

MARCELLUS EDUCATION FACT SHEET



Marcellus Shale Gas Development and Pennsylvania School Districts: What Are the Implications for School Expenditures and Tax Revenues?

Introduction

In 2005, when the first gas wells were drilled into the Marcellus shale in Pennsylvania, very few people across the state were aware of the existence of Marcellus shale, let alone its economic development potential and the significant impacts for people and communities across much of the Commonwealth. By early 2012, however, almost 5,000 wells had been drilled into Pennsylvania's Marcellus shale layer. With estimates of 60,000 or more Marcellus gas wells projected in the coming decades, new economic studies began to suggest significant employment and income gains, and Governor Tom Corbett declared his intent to make Pennsylvania "the Texas of the natural gas boom."¹ The Marcellus shale gas development has been heralded by many as an unprecedented economic opportunity for Pennsylvania, especially since much of the drilling activity in the state has been located in economically lagging and often rural areas with, until recently, relatively few employment opportunities.

These developments raise many questions, including what the growing Marcellus industry means for school districts. Pennsylvania school districts rely heavily on local funding to support their operations. According to Pennsylvania

Department of Education (PDE) data, in 2009–2010 Pennsylvania schools drew 56 percent of their revenues from local sources—the eighth highest rate among all 50 states.² The poorest school districts in Pennsylvania are also far more likely to experience drilling activity associated with Marcellus natural gas. For example, only one of the 50 wealthiest school districts had a single Marcellus well by the middle of 2010.³ However, during the same time period, 18 of the poorest 50 school districts had experienced Marcellus drilling, accounting for a total of 364 wells. At the same time, the Marcellus shale gas industry may result in extra and perhaps unanticipated costs and challenges for school districts, including new traffic congestion and road conditions that disrupt bus schedules, changes in student populations, and tightened housing markets.⁴

To what extent does new economic activity associated with Marcellus shale gas extraction extend to benefits for Pennsylvania schools? What are the current tax regulations in Pennsylvania pertaining to school districts, and what evidence is there to suggest economic impacts for school districts? What evidence exists to suggest that increased costs to school districts are associated with Marcellus



development? In examining these questions in this fact sheet we take a particular look at Act 1 of Special Session 2005–2006 and the implications this legislation may have for augmenting school revenues.

School District Taxes and the Marcellus Shale: Limited Benefits to Schools

School districts in Pennsylvania are authorized to levy and collect revenues from a variety of taxes. The two most important taxes are the real estate tax followed by the earned income tax. Together they account for 98 percent of total school district tax revenues. Real estate tax is the property tax levied on the assessed value of land and improvements within the district's boundaries. The Pennsylvania courts have ruled that oil and gas reserves are exempt from property taxes, so this potential source is unavailable to school districts. Local earned income tax, by contrast, is levied on the wages and salaries of residents only. Since many of those employed in Marcellus shale activities are in the district on a limited and tempo-

rary basis, their wages are not subject to the earned income tax. However, to the extent that local residents are employed by the Marcellus shale industry, school districts will see an increase in their earned income tax revenues. Further, the royalties and lease payments received by district residents are classified as unearned income and are not taxable by school districts. Because of this, the potential for school districts to collect much Marcellus shale-related tax revenues from these two primary sources is limited at best (Table 1).

Another issue for school districts is the difference between the earned income tax, levied by school districts, and the personal income tax, levied by the state. The difference between the two is unearned income, which includes dividends, interest, rents, and royalties. First, as indicated above, districts can tax only earned income, which restricts them from receiving tax revenues from the significant lease and royalty dollars received by local residents. However, the personal income of the district is part of the wealth measure

used by the state to distribute state aid. The poorer the district, the greater the aid the state gives the district to partially adjust for local wealth differentials between districts. Consequently, the increased unearned income of a district's residents from Marcellus shale activities contributes toward increasing the measured wealth of the district and results in potentially less state aid to the district, even though in actuality this new wealth will not increase the district's local tax collections.

