Natural Gas Update

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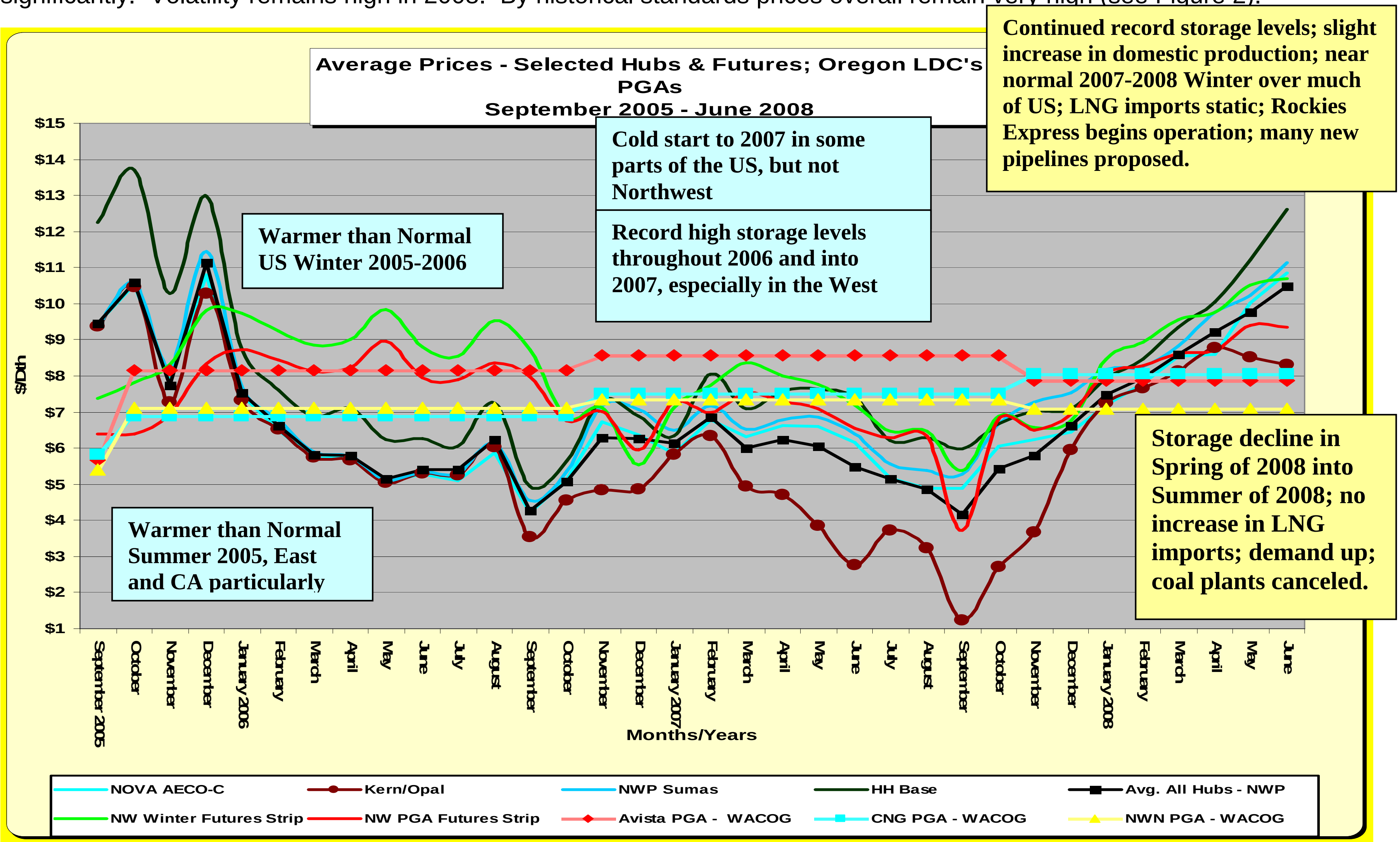
The views expressed in the Update do not necessarily represent those of the OPUC, any Commissioner, or the Staff of the OPUC on the issues considered.

Figure 1: Recent History of US Natural Gas Prices[1]

As shown in Figure 1, the cash (daily) natural gas prices at the Henry Hub (HH) and the Northwest hubs have been volatile over 2005, through 2006 and 2007, and into 2008. Prices at both the HH and Northwest hubs fell through the end of 2006, leveling out and declining until the last few months of 2007. Since September 2007, prices at most locations have risen significantly. Volatility remains high in 2008. By historical standards prices overall remain very high (see Figure 2).



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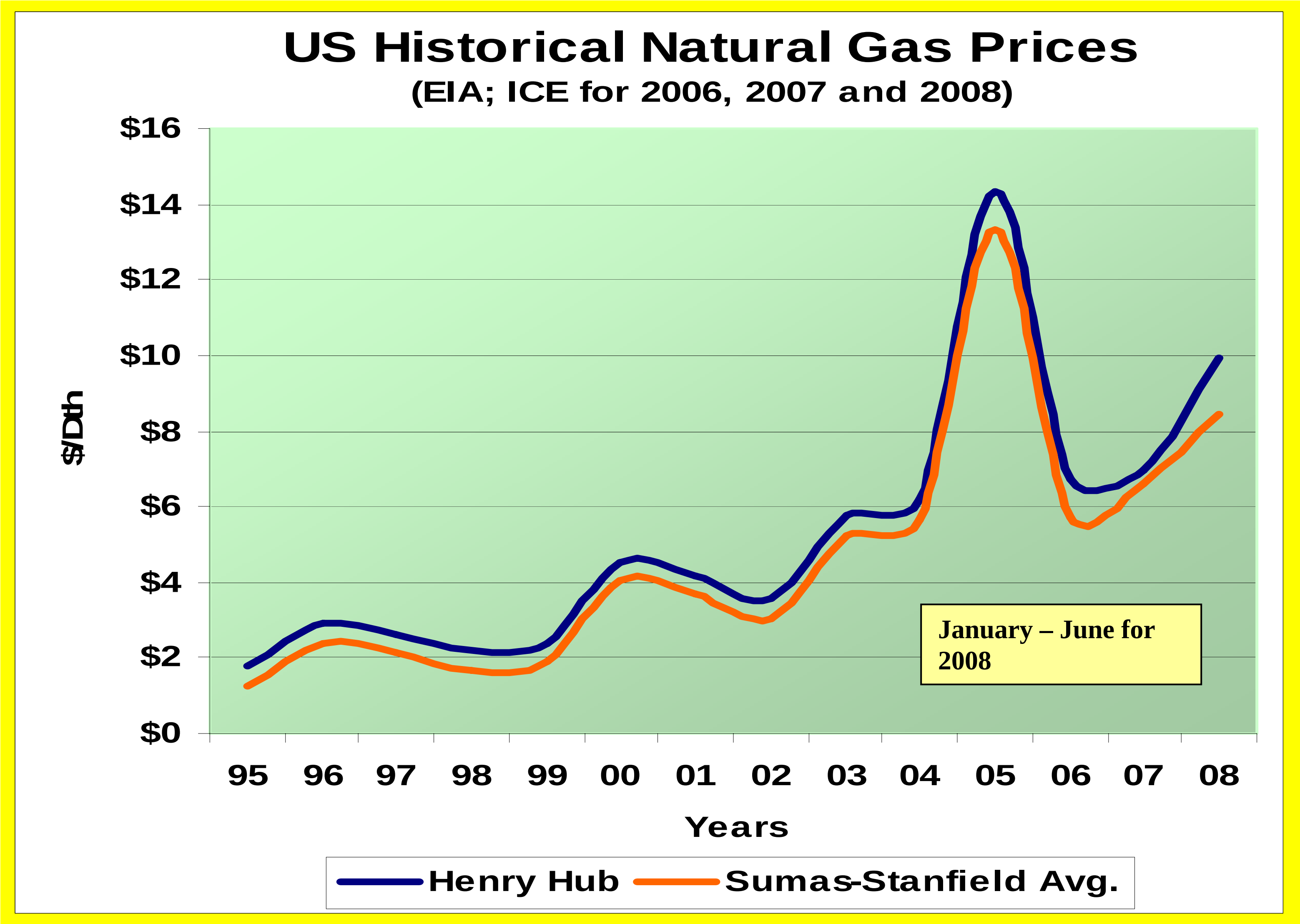
[1] Sources: Ken Zimmerman, with data from published index prices, EIA, and Wikipedia encyclopedia.

