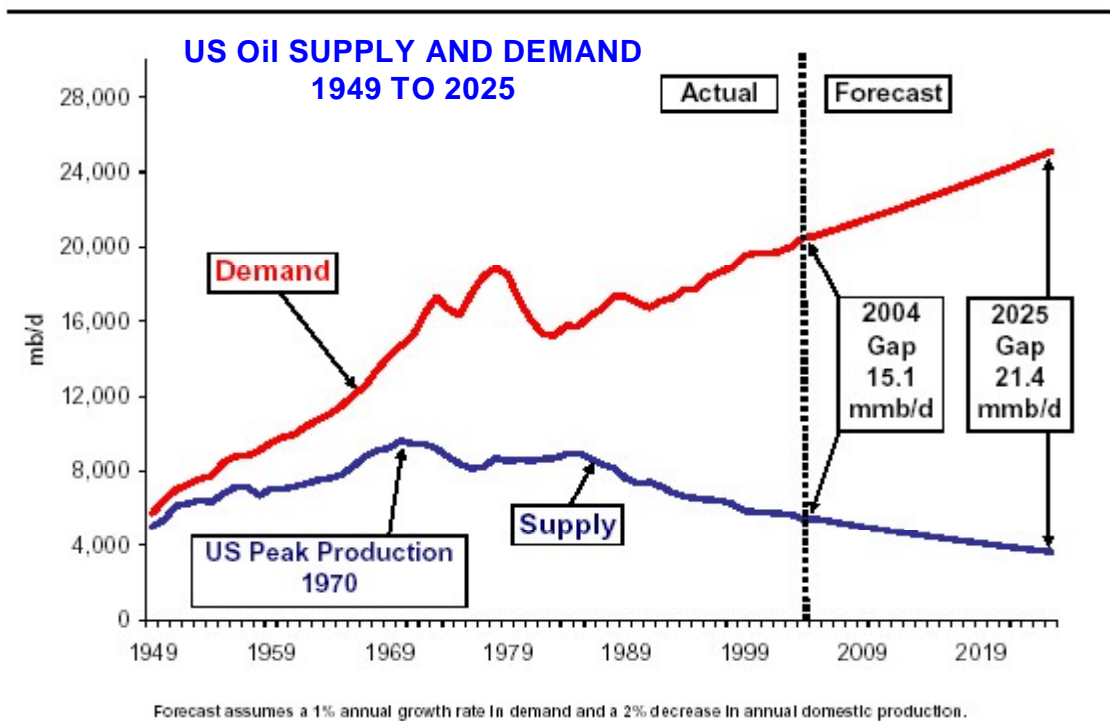


NOW IS THE TIME FOR A COMPREHENSIVE ENERGY STRATEGY

By Bruce Woodry, Chairman and CEO, Sigma Capital Group, Inc.

