

# Natural Gas Challenges

COAL GAINS GROUND

BY KEN SILVERSTEIN

## THE NATURAL GAS SECTOR HAS LOST

some oomph. In the last 15 years it has gone from the hottest thing in fuel options to one that is expensive and untenable. The industry says it doesn't have to be that way. It argues that with a sensible national energy policy that permits more drilling rights in areas that are now restricted, along with a streamlined permitting process for new plants and pipelines, it can fulfill expectations.

There's plenty of natural gas off shore and in the Rocky Mountains. Producers say they just can't get to it because of restrictive national policies. When the Clean Air Act of 1990 passed, natural gas was labeled the "fuel of choice." As such, its prospects soared – upward of 50 percent over 20 years. In effect, current consumption of about 23 trillion cubic feet a year was supposed to rise to 34 trillion cubic feet by 2020. But when policymakers enacted that 1990 law, they didn't make amends for the fact that nearly one-third of all land in the United States is federally controlled and that the government owns those resources that lay beneath it.

"The marketplace is a great way to allocate resources to their best use," says Keith Bailey, former chief executive of diversified energy supplier Williams Cos. in Tulsa, Okla. "But, public policy is dampening the ability of the market in a way that is definitely not in the public interest. If companies are unable to access resources or to site and build infrastructure, then it is not in the public interest."

The logical conclusion is that all consumers would pay ever-increasing prices. But it could reach a point at which policymakers begin allocating a finite resource based on the ability to pay – a process that leads to dysfunctional economics and one that exacerbates the problems. That's not the role of government, says Bailey, who still sits on boards affiliated with Williams. Government's job is to foster incentives to create supply levels that will match market demand. It can be done, he adds. But, the political will is lacking.



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For better or worse, the current policies are creating more dependence on coal. While there are lots of promising new technologies that would scrub coal of its impurities before they are released into the air, the reality is that such a commodity is about twice as dirty as natural gas. At the same time, natural gas cost is at least twice that of coal. Utilities are therefore reluctant to build gas-fired power plants, which typically have a lifespan of about 50 years, if the underlying feedstock is both expensive and hard to get.

In fact, in the 1990s, about 90 percent of all proposed generation facilities were to be fueled with natural gas. Now, most of those being proposed are coal-related. Others, meantime, are saying that green energy can fill the void while some experts are touting nuclear power as heir to the throne. In any event, without significant policy changes natural gas demand will exceed supplies for the foreseeable future.

## DEPLETING WELLS

It's one thing to say that natural gas producers are unable to access gas-rich areas. It's another to talk about the depletion of conventional gas wells. According to the Independent Petroleum Association of America, there are more drilling

### NewsFlash

#### CHILE CARBON CREDITS ON SALE

Pacific Hydro, of Australia, will sell European Union customers carbon credits tied to a hydroelectric plant in Chile, reports the *International Herald Tribune*.

Pacific Hydro has registered the 155-megawatt plant with a Dutch agency, allowing the sale to go forward when the facility goes into service the end of 2008.

Pacific Hydro, a renewable energy producer, said it intends to invest \$870 million in Chile over the next five years in projects that generate carbon credits.

The global value of the trade in carbon credits last year increased to \$30.1 billion, with more than 80 percent of it in the European Union, according to the World Bank.

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rigs than ever but that has not been able to offset declining production rates. A decade ago, such depletion rates averaged 16 percent a year. Now, they average 28 percent a year. To stay even with current natural gas supply, vast reserves from the entire Gulf of Mexico must be found and brought on line each year, the group says.

To illustrate its message, the association points to a 2003 study on federal lands in the West by the Department of Interior's Bureau of Land Management. It showed that 12 percent of natural gas resources were completely off limits. But, it also identified another 26–27 percent of the resources that were constrained by restrictions on surface occupancy and when development can occur. Collectively, close to 40 percent of the resource base is confined. The remaining 60 percent is not controlled at the time of leasing, but it can be limited as part of the federal permitting process. And, obviously, producers must obtain a permit to develop the lease.

Federal law has been misappropriated, the advocacy group says. Government must consider the environmental impacts of its decisions by eliciting the views of all stakeholders. Today, however, executive orders, regulations and court decisions have altered the landscape while the regulatory and permitting processes are laden with environmental reviews that can delay or derail viable projects.