Figure 2: Historical US Natural Gas Prices[2]



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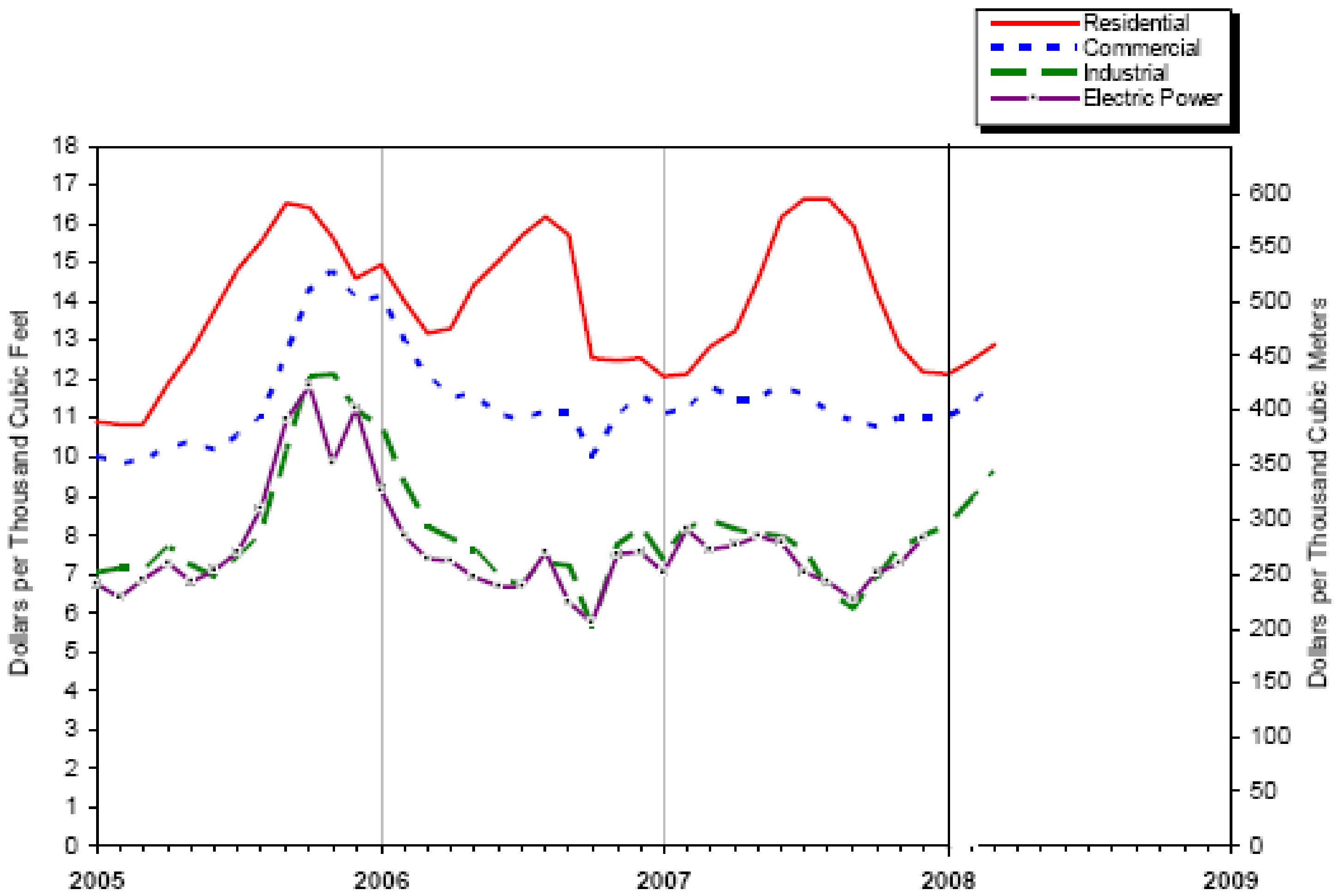
[2] Through the end of June 2008.

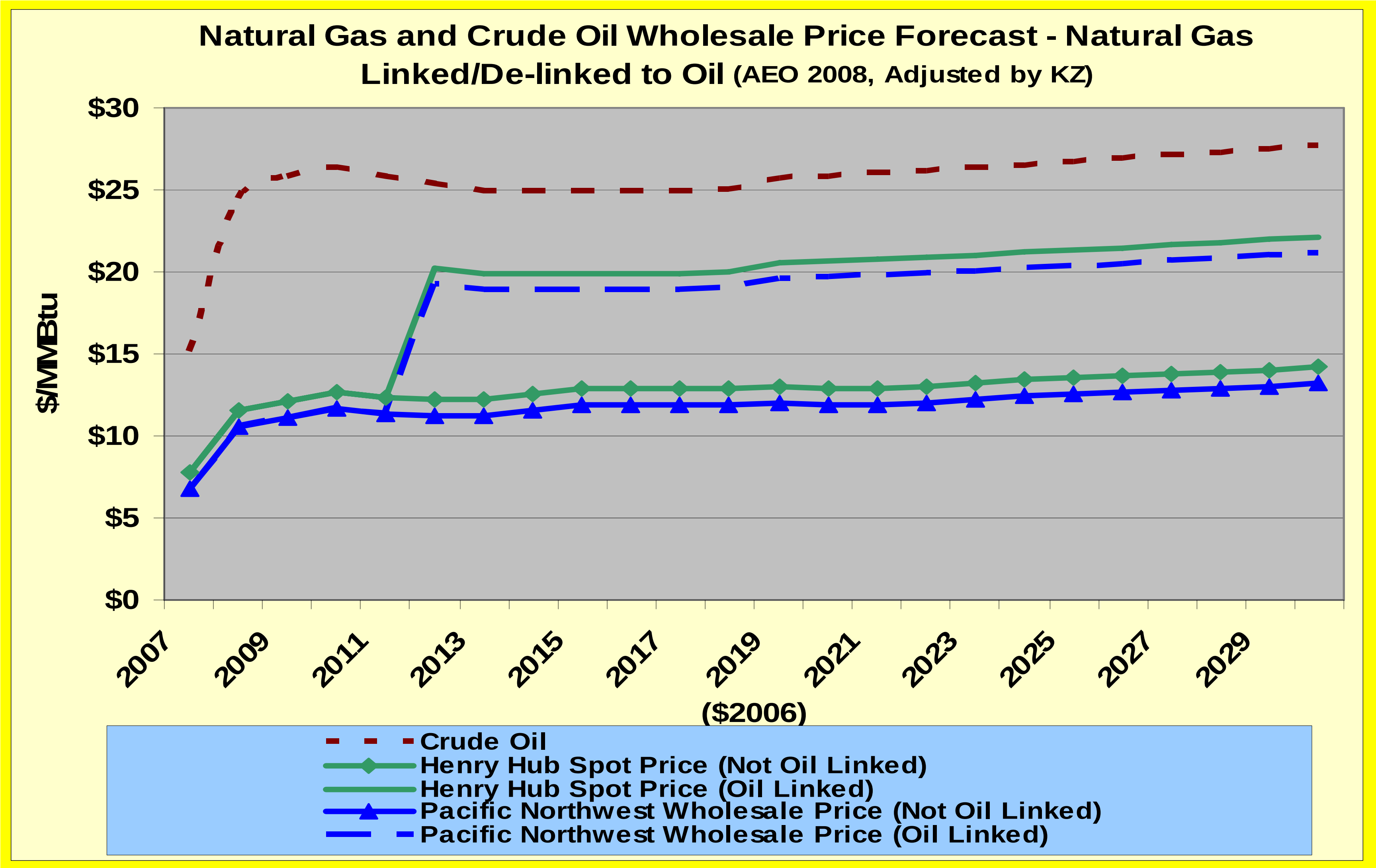
Figure 3: Natural Gas Recent Price Trend (from the EIA)

The trend line is clearly rising (a positive slope) but showed a downturn since late 2005 till late 2007 and early 2008, except for Residential customers. See Figure 4 for forecasted prices. (As of end of May 2008.)



