

Impact Fee Revenue Update and Outlook



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Pennsylvania imposes an annual impact fee on unconventional natural gas wells that were drilled or operating in the previous calendar year. The fee is administered by the Pennsylvania Public Utility Commission (PUC), and proceeds are distributed to local governments and state agencies for infrastructure, emergency services, environmental initiatives and other programs. Local governments receive funds based on the number of wells located within their boundaries or their proximity to jurisdictions where natural gas extraction took place. Distributions for the last four calendar years are shown in **Table 1**.

The annual impact fee for an unconventional natural gas well is determined according to a bracketed schedule, based on the number of years since a well became subject to the impact fee (operating year), the type of well (horizontal or vertical) and the price of natural gas. Horizontal wells in operating years four or greater that produce less than 90 Mcf (thousand cubic feet) per day are exempt (stripper wells). Plugged horizontal wells are exempt after remitting the fee in the first year. Vertical wells that produce less than 90 Mcf per day are exempt from the fee in any operating year.

Table 1: Impact Fee Revenue and Distributions

	2020	2021	2022	2023
Total Revenues	\$146.3	\$234.4	\$278.9	\$179.6
Counties, Municipalities and HARE Fund	76.5	129.0	155.5	95.7
Marcellus Legacy Fund	51.0	86.0	103.6	63.8
Commonwealth Agencies	10.5	10.5	10.5	10.5
Conservation Districts/Commission	8.2	8.9	9.3	9.7

Note: Dollar amounts in millions. Fees are remitted in the following April and distributed in July.
Source: Pennsylvania Public Utility Commission.

This report (1) analyzes calendar year (CY) 2023 impact fee collections (remitted in April 2024) reported by the PUC, (2) details the number of wells and fee schedule by operating year and (3) projects collections for CY 2024. It also translates the impact fee into an annual average effective tax rate (ETR) based on natural gas price and production data. The ETR quantifies the implicit tax burden imposed by the impact fee in a given year.

2023 Impact Fee Revenues

For CY 2023, the PUC reported impact fee revenues of \$179.6 million, \$99.2 million less than the prior year. **Table 2** (next page) details the well count, fee schedule and actual collections by operating year. The primary reasons for the decrease in collections are as follows:

- **Lower Fee Schedule.** The average annual price of natural gas on the New York Mercantile Exchange (NYMEX) for CY 2023 was \$2.74 per MMBtu, a decrease of \$3.91 (-59%) from the prior year. Due to the lower fee schedule, most wells paid a fee that was 25% to 40% lower than it would have been had the price not declined. For example, a well in its first operating year paid a fee of \$51,800 for CY 2023 compared to a fee of \$69,100 for the prior year. Estimated impact: **-\$85.9 million**.
- **New and Existing Wells.** The net impact of (1) collections from new wells drilled and (2) reduced collections from aging wells that pay lower fees. Collections from new wells did not offset the impact of aging wells that pay lower fees. There were fewer new wells drilled in CY 2023 than any year since the initial levy of the fee (2011). Estimated impact: **-\$13.3 million**.

Table 2: Well Count and Estimated Collections for 2023

Operating Year ¹	Wells Subject to Fee		Fee Amount		Collections (\$ millions)
	Horizontal	Vertical	Horizontal	Vertical	
1	423	1	\$51,800	\$10,400	\$21.9
2	576	0	40,200	8,000	23.2
3	515	0	34,500	6,900	17.8
4-10	5,043	10	17,200	3,400	86.8
11+	<u>5,262</u>	<u>0</u>	5,600	1,100	<u>29.5</u>
Subtotal	11,819	11			179.1
Adjustments ²	-48	-2			0.5
Total	11,771	9			179.6

Notes:

1 Operating year refers to the number of years a well has been subject to the impact fee. Horizontal wells are subject to the fee for the first three years after being spud (unless they are plugged).

2 Includes the net impact of (1) producers who did not remit payment on time for 2024 disbursement and (2) late payments from prior years.

Source: Pennsylvania Public Utility Commission.

Effective Tax Rate

The impact fee does not directly respond to the price of natural gas or the volume of production, and it does not provide a measure of tax burden relative to natural gas sales.¹ This report computes an annual average effective tax rate (ETR) for all wells in operation during the year. The ETR is equal to annual impact fee revenues divided by the total market value of unconventional natural gas production valued at the wellhead. The market value is equal to the product of (1) the annual average regional hub price of natural gas net of post-production costs and (2) total production from all unconventional wells.

