices are down 56% year-to-date.

Exhibit 6. The Slide In Natural Gas Prices Continues

There is probably little risk of significant capital spending reductions in 2007

Even at \$5 per Mcf, natural gas prices remain at risk due to weak demand and growing storage. If natural gas prices were to crater over the next few weeks, producer sentiment will be negatively impacted just as the companies begin their budget planning cycle. Negative sentiment could translate into a number of companies projecting flat to only marginally changed capex spending next year compared to 2006. There is probably little risk of significant capital spending reductions in 2007, except for producers who are financially extended and experiencing profit margin squeezes as low gas prices meet rising operating costs. Much of the robust exploration and production spending experienced this year was to meet higher oilfield service and rig rental costs. The shortage of drilling rigs forced a number of producers to enter into long-term contracts for rigs or even to purchase their own rigs. Short of not drilling, it will be difficult for producers to offset the cost of these rigs and inflated service costs.

We would not be surprised to see a surge in merger and acquisition activity within the oil and gas sector

The other event in this environment we would not be surprised to see happen is a surge in merger and acquisition activity within the oil and gas sector. Within the producing sector, the major international oil companies, who abandoned the U.S. several years ago in the last industry downturn, will be looking at re-establishing domestic land and reserve positions. This will be particularly true as their access to attractive international opportunities remain constrained. Buying up the large independent producers will enable the oil giants to gain domestic acreage, production and talent they will need for the future. The oil giants know that being able to demonstrate production growth is critical for their stock valuations.

Other energy sectors will likely also experience consolidation. We already have seen some of it in the pipeline and power sectors, and a little bit in the oilfield service sector. Strong balance sheets, surplus cash flow and declining reinvestment opportunities will pressure managements to look at how to grow future earnings. Acquisitions of new production and market opportunities will climb higher on company radar screens. Bottom line is that we are poised at a tipping point that may lead to a restructuring of the oil and gas

producing sector with consequential impact on both the service and transmission sectors. Stay tuned and attuned!

Texas Top Wind Energy Provider

The American Wind Energy Association's Second Quarter Market Report reports that Texas' cumulative wind power capacity now stands at 2,370 megawatts (MW), enough to power more than 600,000 average American homes. California is in second place with 2,323 MW.

At one time, California accounted for 80% of the country's total installed base of wind power generation capacity

Texas edged ahead of California by adding 375 MW since the beginning of the year. California had led the country in total wind power capacity for 25 years until now. Wind farms were first constructed in California in 1981 in response to the sharp rise in oil prices during the 1970s. At one time, California accounted for 80% of the country's total installed base of wind power generation capacity.

Texas' wind power capacity addition accounted for over 45% of all the new capacity installed during the first half of 2006. With the additional 822 MW of wind power capacity added this year, the U.S. cumulative wind power installed base grew to 9,971 MW. U.S. wind farms were the second-largest source of new power generation last year, after natural gas, according to the Energy Information Administration. Even with all this new generation growth, wind power accounts for less than 1% of the U.S.'s electricity supply, in contrast to 20% in Denmark.

It is now official: Texas is full of hot air – something many people always thought.

Do Peak Oil Critics Have A Secret Agenda?

Amid crashing prices for both petroleum and energy stocks, the Third OPEC International Seminar was held in Vienna to discuss 'OPEC in a New Energy Era.' Two speakers at the conference received significant media attention because they provided a counter to the pessimistic concerns of Peak Oil proponents. Not only were these speakers motivated to refute the Peak Oil thesis because of its implications for the long-term future of their respective institutions, but there may be an additional potential challenge to their futures on the horizon that they wanted to counter.

Saudi Aramco's president outlined the huge oil resource potential of the world that assures our petroleum-based culture has a long future

Saudi Aramco Oil Company's president and CEO Abdullah S. Jum'ah outlined the huge oil resource potential of the world that assures our petroleum-based culture has a long future. According to him, the world has a potential of 4.5 trillion barrels of reserves that at current consumption levels would support 140 years of oil supply. The world has only consumed 18% of this potential. He went on to encourage his OPEC brethren to step up their exploration and their

According to Tillerson, this growth in potential reserves was the result of the USGS having underestimated the impact of technology

efforts to improve reservoir recovery in order to exploit these supposed additional reserves.