Source: Table 3.

Figure 4: Forecasted US Natural Gas Prices, based on EIA AEO 2008. I've adjusted the forecast to reverse EIA's overly optimistic view on future prices.[3]



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[3] I've adjusted EIA's forecast by $4.00/MMBtu in 2008, $5.00/MMBtu in 2009, $6.00/MMBtu in 2010-2013, $6.50/MMBtu in 2014, and by $7.00/MMBtu in 2015-2030.

Headlines for the Period

- **Pacific Northwest**
  - Controversy over LNG terminal proposals in Oregon is one impetus behind a Congressional move April 7th to rescind FERC's jurisdiction over LNG facility siting (As of this update no such legislation has actually been enacted.). Oregon Governor, Ted Kulongoski has lawyers looking at the state's rights to withhold permits for federally approved projects with which Oregon disagrees. In the meantime, spokespersons for one of the proposed LNG projects, NorthernStar Natural Gas's Bradwood Landing site along the Columbia River, told *NGI* on April 7th they are continuing to work with the state to alleviate concerns now that the project has obtained local land-use approvals from the Clatsop County Commission. The backers of the Bradwood Landing project contend "… they have followed through with completing local and state processes, as well as the federal permitting." Neither Oregon's U.S. Senator Ron Wyden, helping lead the charge in Congress, nor Kulongoski has come out against an LNG terminal, but they want the state to have a major say in whether one is built, and if it is built, what safety and environmental mitigation measures are imposed.
  - The FERC staff prepared a final Environmental Impact Statement (EIS) for the Bradwood Landing LNG Project in Oregon and Washington. Staff concluded the Project would have mostly limited adverse environmental impacts, if constructed and operated in accordance with applicable laws and regulations, and with the mitigation measures proposed by the project developer and FERC Staff. This includes: seismic hazards, Erosion and Control Plans, Stormwater Pollution Prevention Plan, and Wetland and Waterbody Construction and Mitigation Procedures Plan. The project would implement various mitigation plans to compensate for impacts on waterbodies, wetlands, vegetation, and habitats. Staff also recommends the project complete all consultations with relevant local, state, and federal agencies before being allowed to begin construction; and an environmental inspection and mitigation monitoring program be implemented to ensure compliance with all mitigation measures that become conditions of any FERC authorization. Finally, Staff recommends the conditions outlined in the Coast Guard Waterway Suitability Report be implemented.
  - Canadian natural gas exporters continue to make gains, defying consensus forecasts that their role as suppliers to "continental" North American trading will fade due to shrinking reserves and rising industrial demand in Alberta. Pipeline deliveries to the U.S. scored a double-digit gain in the last heating season, according to the latest trade records kept by the National Energy Board (NEB). In the five-month fall and winter period of November 2007 through March 2008, export volumes climbed 11% to 1.7 Tcf from 1.5 Tcf in the same months of 2006-07. However, shrinkage continues to be anticipated by forecasters such as FirstEnergy Capital Corp., the NEB, and Alberta's Energy Resources Conservation Board. Predictions of the supply erosion, due partly to a 2006-07 drilling slump and partly to rising consumption by Alberta oil sands projects, continue to peg the expected supply drop in a range of 2-3% per year. Last winter's growth is attributed to temporary factors such as backlogs in storage being sold off.

- The growth of development of unconventional natural gas supplies in the Rockies (Colorado, Montana, and Wyoming, in particular) is leading to pitched battles between ranchers/farmers/surface land owners, on the one hand, and oil and gas production companies (many of whom own only the mineral rights for land), on the other. Most of the action is in court but physical violence and threats of physical violence are becoming an everyday occurrence in the lives of production company representatives.

➢ **USA**

- Natural Gas Price
  - ✓ With natural gas storage at the end of the winter heating season considerably lower than expected, in early April 2008 the natural gas bears at Raymond James & Associates Inc. switched sides and began running with the bulls through 2008. At the same time SunTrust Robinson Humphrey/the Gerdes Group (STRH) and Jefferies & Co. also raised their gas price forecasts through the rest of the year. Raymond James projected the price for 2008 at $8/Mcf, up from its earlier $6.50/Mcf., with perhaps as high at $10/Mcf during summer of 2008, if the summer is a warm one. STRH adjusted its 2008 gas price upward to $8.88/Mcf and estimated that 2009 gas prices would average $9.50/Mcf. STRH's 2008 gas price forecast has ranged from $8 to 9/Mcf; early in 2007 its long-term gas price forecast was $9/Mcf. Jefferies & Co. raised its forecast to $8.25/Mcf, an 18% hike from his previous estimate. The factors cited by the forecasters in making these changes were: colder winter for 2007-2008, slowing of growth in domestic production (including high decline rates for such unconventional plays as the Barnett Shale), and the failure of more imported LNG to come to the U.S. (KZ comment: Looking at the current actual prices in the U.S. this clearly demonstrates how difficult to forecast the current natural gas market is, even for the pros. Hedging in our region for the 2008-2009 winter at over $9.50/MMBtu in March and near $10/MMBtu in April seemed "out of line" in terms of these forecasts. Today many are wishing they could find hedges at these prices.)
  - ✓ At the Annual Association of Petroleum Geologists meeting in late April in San Antonio, Texas, Wood Mackenzie's vice president of North America Gas & Power, Ed Kelly, forecasted a re-linkage between natural gas prices and oil prices in the U.S., the timing of which will depend on the long-term race between U.S. domestic supply growth and the growing reliance on gas for power generation. According to Kelly, "Domestic supplies could insulate [North America] gas prices from rising oil prices over the next three to four years, but our analysis concludes that around 2012, there will be a re-linkage to the oil price. High prices and technical drilling advances have spurred record drilling levels and revived domestic U.S. supplies, and this will be enough to stave off the re-linkage for the next three to four years," said Kelly. At current oil prices ($136/bbl) a re-linking with oil would mean natural gas prices at about $23/MMBtu.
  - ✓ At the same time Ed Kelly of Wood Mackenzie was projecting a re-linking of oil and natural gas prices famous (some would say infamous) oilman and speculator T. Boone Pickens was predicting oil at $150/bbl

by the end of 2008. If natural gas re-linked with oil at $150 this would mean a natural gas price of about $26/MMBtu.

- ✓ In early June Gazprom predicted oil would reach $250/bbl by the end of 2009 and that natural gas prices would continue to move upward based on the increase in oil price. While Gazprom did not predict a full re-linking of oil and natural gas prices, it did say there is "scant" chance for any relief from rising natural gas price. If natural gas re-linked with oil at $250 this would mean a natural gas price of about $30/MMBtu.

- Supply and Demand
  - ✓ "Unconventional" is the future of domestic natural gas, according to industry watchers everywhere. Coal-bed methane and shale gas are the fastest growing and most productive segments of the domestic natural gas supply. The Rocky Mountains, the San Juan Basin of New Mexico and Colorado, and the Powder River Basin in Wyoming are rich with coal-bed methane resources. But so are the coal fields of the Appalachia region and some regions, including Oregon, on the west coast. An estimated 100 trillion cubic feet of coal-bed methane is now recoverable in this country. Shale natural gas is leading the way, however. The biggest shale play is the Barnett Shale in Texas (under the Dallas-Ft. Worth Airport). The Barnett Shale is one of the largest gas discoveries in U.S. history, either conventional or unconventional. It currently produces a half billion cubic feet per day. The Marcellus Shale play extends from upstate New York across Pennsylvania into eastern Ohio and across most of West Virginia – a total area bigger than the state of Pennsylvania. An area of some 54,000 sq. miles. It's projected to contain about 50 Tcf of natural gas. The Haynesville Shale play in Louisiana is estimated to have reserves between 7.5 and 20 Tcf. Fayetteville Shale play in Arkansas may have as much as 22 Tcf of reserves.[4]
  - ✓ In late 2007 the *Oil and Gas Journal* noted a sharp increase in well drilling and well stimulation costs for unconventional gas plays. This leads to a concern, says the *Journal* , "… that much of the U.S. unconventional resource may be becoming uneconomic." For example, said the *Journal*, "… rig rates quoted at $12,000/day several years ago are now routinely at $18,000-$20,000 day or more. Hydraulic fracturing services and tubulars have had similar, if not higher, increase." But the Journal also conjectured that the rise in these costs is "near its peak." The *Journal* also surmised that these increases in costs by oil field service companies are the result of "… increases in natural gas prices and the subsequent boom in unconventional gas development."
  - ✓ On April 7th TransCanada Corp. launched a binding open season for the proposed Pathfinder Project, a natural gas pipeline that would move supplies northeast from the Rockies to Midwest markets. With enough support, the project could be in service by late 2010. The proposed 42-inch diameter pipeline would run for 500 miles in a northeasterly direction from Wamsutter, WY, through Montana and North Dakota to the Northern Border Pipeline Co. system for delivery into Ventura, IA, and Chicago markets.

