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Assessing the Marcellus Well Impact Fee

Recently, Governor Corbett signed the long awaited bill that imposes fees on Marcellus gas wells. The legislation, known as Act 13, gives counties where unconventional (horizontal) gas wells have been drilled into the Marcellus Shale formation the right to impose an impact fee on such wells. There are many issues surrounding the new fee. This *Brief* will address three of the most important; namely, the schedule of the new fees per well, what effects on drilling and gas production the fee might have, and how the revenue will be distributed.

There has been a long running debate over whether or not to impose a tax on this emerging industry. The debate has grown louder as drilling into the Marcellus Shale formation has picked up in intensity over the last two years. As we noted in a 2011 report (*Allegheny Institute Report 11-05*) this new industry has had a sizeable economic impact on the state, particularly in the form of the rents and royalties being paid to landowners with wells on their properties. We also found significant direct impact on jobs in the mining and logging sector as well as indirectly in manufacturing, leisure and hospitality, and other sectors.

As mentioned above the governing body of a county has the option to impose a fee on unconventional wells within its borders. If a county does not enact the fee, it can be overridden by their municipalities if half of them agree (or if they represent half of the county's population) to do so. The fee will be imposed on all unconventional wells regardless of when they were drilled. For any well drilled before January 1, 2012, and approximately 4,200 were drilled from 2007 through the end of 2011 across 38 counties, the drilled year is considered to be 2011.

The impact fee will be imposed on wells with output beyond 90,000 cubic feet per day and will be graduated based on the average annual price of natural gas. The Act defines this as "the arithmetic mean of the New York Mercantile Exchange (NYMEX) settled price for the near-month contract, as reported by the Wall Street Journal for the last trading day of each month of a calendar year for the 12-month period ending December 31." In 2011 the mean was $4.08. Based on the fee schedule below, each qualified well would have an impact fee of $50,000 for 2011 (payable by September 2012.)

Price Range	Year 1	Year 2	Year 3	Year 4-10	Year 11-15
Not More than $2.25	$ 40,000	$ 30,000	$ 25,000	$ 10,000	$ 5,000
Greater than $2.25 and less than $3.00	$ 45,000	$ 35,000	$ 30,000	$ 15,000	$ 5,000
Greater than $2.99 and less than $5.00	$ 50,000	$ 40,000	$ 30,000	$ 20,000	$ 10,000
Greater than $4.99 and less than $6.00	$ 55,000	$ 45,000	$ 40,000	$ 20,000	$ 10,000
Greater than $5.99	$ 60,000	$ 55,000	$ 50,000	$ 20,000	$ 10,000

In the future, the fee will be adjusted for the cost of living. If a well stops producing or produces less than 90,000 cubic feet per day, the fee is suspended. For a conventional vertical well removing gas from the Marcellus formation the fee is 20 percent of the structure in the table.

The revenue from the impact fee will be collected by the Commonwealth and divided among the counties that have Marcellus Shale wells, their municipalities and a number of state agencies. State agencies including the Fish and Boat Commission, the Pennsylvania Utility Commission, and the Department of Environmental Protection as well as county conservation districts will receive set amounts totaling $23 million each year.

After the state agency money is allocated, 60 percent of the rest will go to counties and municipalities in which unconventional wells are located. Out of this allotment, 36 percent goes to counties, 37 percent to the municipalities hosting these wells and the remaining 27 percent to municipalities who do not have wells but are in a county where an unconventional well is located. Each county and or municipality receives an amount based on a formula which takes into account the percentage of wells in each divided by the number (currently 4,174) of total unconventional wells across the Commonwealth—assuming all producing counties impose the fee. In that case, Washington County (and its municipalities) which has 350 of these wells, will receive significantly more than Allegheny County (and its municipalities) with its four wells; 8.5 percent or $9.5 million of the available $112.2 million (60 percent of $187 million) in fee revenue compared to Allegheny County's 0.1 percent or $112,200.

Cleary, gas production and new drilling activity will depend greatly on gas prices and recently the price trend has been decisively downward. In 2008, the average monthly price for the near-month contract was $8.90 per 1000 cubic feet (Mcf) which had fallen by 55 percent to $4.03 in 2011. By December 2011, the monthly average had dropped to $3.25 per Mcf and in January 2012 fell even further to $2.71.

The declining gas price has already prompted some drillers to scale back drilling plans—and that was before the impact fee legislation was enacted. Four energy companies announced in January they were holding off drilling new wells as a result of the price decline. Furthermore, the reduction in price has turned some profitable wells into unprofitable ones. One company noted that an unconventional well becomes unprofitable when the trading price falls to $2.74. All else equal, it is possible that the reduction of after tax revenue resulting from the impact fee per well will drive more companies to change drilling plans and maybe even shut down some low producing wells. If the price remains low in the years ahead, the impact fee imposed will be lowered somewhat, dampening to a small degree the fee's impact on gas well profitably. Nonetheless, with a falling gas price, the net effect of the fee (if widely implemented by producing counties) will place some additional pressure on companies to postpone drilling or at some point shut down wells—particularly very low volume wells.