Exxon Mobil Corporation's (XOM-NYSE) Chairman Rex Tillerson spoke about the role technology is having on developing the new petroleum resources that would enable the world to meet its demand growth. He estimates that world consumption will grow by 50% by 2030. Tillerson talked about how the U.S. Geological Survey (USGS) had estimated the world's petroleum resource base at 1 trillion barrels in 1950, but fifty years later had increased its projection to 3 trillion barrels. According to Tillerson, this growth in potential reserves was the result of the USGS having underestimated the impact technology could have on finding and developing potential reserves.

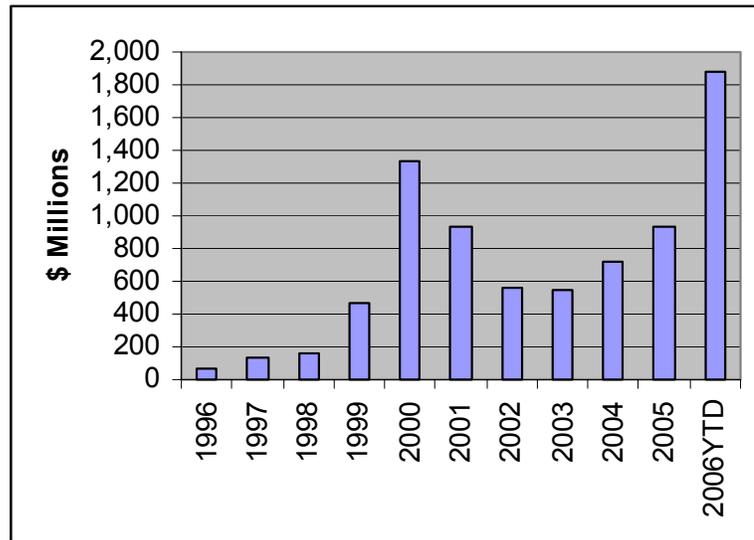
Mr. Tillerson made the point that the petroleum industry was not in a new era. He said that many people believe that we have ended an era of "easy oil." According to Mr. Tillerson, "The new era we face, like all of the previous ones, is not an era of 'easy oil.' Nor will it be an era of easy answers. The supply and demand challenges we face are significant." Mr. Tillerson pointed out that continued development of new technologies and the investment in them would be required to meet these challenges. He then went on to outline a number of examples of ExxonMobil-developed technologies that were aiding in finding and developing new oil and gas resources, especially in a number of OPEC countries.

The latest quarter marked the eighth consecutive quarter of increased investment in energy clean technology ventures

While the OPEC seminar was underway, we learned some interesting data on investments in alternative fuels that was presented at meetings both in Houston and Europe. This is an emerging challenge to the petroleum industry. According to Cleantech Venture Network LLC, venture capital investment in new energy clean technologies in this year's second quarter alone totaled \$606.1 million, up from \$352.3 million invested in the first quarter. The latest quarter marked the eighth consecutive quarter of increased investment in energy clean technology ventures. With almost \$1 billion in new venture investment in the first half of 2006, one has to wonder whether Mr. Jum'ah and/or Mr. Tillerson were thinking about the swelling investment in alternative fuel technologies that could erode the future market for petroleum.

At the Rice Alliance 4th Annual Energy Technology Venture Forum, Rodrigo Prudencio of Nth Power LLC, an energy and clean technology venture capital firm, discussed the market for these investments. He pointed out that venture capital money flowing into energy investments had run at about 4-6% of total venture capital investment, but that percentage had recently climbed to 12%. Clearly, \$70 per barrel oil, global warming and Peak Oil concerns are driving venture investing in projects to develop alternative clean fuels. According to Mr. Prudencio, 39% of 2006 investments so far have targeted transportation with the emphasis on biotech fuels, ethanol plants and drive-train technologies.