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[4] Current annul U.S. natural gas demand is about 23 Tcf. Projected to grow to near 30 Tcf by 2030.

Initial capacity would be 1.2 Bcf/d, with ultimate capacity of 2 Bcf/d. Included is an option to build a 140-mile supply zone pipe that would connect Meeker, CO, to Wamsutter.

- ✓ Raymond James expects domestic natural gas rig count to rise continually during 2008, primarily due to the higher prices for natural gas and the expanding interest in shale plays for natural gas exploration and production. Raymond James sees a 4% increase in domestic rig count in 2008 over 2007 to about 1,840 rigs drilling for natural gas. Internationally Raymond James forecasts a 7% rig count increase year to year.
- ✓ Late in June both President Bush and Republican Presidential candidate John McCain came out in favor of lifting the 30-year old oil and natural gas drilling ban in most U.S. costal waters and the Arctic National Wildlife Refuge (ANWR). Democratic Presidential candidate Barack Obama opposes lifting the ban. In both California and Florida there are signs many long-standing opponents of lifting the ban are re-considering their positions. Similarly many past opponents of such step in the Congress are also re-considering their opposition. Nothing is expected to happen on the proposal in Congress until after the Presidential election.
- ✓ As utilities abandon plans to build coal-fired power plants, a big bet Sempra Energy has made on natural gas is turning out to be timely. Sempra has been pouring money into natural-gas infrastructure. The big San Diego energy company is spending $2 billion on construction of the first liquefied-natural-gas receipt terminal on the West Coast and another in Louisiana. It has budgeted $1.2 billion for a 25% stake in a new gas pipeline -- the Rockies Express -- stretching from Colorado to Ohio, and $200 million for more gas storage in Louisiana.

- o Weather
  - ✓ 2008 Hurricane Season
    - The National Oceanic and Atmospheric Administration (NOAA) predicted above-normal hurricane activity in its *Atlantic Hurricane Season Outlook* released May 22, 2008. NOAA projects 12 to 16 named storms will form within the Atlantic Basin, including 6 to 9 hurricanes, of which 2 to 5 will be intense during the upcoming hurricane season (June 1 – November 30).
    - Based on the results of a Monte Carlo hurricane outage simulation, which is conditional on how NOAA's most recent predictions for the level of Atlantic basin hurricane activity compare to historical activity, EIA expects a total of about 11.3 million barrels (bbls) of crude oil and 78 Bcf of natural gas to be shut in during the 2008 hurricane season. The simulation results indicate a less-than-1-percent probability of experiencing seasonal outages similar to 2005 when Hurricanes Katrina and Rita struck the Gulf Coast, i.e., cumulative shut-in production of more than 100 million bbls of crude oil or 600 Bcf of natural gas. Conversely, EIA projects the chance that offshore production in the Federally-administered Gulf of Mexico will be impacted this year is 98 percent for both crude oil and natural gas.
    - Like NOAA Accuweather predicted a slightly above average Hurricane season.

- WSI Corp., on the other hand, forecasts an active 2008 Atlantic hurricane season, calling for 14 named storms and eight hurricanes, including four intense hurricanes (Category 3 or greater) to form between June 1 and Nov. 30.
- MDA EarthSat forecasters also said the 2008 Atlantic hurricane season will likely be busier than average but quieter than last year. MDA EarthSat forecasts 13 named storms, six hurricanes and three intense or major hurricanes are likely to form during the coming Atlantic hurricane season.
- Finally, forecasters at Colorado State University (CSU) said the U.S. Atlantic basin will likely experience a well above-average hurricane season this year and odds are nearly even that a major hurricane will make landfall on the Gulf Coast. CSU forecasts 15 named storms forming in the Atlantic basin, with eight of the storms predicted to become hurricanes, four of them intense or major hurricanes.

o Congress

✓ Many in Congress blame speculators for much of the increase in oil and natural gas prices. Consequently, legislation is being proposed to limit and regulate speculation in commodity markets, particularly energy commodities such as oil and natural gas. These proposals include: increased margin requirements for investors, monetary limits on investor positions, and full disclosure about investors. There are also proposals to extend these same requirements to over the counter transactions, which today are virtually unregulated. Those experienced about the role speculators play in making commodity markets operate effectively are worried, however, that Congress may go too far and drive many speculators out of these markets. This would result in lessened liquidity and ultimately a less efficient market which could actually increase prices further. However, even these knowledgeable observers accept that speculation may be part of the reason oil and natural gas prices have risen so much so quickly. Some estimates say up to $500 billion (a half trillion) moved almost overnight from stocks and other investments to commodities (particularly energy commodities) as a result of the recent mortgage and investment bank crises. It would be surprising if the rapid movement of such a large sum into commodities would not have a sizable and immediate impact on commodity prices.

o U.S. Energy Policy

✓ Faced with enormous political pressure to tighten the oversight of energy trading, the Commodity Futures Trading Commission (CFTC) said May 29th that it had been investigating oil and derivative markets for six months to look into potential price manipulation. The revelation came as the CFTC also announced a series of measures intended to heighten regulatory supervision of energy trading and bring “greater sunshine” into the commodities markets. The CFTC, which does not typically disclose ongoing investigations, said that since December 2007 it had been conducting a nationwide inquiry of “practices surrounding the purchase, transportation, storage and trading” of oil contracts. It did not say whom it was investigating, nor did it say when it expected the investigation to be completed. The CFTC seems keen to address concerns raised in Congress this year that oil prices have been somehow artificially lifted by investors' enthusiasm for energy commodities. Oil futures have risen 32 percent this year and have more than quadrupled since 2003. The new measure the CFTC proposes include,

- An extended agreement with the CFTCs British counterpart to expand the surveillance of energy futures contracts with delivery points in the United States.
- Require institutional investors who manage so-called commodity index funds, which are meant to mimic oil prices, to provide monthly reports on their activities, a rule that so far applied only to farm commodities.
- Review trading practices for index traders to ensure they are not "adversely impacting the price discovery process, and to determine whether different practices should be employed."

✓ In a May 28th op-ed piece in the New York Times journalist Tom Friedman recommends a radical new energy policy for the U.S. He suggests the Presidential candidates tell the American the truth about the policy necessary for the long-term economic health and security of the U.S. That policy: guarantee people a high price of gasoline and natural gas — forever. $4 gasoline and $12 natural gas would become the norm. This and only this, argues Friedman, would allow the U.S. to make the essential structural shifts in its energy economy that are needed.

