



Natural Gas Production Report

July to September 2024

This document uses data from the Pennsylvania Department of Environmental Protection (DEP), the U.S. Energy Information Administration (EIA) and Natural Gas Intelligence to provide a quarterly update on natural gas production and prices. The table below shows recent trends in quarterly unconventional production volume, well counts and average spot prices for Pennsylvania.

Natural Gas Summary: 2024 Q3

	2023		2024		
	Q3	Q4	Q1	Q2	Q3
Production Volume	1,871	1,940	1,885	1,792	1,838
Growth Rate	-0.5%	4.5%	2.2%	-3.9%	-1.7%
New Wells Spud	102	110	100	63	63
Annual Change	-56	-26	-20	-26	-39
Average PA Price	\$1.31	\$1.69	\$1.69	\$1.48	\$1.44
Growth Rate	-81.1%	-62.8%	-24.9%	1.9%	9.8%

Note: Growth rates and annual change are year-over-year. Production is in billion cubic feet, horizontal wells only. Average PA price (in \$/MMBtu), is a weighted average spot price at two major PA hubs.

Source: Production volume and well counts are reported by DEP. Price Data are from Natural Gas Intelligence.

Notable trends for 2024 Q3 include:

- **Production volume** totaled 1,838 billion cubic feet, a decrease of 1.7% from the prior year. Year-to-date production is down 1.2% compared to the first three quarters of 2023.
- There were 63 **new horizontal wells spud**, a decrease of 39 new wells (-38.2%) from the prior year. This level matches the second quarter as the lowest number of wells drilled since 2008 Q1. (Based on DEP data, unconventional (i.e., shale) drilling began in Pennsylvania in 2005 Q2.) Preliminary data for October and November show a decrease of 20.0% in new wells from the same period in 2023.
- The **average Pennsylvania spot hub price** was \$1.44, an increase of \$0.13 (9.8%) from the prior year. Regional and national prices have been constrained in recent quarters due to unusually high storage levels. According to the EIA Weekly Natural Gas Storage Report, U.S. natural gas storage at the end of 2024 Q3 was 7.4% higher than the prior year. Furthermore, national storage levels for 2024 Q3 were the highest for a third quarter since 2020, when consumption fell in response to the COVID-19 pandemic. Storage levels have increased as national production outpaced demand, largely due to mild winters.

The table below compares year-over-year (YOY) growth in quarterly production volume in Pennsylvania to seven large production states and the U.S. The states are listed in descending order based on total production volume in 2024 Q3. The eight states shown account for 86% of nationwide natural gas production. For Pennsylvania, these data differ from the prior page because they include natural gas production from all sources and well types (e.g., conventional). For 2024 Q3, nationwide production increased slightly from the prior year (0.9%) after a decline in the prior quarter. For the full year, nationwide production increased by 1.0% from the first three quarters of 2023. National production growth continues to be held down by Pennsylvania and Louisiana.

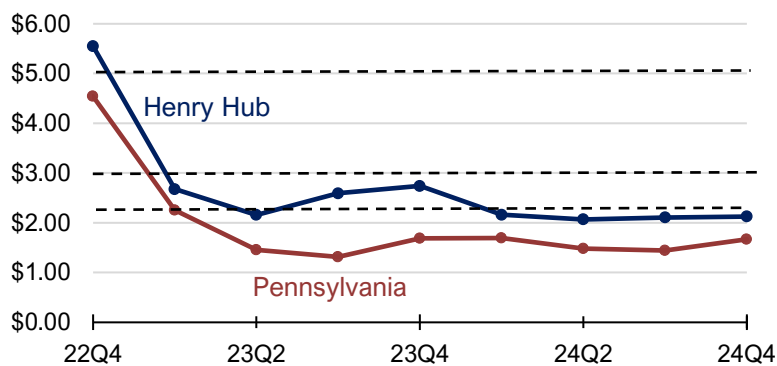
State Comparison: Production Share and YOY Growth

State	2024 Q3 Share	2024			2024 YTD
		Q1	Q2	Q3	
Texas	28.8%	6.8%	4.3%	4.3%	5.1%
Pennsylvania	16.3	1.3	-5.2	-2.4	-2.1
New Mexico	8.1	11.5	12.4	15.2	13.0
Louisiana	7.7	-7.8	-19.6	-16.7	-15.3
West Virginia	7.5	11.4	9.1	3.7	8.0
Alaska	7.0	1.4	-4.5	7.4	0.5
Oklahoma	6.0	-3.1	-0.8	-1.7	-2.1
Ohio	4.7	-5.0	-1.9	-6.9	-4.3
U.S.	--	3.1	-0.3	0.9	1.0

Note: YTD is year-to-date growth compared to first three quarters of 2023. 2024 Q3 share is share of U.S. production for Q3. Source: U.S. Energy Information Administration.

The adjacent figure displays recent trends in natural gas spot prices for the Henry Hub and the average Pennsylvania hub price. For 2024 Q3, the Pennsylvania average was \$1.44 and the Henry Hub was \$2.11. Since an uptick in January due to winter weather, both prices have declined to levels comparable to the calendar year 2020 average (the lowest annual average for both). Preliminary data

Natural Gas Spot Price Trends



Note: Dollars per MMBtu. Source: Natural Gas Intelligence.

for 2024 Q4 show that the Pennsylvania average hub price is \$1.67 and the Henry Hub is \$2.13. Both prices increased due to seasonal factors. The black dashed lines represent the price brackets that the Pennsylvania Impact Fee is based on. The price used for the Impact Fee schedule largely correlates with the monthly average Henry Hub price. Based on futures contracts for December, the IFO projects that the average Henry Hub spot price for 2024 will barely exceed \$2.25, the cut off for the lowest Impact Fee schedule. The higher fee schedule implies an increase of \$30 million in Impact Fee revenues.

Staff Contact

Questions regarding this report can be directed to jbushman@ifostate.pa.us.