

Boone, Logan, and Mingo Counties, West Virginia | Case Studies

The U.S. possesses the largest estimated recoverable coal reserves in the world. This resource abundance allowed coal to serve as the single largest source of domestic electricity generation for more than six decades.ⁱ However, coal production has declined since 2007 due to increased competition from natural gas, as well as the effects of recent federal regulations.

One of the most productive coal deposits in the country is the Central Appalachian Coal Basin, which supplies the numerous surface and underground mines of West Virginia. The counties in the southern half of the state maintain estimated recoverable coal reserves of 1.1 billion tons.ⁱⁱ In particular, the contiguous Boone, Logan, and Mingo counties have long been a center of coal exploration and extraction.

Geology and history

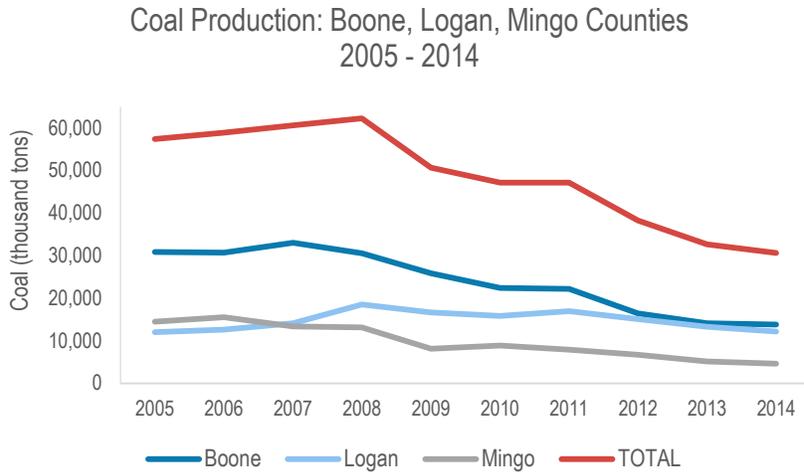
Coal has driven economic development across Boone, Logan, and Mingo counties for many decades. In 1742, Explorer John Peter Salley first discovered bituminous coal in what would later become Boone County. Although forest extraction was the first major industry in the region, large-scale coal mining began in Boone County in the 1880s. The arrival of the Norfolk & Western Railroad in the 1890s and the Chesapeake & Ohio Railroad soon thereafter launched a coal extraction boom in all three counties. The early decades of the twentieth century marked a period of frenzied development in these counties. In the decades that followed, coal continued to drive the counties' economies, but population numbers declined as mechanization and a shift to greater surface mining reduced the need for labor.ⁱⁱⁱ

Production

In 2014, 29 underground mines and 29 surface mines were operating across the three counties in West Virginia—a decrease from the previous year.^{iv} In all three counties, the top ten landowners own at least 50% of private land.^v Notable operations include Boone County's Twilight Mountaintop Removal Surface Mine (1.46 million tons in 2014) and Hobet 21 Surface Mine (2.8 million tons in 2014).^{vi} Twilight Mountaintop production fell by over one million tons (2.5 million tons in 2013 to 1.46 million tons in 2014) while Hobet 21 increased production from 2.3 million to 2.8 million tons in 2014.^{vii} Hours worked at Twilight Mountaintop fell by 35% from 2013 to 2014, while employment likewise fell by 35%.^{viii}

Cumulatively, mines in Boone, Logan, and Mingo counties produced 30.7 million tons of coal, constituting 27% of West Virginia's annual output.^{ix} Coal production in these counties reached a high of 62.3 million tons in 2008 before dropping 31.5 million tons (a