➢ World

- In its International Energy Outlook 2008 the EIA projects global consumption of natural gas to grow 52% from 2005 to 2030, as electricity generation nearly doubles over the same period. Natural gas consumption will grow from 104 Tcf in 2005 to 158 Tcf in 2030, says the Outlook. Much of the increased gas production to meet demand would come from outside the Organization for Economic Cooperation and Development countries. A significant portion is projected from export projects, particularly LNG, with the Middle East and Africa at the forefront. "Natural gas is expected to replace oil wherever possible. Moreover, because natural gas combustion produces less carbon dioxide than coal or petroleum products, governments may encourage its use to displace the other fossil fuels as national or regional plans to reduce greenhouse gas emissions begin to be implemented." Over that same period electricity generation is projected to grow from 17.3 trillion Kwh in 2005 to 33.3 trillion Kwh in 2030. The Outlook also projects coal consumption to grow 64% over the same period, from 123 quadrillion British thermal units (quads) in 2005 to 202 quads in 2030. All these projections are based on the assumption that current laws and policies remain unchanged.
- At a time when the world's top climate experts agree that carbon emissions must be rapidly reduced to hold down global warming, Italy's major electricity producer, Enel, is converting its massive power plant at Civitavecchia from oil to coal, generally the dirtiest fuel on earth. Over the next five years, Italy will increase its reliance on coal to 33 percent from 14 percent. Power generated by Enel from coal will rise to 50 percent. And Italy is not alone in

its return to coal. Driven by rising demand, record high oil and natural gas prices, concerns over energy security and an aversion to nuclear energy, European countries are expected to put into operation about 50 coal-fired plants over the next five years, plants that will be in use for the next five decades.

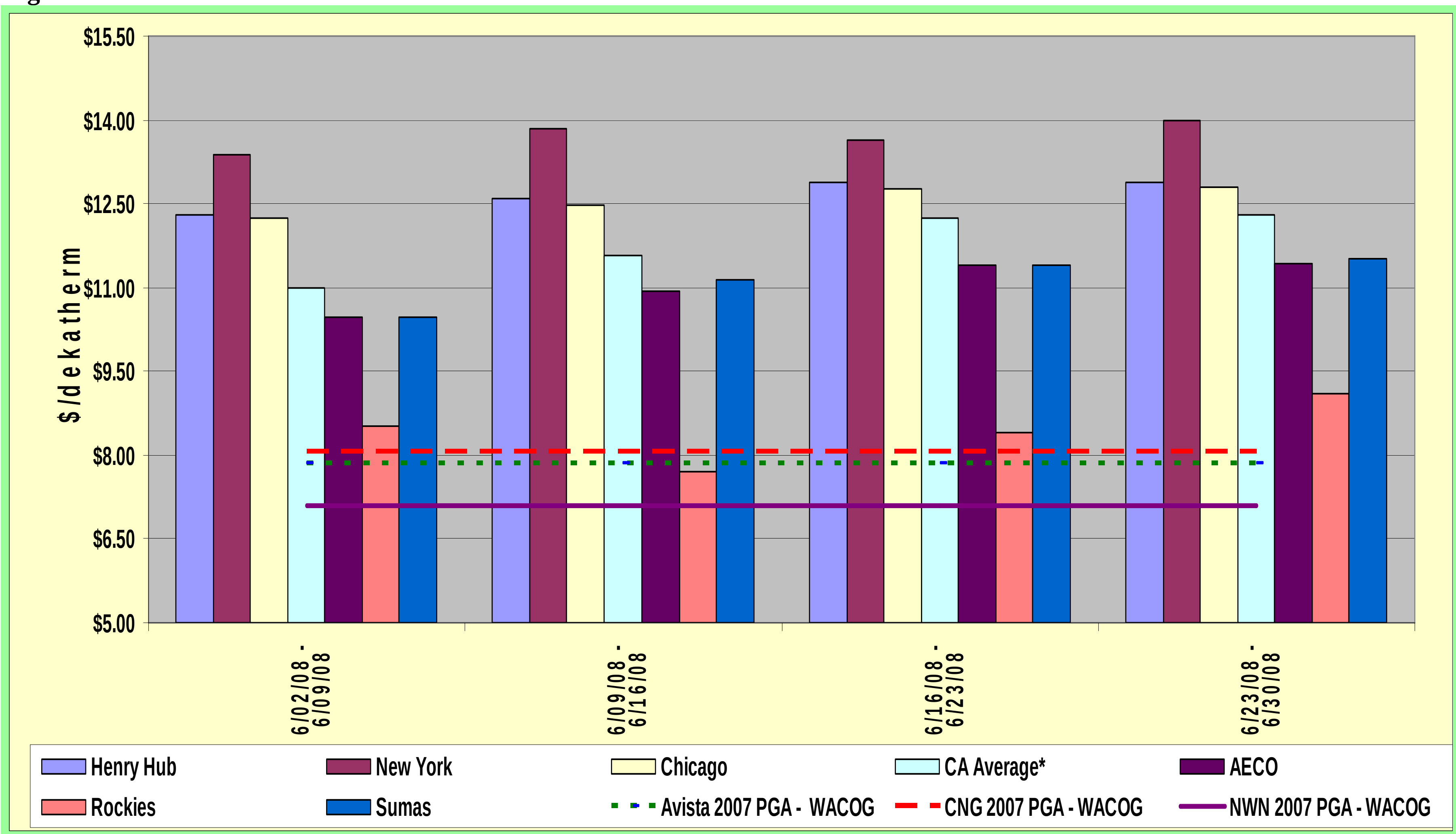
- Most countries consider their energy companies and infrastructure strategic assets that require close monitoring to ensure economic security and health, and oppose their sales for foreign entities. However, the *Economist* disagrees with this position, saying, "… high electricity costs persist in part because of weak competition." Open markets are the only means to address this problem, claims the *Economist*. Thus energy markets should not restrict purchase and ownership of energy companies and infrastructure by foreign entities.
- On the Chinese and Russian fronts:
  - ✓ Gazprom, the Russian export monopoly, warned the European Union on May 20th that it was endangering the security of its natural gas supplies by planning to break up the Continent's energy giants. At an annual European Union-Russian energy conference, Gazprom's director for international relations, Stanislav Tsygankov, said proposals by the European Commission to force the separation of energy production, transmission and distribution would sow "instability and unpredictability" across the sector. Gazprom, which delivers a quarter of Europe's natural gas, considers its own strength there endangered by the commission's plans. The company renewed a threat of reciprocal measures against companies seeking to invest in Russia if it is blocked from expanding in Europe. Using European documents to make his point, Mr. Tsygankov made it clear that Russia took the European Union's energy policy seriously and that Gazprom was prepared to challenge it. More revealing was a tacit alliance emerging among big energy companies in Europe to oppose the commission's proposals.
  - ✓ The head of Russian gas giant Gazprom said on June 23rd an OPEC-style gas charter is not feasible as its oil equivalent is failing in its original task of regulating prices.
  - ✓ According to the April 18th *Economist*, Russia uses its east-west pipeline and offers of lucrative bilateral gas deals to interfere in Europe's energy business. Europe, says the *Economist*, could help itself by,
    - Pushing harder for new pipelines that break Russia's hold on gas from the east.
    - Drive a harder bargain with Russia on the gas it does buy.
    - Insist on more liberalization and transparency in the Russian gas industry.
  - ✓ China's production of natural gas rose 23.1 percent last year, faster than in 2006, to 69.31 billion cubic meters (2446.643 billion cubic feet, or 2.446643 Tcf) as the country used more "clean" energy, an industry association said.
  - ✓ On April 10th China's two oil giants, PetroChina Company Ltd. (PetroChina) and China National Offshore Oil Corporation (CNOOC), signed agreements for the long-term supply of LNG from Qatar on Thursday.
  - ✓ China's first emission standard for coal-bed methane will take effect in July, the newly created Ministry of Environmental Protection said April 14th in a statement. Methane (CH_4) is a greenhouse gas that traps 20

times more heat in the atmosphere than carbon dioxide (CO_2). The standard makes it illegal for coal-bed methane and other mine gases that comprise more than 30 percent CH_4 to be discharged into the air.

✓ Faced with increasingly severe fuel shortages and the prospect of power failures during the summer air-conditioning season, the Chinese government on June 19th unexpectedly announced sharp increases in regulated prices for gasoline, diesel and electricity. The increases are the latest sign of how China's integration into the global marketplace has limited the flexibility of the country's leaders in responding to economic crises. The government has come under intense pressure recently from both environmentalists and other governments to ease up on its fuel subsidies, which are blamed for distorting global markets, encouraging greater consumption and pushing oil prices higher for other nations. The higher prices could prompt businesses and people across China to use less fuel and electricity, potentially slowing China's voracious oil consumption as well as its steep rise in emissions of global warming gases. Following the news, world oil prices immediately dropped more than $4 per barrel. But some experts said the Chinese market was so heavily distorted by state subsidies for fuel that the higher prices might encourage refiners to produce more gasoline and diesel for Chinese consumers, possibly stoking new demand. Either way, higher energy costs threaten not only to push up prices here, but also the prices of many of the goods China ships to the U.S.