Table 2 shows the average percent change in a variety of school district tax revenues between the 2007–2008 and 2009–2010 academic years, subclassifying school districts according to the number of Marcellus gas wells drilled within each district. With the exception of the real estate transfer tax and total local revenue, the data suggest no clear pattern of a relationship between Marcellus gas drilling activity and changes in school district tax revenue. The real estate transfer tax is paid by purchasers when they buy real estate, so total collections reflect the amount of real property sales in the district and the value of those sales. More sales or higher prices will increase the tax collections. Districts with no drilling saw an average 24.1 percent reduction in real estate transfer tax revenues, reflecting the national slump in housing, while the districts with the highest drilling activity on average experienced no change in such revenues. Total local revenues include all local taxes and fees. Districts with no Marcellus drilling on average experienced no change in total local revenue between 2007–2008 and 2009–2010. In contrast, districts with drilling on average experienced declines in total local revenues, with the average varying across different levels of drilling. This is a counterintuitive result for those anticipating economic benefits to schools from Marcellus shale activities.

Table 1. Property tax, earned income tax, and school tax revenue potentials.

| | <i>Type of Tax</i> | |
|---|---|--|
| | <i>Property Tax</i> | <i>Earned Income Tax</i> |
| Percent of School District Tax Revenues | 89% | 9% |
| Tax Base | Assessed value of property | Wages, salaries, commissions, net profits |
| Application | Non-tax exempt property in district | Residents only |
| Opportunity for Tax Revenue from Marcellus Activity | Slight: Gas reserves are tax exempt; related land development will increase taxes | Slight: Many gas workers are not state residents; royalties and lease payments are exempt from earned income tax |

Sources: Pennsylvania Department of Education data; Governor's Center for Local Government Services, *Taxation Manual* (2004).

Table 2. Average change in school district finances by level of Marcellus drilling activity, 2007–2008 to 2009–2010 (Number of Wells).

| <i>Tax Revenues</i> | <i>Amount of Marcellus Shale Drilling Activity (Number of Districts)</i> | | | |
|--------------------------|--|-------------------|--------------------|------------------|
| | <i>0 Wells</i> | <i>1–10 Wells</i> | <i>11–39 Wells</i> | <i>40+ Wells</i> |
| Earned Income Tax | 1.6% (364) | 1.7% (66) | 2.3% (23) | 0.4% (9) |
| Per Capita Tax | -5.2% (214) | -2.3% (50) | -6.7% (13) | -11.4% (6) |
| Real Estate Transfer Tax | -24.1% (387) | -12.2% (69) | -16.4% (23) | 0% (8) |
| Real Estate Tax | 0.5% (398) | -1.7% (69) | -4.1% (23) | -1.0% (9) |
| Total Local Revenue | 0% (398) | -0.6% (69) | -4.5% (23) | -0.9% (9) |

Source: Pennsylvania Department of Education data.

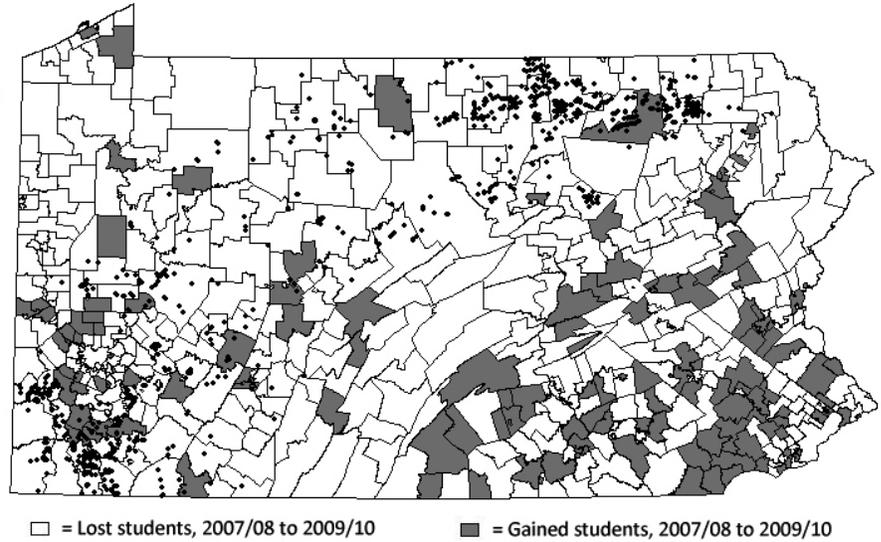
School District Costs and the Marcellus Shale

The overall impact of Marcellus shale development on school district finances depends on the impact on revenues and on costs, not just one or the other. Pennsylvania Department of Education data provide information about all districts and allow comparisons between districts with and without drilling. We look at two indices here: student enrollment and spending on special education.

