



Will It Be *Déjà vu* All Over Again in the Energy Industry? Natural Gas Emerges as the Bridge Fuel

By: Fred J. Fowler, President and CEO, Spectra Energy

The energy industry has ridden a roller coaster of change since oil and gas became the backbone of the world's economic engine more than a century ago. To take a phrase from noted philosopher Yogi Berra, "It's *déjà vu* all over again" in today's dynamic energy environment. And despite our long history, the past seems doomed to repeat itself.

The United States is facing dwindling known reserves, a pronounced reliance on foreign energy sources, an increasingly skeptical public and the ongoing struggle to balance environmental challenges with the need for economic growth. This time, the industry needs to step up to the plate and respond differently.

The energy business cannot allow itself to fall into another hole that takes decades to repair. Reliance on energy will not subside and the need for a solid plan that addresses growth, efficiency and sustainability is imperative.

INDUSTRY HURDLES

The energy business is an interesting, turbulent and impactful business. From the first gush of Spindletop, to today's fluid market dynamics and advanced technology, the industry has traveled a long road. Those travels have sharpened and shaped the contours of the world economy as the industry has explored, produced, transported and refined its way through the past century..

Though struggling through rough patches at times – world wars, economic depressions and recessions, supply disruptions, natural disasters – the energy

business has brought prosperity to people and places around the world, making life easier, safer, brighter and more productive.

So, if the purpose of energy seems so noble, why does it feel like the industry is slogging through muck and market mayhem?

The industry faces very real hurdles -- increasing global demand for oil and gas, reduced spare production capacity, escalating prices and extreme volatility. Energy executives are the target of late night comics, fuming consumers and politicians proposing punitive action.

These factors are challenges that will only become opportunities if the industry is alert and attentive. Any smart driver knows you will run out of gas if you ignore the fuel gauge and that you must keep a sharp eye trained on the rearview mirror. Likewise, the energy business needs to heed both the signposts of a changing market environment, and the hard-knocks, hard-scrabble history that lies behind it.

LESSONS LEARNED

The industry needs leadership that has learned from the past. Its rich history parallels the recurring paradigms with today's marketplace. Just as the second half of the 20th century saw the globalization of the petroleum industry, the era of oil, in which oil fueled tremendous progress and prosperity, the world today faces similar globalization of natural gas.

With these parallels, the U.S. natural gas sector has two textbooks to learn from: the tough times learned through experience and the transformational changes that big brother "Big Oil" has undergone.

The current market reminds me of the late 1960s and early '70s, when – early on – the industry was booming, driven by attractive pricing of gas in interstate markets and robust demand. Cheap, abundant energy seemed here to stay.

Then – like a tsunami -- natural gas supplies quickly became tight due to overly controlled prices and a lack of incentive to drill for gas. As interstate markets ran short of supply, demand dropped off sharply as the once reliable supplier of choice fell out of favor. Following three decades of solid, steady growth, the natural gas industry struggled through a 10-year slump.

The profound take-away from this period in our industry's history – the time it took to dig out of the hole. The trend is sobering: 25 years of growth, followed by 10 years of decline and 18 years to recover back to where natural gas was in the late '60s.

After peaking at 22 Tcf in the late '60s, gas demand bottomed out in the 16 Tcf range by the mid '80s. From 1987 to 1999, a period of low and stable gas prices encouraged consumption. Of the 300 gigawatts of new power plants that came online in the past 15 years, close to 90 percent were fired by natural gas – helping drive demand which recovered to the 22.7 Tcf/year range by 1997. Since then, demand has remained steady, 21.9 Tcf in 2005, though a period of growth is predicted. The Energy Information Administration estimates that natural gas demand in the United States could be 26.1 Tcf/year by 2030.

MARKET APPROACH AIDS NEEDED INFRASTRUCTURE

Though consumers react strongly to the impact of rising energy prices, several factors need to be considered and are typically missing from the very heated public dialogue. First, oil and gas prices are high in nominal terms – there's no arguing that point. But in real terms they remain below, their 1980s peak.

Furthermore, the economy is not as dependent on energy as it used to be. Last year, energy represented 7 percent of U.S. GDP compared to 14 percent in 1981. In those 25 years, the energy sector has gained tremendous efficiencies, and the U.S. economy has transformed to a much greater service orientation as a result of an energy policy with sufficient transparency in the system, and where sophisticated buyers and sellers can interact in a commercial environment to bring resources to consumers in the most efficient and reliable fashion.

