

CLIMATE ISSUES

Let's Talk: Will the Pickens Plan Work?

An EMEPA member asked the following question in response to a Climate Change article in September's *Today in Mississippi*.

In the current issue of your newspaper, "Today in Mississippi," the continuing increases in our electric rates are attributed largely to rapidly rising fuel costs, especially for natural gas. It is stated that "the cost of fuel for a gas-fired plant has quadrupled this decade" and that "the United States will have to buy much more natural gas on the world market because we are outstripping our current available supply."

Yet the multi-billionaire oilman, T. Boone Pickens, is frequently seen on TV espousing his energy plan for the future, the key to which is using natural gas to power our vehicles instead of gasoline. He states natural gas is "affordable, abundant, domestic, clean, and American," among other positive claims. Regarding its abundance, he says the United States has "110 billion barrels in proven reserve and 170 billion more that are being processed through new technology."

I'm confused: Pickens' position is that natural gas is cheap and abundant in the U.S., but yours is that it's expensive and in short supply here. Can you enlighten me on this apparent contradiction? And while you're at it, since General Manager Henson states that "the United States desperately needs a clearly defined energy policy to insure a prosperous future," which is in agreement with Pickens' opinion, what do you think of the Pickens Plan?

We are pleased to see that you, our member, read our *Today in Mississippi* section on energy and wish to respond to your very good questions.

T. Boone Pickens has been seen frequently touting the use of natural gas and wind energy. Natural gas is an important fuel to the electric industry. It is widely used today to fuel generators. There are three distinct levels of generation that we depend upon. Base load generation is basically run 24 hours per day with only scheduled

downtime for repairs and maintenance. Coal and nuclear are the predominate fuels used in base load generation. Next is intermediate generation. This operates approximately 40 percent of the time and uses primarily natural gas and water (through hydroelectric plants) as the fuel source. Next is peaking generation which is only used 5-10 percent of the time. Natural gas is the predominate fuel used.

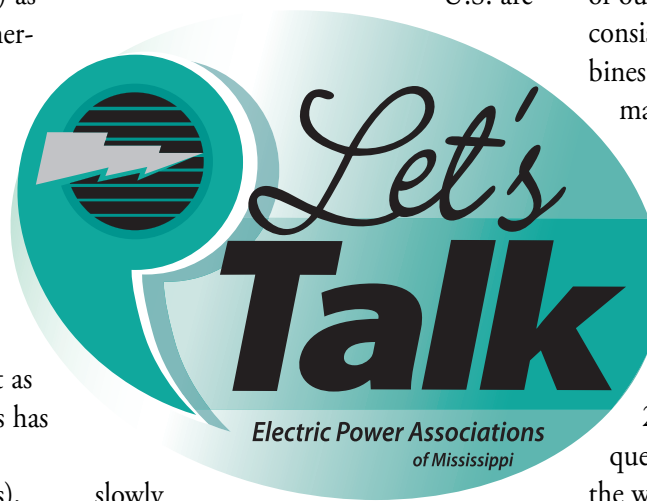
As you can imagine the cost increases as the load requirements change from base load to intermediate to peaking units. Coal and nuclear traditionally have been much cheaper than natural gas. But as these two fuels increase in price this has moved natural gas units, especially combined cycle (heat recovery units), much closer to full time operations. And the price of natural gas has spiked this summer. Hydro production has been almost non-existent due to a persistent drought throughout the Southeast.

That background causes me concern with the natural gas portion of the Pickens Plan. We are already utilizing natural gas heavily and there are varying reports about the "gas in storage" available for use. The price for natural gas was around \$12 per mm BTU earlier this summer. That was due to the limited gas in storage reported at that time. By late summer the natural gas industry reported that it had understated its gas storage by as much as 50 percent. The price per unit dropped to around \$9 after this revelation. This high volatility along with the lack of investment in new gas pipelines is a reason for concern.

According to naturalgasfacts.org, "Natural gas provides approximately a quarter of the nation's total energy supply, and according to the EIA Annual Energy Review 2006, between 1985 and 2005, natural gas consumption increased about 30 percent . . . During this same period, however, supply has

stagnated. Since 1996, domestic production of natural gas has grown at an annual rate of well below one percent. This slow increase is due to a number of factors, a primary one being that existing and producing gas fields in the

U.S. are



slowly being tapped out. In order to maintain production, domestic producers are drilling more wells and extracting gas more efficiently from existing wells."

In the early 1990s when the nation's fuel plan stressed increased use of natural gas, those of us in the electric industry were concerned. Natural gas had just been deregulated and the price was allowed to float on the open market. The price was \$2.25 per mm BTU around this time period. With no regulated price controls, we suspected the outcome would be increased pricing. But I don't think any of us expected the price to quadruple. We found our members at the mercy of commodity speculators - a very uncomfortable position.

Natural gas has been used to fuel vehicles for many years. Even at EMEPA we used natural gas powered light trucks for about 10 years. It performed quite well and could compete with gasoline as a fuel source. However, as fuel economy improved it became less attractive as a motor fuel. If we are depending more heavily upon natural gas to supply our electric generation needs, an increase in use as a motor

fuel will only tighten supply and increase price. One fuel will not solve all our energy problems. It seems there needs to be a different solution.

The wind power portion of Mr. Pickens' energy plan has merit. In areas of our country where the wind blows consistently enough to power wind turbines, we support building those machines. That part of the country is usually in Texas and the Midwest.

The problem with wind is that it will not operate stand alone. It must be synced with a stable commercial power source to work. And the wind doesn't blow consistently. On February 26, 2008, Texas experienced a "frequency excursion" which means when the wind stopped there was not enough traditional generation operating to support the existing load. When wind is used, it must be backed up by other generation sources.

There are also environmental issues with wind generators, such as killing migrant birds. If you have been through northwest Texas, you may have seen the array of windmills on the horizon. It is not exactly attractive.

The use of wind power is also complicated by the fact that high voltage transmission systems are not designed for integration of power from remote locations. These systems were developed to serve the regional needs of consumers at best. Interconnections were an afterthought and have only recently been integrated into the transmission grid. This aging grid needs considerable investment to function as a long distance power corridor.

I appreciate questions from our members. The more we discuss and debate these issues, the more we understand and can help form more constructive ideas to solve these very complex issues.

*H. Wayne Henson, General Manager
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