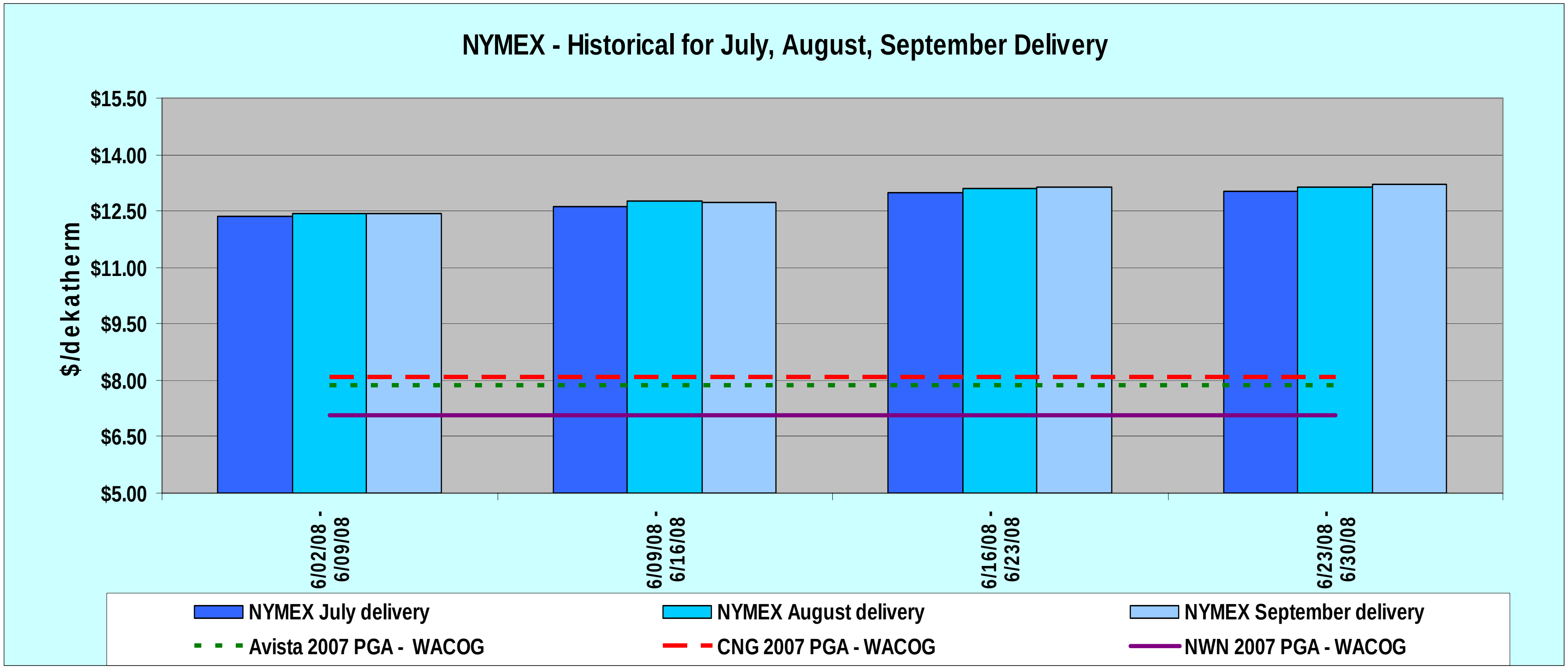
Historical Natural Gas Prices – Spot Past 4 Weeks at Selected Index Points

Figure 5



Historical Natural Gas Prices -- Past 4 Weeks NYMEX

Figure 6



Forecasted Gas Prices - USA

Figure 7

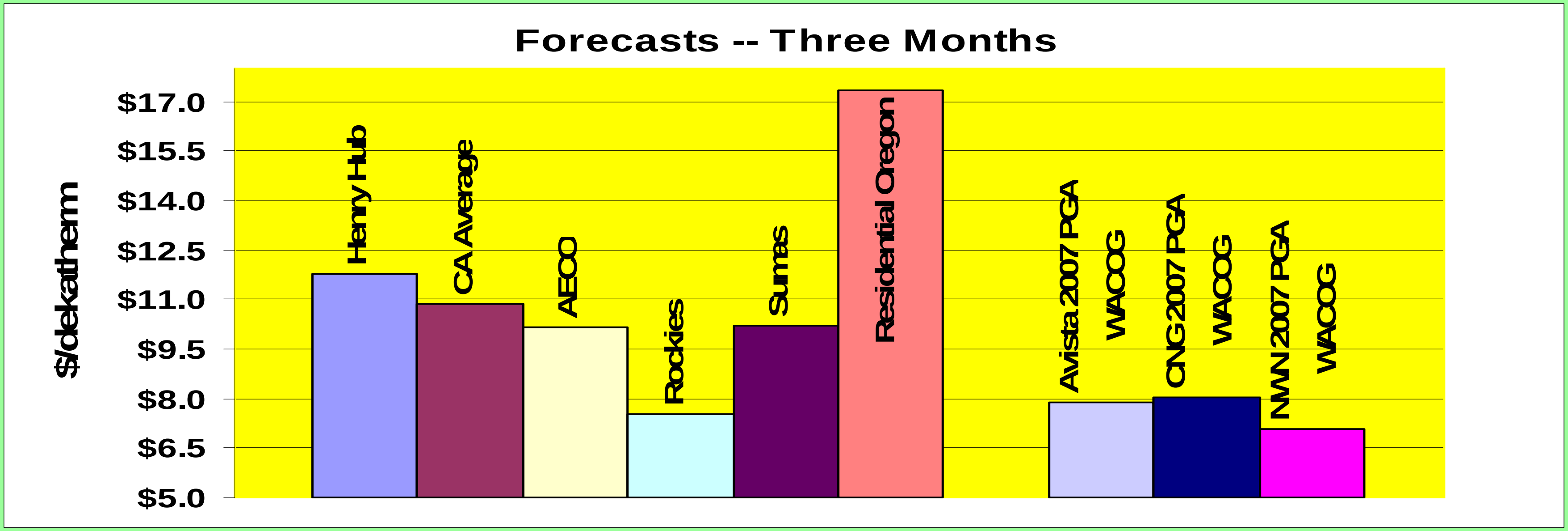
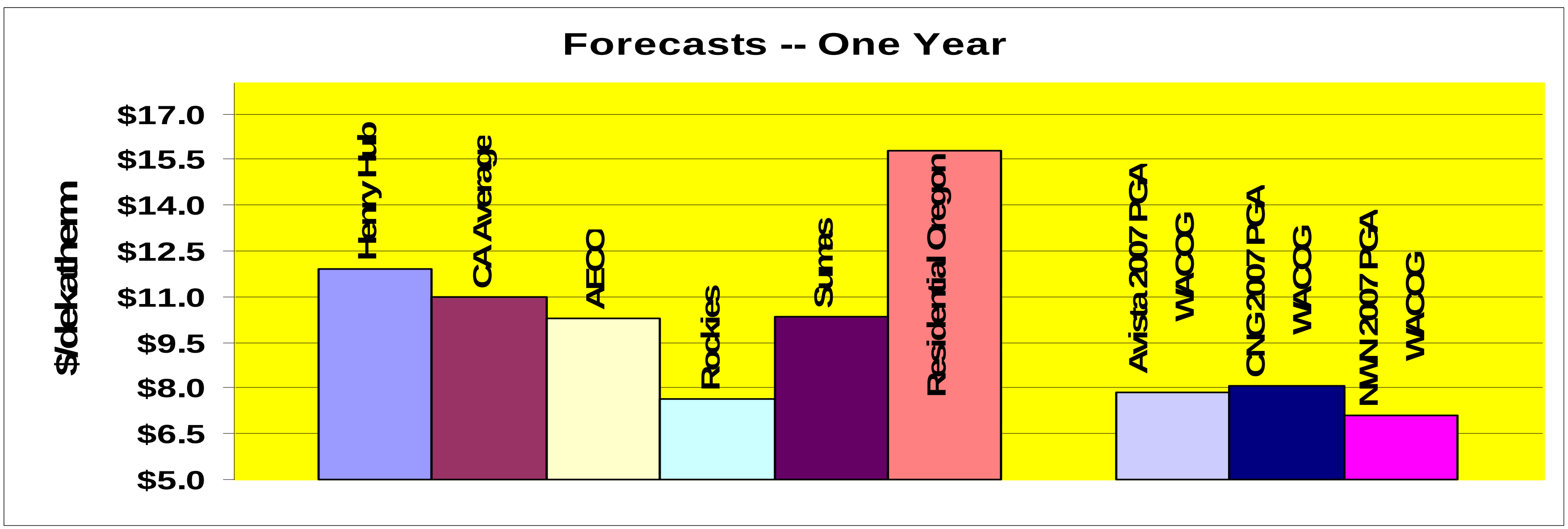