The market approach to energy policy has unleashed enormous investment in the development, marketing and delivery of both crude oil and natural gas, resulting in great abundance at affordable prices. In the past eight years, the industry has seen over \$22 billion invested in natural gas pipeline infrastructure alone, and other \$6.3 billion of new gas pipeline investment is scheduled to enter service this year.

Even more investment will be required in the coming years as the industry rebalances new supply sources with growing markets. The industry's market-based energy policy, administered in a rationally flexible regulatory regime, has proved successful. Its continuance is essential, as the industry finds itself again confronting a lesson that should have been learned long ago: if it is unwilling to take on risk and replenish supply before cycles shift, the energy business and those it serves pay a hefty price.

VIABLE OPPORTUNITIES

These converging factors bring the energy industry, not just natural gas, to the strategic inflection point where it stands today. Energy in general – oil, gas and electricity – are near the top of today's public agenda, resulting in a renewed sense of urgency, interest, and commitment to investments in infrastructure and supply as well as to exploring new technologies and alternatives.

After years of regulatory pressure on local distribution companies to shed pipeline reservation charges and lower costs, now a whole new line of thinking has emerged surrounding diversity of supply – by both customers and regulators. Today, a real push is evident for onshore supply-oriented projects, having experienced the vulnerability of being overly dependent on offshore supplies.

Supplies are simply not keeping pace with increases in gas consumption. At the same time, the underlying drivers for gas consumption – most notably, a steady increase in demand for gas-fired electric generation – have continued. Extended periods of high gas prices and volatility are a direct result of the lack of development of sufficient new sources of supply.

LNG (Liquefied Natural Gas) is the most likely near-term source to fill the gap – but LNG is developing slower than originally anticipated. Though construction of re-gasification facilities is moving ahead, in many cases, construction is not being matched by firm commitments for LNG supply. North American producers and pipelines have recognized this disconnect, and are focusing on developing facilities to move gas from non-conventional domestic sources to premium gas markets on the east coast.

Incremental LNG moving into North American markets represents an important trend over the next five to 20 years. That incremental LNG is based on expansion of existing regasification facilities, as well as new facilities along the Gulf of Mexico, eastern Canada, Northeast market areas, Southern California/Northern Mexico and potentially Western British Columbia.

An absolutely critical step going forward will be the successful siting of regasification and transportation infrastructure backed by dedicated LNG supply. If supply can't get to these plants, LNG terminals will merely represent unutilized regasification capacity.

CLIMATE ISSUE

Along with infrastructure strain, firmly entangled in the energy debate is global warming, or the belief that human combustion of fossil fuels is warming the planet at an unsustainable rate. Though not believed by all, everyone must accept the reality that the world will be politically driven towards being less carbon intensive.

The scale of the climate issue is almost beyond comprehension. A 2004 MIT study indicates that it will take 1,000 nuclear power reactors – more than twice as many as currently exist worldwide – to offset just one fourth of the anticipated increase in CO₂ emissions between now and 2050. Furthermore, under the most ideal circumstances, it takes 1500 three-hundred foot high windmills to equal one nuclear power plant. Given the magnitude of the challenge it is clear that hasty, partial, or poorly reasoned policy solutions aren't acceptable. It is also clear that there is no single solution.

In the near term, the only way to bring about a meaningful reduction of CO₂ emissions is to change the market, and consumer behavior. Increasing the cost of CO₂ emissions is the most effective tool. Because of its straightforward simplicity, the most logical alternative is a universal carbon tax. It is fast-acting, applies to all aspects of the economy and its transparency makes it less vulnerable to the lobbying of special interests. Nevertheless, there are other viable proposals out there, such as cap and trade and, in the end, anything that prices carbon is better than nothing.

In the longer term, CO₂ reductions will accelerate with technology advances. The next generation of nuclear power plants offer great potential, but today these plants exist only on paper and are decades away from making a significant impact.

This technology and others must be aggressively pursued. No stone can be left unturned, but the industry must recognize up front that breakthrough technologies are not a near term, or even intermediate term, solution.

BRIDGE FUEL

Knowing that the world needs to move to a less carbon intensive economy, but also being aware that such transformational changes take significant lead time and investment, the industry must ask: “How do we power our nation going forward? How do we tackle the enormous environmental issues in front of us – and still deliver the energy needed to meet both growing demand and the void that will come as aging facilities retire.