If all the approximately 4,200 wells drilled in the Marcellus Shale from 2007-2011 are required to pay $50,000 per well (i.e., all 38 producing counties impose the fee), the Commonwealth and its producing counties and their municipalities stand to reap about $210 million for Year 1 of the tax. Keep in mind that the fee structure outlined in the table above gradually decreases the impact fee that the current 4,200 wells must pay each year. For Year 2 the impact fee will fall to $40,000 per existing well (holding the price range constant). Thus, if all 4,200 wells remain active and meet the threshold of 90,000 cubic feet, Year 2 revenue will fall to $168 million—a decrease of 20 percent over the Year 1 amount of $210 million. Once again the state takes $23 million off the top leaving $145 million to be split 60/40 with the counties (and their municipalities) and other state agencies. Washington and Allegheny Counties will be able to get only 8.5 percent and 0.1 percent respectively of $87 million. Therefore in the second year the amount collected from the impact fee will fall. Thus, the amount available to the counties and municipalities will fall, and will continue to do so in each successive year until year four after which the impact fee stabilizes at $20,000 through year ten before falling again to $10,000 in years eleven through fifteen.

This illustrative scenario has assumed that no new wells are drilled and that those already drilled are productive enough to pay the impact fee in subsequent years. That is not likely to be the case. Although the impact fee, and to a greater extent the falling price of natural gas, may discourage some new drilling, the number of wells should continue to rise across the Commonwealth. But in order to maintain the same level of revenue, a substantial number of new wells will have to be drilled each year to offset the declining fee revenue on existing wells—new wells in 2012 will pay a $50,000 fee (their Year 1) which will then decline in subsequent years; ditto for new wells drilled in 2013 and so on.

For example, in 2012 an additional 840 net new wells (enough new to replace those taken out of service for whatever reason) will be needed to keep revenue at $210 million; in 2013, 1,020 net new wells and 1,200 in 2014. Whether those numbers are reached or exceeded will depend largely on the price of gas. All told, the number of active wells would have to rise to over 7,000. Again the assumption is that all wells drilled remain productive enough to pay the scheduled impact fee and the price of natural gas remains high enough to support net new producing wells. Only if the near 75 percent increase in wells happens will the original impact fee revenue of $210 million be sustained.

According to the recent production reports for 2011, Commonwealth producers removed 1.05 billion Mcf of gas from the Marcellus Shale formation. With approximately 4,200 active wells the average annual output is roughly 250,200 Mcf per well. At a market price of $4.08 per Mcf, the average well generated about $1.02 million. Dividing the impact fee of $50,000 per well by the average per well revenue places the effective tax rate at just under 5 percent of revenue. As market price falls, the effective tax rate will rise if production levels remain constant. And with gas price falling, an overall increase in production seems unlikely, making it more probable that low volume wells would be closed to avoid the impact fee and thereby allow higher production at still active, more profitable wells. Obviously, given the wide range of production volumes of active wells, the effective tax rate for specific wells will vary widely.

In the Pittsburgh area, Washington County has the most activity. In 2011, there were 350 wells producing 113.9 million Mcf for a per well average of 325,498 Mcf. At the 2011 price of $4.08 the average well earned $1.33 million. The per well fee of $50,000 amounts to a tax rate of 3.8 percent of revenue. Obviously, the greater the production by a well, the lower the effective tax rate on that well's revenue and vice versa. Low producing wells would likely be shut down and not subject to an impact fee in subsequent years.

As mentioned above the Marcellus gas producing counties (and municipalities) have the option of enacting this fee. But doing so may actually cause them to lose money. There are news accounts of drilling companies supporting community programs and paying to repair infrastructure. If a county were to impose this fee, the voluntary payments could stop as the drillers view the impact fee as an alternative to the community investments they were previously making. And with the state taking money right off the top and 40 percent of the remainder, the county and its municipalities will get back far less than the dollars collected in impact fees. For example with 350 wells the impact fee revenue for 2011 would be $17.5 million in Washington County. If Washington were the only county imposing this fee they would get nothing in return because, as mentioned above, the Commonwealth takes the first $23 million for its own agencies.

Thus, there is little incentive to be the first, or only, county to impose the fee. Unless all the large Marcellus gas producing counties can agree simultaneously to levy the tax, the probability of any single county imposing the fee seems quite low.

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