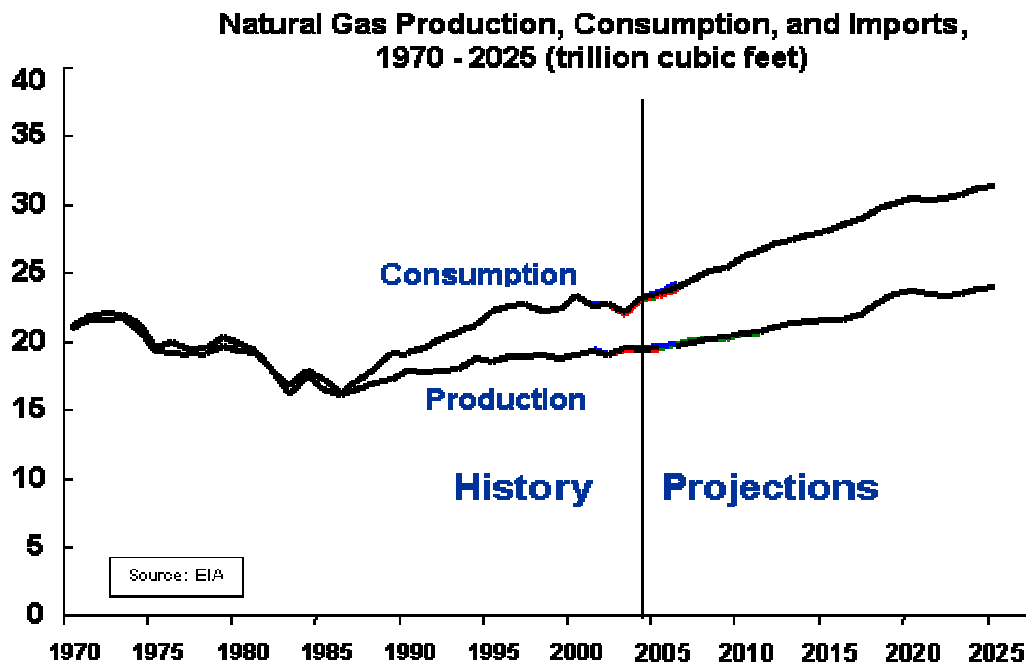
The United States is a voracious consumer of energy, consuming 20 million bbls/day of crude oil per day and imports about 58 percent of all the oil it consumes. This consumption is more than double the consumption of China—now the second largest consumer at 6.5 million barrels of oil per day. As China's economy continues to grow at a rapid pace (9.4 percent this year) driving its ever increasing oil imports and causing fierce competition for increasingly scarce international oil reserves. In combination with international insecurity over Iraq's oil reserves and infrastructure, and with fear of natural disasters like Hurricane Katrina, oil prices surged over \$60/bbl for the first time in history. Some predictions put oil in the \$70-100/bbl range in the next 2 years.



Sources: EIA and RJ Research estimates and analysis

Natural gas is also in short supply. The U.S. independent power companies and Investor Owned Utilities have installed more than 200,000 MW of clean burning, low emission natural gas fired power-generating facilities in response to tighter environmental controls.

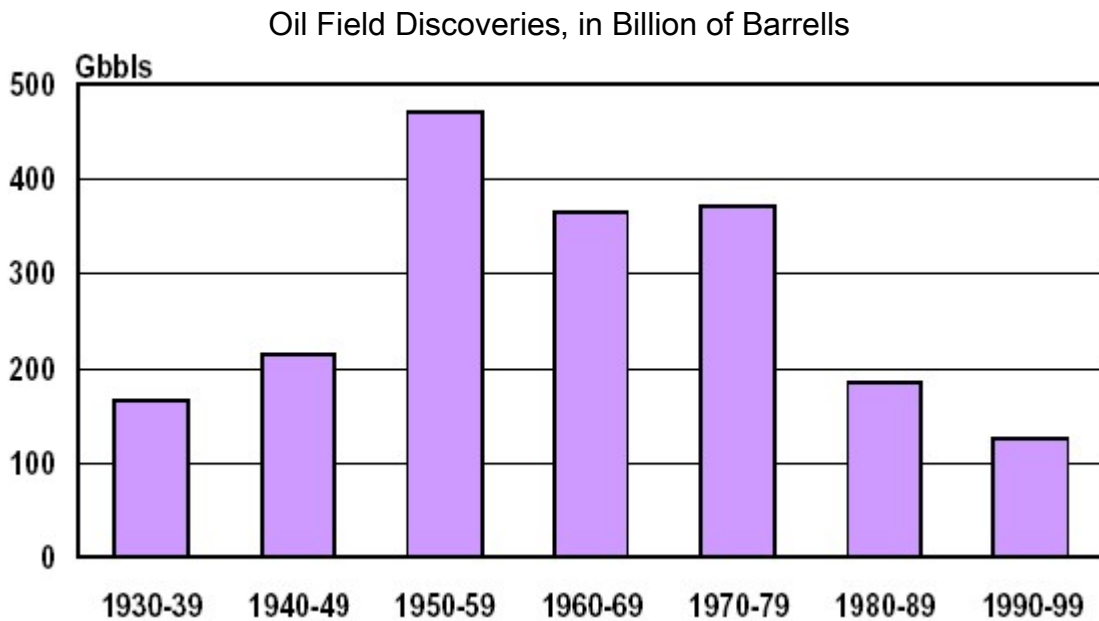
Since natural gas production, roughly constant throughout the year, it is stored during spring and fall, spot shortages are predicted for high use periods in winter and summer. In some areas, natural gas is in such short supply that these same power generation plants are now being partially or fully decommissioned to free up supply during critical times of the year. Technological innovations will help mitigate future shortages, but those improvements will only postpone the problems temporarily.