Pennsylvania Department of Education data in Table 3 show that between 2007–2008 and 2009–2010, districts with more drilling activity on average lost a somewhat larger percentage of students than did districts with less activity or no drilling. There was wide variation among districts within comparable drilling levels, so the experience of an individual district may be somewhat different from these averages. But the trend holds fairly consistent across districts; only one of the nine districts with 40 or more wells had an increase of students between these years (Wyalusing Area School District in Bradford County, with an increase of 1.16 percent), and none of the 23 districts with between 11 and 39 wells experienced an increase of students during these years. These data are also represented in the school district map (Figure 1), which shows drilling activity through the end of the 2009–2010 academic year and those districts that experienced net enrollment gains over the preceding two years.

The Pennsylvania Department of Education data indicate that on average Special Education spending increased across all districts between 2007–2008 and 2009–2010. However, those increases were actually less in counties with Marcellus

Figure 1. Marcellus drilling activity and changes in student enrollment in school districts through the end of the 2009–2010 academic year.



shale drilling than in districts without such drilling. As with the student enrollment, there was significant variation among districts. Two of the nine districts with 40 or wells experienced a decrease in Special Education spending, for example, while Wyalusing Area had a 39 percent increase.

These data suggest that, at least so far, the often stated concern about Marcellus shale gas development increasing student enrollment is not occurring, and in fact, development may be associated with slightly faster declines in student enrollments. Similarly, Special Education spending does not, in most cases, appear to be positively associated with Marcellus drilling activity. The negative association between enrollment size and drilling activity may be due to the exodus out of the districts of lower income and renting households who are leaving because they cannot afford the higher rents and costs of living those communities are experiencing coupled with the influx of workers arriving without families.⁵

Act 1: An Alternative Local Tax Option?

Act 1 of Special Session 2005–2006 created a local tax option for school districts that perhaps unintentionally gives schools the possibility to capture at least some of the new income being generated by Marcellus shale development. Act 1 allows school districts the option to replace the earned income tax with a personal income tax through a referendum passed by the local voters. If a district chooses to switch to the personal income tax (PIT), they must adjust the PIT rate downward so the change is revenue neutral (i.e., not creating a windfall to the district). In later years after adoption of the higher local PIT rate, the school district must devote the same amount of income tax money to property tax reduction, but it may use any natural growth in this tax for other purposes.

Important differences between the earned income tax and the personal income tax affect how people view their fairness. The earned income tax is levied on residents' earned income (such as wages, salaries, or other reimbursements for work). It exempts unearned income, such as interest, dividends, pensions, Social Security, and leasing and royalty income from gas development.

The PIT option under Act 1 is identical to the Pennsylvania state income tax and includes unearned income, including leasing and

Table 3. Average change in school district, by level of Marcellus drilling activity, 2007–2008 to 2009–2010 (Number of Districts).

| Other | Amount of Marcellus Shale Drilling Activity | | | |
|---|---|-------------|-------------|------------|
| | 0 Wells | 1–10 Wells | 11–39 Wells | 40+ Wells |
| Student Enrollment (Average Daily Membership) | -1% (398) | -3% (69) | -4% (23) | -4% (9) |
| Special Education Spending | 14% (398) | 13% (69) | 9% (23) | 10% (9) |

royalty dollars that mineral rights owners are receiving from Marcellus shale activity. Importantly, both the earned income tax and personal income tax exempt Social Security and pension income from taxation.

Shifting from the earned income tax to the personal income tax would widen the district's local tax base to more accurately reflect the income of residents, particularly for those receiving leasing and royalty income. Some would argue that such a change would make the local income tax fairer because it would more accurately reflect ability to pay, which is a common criterion for tax fairness. Because lease and royalty income is exempt from the earned income tax, landowners receiving large amounts of such income due to Marcellus shale development may have much higher income than their neighbors yet pay lower local income tax bills simply because the sources of income are different.

Statewide, the average reduction in the local income tax rate if districts shifted from an earned income tax to a personal income tax would be 7.8 percent, but the possible tax rate reduction varies tremendously across school districts—from 33 percent in the Montrose Area School District to only 1.7 percent in the Chester Upland School District. School districts with significant Marcellus shale drilling activity on average would be able to reduce their local income tax rates much more than districts without any drilling. For example, as Table 4 shows, districts with 40 or more Marcellus wells within their boundaries on average could have reduced their income tax rate by 16.7 percent in 2009.