Exhibit 7. US Energy VC Investments 1996-2006



Source: Nth Power LLC, PPHB

Mr. Prudencio discussed the alternative and clean technology investment opportunities. He listed them as:

- Transportation
 - Batteries not fuel cells; maybe drive-trains
- Fuels
 - Bio-engineering
- Energy Networks
 - Sensors, communications, data management
- Distributive Energy
 - Alternative utilities; solar focus
- Materials and Nanotechnology
 - Key enablers that may be big winners

In the materials category, Mr. Prudencio mentioned that his firm is making an investment in a technology applicable within the construction industry – house wrapping – that will improve the energy efficiency of new homes. He cited this as an example of an enabling technology that could impact future energy markets.

The audience was presented diametrically opposite conclusions about the energy efficiency of ethanol as a fuel

One interesting point from the two-day conference was that on each day, the audience was presented diametrically opposite conclusions about the energy efficiency of ethanol as a fuel. A very interesting point about ethanol and its outlook was presented by Dr. Dan Colbert, chief technology officer of NGEN Partners. As a former Rice University professor of chemistry and a leader in the development of nanotechnology, he does not believe ethanol produces any positive energy above that required to produce it. Additionally, he believes there are serious land use issues with ethanol that are not being considered in the outlook for the fuel. He discussed specifically Brazil where its use of sugar cane to produce

We were left with the impression that there is a bubble building in alternative energy investments

ethanol has resulted in the destruction of rain forest in order to gain land to plant more sugar cane. After about three years of producing sugar cane, the land has to be abandoned for an extended period of time to allow it to re-rejuvenate, if possible. This is a social cost that he believes further undercuts the economic viability of ethanol.

At the Rice Alliance conference, where there were over 400 entrepreneurs and investors, we were left with the impression that there is a bubble building in alternative energy investments. Whether the recent slide in crude oil prices slows alternative investment flow remains to be seen. However, last week saw the fifth initial public offering of an ethanol company on U.S. stock markets, which would suggest that investors still can't get enough of this new business.

We will be watching closely to see whether the damage ethanol is doing to the recreational boating industry will result in class action lawsuits against its manufacturers. This possibility has received virtually no publicity, but there are serious problems developing in the boating industry and several members of Congress have been personally impacted and are now leading a movement against the ethanol mandate. However, as long as governments provide financial support or pass legislation mandating alternative fuels, these ventures probably will receive continued funding.

ExxonMobil's Tillerson highlighted the research venture his company has established with Toyota and Caterpillar to develop more efficient engines

What may ultimately be a more important and potentially more lucrative alternative energy investment focus is improved engine technology. ExxonMobil's Tillerson highlighted in his talk the research venture his company has established with Toyota (TM-NYSE) and Caterpillar (CAT-NYSE) to develop more efficient engines. He pointed out that a 20% improvement in engine efficiency would save the equivalent of one year's total oil imports to the United States. That would be a particularly significant development and is within the realm of near-term achievement.

Clearly Mr. Tillerson and Mr. Jum'ah have an agenda to keep the world hooked on oil. Their comments last week certainly seemed to be designed to strike a blow at the Peak Oil thesis and undercut the viability of alternative energy investments. A lower oil price, although not too low, is the best way to assure the continuation of the Age of Oil – could that be behind the slide in oil prices?

More Global Warming Studies

A number of recent studies are showing that humans are the cause of increased warming of the planet and thus contributing to the increase in hurricanes and other climate problems. Researchers from Germany, Switzerland and the United States, in a study published by the Max Planck Institute in Germany, showed that the sun's brightness varied by only 0.07% over 11-year sunspot cycles that is considered to be far too little to account for the rise in temperatures since the Industrial Revolution.

Their conclusion is that humans have to be the cause of the warming of the planet

The study examined telescope observations of sunspots against temperature records going back to the 17th century looking for signs of solar warming or cooling. The authors then checked for evidence of rare isotopes and temperatures reflected in sea sediments and Greenland and Antarctic ice and found no dramatic shifts in solar energy output for at least the past millennium. Their conclusion is that humans have to be the cause of the warming of the planet.