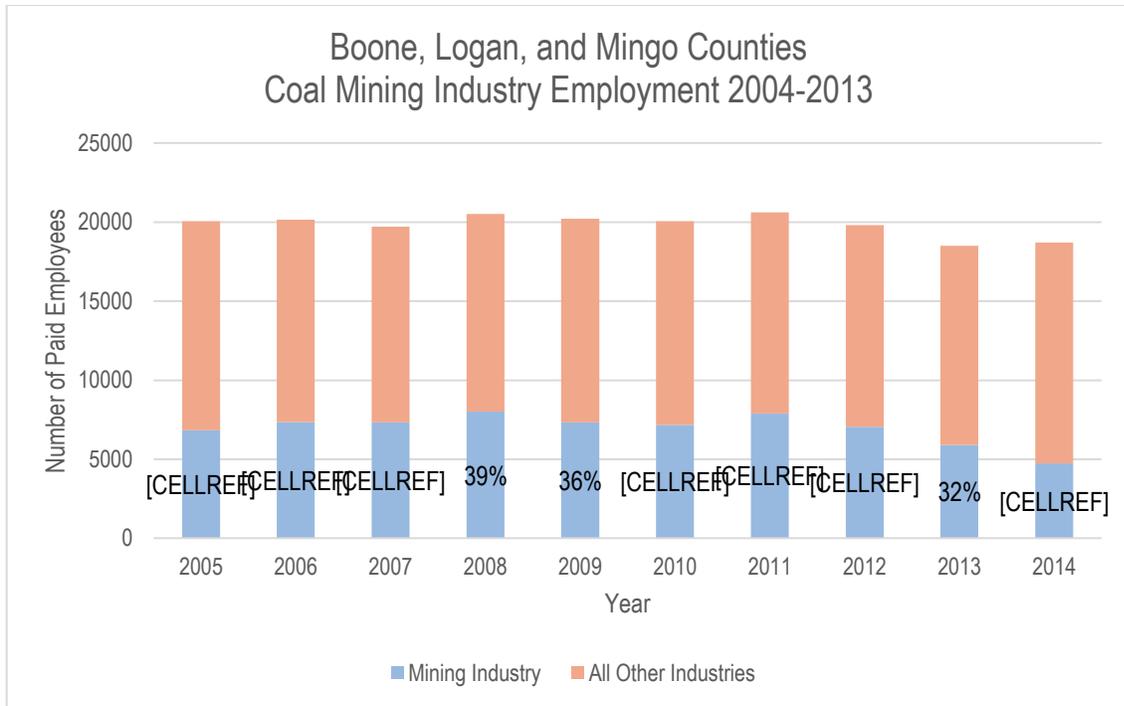
50% decrease) to their 2014 output level of 30.7 million tons.^x Logan is the only one of the three counties whose production total in 2014 was greater than it had been ten years prior, while Boone and Mingo production fell 55.7% and 65% respectively.^{xi}



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Employment

Coal extraction has provided employment in these communities for the past century, but employment is declining in tandem with the region's dropping production levels and the industry's increased mechanization. Between 2013 and 2014, the number of employees working in the coal industry in Southern West Virginia fell by 14%.^{xiii} In 2014, the combined population of the three counties was 84,778.^{xiv} That year, 3,031 people were employed at underground mines and 1,998 people were employed at surface mines across the three counties.^{xv} This translates to 26.8% of the total employed population, or 6% of the total population. These numbers marked a 22% drop in the sector's employment since 2005.^{xvi} Employment in Boone County in particular, fell by 25% from 2013 to 2014.^{xvii} The following graph illustrates changes in mining employment across these three counties from 2005 through 2014, compared with employment in all other industries.^{xviii} While overall employment rose 1% from 2013 to 2014, mining employment fell 20%.^{xx}



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Revenue

West Virginia levies three primary state tax mechanisms to collect coal revenue and distribute it to counties. The most significant of these mechanisms is the Coal Severance Tax, which amounts to 5% of the sale price of mined coal.^{xxii} 75% of net proceeds from this tax are distributed to coal-producing counties, while the remaining 25% is divided amongst all counties and municipalities in the state.^{xxiii} In 2013, Boone, Logan, and Mingo counties received \$4.1 million out of a total \$19.1 million collected by the state from this tax.^{xxiv}

Boone, Logan, and Mingo also benefit from the Coal County Reallocation Severance Tax (an additional coal severance tax specifically for the counties in which the coal was located at the time it was extracted) and the Waste Coal Tax (a severance tax on coal produced from refuse, gob piles, and slurry ponds). Boone, Logan, and Mingo counties received more than \$1.9 million out of a total \$8.1 million disbursed across all counties from the Coal County Reallocation Severance Tax in 2015.^{xxv} Logan and Mingo counties received additional revenue of more than \$23,000 in 2014 from the Waste Coal Tax—in 2015 only Logan County received Waste Coal Tax revenue, totaling \$351.01^{xxvi}

Costs

The West Virginia Department of Transportation (DOT) consists of three operating sections, including the Coal Resource Transportation System (CRTS). The CRTS manages, among other items, the permit system for coal haulers that would like to use designated CRTS roads. As of 2003, coal haulers must purchase a permit that allows

for a gross vehicle weight of up to 120,000 pounds depending on their truck configuration.^{xxvii} Fees collected through that permitting process are used by the Commission of Highways to match funds provided by coal companies and other parties for repairs and improvements to CRTS roads and bridges. Exact information on how much money the state collects and spends on industry-related transportation maintenance and repairs was not found in publicly available government sources.