Districts need to be aware that the stream of income from leasing

and royalties will not be steady over the years, even though some estimate that shale gas wells will be producing for 30 or more years. Due to the natural productivity of shale wells, a majority of the total value of the well is produced within the first few years of the well. This means mineral rights owners will be receiving the majority of their royalties within those first few years, so personal income tax collections will be highest when wells are being drilled.

Dollars the District May Receive on Its Own Land

Districts considering leasing land should work very closely with their solicitor and carefully consider the ramifications of such a decision. Gas development is a source of conflict in many Pennsylvania communities, with residents divided between those “for” and those “against” drilling. In this context, decisions about whether to lease can be very political and potentially controversial, so such decisions should not be taken lightly. If a district decides to lease, it should consider adding additional riders to the lease, such as a “no surface access” clause that allows the gas company to develop the resource underground without physically coming onto the school's property. Such a restriction means any wells, access roads, or pipelines associated with the gas under the school's property will occur on nearby leased properties rather than on the district's land.

If a district chooses to lease its land for natural gas development, it is important for school officials to carefully consider how leasing and royalty income will be used. It may be tempting to use the funds

to cover current operating expenses, reducing taxes in the short run. But the dollars result from the sale of a capital asset, so they should be used for capital expenditures that benefit more than just current residents; the gas being sold is also owned by future generations of residents, who also should benefit from the sale. Good fiscal management suggests viewing these dollars as a way to invest in the future of the district, building infrastructure or purchasing land and other assets that benefit current and future residents. In other words, districts will plan strategically when they determine ways to use the windfall gains to improve the school district—and community—for the long run, not just for the time when the gas is flowing.

Conclusions

The current structure of school funding in Pennsylvania means that in most instances schools will likely not see significant economic benefits as a result of local activity associated with the Marcellus shale natural gas industry. The data we examine here also appear to support this conclusion. The most recent legislation regarding drilling impact fees will also have no effect on school districts as none of these revenues are earmarked for schools. While Act 1 of 2006 provides an option for districts to capture some of the economic benefits, as does leasing of their own land, both options require very careful consideration by districts.

While shale gas development in areas with high drilling activity has not, in most instances, appeared to be associated with enrollment spikes or increased special education funding, it is not clear what other unanticipated costs districts may experience, such as increases in transportation expenses and new challenges in recruiting and retaining staff in the face of rising local housing costs. These are important questions that will deserve close attention over time.

Table 4. Average reduction in local tax rate if switch from earned income tax to personal income tax, 2009.

| <i>Drilling Activity in the School District</i> | <i>Average Percent Reduction in Tax Rate</i> | <i>Number of Districts</i> |
|---|--|----------------------------|
| No wells | 7.4% | 398 |
| 1–10 wells | 8.8% | 69 |
| 11–39 wells | 8.7% | 23 |
| 40 or more wells | 16.7% | 9 |
| All districts | 7.8% | 499 |

Source: Pennsylvania Department of Education data; Pennsylvania Department of Environmental Protection SPUD data.

Notes

1. Estimates from N. Johnson, *Report 1: Marcellus Shale Natural Gas and Wind—Pennsylvania Energy Impacts Assessment* (Arlington, Va.: The Nature Conservancy, 2010). Quotation from T. Corbett, “Governor Tom Corbett 2011–12 Budget Address,” March 8 (Harrisburg, Pa.: Office of the Governor, 2011).
2. U.S. Census Bureau, *Public Education Finances: 2009* (Washington, D.C.: U.S. Census Bureau, 2011), Table 5.
3. As measured by Pennsylvania Department of Education school district aid ratio calculations from 2005 to 2006, prior to the onset of drilling in the Marcellus shale.
4. K. Schafft, L. Glenna, Y. Borlu, and B. Green, *Marcellus Education Fact Sheet: Marcellus Shale Gas Development—What Does It Mean for Pennsylvania Schools?* (University Park: Penn State Extension, 2012).
5. *Ibid.*; J. Williamson and B. Kolb, *Marcellus Natural Gas Development’s Effects on Housing in Pennsylvania* (Williamsport, Pa.: Center for the Study of Community and the Economy, 2011).

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