America has been on a petroleum joyride -- cheap, abundant oil and natural gas -- that has sent the global economy whizzing along for decades with the pedal to the metal and the air conditioner blasting. But could that joyride be coming to an end? Some observers of the oil industry think so. Most of the demand for oil and gas resources is highly inflexible and we are producing them at essentially 100% of effective capacity. There is no margin in the system and as we are seeing now, small shortfalls lead to price spikes and economic disruption. They predict that this year, maybe next -- almost certainly by the end of the decade -- the world's oil production, having grown exuberantly for more than a century, will peak and begin to decline.

This decline will come as a surprise to many who have relied upon oil reserve statements from oil producing countries as a metric for our energy security status. Global crude oil

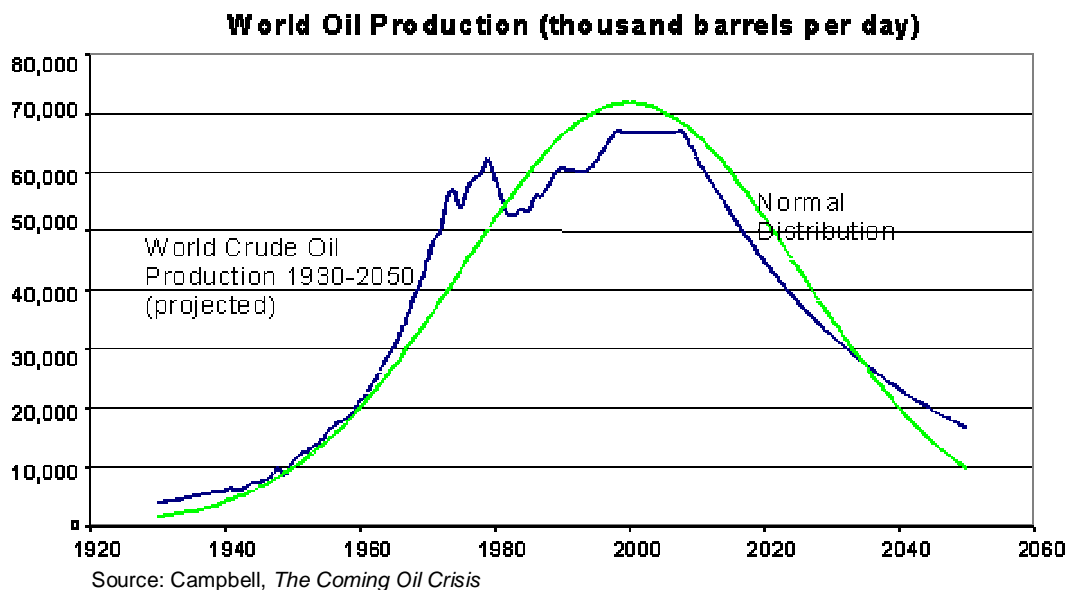
production comes from 45 producing nations, more than ½ which have peaked and 7 of the 11 OPEC nations have peaked. Unfortunately, these figures are far from scientifically determined. Energy expert Matthew Simmons says most OPEC countries were involved in a "proven-reserves arms race," and consistently overstated recoverable stocks in order to raise assigned production quotas determined by each country's reserves. Simmons, who advised President Bush's 2000 presidential campaign, notes that except for Libya, Algeria and Nigeria, the OPEC countries tripled their reserve numbers in the 1980s with no supporting data. If Simmons is correct, and that debate is still raging, global oil reserves are overstated. That means that the rich Saudi fields that have stabilized global prices could very well be in a state of decline. Discoveries of new reserves are not encouraging.



