

Texas Energy Consumers Alert: A Natural Gas Shortage May Be Looming

By Alan Lammey

After nearly six years of a chronically supply-glutted U.S. natural gas market, it might be hard for some Texas energy industry business folks to believe that a shortage of the power-generation and industrial fuel might actually be on the not-so-distant horizon. However, if this situation comes to pass—it could begin later this summer or in the fall—then it's likely that natural gas prices could double. That means businesses in the Lone Star State that use sizeable quantities of natural gas need to be taking a serious look at locking in prices now.

First, a Few Facts

Although natural gas is widely seen as a cooking and heating fuel in most Texas households, natural gas has a multitude of other surprising energy and raw-material uses.

In the United States, most natural gas is burned as a fuel. In 2015, about 40 percent of the energy consumed across the nation was obtained from natural gas and was used to generate electricity, heat buildings and water, fuel vehicles, bake foods, power industrial furnaces, and even run air conditioners.

Additionally, about 14 percent of the natural gas consumed in the United States is used by commercial buildings. The application of natural gas in commercial buildings is similar to its use in residences; it is used primarily for space heating, water heating, and sometimes air conditioning. The electric power industry is the largest consumer of natural gas in the nation; about 34 percent of natural gas consumption goes toward making electricity.



Of the three fossil fuels used for electric power generation (coal, oil, natural gas), natural gas emits the least carbon dioxide per unit of energy produced. It emits 30 percent less carbon dioxide than burning oil and 45 percent less carbon dioxide than burning coal. Burning natural gas also releases lower amounts of nitrogen oxides, sulfur dioxide, particulates, and mercury when compared to coal and oil.

Many Texas Manufacturers Rely on Natural Gas

Natural gas is used in a wide variety of processes involved in the

manufacture of countless products, many of which are made right here in the Lone Star State. About 31 percent of the natural gas consumed for industrial purposes is as a raw material and a source of heat. Natural gas is used to make fertilizer, antifreeze, plastics, pharmaceuticals, and fabrics. It is also used to manufacture a wide range of chemicals such as ammonia, methanol, butane, ethane, propane, and acetic acid. Furthermore, natural gas serves as a heat source in making glass, steel, cement, bricks, ceramics, tile, paper, food products, and many other commodities. Many industrial facilities also use natural gas for incineration.

So, Why Could There Be a Possible Natural Gas Shortage?

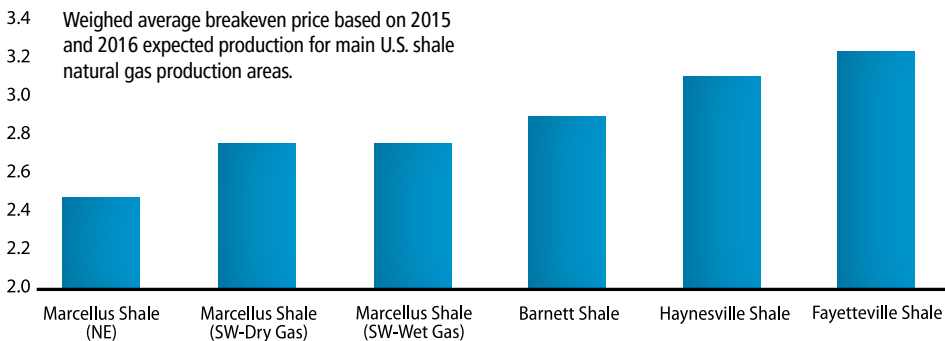
In a nutshell, natural gas prices aren't high enough to justify drilling. They haven't been for quite some time, which formed the root of the coming shortage. At the present average price

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level of \$1.80 to \$2.40 per million British thermal units (MMBtu), natural gas prices are simply too low for natural gas producers to turn a profit by drilling new natural gas wells. It should be noted that from 2001 until about 2009, natural gas prices averaged about \$7.00/MMBtu; they have steadily eroded since then. As it stands now, very few of the natural gas shale plays throughout Texas and around the United States are at breakeven pricing. It therefore makes no sense to drill shale wells today.

There Has Already Been a Massive Reduction in Drilling for Natural Gas

Observation of the present level of drilling for natural gas in the rest of the United States and Texas confirms that the amount of drilling has plummeted. In fact, just since the end of 2015, the number of natural gas rigs in operation has been slashed by 50 percent. The result of this dramatic plunge in the number of active natural gas rigs should begin showing up in



production levels later in 2016 and continue into 2017—the basis for not only a looming shortage but also a sizeable price increase.

While shale gas production and use of the fracking method to produce natural gas have produced the majority of the U.S. natural gas supply in recent years, this route does have its drawbacks. The largest of those drawbacks is the high rate at which production from shale wells declines in the well's early years. In fact, most natural gas shale wells will see their daily rates of production decline by 60 to 80 percent

in the first year. In the second year, another 30 percent decline is the norm. This production drop means that if the industry isn't continuously drilling, production is going to fall. As we know from the declining rig count, a lot less drilling is going on.

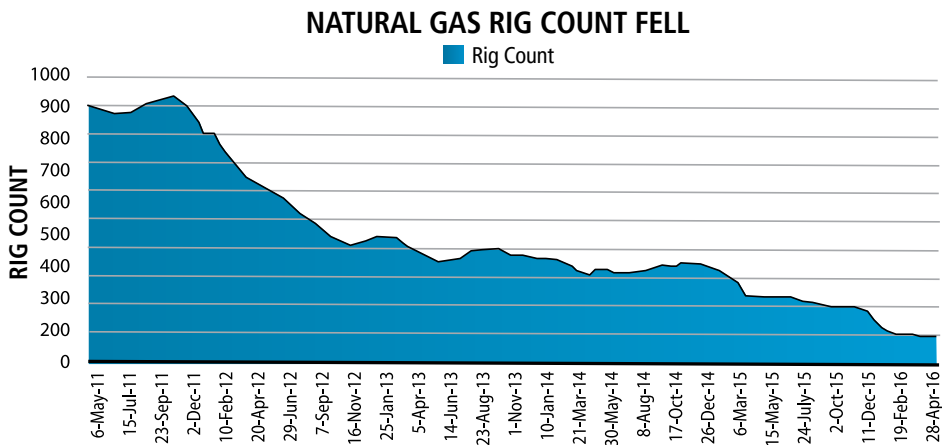
Excess Natural Gas Inventories Are Just a Blip on the Radar Screen

Many folks in the energy industry like to point to excess natural gas supply inventories as a reason that the United States will continue to remain in a supply-glutted situation.

However, excess inventories of supply are just 2 percent of annual production, which is already declining. More directly, the inventory overhang of excess natural gas does not amount to a significant portion of annual production. Should production growth stall, natural gas demand growth would eat away any excess inventory faster than most people realize. If the production of natural gas continues to fall while demand for natural gas grows (as it is now), then this situation in the market would tighten the supply-demand equilibrium at an exceedingly rapid pace. Recent U.S. Department of Energy (DOE) statistics show that natural gas production in 2016 is already starting to fall.

Stars in Alignment for a Shortage Within a Year

Taking all of the above into consideration and factoring in only “normal” weather-related demand for the United States over the course of this summer and the 2016–17 winter, it appears that



the stars are coming into alignment for a downturn in natural gas production, which should become progressively steeper as the calendar presses forward. While timing of these events is always the biggest unknown, enough solid evidence is mounting for a future upsurge in prices that Texas businesses who utilize natural gas should be taking a serious look at locking in longer-term natural gas prices now, while they’re still at historic lows. The same goes for

commercial electricity in Texas, since electricity rates are so tightly tied to the price of natural gas. **N**

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