

# A fear of fracking may slow natural gas trend

Jennifer A. Dlouhy, Houston Chronicle, 3-10-11

Natural gas could be a major source of low-cost electricity nationwide, as an upsurge in domestic production drives costs down and looming environmental mandates encourage utilities to retire power plants that run on dirtier-burning coal.

But energy experts and executives at the CERAWeek conference in Houston on Wednesday described a landscape of obstacles still standing in the way of natural gas producers. Chief among them: public fears about water contamination from the hydraulic fracturing process that is essential to unlocking natural gas in U.S. shale formations.

The natural gas industry also is struggling to shed the fuel's reputation as an unreliable power source prone to boom-or-bust cycles and volatile prices — a big hurdle to getting electric utilities to ink long-term gas agreements.

"The message is just getting out there that there is a lot of supply," said Guy Buckley, a vice president of corporate development at Spectra Energy, a natural gas pipeline and storage company.

But it will take a while to convince power utilities that low natural gas prices - now about \$4 per million British thermal units - are here to stay.

"You've got to change some of these big decision-makers like power generators, and those decisions will get made as they become more secure that the shale gale is real, it's here and that prices are reasonable," Buckley said.

Energy companies are exploiting advances in horizontal drilling techniques and the hydraulic fracturing process to extract previously unrecoverable natural gas from shale formations across North America - unlocking reserves that could fuel the United States for at least 100 years, analysts say.

Increasing supplies and low price projections already are spurring some electric utilities to retire coal-fired power plants and replace them with gas-based facilities, said John Rowe, CEO of Chicago-based Exelon, one of the nation's largest electric utilities.

Environmental mandates also will motivate that transition because gas produces fewer pollutants than coal, Rowe said.

Thomas Farrell, CEO of the Richmond, Va.-based utility Dominion Resources, noted that natural gas-fired power stations are cheaper and quicker to build. But, he said, the coal-to-gas transition won't happen overnight.

"It's going to take a long time to transition a fleet that was built up over 100 years," Farrell said.

Natural gas boosters also have a public image problem, said Scott Sheffield, CEO of Irving-based Pioneer Natural Resources, a large independent exploration and production company.

"We were telling Congress and the administration how great our technology was, but the technology failed in the deep-water Gulf of Mexico," Sheffield said, referring to last year's deadly oil spill.

That means the industry has a bigger challenge convincing policy-makers that the hydraulic fracturing process is sound and doesn't contaminate, Sheffield said.

The process involves injecting mixtures of water, sand and chemicals deep underground and under high pressure to break up shale rock and other tight formations to produce natural gas.

Conservationists have raised concerns about the water demands of fracturing. Environmentalists warn that natural gas can escape out of poorly designed and secured wells and that chemicals used in fracturing fluids can taint nearby water sources.

Recent New York Times reports also explored risks posed by companies disposing of radioactive wastewater from the fracturing process in rivers that supply drinking water in Pennsylvania or at sewage plants that are not capable of treating it.

"There's a risk of losing public confidence in the management of the risks of domestic energy production," said Jason Bordoff, associate director of Energy and Climate Change for the White House Counsel on Environmental Quality.

The fears are especially acute in the Northeast, where populations that haven't seen drilling rigs in decades are suddenly inundated by them, as companies rush to produce natural gas from the region's Marcellus shale formation.

"I think the bulk of that is happening in states like Pennsylvania and New York, where the amount of drilling growth is something they haven't seen before and the system is not really set up to handle the volume of activity from the public's perspective," said Stacy Schusterman, CEO of Samson Investment .

Lower-than-forecast natural gas prices have presented a problem for producers, Schusterman said.

In some shale plays with high temperatures and pressures, such as the Haynesville formation in Texas, the cost to produce natural gas may be higher than the price it can command on the market.

"There is a price below which producers won't drill," Schusterman said. But, she added, the economic calculus could change for companies that are able to produce unconventional oil and other liquid hydrocarbons along with natural gas.

Natural gas production in the Haynesville shale may not be economic on its own, she said. But "the economics can work with the liquids."