Source: Dr. C J Campbell

"World oil production is going to peak on American Thanksgiving (2005), with a three-week period of uncertainty on each side," declares Princeton professor, geologist and oil maverick Kenneth Deffeyes. He uses a formula that successfully predicted 1971 as the start of oil production decline in the United States. Deffeyes predicts "a permanent state of oil shortage." Once supply begins to dwindle, the years to follow will see shortages that at best will cause "global recession, possibly worse than the 1930s Great

Depression," says Deffeyes. At worst, he warns of "war, famine, pestilence and death." Deffeyes' prediction is clearly controversial. Still, it is gaining an audience, and dozens of energy experts and academics say his arguments have merit.



No matter which pundit you listen to, it is clear that oil and natural gas are becoming increasingly scarce. As global supplies dwindle and consumption increases unrestrained, the price of oil will increase drastically and major oil-consuming countries, like the US, will most likely experience crippling inflation, unemployment and economic instability—that is, unless we actually develop a plan to address our dependence.

According to federal projections, our dependence on foreign oil will rise steadily in the coming years as domestic production continues to decline. This dependence will result not only from the natural depletion of domestic oil fields, but also from continually growing consumption in the US market. To stabilize prices, the US could historically dictate policy and positively impact oil supplies when we were clearly the dominant consumer and supplies were prevalent. Today, those dynamics have turned, putting our oil-addicted economy in jeopardy, causing a balance of payment deficit, economic concerns and risk of supply. Technological innovations in oil and gas production will help mitigate future shortages, but those improvements will only postpone the problems temporarily. Since it will take decades to ramp up production of alternate energy sources

and dramatically reduce consumption, it will be virtually impossible to avoid periodic severe problems.

Now we have to face up to the realities of a world in which energy, particularly oil and gas, needs to be conserved and used wisely, and in which alternatives are taken seriously. What are the solutions? There is no silver bullet, but an assemblage of solutions that diversify risk and guarantee supply. Taking a proactive approach is paramount; allowing the "market to dictate direction" will result in continued export of dollars to import foreign oil, funds that could be deployed to build infrastructure, create jobs and stabilize the US economy instead of foreign countries. It is time for a rational national strategy that addresses all forms of energy production, consumption and savings practices.

One could argue that the recent 1,724-page Energy Policy Act, which will provide \$14.5 billion in tax breaks, primarily to fossil fuel production, is a short-term fix. Incentives like production tax credits that level the playing field for renewable energy production have been a major enabling factor for the infant Biofuels industry, providing up to \$0.90 per gallon to new ethanol and biodiesel producers recently. Programs like the Commodity Credit Corporation (CCC) Bioenergy Program are under-funded, and because of their structure, are likely to shrink substantially in 2006 before being scheduled to disappear altogether at the end of the 2006 Federal fiscal year (August 31).