Figure 8



Forecasted Gas Prices - USA

Figure 9

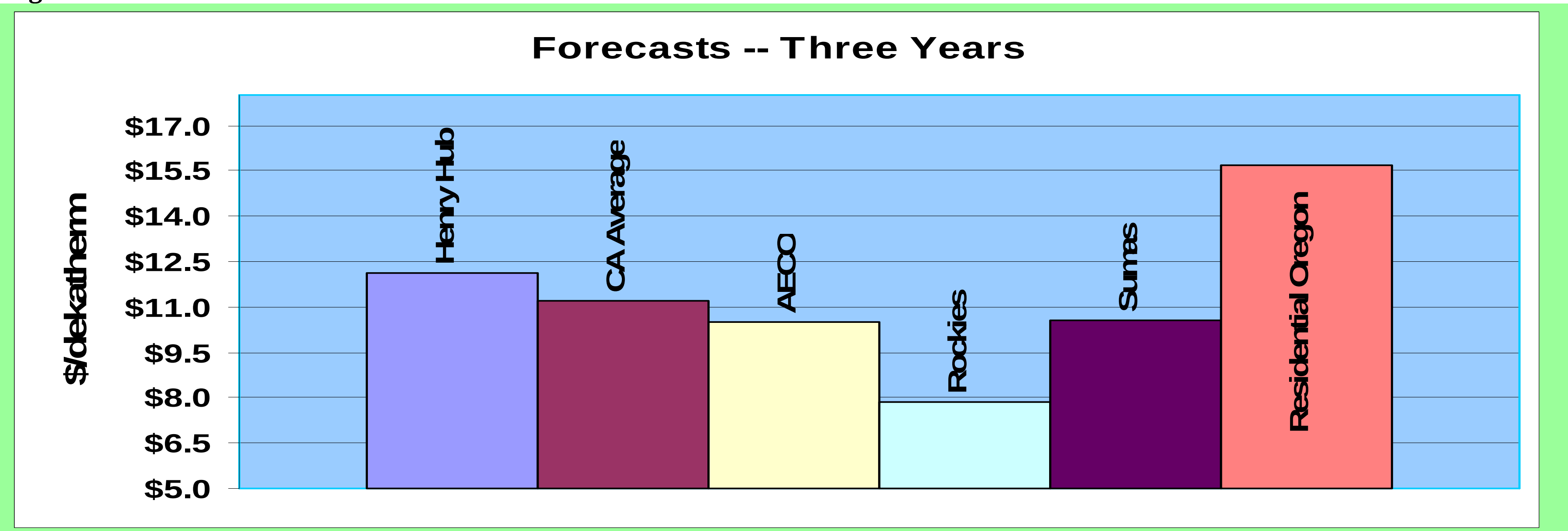
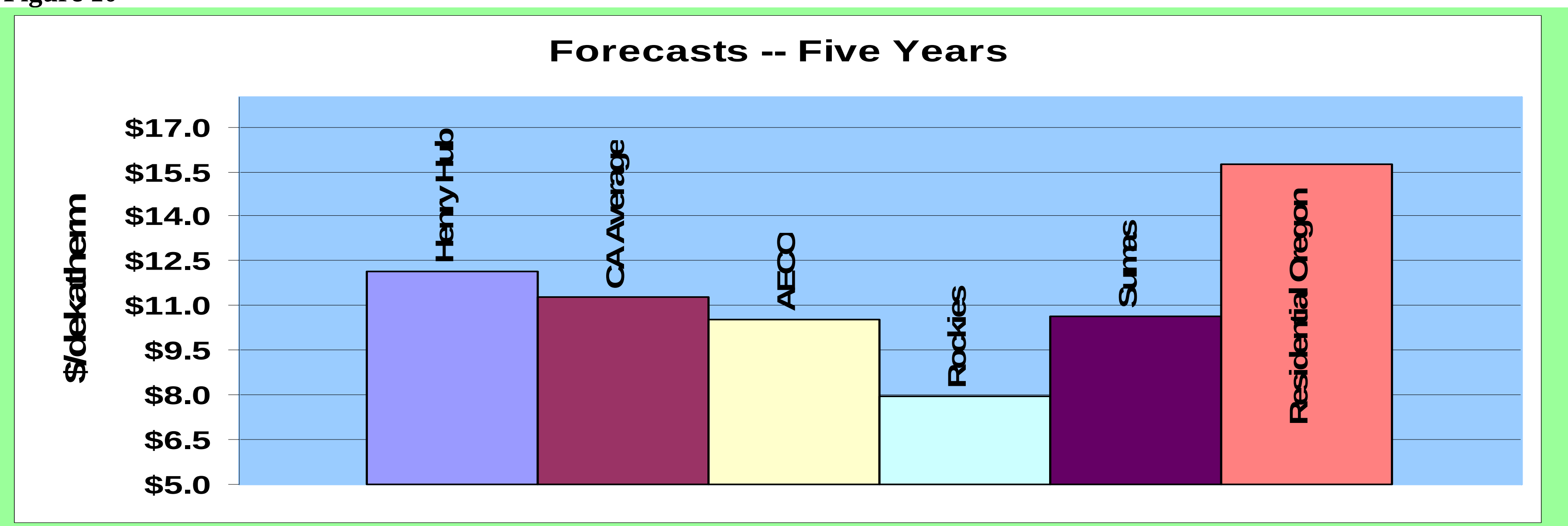


Figure 10



Selected Trends and Issues to Monitor

"Feedback is invited"

➢ Pacific Northwest

For the next IRP planning cycles and the next PGA filings:

- Natural gas price this winter will be higher than last by a substantial margin. Price to Northwest Pacific residential and small commercial customers is expected to rise by over 50% for the 2008-2009 winter period compared to last winter. Overall annual price for the upcoming year is also expected to increase by about this same percentage.
- The National Regulatory Research Institute (NRRI) released the report, *Gas Supply Planning and Procurement: A Comprehensive Regulatory Approach.* The report is intended to aid Commissions in guiding, assessing, and utilizing the gas plans of both gas and electric utilities and in evaluating the gas supply procurement actions of these utilities.
- FERC gave approval to the next stage of the Rockies Express pipeline. The project, called REX-East, is a 42-inch diameter pipeline that will traverse 639 miles from an interconnection with the eastern terminus of Rockies Express' REX-West pipeline in Audrain County, Missouri, through Illinois and Indiana, terminating at an interconnection with three pipelines at the Clarington Hub in Monroe County, Ohio. The three pipelines are Dominion Transmission Inc., Dominion East Ohio and Texas Eastern Transmission LP. The pipeline is expected to be operational with 18 months.

➢ USA

These issues could affect the availability and price of natural gas across the U.S. in the next 10 years:

- Electric generation demand remains the main factor in increasing demand for natural gas in the US. It appears such demand will expand, not contract, as new GHG standards are put in place that reduce further the attractiveness of coal-fired electric generation. Nuclear advocates and studies are attempting to re-start nuclear generation plant construction in the U.S. If this campaign is successful it could take some the pressure off natural gas, and thus natural gas demand and price, as the only alternative in the GHG constrained world for the remainder of the 21st Century.
- The writer believed that LNG supplies into the U.S. would remain small and sporadic without long-term, take-or-pay contracts, based on a world pricing formulae. It appears now, however, that significant spot LNG can come to the U.S. if the bid price is high enough (i.e., higher than the world price).
- Unconventional domestic production is about 60% of total U.S. production. Finding and drilling for such gas is very active and frequently successful. The cost of finding and producing unconventional gas is coming down because of improved technology. However, the decline rate for most unconventional production is high, i.e., as much as 20% per year.

