

# 2019 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.

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 research brief uses recent data published by the Department of Environmental Protection to estimate collections for calendar year (CY) 2019, which will be remitted in April 2020. This brief also translates 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** displays the estimated CY 2019 collections with actual collections and distributions for the prior three years.

**Table 1: Impact Fee Revenue and Distributions**

	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
Total Distributions <sup>1</sup>	\$173,259	\$209,557	\$251,831	\$198,200
Counties, Municipalities and HARE Fund	93,070	114,784	140,149	108,000
Marcellus Legacy Fund	62,049	76,523	93,432	72,000
Commonwealth Agencies	10,500	10,500	10,500	10,500
Conservation Districts/Commission	7,643	7,750	7,897	7,700

Note: Dollar amounts in thousands. Fees are remitted in the following April and distributed in July.  
Source: Pennsylvania Public Utility Commission. CY 2019 is an estimate by the IFO.  
<sup>1</sup> Distributions in 2018 include \$5.0 million in fees attributable to 2016 and 2017 that were remitted late.

## 2019 Impact Fee Revenues

The estimated amount of the impact fee for CY 2019 is \$198.2 million, which represents a \$53.6 million decrease from the prior year. The components of the reduction are as follows:

- **Lower fee schedule.** The average annual price of natural gas on the New York Mercantile Exchange (NYMEX) for CY 2019 was \$2.63 per MMBtu. Due to the price dropping below \$3.00, the impact fee schedule will decrease by \$5,000 per horizontal well compared to CY 2018 levels. The NYMEX gas price has not been below \$3.00 since CY 2016. Estimated impact: **-\$49.9 million.**
- **New wells offset aging wells.** Wells pay the highest impact fee in their first operating year. The collections from wells in operating year one more than offset reduced collections from (1) older wells as their fees decline and (2) wells that stopped remitting the fee altogether. **Table 2 (next page)** displays the estimated number of wells subject to the fee by operating year in CY 2019. Estimated impact: **+\$3.8 million.**
- **Disputes/Other.**<sup>3</sup> Collections for CY 2018 included previously disputed payments related to the interpretation of stripper well status and late payments from prior years. This component includes the total impact of both factors: Estimated impact: **-\$7.5 million.**

**Table 2: Well Count and Estimated Collections for 2019**

<b>Operating Year<sup>1</sup></b>	<b>Number of Wells</b>	<b>Number of Exempt Wells</b>	<b>Wells Subject To Fee</b>	<b>Fee Amount<sup>2</sup></b>	<b>Collections (\$ millions)</b>
1	616	0	616	\$45,700	\$28.1
2	777	21	756	35,500	26.8
3	810	0	810	30,400	24.6
4+	9,137	1,320	7,817	15,200	118.7
<b>Total</b>	<b>11,340</b>	<b>1,341</b>	<b>9,999</b>		<b>198.2</b>

Source: Department of Environmental Protection.

<sup>1</sup> 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). Year 4+ includes all wells in operating years 4 through 9, which pay the same fee.

<sup>2</sup> Fee paid by horizontal wells. Vertical well fees are 20 percent of horizontal well fees.

## 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 research brief computes an annual average effective tax rate (ETR) for all wells in operation during the year.<sup>4</sup> This computation also facilitates a general comparison to severance tax rates in other states. 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.<sup>5</sup>

The annual ETR fluctuates based on the movement of its three components: fee revenues, production and price. After a dramatic increase from CY 2014 to CY 2015, the ETR decreased in each year from CY 2015 to CY 2018. The main cause of this trend was significant growth in the market value of natural gas produced. Over that time period, the hub price of Pennsylvania natural gas increased by 191.3 percent and the production of natural gas throughout the state increased by 33.2 percent. The growth of these factors offset the growth in impact fee collections in CY 2017 and CY 2018.

For CY 2019, the ETR is projected to be 2.1 percent, a slight decrease from the prior year. The decline in estimated impact fee collections (-21.3 percent) is offset by a similar reduction in the market value of gas, causing the ETR to fall by just one tenth of a percentage point from the prior year. The reduction in market value (-17.2 percent) was impacted by a decline in regional gas hub prices (-25.5 percent). This decline in prices more than offset the estimated 11 percent gain in production. **Table 3** displays the annual ETR and its components over the last five years.

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

<b>Calendar Year</b>	<b>Impact Fee Revenues</b>	<b>Unconventional Production (MMcf)<sup>1</sup></b>	<b>Price of Gas (\$/Mcf)<sup>2</sup></b>	<b>Market Value<sup>3</sup></b>	<b>Annual ETR</b>
2015	\$187,712	4,596,100	\$0.65	\$3,002,300	6.3%
2016	173,259	5,094,100	0.75	3,843,400	4.5
2017	209,557	5,363,800	1.40	7,505,200	2.8
2018	251,831	6,123,300	1.90	11,653,100	2.2
2019	198,200	6,800,000	1.42	9,644,400	2.1

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

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

CY 2019 revenues and production are estimates by the IFO.

<sup>1</sup> Production data through October 2019. November and December 2019 are estimated by the IFO.

<sup>2</sup> Net of post-production costs, which were estimated to be \$0.80 by the IFO.

<sup>3</sup> 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, 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.
3. For details on the recent decision regarding the interpretation of stripper well status, see *Snyder Brothers Inc. v. Pennsylvania Public Utility Commission*, case number 1043 CD 2015, and *Pennsylvania Independent Oil and Gas Association v. Pennsylvania Public Utility Commission*, case number 1175 CD 2015.
4. An alternative to the annual average ETR is the lifetime ETR, which is the average 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 previous publication, [Analysis of Revenue Proposals in the 2018-19 Executive Budget](#), for a discussion of the lifetime and annual ETRs.)
5. The price used for this calculation is a weighted average of spot prices at the Dominion South and Leidy trading hubs for the calendar year, converted to dollars per thousand cubic feet (\$2.22 for 2019) using Pennsylvania-specific heat content, net of post-production costs (\$0.80). Prices are from Bentek Energy. Post-production costs are estimated by the IFO based on 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).