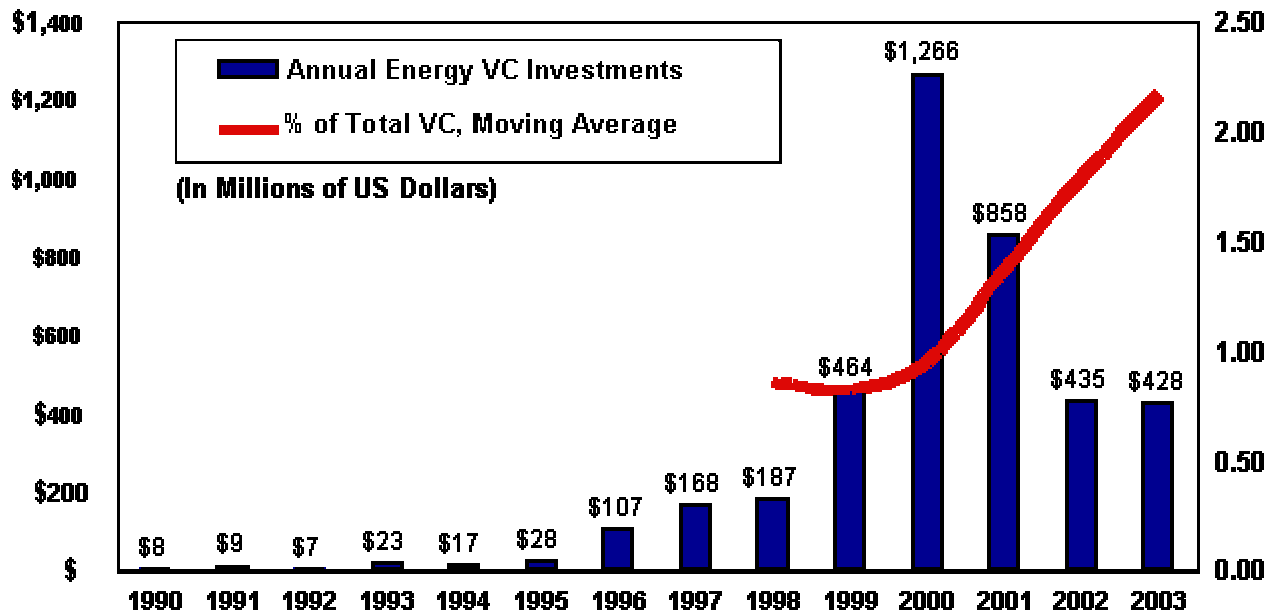
Energy efficiency is likely to provide more impact in the short term. "Katrina showed us we need to do much more on energy efficiency than the energy bill achieved," said American Council for an Energy-Efficient Economy Deputy Director Bill Prindle. "Our recommendations are proven, practical, and cost-effective policies that should be deployed as first-responders in this extraordinary time." ACEEE's preliminary analysis estimates that energy-saving measures could save 3.5 million barrels of oil per day by 2020, about 13-20% of forecast consumption, about 1.9 trillion cubic feet of gas in 2020, about 6% of forecast gas consumption.

Going beyond proven energy technology requires investment in research and development. The renewable energy and energy savings technologies developed in the

1970's are currently in the marketplace, but few advancement of significance have transpired until recently. Now, with high oil prices (and with the price of other replacement forms of energy following suit), a variety of new, abandoned or insufficiently funded energy production technologies are being dusted off and trotted out to the financial markets. Unfortunately, conservative project finance funding is unavailable for unproven technologies and venture backed renewable energy projects are non-competitive on a cost-of-money basis with traditionally financed fossil fuel projects postponing their development and deployment. Bridging the investment gap between is an issue. Investors jumping in without the experience or knowledge in energy to invest wisely may not develop the anticipated returns, and could tarnish the sector with a "Dot Bomb" type label.

Investment in new energy technology covers a wide span of fuel technologies, power generation technology, and power management and control technologies. Historically, there has been is an ample supply of project finance for traditional energy projects with proven technology, conservative source fuel and offtake agreements, and adequate financial returns. Conversely, despite the clear importance of energy to all other industries, growth stage energy technologies have not had the appeal of Internet technology, bio- and pharmaceutical technology and healthcare technology areas that have commanded much of the investment attention over the past few years. The total amount of venture/growth funding investment has been slow to follow and hovers around a meager 2.5% of total available venture capital. While most unproven energy production and efficiency technologies are individually insignificant, they are substantial in aggregate and have the potential to make meaningful contributions to reducing our dependence on foreign oil and balance of payments deficit.

Venture Capital Investments In Energy Technology



While the 2005 Energy Policy Act has been hailed as a comprehensive plan for our energy future, closer inspection reveals that it is a mixed bag of subsidy and incentives that does not address several of the fundamental issues facing the United States –and indeed the world--over the next several years. We think that now is the time for us to question our country's lack of a comprehensive energy strategy and should begin to develop a coherent energy plan that includes fiscal policy more heavily weighted on renewables and energy savings. It is also the time to rein in our off point development of hydrogen cars and other long term idealistic goals, and strategize for the development of new technologies that can be realistically deployed in the near future.

About Sigma Capital:

Sigma Capital Group is a ten-year-old boutique investment bank that provides advisory and representational services to clients in the Energy, Real Estate/Destination Resorts sectors with project finance transaction values in the \$5M to \$250M range. Mr. Woodry is a member of the Michigan Public Service Commission Renewable Energy Finance Committee. For more information, please contact:



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