Another study published by *The Proceedings of the National Academy of Sciences* concluded that rising ocean temperatures are likely the result of global warming caused by greenhouse gas emissions and that, in turn, is causing increased hurricane activity. The study compared a century of observed temperature changes with those produced in more than 80 computer simulations of how oceans respond to natural and human influences on the climate. The simulations were generated on 22 different computer models at 15 different research centers. According to the authors, the simulations correctly mimicked the cooling caused by plumes from volcanic eruptions, which temporarily block the sun. Thus, the only warming influence that could explain the changes in ocean temperatures was the buildup of greenhouse gas emissions.

The new studies, however, have failed to change the minds of the non-believers in human-influenced global warming causing increased hurricane activity and intensity. Moreover, some of the key non-believers pointed out that the latter study merely confirmed a generally accepted link between warming oceans and increased hurricane activity.

The battle over research showing global warming, increased intense hurricane activity and humans as the cause has become increasingly politicized

The interesting thing about these new studies is that they were released with substantial public relations fanfare, including press releases and teleconferences with reporters. The battle over research showing global warming, increased intense hurricane activity and humans as the cause has become increasingly politicized. At the end of May, one day before the start of this year's hurricane season, several environmental groups held a public relations event and called for National Hurricane Center director Max Mayfield and other officials at the National Oceanic and Atmospheric Administration to resign, saying they were covering up evidence linking global warming to hurricanes. Mr. Mayfield denied the claim.

The Economist magazine' global warming cover is another emphatic and emotional statement that have marked peaks in popular beliefs in the past

The politics of climate change reflect the emotion of the moment. So when we saw *The Economist* magazine issue devoted to global warming, we were inclined to add its cover to the collection of emphatic and emotional statements on other magazine covers that actually marked peaks in popular beliefs. This cover may rank with the magazine's March 1999 cover of Drowning in Oil, *Business Week's* 1982 cover declaring The Death of Equities, and *Newsweek's* 1976 cover warning about the coming ice age. In each case, the covers marked a peak in the emotion of the moment that actually proved short-term in duration, although highly passionate. We will continue to monitor the global warming debate.

Energy Demand Forecasts Cut Again

The IEA cut its 2006 demand forecast by 100,000 barrels per day (b/d) to 84.7 million b/d

In what seems to be a regular monthly event, both the IEA and OPEC have lowered their 2006 and, more importantly, their 2007 global oil demand forecasts. The IEA cut its 2006 demand forecast by 100,000 barrels per day (b/d) to 84.7 million b/d. It cut its 2007 forecast by 160,000 b/d to 86.2 million b/d. The IEA cited weak economic activity in both the United States and Mexico along with some negative impact from wet weather on Asian demand. Despite the demand reduction, the oil supply picture has not improved as non-OPEC supply estimates were marked down due to reduced North Sea, Mexico, Brazil and Angola production forecasts.

OPEC reduced its estimate of fourth quarter 2006 oil demand by 300,000 b/d largely due to weaker U.S. economic activity and lower gasoline demand growth. According to OPEC, U.S. gasoline demand growth has averaged only 0.6% this year compared to the historic growth rate of 1.6%. OPEC's estimate for global oil demand growth in 2007 has been reduced by 100,000 b/d.

The IMF raised its 2006 and 2007 global economic growth forecasts

It is interesting that both the IEA and OPEC cite slower economic growth in 2007 as the primary reason for lowering their global oil demand forecasts. On the other hand, the International Monetary Fund (IMF) in its recent semi-annual economic forecast update is much more bullish. It raised its 2006 and 2007 global economic growth forecasts. For 2006, the IMF now expects 5.1% growth up from its 4.9% projection made in April. The IMF's 2007 forecast has been raised from 4.7% to 4.9%, despite a reduction in the growth forecast for the U.S. to 2.9% from the prior 3.3% estimate. This year will mark the fifth year of strong economic expansion and, if the IMF forecast proves accurate, next year will make it six years in a row.

Coupled with increased economic growth, the IMF also raised its estimate of oil prices. This is somewhat surprising. Most oil price forecasters have been reducing their economic growth forecasts due to the impact of continued high oil prices and the toll they were taking on consumer and industrial consumption. Reduced economic growth estimates, along with lowered oil demand forecasts should lead to lower oil price forecasts. Part of the IMF reasoning for its new higher oil price forecast is the potential for supply disruptions. That is an interesting variable to include in a forecasting model.