Inescapably, natural gas can, and must, serve as the bridge fuel – the fuel that helps cross this looming energy divide. The natural gas industry is mature and sophisticated, with a strong capital base, competitive economics and a very positive carbon profile compared with other fossil fuel alternatives.

PUBLIC POLICY

This pace of change means that the energy marketplace must be connected intellectually as well as physically with global markets; informed and agile, ready to respond to the shifts that are shaping the 21st century natural gas marketplace.

The industry needs to do a better job of engaging with policy makers and the public about how the business operates, how markets work, as well as advocating for sound policy that promotes access to and the development of gas resources. As always, politicians are under pressure to do something – do anything – to address rising oil and gas prices. With the summer driving season upon us, ideas such as a windfall profits tax on petroleum corporations have started to resurface – a reflexive response, and one heard before. Though often discussed, a windfall tax reduces the level of investment available for exploration,

for new development and for technology and efficiency advances – all critically needed, now more than ever.

It's another lesson from the past: actions that artificially manipulate the market for the purpose of achieving short-term price reductions back-fire. Think back to the Nixon administration's response to the 1970s' oil embargo. Price controls on domestic production didn't work. And Jimmy Carter's gasoline rationing didn't save the day, either. And, more recently, over-reaction and regulatory piling on didn't correct the California energy debacle.

The saving grace, time and again, is the exceptional efficiency of free markets allowed to work unencumbered – and the enormous will and ingenuity of the energy marketplace. The amazing spirit of the industry's engineers and scientists allows for the literal transformation of crude to sublime.

MOVING FORWARD

Natural gas delivers a tremendous benefit and the industry needs to do a better job of telling that story. In the past decade, we've seen a significant increase in the level of opposition to and intervention in pipeline projects has emerged. To help curtail the increasing opposition to pipeline construction, the industry needs to be more active in grassroots efforts that detail the care taken and value delivered through each new project.

Fortunately, the industry has a key advocate in the effort to develop critical natural gas infrastructure in an environmentally responsible manner: the Federal Energy Regulatory Commission or FERC. Not only does FERC understand the need for additional pipeline infrastructure, it has the clear authority to oversee that build-out, as reinforced by the 2005 Energy Act.

Though fortunate to have a federal regulatory agency to work with, the industry cannot become complacent and must continue working on behalf of regulatory

policy that enables rather than hinders critically needed infrastructure siting and construction. The industry is going to need billions of new pipeline investment dollars to maintain existing systems, relieve bottlenecks and efficiently deliver increasing quantities of natural gas to market.

Without that investment, the delivery infrastructure will be compromised, suppliers won't be able to enter markets, customer choices will be limited and prices will be volatile. In order to attract that magnitude of capital investment – and to serve communities well – it is critical to get the economics of the equation right. Return to the investor is paramount in attracting the capital needed to build infrastructure.

Furthermore, the industry must work with legislators and regulators to advance infrastructure construction and continue to remove barriers to siting LNG terminals and other critical components of a reliable, responsive delivery system. As natural gas projects are increasingly plagued with the familiar NIMBY syndrome – Not In My Backyard and BANANA mentality – Build Absolutely Nothing Anywhere Near Anyone, the need of working with government at all levels to facilitate new development and expansion, and to make the regulatory process as efficient as possible is essential.

Though moving forward rigorously with new pipeline projects must be a priority, the industry must do so with a keen eye on full life-cycle safety, meaning the vigorous protection of those working during the construction phase – as well as those who benefit from the product decades down the road.

Finally, the natural gas industry must never lose sight of its obligation to serve customers, safeguard neighbors and be faithful stewards of the world's natural resources. More and more companies are acknowledging the reality of global climate change, and stepping up to offer ideas, solutions and leadership.

PROMISING POSSIBILITIES

Unlike examples from the past, the economy has shown amazing resiliency in the face of higher energy prices of late. The oil embargo of the 1970s sparked a major recession, but not this time around. The industry has managed to keep its wheels on the road and energy continues to play a key role in sustaining economic growth.

The world is entering a new era of growth in energy demand that will require tremendous investment – investment of capital, of human talent, and of leadership. During this era of growth, the natural gas industry stands ready to deliver both energy and solutions. In a world moving to loosen its ties to carbon, natural gas provides the logical bridge fuel. Throughout this transition, the energy sector needs to be able to count on a clear and stable governance framework, fair and equitable market rules, sanctity of contracts and closer international collaboration. As always, the industry will rely on the will and spirit of the men and woman working in this business and will continue to reflect on the miles of experience behind and the miles of opportunity ahead.

###