

2023 Impact Fee Estimate



Introduction

Pennsylvania imposes an annual impact fee on unconventional (i.e., shale) natural gas wells that were drilled or operating in the previous calendar year.¹ Proceeds from the impact fee are distributed to local governments and state agencies to provide for infrastructure, emergency services, environmental initiatives and various 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 this year and the past three calendar years are shown in **Table 1**. (2023 is an estimate.)

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, to a limited extent, the price of natural gas.² 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.

This report uses recent data published by the Department of Environmental Protection to estimate collections for calendar year (CY) 2023, which will be remitted in April 2024. It also converts the impact fee into an annual effective tax rate (ETR) based on recent natural gas price and production data. The ETR quantifies the implicit tax burden imposed by the impact fee in a given year.

Table 1: Impact Fee Revenue and Distributions

	2020	2021	2022	2023
Total Revenues	\$146.3	\$234.4	\$278.9	\$174.0
Counties, Municipalities and HARE Fund	76.7	129.0	155.5	92.6
Marcellus Legacy Fund	51.1	86.0	103.6	61.7
Commonwealth Agencies	10.5	10.5	10.5	10.5
Conservation Districts/Commission	7.9	8.9	9.3	9.3

Note: Dollar amounts in millions. Fees are remitted in the following April and distributed in July.

Source: Pennsylvania Public Utility Commission. Revenue for 2023 estimated by the IFO.

2023 Impact Fee Revenues

The estimate for the CY 2023 impact fee is \$174.0 million, a \$104.8 million (-37.6%) decline from collections in the prior year. (See **Table 2** on next page.) 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 reduction of \$3.91 (-58.8%) from the prior year. Producers paid the highest fee amount possible for CY 2022 due to the NYMEX average being \$6.00 or above. For CY 2022, a horizontal well in its first operating year paid a fee of \$69,100, whereas the same well will pay a fee of \$51,800 for CY 2023. Estimated impact: **-\$84.1 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. There were fewer new wells drilled in CY 2023 than any year since the impact fee's inception. Estimated impact: **-\$20.7 million.**

Table 2: Well Count and Estimated Collections for 2023

Operating Year	Wells Subject to Fee		Fee Amount		Collections (\$ millions)
	Horizontal	Vertical	Horizontal	Vertical	
1	415	0	\$51,800	\$10,400	\$21.5
2	573	0	40,200	8,000	23.0
3	518	0	34,500	6,900	17.9
4-10	4,802	3	17,200	3,400	82.6
11+	<u>5,182</u>	<u>12</u>	5,600	1,100	<u>29.0</u>
Total	11,490	15			174.0

Note: 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).

Sources: Well counts from Pennsylvania Department of Environmental Protection. Wells in operating year one are estimated by the IFO based on actual wells spud through 12/13/2023. Fee amounts from the Public Utility Commission.

Effective Tax Rate

Impact fee collections do not respond proportionately to the price of natural gas or the volume of production, and do not provide a measure of tax burden relative to natural gas sales. Therefore, this report computes an annual 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. 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) the total production from all unconventional wells. The ETR computation facilitates comparisons to states that levy a severance tax.

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 through September.
- An annual average hub price of \$1.75 per Mcf, prior to 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.³
- 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.⁴

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 was relatively stable from CY 2018 to CY 2019, as a 20% reduction in fee revenues was offset by a 17% decline in the market value of gas. For CY 2020, the ETR increased by 1.1 percentage points. This was entirely attributable to the substantial year-over-year reduction in market value (-52%), which more than offset the decrease in collections (-27%). The decline in market value was driven by a 54% reduction in the average price 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 declined significantly in CY 2021 and CY 2022, due to the notable surge in market value (+700% in a two-year span) that outpaced growth in fee revenues (+91%). The estimated ETR of 0.8% for CY 2022 was the lowest since the fee's inception.

The ETR for CY 2023 is estimated to be 2.5%, an increase of 1.7 percentage points from the prior year. This is due to the notable contraction in market value (-81%), which outpaced the 38% decrease in estimated impact fee collections. The reduction in market value was driven almost entirely by a collapse in the regional natural gas price, which declined by \$4.02 (-70%) from the prior year.

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
2018	\$251.8	6,123	\$1.89	\$11,554	2.2%
2019	200.4	6,821	1.41	9,642	2.1
2020	146.3	7,092	0.65	4,626	3.2
2021	234.4	7,579	2.38	18,010	1.3
2022	278.9	7,451	4.96	36,990	0.8
2023	174.0	7,451	0.95	7,064	2.5

Note: Fee revenues in millions of dollars. Fees are remitted in the following April and distributed in July.

1 Production for CY 2023 is estimated by the IFO based on actual volume through September reported by 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.

Endnotes

1. The Pennsylvania Public Utility Commission administers the impact fee and provides data on impact fee assessments and actual collections. This was cross-referenced with unconventional well production and spud data published monthly by the Department of Environmental Protection.
2. 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) and are used in Table 3 to approximate the prices received by producers. Those spot prices disregard the impact of hedging contracts.
3. The CY 2023 price is based on actuals from Natural Gas Intelligence through November and estimates for December based on weekly Henry Hub spot prices from the U.S Energy Information Administration. Prices are converted to dollars per thousand cubic feet using Pennsylvania-specific heat content.
4. Post-production cost estimates are informed by investor presentations for several regional producers.

Data Sources

- Statewide production data and spud well counts can be found at <https://greenport.pa.gov/ReportExtracts/OG/OilGasWellProdReport>.
- Act 13 impact fee revenues and distributions can be found at [http://www.puc.state.pa.us/filing_resources/issues_laws_regulations/act_13_impact_fee .aspx](http://www.puc.state.pa.us/filing_resources/issues_laws_regulations/act_13_impact_fee.aspx).

Staff Acknowledgements

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