

2021 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 the last four calendar years are shown in **Table 1**. (2021 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) 2021, which will be remitted in April 2022. It also converts the impact fee into an annual average 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

	2018	2019	2020	2021
Total Distributions ¹	\$251.8	\$200.4	\$146.3	\$233.8
Counties, Municipalities and HARE Fund	\$140.1	\$109.2	\$76.7	\$129.3
Marcellus Legacy Fund	\$93.4	\$72.8	\$51.1	\$86.2
Commonwealth Agencies	\$10.5	\$10.5	\$10.5	\$10.5
Conservation Districts/Commission	\$7.9	\$7.9	\$7.9	\$7.9

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

Source: Pennsylvania Public Utility Commission.

¹ Distributions in 2018 include \$5.0 million in fees attributable to 2016 and 2017 that were remitted late.

2021 Impact Fee Revenues

The estimate for the CY 2021 impact fee is \$233.8 million, which represents an \$87.6 million increase from collections in the prior year. The primary reasons for the increase in collections are as follows:

- **Higher Fee Schedule.** The average annual price of natural gas on the New York Mercantile Exchange (NYMEX) for CY 2021 was \$3.84 per MMBtu. Due to the price being between \$3.00 and \$4.99, the impact fee schedule increased by \$10,000 per horizontal well compared to CY 2020 levels. This impact also includes the statutorily required inflationary adjustment (6.6%) to the fee schedule due to the year-over-year increase in wells spud.³ Estimated impact: **+\$98.0 million**.
- **New and Existing Wells.** The net impact of (1) reduced collections from aging wells that pay lower fees and wells that become exempt offsetting fees from new wells and (2) any payments for the prior year that were not received in time for disbursement. This impact for CY 2021 is largely driven by nearly 3,200 wells that entered operating year 11 for the first time, in which they pay half the fee amount that they paid in operating year 10. Estimated impact: **-\$10.4 million**.

Table 2: Well Count and Estimated Collections for 2021

Operating Year ¹	Wells Subject to Fee		Fee Amount		Collections (\$ millions)
	Horizontal	Vertical	Horizontal	Vertical	
1	518	0	\$54,000	\$10,800	\$28.0
2	468	0	43,200	8,600	20.2
3	609	0	32,400	6,500	19.7
4-10	6,073	5	21,600	4,400	131.2
11	<u>3,183</u>	<u>12</u>	10,900	2,100	<u>34.7</u>
Total	10,851	17			233.8

Sources: Department of Environmental Protection, Pennsylvania Public Utility Commission.

1 Number of years a well has been subject to the impact fee.

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. Therefore, 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. 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 for CY 2021 uses these data:

- Annual production of 7.6 trillion cubic feet. This figure is based on statewide well production data published by the Department of Environmental Protection through October.
- An annual average hub price of \$3.15 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.⁴
- 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.⁵

The annual ETR fluctuates based on the movement of its three components: fee revenues, production and price. As shown in **Table 3**, the ETR decreased from 2.8% in CY 2017 to 2.1% in CY 2019 as the market value of natural gas increased by 25.5% while impact fee collections declined by 4.4%. For CY 2020, the ETR increased by 1.2 percentage points. This increase was due to the significant decline in the market value of natural gas (-52.4%), which outpaced the decline in impact fee collections (-27.0%). The drop in market value was due to the strong reduction in average regional gas prices (-54.3%) caused by the COVID-19 pandemic and related mitigation efforts.

For CY 2021, the ETR is projected to be 1.3%, the lowest estimated ETR on record. This decrease is due to a notable increase in the market value of natural gas more than offsetting the increase in estimated impact fee collections. Market value is projected to increase by 298.2% from the prior year, the strongest growth since the inception of the impact fee. This is due to a moderate rebound in statewide production growth (+7.2% year-over-year) combined with the highest regional prices in over three years.

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
2017	\$209.6	5,364	\$1.40	\$7,505	2.8%
2018	251.8	6,123	1.90	11,653	2.2
2019	200.4	6,822	1.38	9,417	2.1
2020	146.3	7,092	0.63	4,479	3.3
2021	233.8	7,600	2.35	17,835	1.3

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

Sources: Pennsylvania Public Utility Commission, Department of Environmental Protection, Bentek Energy.

1 Production data through October 2021. November and December 2021 are estimated by the IFO.

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.

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 data 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.
3. The inflation adjustment reflects the annual growth in the Consumer Price Index for all urban consumers for the PA-NJ-DE-MD region in the preceding 12 months.
4. Prices are from Bentek Energy and are converted to dollars per thousand cubic feet using Pennsylvania-specific heat content.
5. 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://www.paoilandgasreporting.state.pa.us/publicreports/Modules/Welcome/Welcome.aspx>.
- 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.

Staff Acknowledgements

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