



Natural Gas Production Report

January to June 2015

The Pennsylvania Department of Environmental Protection (DEP) publishes monthly production data submitted by natural gas extractors that operate in the state. This report uses those data to develop statewide and county-level tabulations of production volume and well counts for the first six months of 2015. The data summarized in this report pertain exclusively to gas produced from unconventional formations, which include the Marcellus and Utica formations.

A separate document published on the IFO's website, "Glossary of Natural Gas Terminology," contains definitions of the terms used throughout this report.

Table 1: Production Volume and Well Count

	Jan to June <u>2015</u>	Jan to June <u>2014</u>	Jan to June <u>2013</u>	Growth <u>2015</u>	Growth <u>2014</u>
Volume (bcf)					
Horizontal	2,228.0	1,916.9	1,390.9	16.2%	37.8%
Vertical	<u>18.7</u>	<u>23.8</u>	<u>14.2</u>	<u>-21.5%</u>	<u>68.2%</u>
Total	2,246.7	1,940.8	1,405.1	15.8%	38.1%
Number of Producing Wells					
Horizontal	6,041	4,868	3,693	24.1%	31.8%
Vertical	<u>537</u>	<u>535</u>	<u>520</u>	<u>0.4%</u>	<u>2.9%</u>
Total	6,578	5,403	4,213	21.7%	28.2%
Number of Non-Producing Wells					
Shut In	1,216	1,028	962	18.3%	6.9%
Spud But Not Completed	<u>921</u>	<u>854</u>	<u>792</u>	<u>7.8%</u>	<u>7.8%</u>
Total	2,137	1,882	1,754	13.5%	7.3%

Notes: "Non-Producing Wells" does not include plugged, observational or abandoned wells. In the period from January to June 2015, there were 53 plugged wells, 4 observational wells and 8 abandoned wells. "Shut In" includes wells designated as either shut in or regulatory inactive.

Table 2: Historical Horizontal Well Production

Calendar <u>Year</u>	<u>Total Volume (bcf)</u>			<u>Producing Wells</u>		
	Jan to <u>June</u>	July to <u>Dec</u>	Jan to <u>Dec</u>	Jan to <u>June</u>	July to <u>Dec</u>	Jan to <u>Dec</u>
2015	2,228.0	n.a.	n.a.	6,041	n.a.	n.a.
2014	1,916.9	2,108.0	4,024.9	4,868	5,518	5,547
2013	1,390.9	1,680.3	3,071.2	3,693	4,371	4,379
2012	878.0	1,134.2	2,012.2	2,351	3,036	3,069
2011	402.3	617.6	1,019.9	1,093	1,735	1,752

Notes: Horizontal wells only. Vertical wells comprised roughly 0.8 percent of production in the first half of 2015. The number of producing wells in each half year does not directly correspond to the full year, because some wells are reported in one time period but not the other. The full year represents the total number of unique wells that were present in either period of that year.

Production volume during the first half of 2015 was driven by wells spud in 2013 and 2014 (see Table 3). For wells spud in 2014, 1,350 were spud, but only 652 (48.3 percent) produced gas between January and June 2015. These 652 wells comprised somewhat more than one-fifth (21.6 percent) of total production. For 2015, there were 420 wells spud through June, of which only 8 produced gas. The term “spud” denotes the beginning of the drilling process, and there is often a substantial lag before a well produces output.

Table 4 shows that Susquehanna County remains the top producing county in the state. While Bradford County recorded lower output than the prior year, Washington and Greene Counties recorded significant gains. All of the top ten counties recorded a gain in the number of producing wells during the first half of the year.

Table 3: First Half 2015 Production, by Spud Year

<u>Spud Year</u>	<u>Spud Wells</u>	<u>Currently Producing</u>	<u>Percentage Producing</u>	<u>Production Volume (bcf)</u>	<u>Share of Total Production</u>	<u>Avg First Half Production (bcf)</u>
2015	420	8	1.9%	1.1	0.1%	n.a.
2014	1,350	652	48.3%	480.7	21.6%	0.737
2013	1,180	1,020	86.4%	673.0	30.2%	0.660
2012	1,261	1,030	81.7%	397.4	17.8%	0.386
2011	<u>3,742</u>	<u>3,331</u>	<u>89.0%</u>	<u>675.8</u>	<u>30.3%</u>	<u>0.203</u>
Total	7,953	6,041	76.0%	2,228.0	100.0%	0.369

Notes: Horizontal wells only. Data for 2011 include all earlier spud years. This table presents a snapshot of production during the current time period, displayed according to the year in which wells were spud. For example, a well with spud year 2014 was spud during calendar year 2014, and is producing during the current time period, January to June 2015.

Table 4: First Half 2015 Production, by County

<u>Rank</u>	<u>County</u>	<u>Production (bcf)</u>				<u>Producing Wells</u>			
		<u>January to June</u>		<u>Share 2015</u>	<u>Share 2014</u>	<u>January to June</u>		<u>Share 2015</u>	<u>Share 2014</u>
		<u>2015</u>	<u>2014</u>			<u>2015</u>	<u>2014</u>		
1	Susquehanna	549.5	448.4	24.7%	23.4%	868	658	14.4%	13.5%
2	Bradford	364.9	407.4	16.4%	21.3%	988	895	16.4%	18.4%
3	Washington	292.9	197.4	13.1%	10.3%	980	740	16.2%	15.2%
4	Greene	253.1	169.2	11.4%	8.8%	556	427	9.2%	8.8%
5	Lycoming	249.3	267.0	11.2%	13.9%	715	617	11.8%	12.7%
6	Wyoming	125.3	111.6	5.6%	5.8%	178	132	2.9%	2.7%
7	Tioga	101.7	106.0	4.6%	5.5%	532	490	8.8%	10.1%
8	Butler	68.1	36.8	3.1%	1.9%	249	148	4.1%	3.0%
9	Sullivan	48.3	33.3	2.2%	1.7%	65	45	1.1%	0.9%
10	Westmoreland	38.0	42.1	1.7%	2.2%	176	167	2.9%	3.4%
11	All Other Counties	136.9	97.8	6.1%	5.1%	734	549	12.2%	11.3%

Note: Horizontal wells only.