The ETR computation for CY 2023 uses these data:

- Annual production of 7.5 trillion cubic feet. This figure is based on statewide well production data published by the Department of Environmental Protection (DEP).
- An annual average hub price of \$1.73 per Mcf, prior to the deduction of post-production costs. This price is a weighted average of spot prices at the Dominion South and Leidy trading hubs, converted to dollars per thousand cubic feet.²
- Post-production costs of \$0.80 per Mcf. This amount reflects costs for gathering, processing and transporting gas to markets. Such costs are deducted to approximate the value of gas at the wellhead, the point at which other states levy severance taxes.³

The annual ETR fluctuates based on the movement of its three components: fee revenues, production and price. As shown in **Table 3** (next page), the ETR increased significantly from CY 2019 to CY 2020. This was entirely attributable to the substantial year-over-year reduction in the market value of natural gas (-52%), which more than offset the decrease in collections (-27%). The decline in market value was driven by a 54% reduction in the average net price after post-production costs and relatively weak production growth. These trends were largely the result of the market impacts from the COVID-19 pandemic and related mitigation efforts.

The ETR fell dramatically for CY 2021 and CY 2022, reaching its lowest point since the inception of the impact fee. During this two-year period, market value increased by 725% while impact fee revenues increased by 91%. The gain in market value was almost entirely due to price growth, as the average net price increased by 687%. For CY 2023, the ETR increased to 2.5% as market value collapsed due to low natural gas prices.

Table 3: Impact Fee Annual Effective Tax Rates

Calendar Year	Impact Fee Revenues	Unconventional Production (Bcf) ¹	Price of Gas (Mcf) ²	Market Value ³	Annual ETR
2019	\$200.4	6,821	\$1.38	\$9,399	2.1%
2020	146.3	7,092	0.63	4,485	3.3
2021	234.4	7,579	2.38	18,033	1.3
2022	278.9	7,451	4.97	37,061	0.8
2023	179.6	7,528	0.94	7,055	2.5

Note: Fees are remitted in the following April and distributed in July. Millions of dollars.

1 Production data from DEP. Bcf is billion cubic feet.

2 Weighted average of spot prices at major PA hubs. Net of post-production costs, assumed to be \$0.80 per mcf based on investor presentations for several regional producers.

3 Does not include natural gas liquids. Millions of dollars.

Sources: Pennsylvania Public Utility Commission, Department of Environmental Protection, Natural Gas Intelligence and the U.S. Energy Information Administration.

2024 Outlook

For CY 2024, two factors will have significant implications for impact fee revenues. They include:

- **Statutory fee schedule.** The schedule is based on the average annual price of natural gas on the NYMEX, which is based on the Henry Hub.⁴ The average price decreased to \$2.74 for CY 2023, the largest year-over-year decline on record, which caused a downshift in the fee schedule and a \$85.9 million loss in revenues. The CY 2024 average monthly price through June is \$2.07, a 25% decrease from the same period in CY 2023. Contract prices as of June 25, 2024 suggest that the Henry Hub price will average \$3.10 from July to December. If that projection holds, then the average annual price will be \$2.60 and the impact fee schedule will not change.
- **Number of new wells.** DEP spud data show that 163 new horizontal wells were spud from January 1 to June 25, 2024, 29 (-19%) fewer wells than the same period in the prior year. If the current pace of drilling holds, there will be fewer wells drilled in CY 2024 than any year since the inception of the fee. Wells in their first operating year pay the impact fee at the highest level. (See Table 2.) Revenues from new wells offset the decline in fees received from existing wells as they age. For example, a well in its first operating year for CY 2023 paid a fee of \$51,800, while a well in its second operating year paid \$40,200, or \$11,600 less.

Based on (1) a projected NYMEX annual average price of \$2.60 and (2) an assumed 15% decline in new wells spud, impact fee revenues for CY 2024 are estimated to range from \$165 million to \$170 million, a reduction of \$10 million to \$15 million from CY 2023.

Endnotes

1. An alternative to the annual average ETR is the lifetime ETR, which is the average tax rate over the lifetime of a single new well. That measure is best used to quantify the prospective tax burden on new wells across states. (See the IFO's *Analysis of Revenue Proposals in the FY 2018-19 Executive Budget*, for a discussion of the lifetime and annual ETRs.)
2. Prices are from Natural Gas Intelligence and are converted to dollars per thousand cubic feet using Pennsylvania-specific heat content. The analysis disregards hedging contracts and assumes that the average spot price is representative of prices received by producers.
3. Post-production cost estimates are informed by investor presentations for several regional producers.
4. See 58 Pa.C.S. § 2302(b) for the statutory adjustments and 46 Pa.B. 632 for the current fee schedule. Pursuant to 58 Pa.C.S. § 2301, the price used is the annual average of the settled prices for near-month contracts on the New York Mercantile Exchange (NYMEX) in million British thermal units (MMBtu). This is the national benchmark price for the sale of natural gas. Other regional hubs exist in Pennsylvania, e.g., Dominion South and Leidy, which are used in Table 3 to approximate the prices received by producers. The Henry Hub spot price is the price for a one-time open market transaction for near-term delivery of a specific quantity of gas from that hub.

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