

# 2020 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.<sup>1</sup> 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**. (2020 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.<sup>2</sup> 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) 2020, which will be remitted in April 2021. 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**

	2017	2018	2019	2020
Total Distributions <sup>1</sup>	\$209,557	\$251,831	\$200,365	\$144,850
Counties, Municipalities and HARE Fund	114,784	140,060	109,180	75,872
Marcellus Legacy Fund	76,523	93,373	72,787	50,581
Commonwealth Agencies	10,500	10,500	10,500	10,500
Conservation Districts/Commission	7,750	7,897	7,897	7,897

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

Source: Pennsylvania Public Utility Commission.

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

## 2020 Impact Fee Revenues

The estimate for the CY 2020 impact fee is \$144.9 million, which represents a \$55.9 million decrease from base collections in the prior 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 2020 was \$2.08 per MMBtu. Due to the price dropping below \$2.25, the impact fee schedule decreased by \$5,000 per horizontal well compared to CY 2019 levels. Estimated impact: **-\$52.1 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. Estimated impact: **-\$3.8 million.**

**Table 2: Well Count and Estimated Collections for 2020**

Operating Year <sup>1</sup>	Wells Subject to Fee		Fee Amount		Collections (\$ millions)
	Horizontal	Vertical	Horizontal	Vertical	
1	475	0	\$40,500	\$8,100	\$19.2
2	610	0	30,400	6,100	18.5
3	753	2	25,400	5,100	19.1
4+	<u>8,539</u>	<u>18</u>	10,200	2,000	<u>87.1</u>
<b>Subtotal</b>	<b>10,377</b>	<b>20</b>			<b>\$144.1</b>
Prior Years <sup>2</sup>	<u>41</u>	--	--	--	<u>0.8</u>
<b>Total</b>	<b>10,418</b>	<b>20</b>	--	--	<b>\$144.9</b>

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

1 Number of years a well has been subject to the impact fee. Year 4+ includes all wells in operating years 4 through 10, which pay the same fee.

2 Payments that were due for 2019 but not received in time for disbursement.

## 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 2020 uses these data:

- Annual production of 7.0 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 \$1.43 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.<sup>3</sup>
- 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.<sup>4</sup>

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 4.5 percent in CY 2016 to 2.2 percent in CY 2018 as the market value of natural gas increased at a rate (203.1 percent) that was significantly stronger than impact fee revenue growth (45.3 percent). For CY 2019, the ETR decreased 0.1 percentage points from the prior year to 2.1 percent. This was due to the 20.4 percent decline in impact fee revenues being largely offset by a 19.2 percent decline in the market value of gas. The decline in market value was due entirely to a 19.3 percent decline in regional prices.

For CY 2020, the ETR is projected to be 3.3 percent, the first annual increase in the ETR since CY 2015. This outcome is due to a significant reduction in the market value of natural gas more than offsetting the decrease in estimated impact fee collections. Market value is projected to decline by 52.9 percent from the prior year, due to a 54.2 percent decline in the regional price of gas. The projection assumes that CY 2020 production expands by 2.6 percent over 2019, the weakest production growth on record.

**Table 3: Impact Fee Annual Effective Tax Rates**

Calendar Year	Impact Fee Revenues	Unconventional Production (MMcf) <sup>1</sup>	Price of Gas (Mcf) <sup>2</sup>	Market Value <sup>3</sup>	Annual ETR
2016	\$173,259	5,096,092	\$0.75	\$3,844,900	4.5%
2017	209,557	5,363,748	1.40	7,505,000	2.8
2018	251,831	6,123,375	1.90	11,653,300	2.2
2019	200,365	6,822,004	1.38	9,417,300	2.1
2020	144,850	7,000,000	0.63	4,421,700	3.3

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

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

1 Production data through October 2020. November and December 2020 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. Thousands 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. Prices are from Bentek Energy, and are converted to dollars per thousand cubic feet using Pennsylvania-specific heat content.
4. Post-production cost estimates for wet and dry wells 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](http://www.puc.state.pa.us/filing_resources/issues_laws_regulations/act_13_impact_fee.aspx).

## Staff Acknowledgements

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