ALLEGHENY INSTITUTE FOR PUBLIC POLICY

July 13, 2016 **Policy Brief: Volume 16, Number 30**

Shale Gas Impact Fee Collections Dip Sharply

Act 13 of 2012 imposed an impact fee on any company drilling an unconventional well into the state's shale formations. The Act set up a graduated fee schedule based on the age of the well and the market price of natural gas (see *Policy Brief, Volume 12, Number 11*). For 2015, the impact fee revenue for 7,878 unconventional wells came in at $187.7 million. The 2015 amount represents the lowest of the five annual collections with the peak occurring in 2013 ($225.8 million). Through five years of collections the impact fee has brought in a total of more than $1 billion.

The falling price of natural gas nationally in 2015 curbed drilling activity within the state which in turn lowered the impact fee payments. For the first year of Act 13 payments (first received in 2012 but based on 2011 activity) there were 4,333 wells subjected to the fee. This represented all wells "spud" in 2011 and all years prior. Act 13 defines "spud" to be "the actual start of drilling of an unconventional gas well." The following table shows the data associated with the impact fee since 2012.

	2011	2012	2013	2014	2015
Number of eligible wells (horizontal and vertical)	4,333	5,608	6,550	7,360	7,878
Percent Change from previous year	--	29.4	16.8	12.4	7.0
Wells Spud	1,956	1,351	1,218	1,371	785
Percent Change from previous year	22.3	-30.9	-9.8	12.6	-42.7
PUC average price of natural gas for that year	$3.00	$2.78	$3.65	$4.42	$2.66
Impact Fee Collection (millions)	$204.2	$202.5	$225.8	$223.5	$187.7

The number of wells eligible for the impact fee assessment, which includes both horizontal as well as vertical wells[1] drilled into the shale formations, has been increasing since 2011, albeit at a decreasing rate. The well count in 2012 was nearly 30 percent higher than in 2011. However, in the years following well count increases fell every year rising only 17 percent in 2013, twelve percent in 2014 and only seven percent in 2015.

Note that Act 13 specifies that as soon as a well is spud it becomes subject to the impact fee. If a well is subsequently capped, or fails to produce more than 90,000 cubic feet per

[1] An unconventional vertical well pays only 20 percent of the fee established for unconventional horizontal wells.

day, then it is no longer an eligible well and payments cease. Wells also pay lower impact fees as they age because the fee schedule gradually reduces the amount owed for older presumably less productive wells. All wells counted in 2011 (4,333) began the first year and they will age out after their fifteenth year of production (2026). Thus as existing wells age and fewer new wells are spud, the downward pressure on revenue from the impact fee will continue.

While 2007 represents the first year for unconventional wells being spud, the peak number spud occurred in 2011 (1,956). Since then activity has cooled off, falling thirty one percent in 2012 and then another ten percent in 2013 before a modest rebound in 2014 of thirteen percent. In 2015 only 785 new wells were spud, the lowest total since the second year of drilling in 2008 (332) and nearly 43 percent lower than the count in 2014. This is largely the result of the precipitous fall in the price of natural gas from the 2014 reading.

As specified in Act 13, the price of natural gas to be used in setting the impact fee is the average annual price of natural gas. This is to be "the arithmetic mean of the New York Mercantile Exchange (NYMEX) settled price for…the last trading day of each month of a calendar year…" The table shows that average price as published by the Pennsylvania Public Utility Commission for each year. Owing to supply- demand imbalances the lowest price since the fee was levied occurred in 2015 ($2.66) resulting in a serious dampening of drilling activity last year. The 21 percent rise in price from 2013 to 2014 provides an explanation for the uptick in wells spud in 2014. Thus far through the end of May 2016, the price of natural gas is running about 28 percent lower than through May 2015 ($1.978 vs. $2.732). This points to even fewer wells being spud in 2016 and even lower impact fee collections. (Data on wells spud for 2016 are not yet available.)

The snowball effect created by falling natural gas prices doesn't just stop with spud activity being curtailed. It also has had a negative effect on jobs in this industry. Looking at the industry subsector mining (under the supersector mining and logging, but excluding coal mining) for the Commonwealth gives an approximation on how the total number of employees changed statewide. In 2007 the average monthly count of payroll employees in the mining subsector stood at 13,000. By 2012, the monthly average had more than doubled to 27,700. It remained steady in 2013 (27,300) before increasing another nine percent to 29,700 in 2014. However, as the price of gas fell in 2015, so did the number of jobs in this industry subsector as the average monthly total slipped by nearly ten percent to 26,800. In 2016 the monthly average employment level through May has plummeted even further to 20,700—the lowest level since 2010 (18,200). Slower drilling activity has a ripple effect backwards and forwards through the industry supply chain and undoubtedly has caused job reductions in related sectors as well in industries such as manufacturing, construction, and leisure and hospitality.

The advent of drilling into the deep shale formations beneath the Commonwealth has provided a significant boost for the state. Moreover, the impact fee from Act 13 has delivered more than $1 billion to various entities throughout Pennsylvania. State agencies including the Fish and Boat Commission and the Department of Transportation have shared $82.5 million since the first installment. Counties and municipalities, including those that have no shale drilling, have split more than half of the proceeds of the impact fee ($564.7 million). Act 13 also set up the Marcellus Shale legacy fund which has distributed another $376.4 million to, among others, the rehabilitation of greenways, water and sewer projects, and an environmental stewardship fund.

But shale drilling may be a victim of its' own success. The boom in the first few years contributed to a glut in the supply of natural gas that has subsequently depressed its market price. The price drop has caused a decrease in drilling activity which has led to a decrease in employment in this sector as well as a downturn in the amount collected by the impact fee. This just serves to point out the dangers of having the economy relying too heavily on an industry that is susceptible to volatile price swings. Pennsylvania legislators need to keep this in mind as they continue to contemplate whether or not to impose more taxes on such an economically volatile commodity to stabilize the state's budget.

Frank Gamrat, Ph.D., Sr. Research Assoc. **Jake Haulk, Ph.D., President**

Allegheny Institute for Public Policy
305 Mt. Lebanon Blvd.* Suite 208* Pittsburgh PA 15234
Phone (412) 440-0079 * Fax (412) 440-0085
E-mail: aipp@alleghenyinstitute.org