The West Virginia Office of Miners’ Health, Safety, and Training (WVOMHST) is the lead state agency for incidents involving coal mine emergencies. In 2015, the state agency’s expenditures totaled \$14,233,151.^{xxviii} Of that total, \$12.3 million came from a general revenue fund, \$1.8 million from industry fees, and the remainder from consolidated federal funds.^{xxix} The West Virginia Emergency Operations Plan sheds light on various WVOMHST tasks, including coordinating all rescue-related activities, maintaining the Mine and Industrial Accident Emergency Operations Center, and keeping the coal mine emergency contact list current.^{xxx} Publicly available government documents do not clarify how much Boone, Logan, and Mingo counties spend on coal mine-related emergency services.

Data availability

The table below highlights the data sources used to compile this narrative, as well as any gaps in publicly available data.

Measure	Data availability	Data gaps
Production	The U.S. Energy Information Administration publishes coal production data.	
Employment	The Bureau of Labor Statistics (BLS) publishes Boone, Logan, and Mingo County mining industry employment data for 2005–2014.	BLS data did not isolate employment information on the coal mining industry in particular and employment in mining support services. The U.S. Census Bureau did not have ten-year employment-trend data for the mining industry for these counties.
Revenue	The West Virginia State Treasurer’s Office provides annual revenue information.	
Costs	The West Virginia DOT and WVOMHST publish documents with cost information.	Data on connections between county reclamation and water-infrastructure investments and extractive industries was not found.

Notes

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- i U.S. Energy Information Administration, [What is the Role of Coal in the United States?](#), 2014
- ii U.S. Energy Information Administration [Annual Coal Report](#), 2014, Table 14
- iii West Virginia Encyclopedia, [Coal Mine Mechanization](#)
- iv U.S. Energy Information Administration [Annual Coal Report](#), 2014, Table 2
- v West Virginia Center on Budget & Policy, [Who Owns West Virginia in the 21st Century: Executive Summary \(PDF\)](#)
- vi U.S. Energy Information Administration, [Coal Data Browser, Mine Level Data](#)
- vii Ibid.
- viii Ibid.
- ix U.S. Energy Information Administration [Annual Coal Report](#), 2014, Table 2
- x U.S. Energy Information Administration, [Weekly Coal Production](#)
- xi Ibid.
- xii Ibid.
- xiii U.S. Energy Information Administration [Annual Coal Report](#), 2014, Table 21
- xiv U.S. Census Bureau, [County Population, 2014, Boone, Logan, and Mingo Counties](#)
- xv West Virginia Office of Miners' Health Safety and Training, [FY 2014 Annual Report and Directory of Mines \(PDF\)](#)
- xvi West Virginia Office of Miners' Health Safety and Training, [2005 Coal Production by County](#)
- xvii Bureau of Labor Statistics, [Quarterly Census of Employment and Wages](#)
- xviii Bureau of Labor Statistics, [Quarterly Census of Employment and Wages, NAICS Code 212 \(Mining Except for Oil and Gas\), 2005-2014](#)
- xix Does not include employment in mining-support activities due to missing data points.
- xx Ibid.
- xxi Ibid.
- xxii A commodity's sale price does not always equate to its market price.
- xxiii West Virginia State Treasurer's Office, [State of the Treasury Report \(PDF\)](#), 2014
- xxiv Ibid.
- xxv West Virginia State Treasurer, [Coal County Reallocation Severance Tax](#)
- xxvi West Virginia State Treasurer, [Waste Coal Tax Distribution](#)
- xxvii West Virginia Department of Transportation, [Coal Resource Transportation System Roads](#)
- xxviii West Virginia Office of Miners' Health Safety and Training, [FY 2015 Annual Report and Directory of Mines \(PDF\)](#), p. 8
- xxix Ibid.
- xxx [State of West Virginia Emergency Operations Plan \(PDF\)](#), 2016