➢ World

World issues that could affect natural gas supplies and price in the US and around the world include:

- The idea of a natural gas OPEC appears to be dead. Russia calls the existing oil OPEC a failure and thus sees no reason to consider a natural gas version of the cartel.
- Sometime in 2009 oil and natural gas prices are likely to re-link. At currently expected oil price for that period, this event means a natural gas price between $20 - $30 per MMBtu.
- Russia is the world's largest oil producer, according the International Energy Agency (IEA). During the first quarter of 2008 Russia lead production with 9.5 million barrels, followed by Saudi Arabia at 9.2, the U.S. at 5.1, Iran at 4, and China at 3.8. The high level of Russian oil reserves mean it could carry on this production level or higher for decades to come. Russia also has the highest level of proven natural gas reserves in the world.
- For decades, Saudi Arabia worked with its dominant customer, the United States, to keep world oil markets stable and advance common political goals. But the surging price of oil has made it plain that those days are over. New forces, including a weak dollar and an oil-thirsty Asia, have blunted the United States' leverage and helped sour the two countries' relationship. As gasoline prices have risen, the White House has unsuccessfully exhorted the Saudis to step up production, and Congress has threatened retaliation. But the situation now is a far cry from the days when the U.S. economy dominated the direction of the petroleum market. "That gave us leverage," said Greg Priddy, an oil analyst at the Eurasia Group, a New York-based risk assessment firm. "There's certainly a perception that the power equation has changed." The weakening of the economic relationship comes when the vital U.S.-Saudi security relationship also has been fraying. In the 1980s, the U.S.-Saudi bond that kept oil prices low was credited with helping weaken the Soviet Union during the waning days of the Cold War. And it helped keep markets stable after Iraq's 1990 invasion of Kuwait. But the Saudi government has been dismayed by the consequences of the war in Iraq and by what it sees as a weak Bush administration commitment to the Palestinians. The relationship is shaping up as a political issue for the fall campaign, certainly among congressional candidates and perhaps among presidential candidates. With a 20-million-barrel-per-day habit, the U.S. remains the world's largest oil customer, even though its daily consumption over the years has dropped from one-third of total daily production to one-fourth.
- Putting additional pressure on natural gas demand, and thus price, James Hansen told Congress on June 23rd that the world has long passed the "dangerous level" for greenhouse gases in the atmosphere and needs to get back to 1988 levels. He said Earth's atmosphere can only stay this loaded with man-made carbon dioxide for a couple more decades without changes such as mass extinction, ecosystem collapse and dramatic sea level rises. "We're toast if we don't get on a very different path," Hansen, director of the Goddard Institute of Space Sciences who is sometimes called the godfather of global warming science, told The Associated Press. "This is the last chance."

Ken’s Corner – Top Natural Gas and Energy Matters

This is what I see in the larger energy world. I cannot always confirm these notes.

Supply

- The level of U.S. natural gas reserves has increased by about 27% since 1995, due primarily to the exploration for and development of unconventional natural gas plays.
- Aubrey McClendon is chairman and CEO of Chesapeake Energy Corp., the largest producer of domestic natural gas, a large share of it from unconventional plays. McClendon, a third generation oil and gas producer, advocates that the country wean itself off of oil. McClendon proposes instead the use of natural gas for virtually everything from the generation of power to the primary fuel for automobiles.
- In a speech at the Petrostrategies energy summit in Paris, Ibrahim Al-Muhanna, an advisor to the Saudi oil ministry and Oil Minister Ali Naimi's right-hand man, said complaints about the tightening grip of nation states on resources are without foundation. "We cannot afford to point fingers or blame one another," if challenges over manpower, technology, and the environment are to be met. In the case of the upstream sector in the kingdom "it is a question of economic interest; no more, no less...any additional international investment in the upstream would have no economic logic or additional benefits" given the state-run oil company's prowess in technology and investment in spare capacity. Al-Muhanna also highlighted the role of oil service companies who enhance "the capability of both national and multinational companies to develop their resources, especially where the international financial markets are ready to provide project finance." Not sure how convinced the audience was by the speech.
- If the federal and state governments do not take dynamic measures to ease construction of new electrical generation plants, the U.S. economy could face crippling power shortages within a decade, according to Michael Morris, chairman, president and chief executive of AEP, parent company of Public Service Co. of Oklahoma. “My biggest fear in this country is that the leaders will dilly and dally until it becomes a nightmare and then we’ll make every mistake we possibly can.” A firm believer in coal and nuclear power usage – and a doubter of the abundant natural gas supply claims now forecast by Chesapeake Energy Chairman Aubrey McClendon – Morris said that continuing energy competition with China, India and other developing nations will require development of new, more efficient energy usage technologies and adoption of new conservation procedures and habits.

Demand

- According to most sources solar power is approaching “grid parity,” in which costs are competitive with conventional retail electric rates throughout much of the United States. The crossover point is expected around 2015. This will take some of the pressure off natural gas for electric generation. If correct, it’s a strong reason not to over build natural gas fired electric generation between now and 2015.

- Which best describes the U.S. energy industry, according to James Hansen?
  A) It's Darth Vader
  B) It's no different than Big Tobacco denying cancer
  C) It needs to be whacked on the head with a two-by-four
  D) All of the above

  The correct answer is D, All of the above.

  The former NASA scientist and global warming maven wrote an open letter to one of Big Coal's favorite punching bags, Duke Energy chief executive Jim Rogers. In a nutshell: More enlightened energy execs like Mr. Rogers have an obligation to herd the rest of the industry away from coal and toward—anything else, really. Otherwise, climate change will spiral out of control, leading to species extinction, melting ice, rising sea levels, and even more congressional inquiries. Dr. Hansen wrote:

  > It is not rocket science. To maintain a safe planet, coal can be used in coming decades only if CO2 is captured and sequestered. Coal-fired power plants built now without CO2 sequestration will soon have to be shut down. They are a terrible, foreseeable waste of money. Dirty, inefficient coal plants must be replaced to avoid climate disasters, but only by choosing options from energy efficiency, renewable energies, nuclear power, and coal plants that capture all emissions, including CO2.

<u>Price</u>

- According to a report from the U.S. Justice Department, International organized crime groups control "significant positions" in global energy and strategic materials and are expanding holdings in the U.S. materials sector. A strategy on fighting organized crime released by the department also says such groups manipulate securities exchanges and conduct financial fraud to steal billions of dollars. It says they systematically corrupt public officials, use computer networks to target victims, and provide logistical support to terrorists and foreign intelligence services. "The activities of transnational and national organized criminal enterprises are increasing in scope and magnitude as these groups continue to strengthen their networking with each other to expand their operations," said FBI Deputy Director John S. Pistole.
- Newspaper editorial friendly to coal and fossil fuels in general! Is coal a troubled industry, poisoned by environmental concerns and shunned by utility regulators? Or is demand for the commodity so hot that its vaunted price advantage over natural gas has vanished? The first headline is from a stateline.org report on the trend in the United States of shutting the door to coal as a fuel for new electrical power plants. In 2007, 59 coal plants in 24 states were nixed by regulators or utilities, as environmental concerns overcame the advantages of coal. This is starting to remind of us of tobacco — a commodity produced here and losing favor in the domestic market but embraced by foreign markets. --- Whither coal? ---
- A report from the EIA, requested by Tennessee Senator Lamar Alexander, shows that since 1999, federal energy subsidies have more than doubled—from $8.2 billion to $16.6 billion in 2007. Who gets the most? "Renewables" landed $4.8 billion

last year, but that includes $3.25 billion for ethanol and other biofuels. Coal and cleaner-burning “refined” coal took home $3.3 billion, while the nuclear power industry got $1.3 billion. In all, about 40% of the energy subsidy pie went toward electricity production; the rest for things like alternative fuels and energy conservation.