Bloomberg currently says that its collection of analyst estimates for 2007 range from a low of \$50 per barrel to a high of \$76

The IMF now projects the 2006 world oil price will average \$69.20 per barrel up from its April projection of \$61.25. Interestingly, Bloomberg's oil price forecast data shows a current median forecast estimate for 2006 of \$61.25. For 2007, the IMF is looking for a \$75.50 price, up from its prior estimate of \$63.00 per barrel. Bloomberg currently says that its collection of analyst estimates for 2007 range from a low of \$50 per barrel to a high of \$76. Only three estimates are at \$70 or higher.

We are somewhat perplexed by the IMF forecast. We, and many

other forecasters, have held to the belief that high oil prices (\$70+) are choking off a certain amount of economic growth. The IMF has to believe that world economies not only can handle high oil prices, but are actually contributing to the higher prices. If the IMF is right about the high global economic growth in 2007, then Wall Street should be expecting the start of a substantial, broad-based-bull market with energy companies being a prime beneficiary.

All Gas Pipeline Companies Are Not Alike

FERC established a 9.34% ROE as “just and reasonable” for the Kern River pipeline project

When the number of publicly traded gas pipeline companies shrank, the Federal Energy Regulatory Commission (FERC) introduced a proxy-company approach to determining the authorized rate of return on equity (ROE) it would allow for new pipeline projects. In a recent determination, FERC established a 9.34% ROE as “just and reasonable” for the Kern River pipeline project. This is substantially below the 12-14% rate FERC has authorized in most cases during the past 30 years.

The gas pipeline industry is concerned that future FERC-determined ROE's might fall to this low level and chill investment flows for new infrastructure projects. Investors would begin to question the earning power of new investments, as well as past investments. Some \$30 billion has been invested in pipeline infrastructure over the past 10 years. More importantly, the shift in location of natural gas supplies - both domestic production and imported LNG - plus the need for re-directed pipeline capacity to move crude oil south from Canada will drive new pipeline capacity needs. The possibility of low ROE's for these pipeline projects may scare new capital investment away.

FERC uses a discounted cash flow (DCF) approach to establishing authorized returns by adding the dividend yield rate for a series of proxy companies to a projected rate of growth in earnings per share for each company. The commission then typically establishes the ROE at the median for the range of proxy companies.

INGAA suggests the recent low ROE determination by FERC is due to its use of a group of proxy companies that is not representative of the pipeline industry

A recently commissioned white paper on this issue by the Interstate Natural Gas Association of America (INGAA) suggests that the reason for the recent low ROE determination by FERC is due to its use of a group of proxy companies that is not representative of the pipeline industry. Three companies used are gas utility holding companies; Equitable Resources, Inc. (EQT-NYSE), National Fuel Gas Co. (NFG-NYSE) and Questar Corp. (STR-NYSE), which may not be representative because of their exploration and production and local distribution businesses.

Three other companies, El Paso Corp. (EP-NYSE), Kinder Morgan Inc. (KMI-NYSE) and Williams Cos. Inc. (WMB-NYSE), are more representative of the pipeline companies, but two of the three companies continue to recover from their disastrous ventures into the merchant energy business while the third is involved in going

Oil and gas pipelines and MLPs may transport different fuels and face different regulatory regimes, but the markets and issues they face are similar

private. The white paper argues that FERC should consider incorporating pipeline master limited partnerships (MLPs) into their ROE calculation. The paper noted that financial analysts place oil and gas pipeline stocks and MLPs in a separate group from integrated oil and gas suppliers and utility holding companies. Oil and gas pipelines and MLPs may transport different fuels and face different regulatory regimes, but the markets and issues they face are similar: a highly competitive market; short-term contracts; diverse customer bases; and system and market growth challenges.

FERC supposedly doesn't use natural gas MLPs because part of their return to investors is a return of capital, which it believes is not comparable to stock dividends and might skew investor expectations. The white paper argues that this concern is misplaced because a short-term DCF analysis it performed was similar to the last five-year returns from the MLPs. Getting the ROE determination right may be critical if the U.S. is to construct new and re-vamp its existing oil and gas pipeline infrastructure.

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