Offshore drilling, meanwhile, is just as onerous. Moratoria in the Eastern Gulf of Mexico, the Atlantic Ocean and the Pacific Ocean prohibit access to about 80 trillion cubic feet of potential natural gas. These restrictions – set by both the legislative and executive branches – are unreasonable, critics say. They rely on antiquated and inaccurate assessments of the risks of developing offshore resources. New techniques such as horizontal drilling, however, allow for safe development in areas with shell formations.

“Current offshore development technology ranks with the most sophisticated in the world,” the petroleum association wrote in a recent report. “It allows for rapid responses to potential environmental threats.”

Green groups and other activists are unyielding in their defense of these restricted areas, saying that the United States cannot drill its way out of the energy conundrum that it is in. Clean air and water is a public right and allowing additional drilling rights on federally controlled property would assuredly leave an indelible footprint, they say. In terms of offshore drilling, they point out that 191,000 barrels of oil have found their way into the Gulf of Mexico by way of damaged pipelines and hurricane-torn oil facilities. Because there is only 50 to 75 years' worth of natural gas on domestic property, such groups maintain that policymakers ought to pursue a sustainable energy strategy.

## BABY STEPS

Right now, the United States provides about 19 trillion cubic feet of the 23 trillion cubic feet that it consumes. Canada supplies most of the rest, although it, too, is stretched. So, what next?

A third of current natural gas is derived from unconventional sources – coal beds, shale and tight formations, according to the petroleum association. Additionally,

a growing segment of supply is coming from deep wells – both offshore and onshore – which can be either conventional or tight formations. Each, however, will face challenges to its future development from potential federal policies. Liquefied natural gas (LNG) imports, meanwhile, could ease the supply crunch. But, there's firm opposition to the development of the terminals where such gas would be stored.

Devon Energy is utilizing a technology to produce natural gas from shale – something that was not commercially viable a decade ago. Specifically, shale is a dense, black rock containing hydrocarbons. Devon pumps water mixed with sand to shatter the rock so that the trapped natural gas can escape. Currently, the company produces about 750 million cubic feet of natural gas from shale per day. Altogether, about 2 billion cubic feet of the commodity is produced a day.

“Right now, we are stretching our abilities through technology and innovation to keep pace with demand,” says Chip Minty, spokesman for Oklahoma City-based Devon Energy. Still, “our message is that access to potential reserves in areas that are prohibited is important and that cutting-edge technologies are available to the industry to reach those reserves in an environmentally friendly way.”

More access to gas-rich areas remains the one constant coming from the entire natural gas industry. The energy act of 2005 was the first major piece of federal energy legislation since 1992 that tried to address such issues as demand reduction, onshore supply access and LNG supplies. Subsequent to that legislative initiative, Congress also opened up parts of the Gulf of Mexico to increased drilling, although it kept much of the eastern Gulf as well as the Atlantic and Pacific coastlines off limits. Even now, the Alaskan Gas Pipeline that would free up 35 trillion cubic feet is a distant dream.

Paul Wilkinson, vice president of policy analysis for the American Gas Association, calls the recently enacted federal energy laws a “baby step” in the overall battle to balance supply and demand. In the final analysis, the industry is not locked into any form of natural gas. It will all be necessary to meet the expected future demand, he adds, which will continue to increase as the nation grapples with how to address climate change. Ironically, lawmakers on Capitol Hill are not sympathetic to the natural gas industry, some say.

“The Hill is now actively discussing greenhouse gases and efficiency improvements,” says Wilkinson. “However, lawmakers are not inclined to discuss the prospects of opening areas now off-limits. The demand for natural gas will increase. It will be compounded by a demand for cleaner fuels. So, we know what will happen on the demand side. But, we really don't know on the supply side. I am fairly pessimistic about being able to increase our domestic supplies.”

The industry remains vigilant. It is trying to educate lawmakers. It is working to develop environmentally safe drilling technologies. It is harnessing new forms of natural gas. While those successes may offset declines in production rates, they will not be enough to overcome the regulatory impediments now in place, some fear.

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