

## PENNSYLVANIA

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*This paper provides information regarding the importance of coal-fired electricity and coal production to the Commonwealth of Pennsylvania.*

### COAL-FIRED ELECTRICITY

- There are **24 coal-fired power plants** (41 individual coal-fired electric generating units) in Pennsylvania. Together, these plants represent some 14,000 megawatts (MW) of electric generating capacity.<sup>i</sup>
- Pennsylvania has the nation's **fifth-largest** coal-fired electric generating fleet.<sup>ii</sup> (Pennsylvania's coal-fired electric generating fleet is larger than other coal-centric states such as West Virginia and Kentucky.<sup>iii</sup>) Pennsylvania's largest coal-fired power plants are owned by First Energy Corporation, NRG Energy, Talen Energy, ArcLight Capital Partners, and GE Capital.<sup>iv</sup>
- Coal-fired electricity is estimated to support **33,300 jobs** in Pennsylvania and is responsible for **\$8.6 billion** in economic output.<sup>v</sup>
- During the first four months of 2016 (latest data available), coal ranked **third** among electricity sources for Pennsylvania.<sup>vi</sup> Nuclear power supplied 41% of Pennsylvania's electricity, natural gas 29%, coal 25%, and renewables 5%.<sup>vii</sup> Five of the ten largest power plants in Pennsylvania are coal-fired.<sup>viii</sup>
- Pennsylvania's coal-fired power plants will have invested **\$8.1 billion** in air pollution control technologies by 2020, making Pennsylvania the fifth-ranked state in terms of investment in power plant emission controls.<sup>ix</sup> Pennsylvania power plants have reduced emissions of major air pollutants by 70% since 1995.<sup>x</sup>
- **Thirty (30)** coal-fired electric generating units (totaling 5,548 MW) in Pennsylvania have shut down because of EPA policies.<sup>xi</sup> Pennsylvania ranks **second** among states in the amount of coal-fired electric generating capacity being shut down due to EPA policies.

### COAL PRODUCTION

- Pennsylvania produced **50.5 million tons** of coal in 2015, making the

Commonwealth the **fifth-largest** coal producing state.<sup>xii</sup> (Pennsylvania produced 65 million tons of coal in 2008.<sup>xiii</sup>) Most of Pennsylvania's coal production is located in the western part of the Commonwealth. More than half of Pennsylvania's coal production is shipped to utilities in other states.<sup>xiv</sup>

- In May 2016, there were **5,900** direct coal mining jobs in Pennsylvania, down from a peak of 8,900 in March 2012.<sup>xv</sup> Some **15,400** jobs are supported by Pennsylvania coal mining.<sup>xvi</sup>

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<sup>i</sup> SNL Energy data.

<sup>ii</sup> EIA, *Electric Power Monthly*, June 2016; SNL Energy data.

<sup>iii</sup> *Ibid.* The top five states in terms of coal-fired electric generating capacity are Texas, Indiana, Ohio, Illinois, and Pennsylvania.

<sup>iv</sup> SNL Energy data.

<sup>v</sup> Estimate of the total jobs and economic output attributable to coal-based generation were derived from electric generation and electric utility sales revenue data published by EIA, and state-specific economic multipliers for the electric power industry developed by the U.S. Department of Commerce, Bureau of Economic Analysis. Direct jobs include workers in the generation, transmission, and distribution segments of the electric power industry. Indirect jobs include jobs in supporting industries, including coal mining, coal transportation, and jobs in other industries and communities that benefit from the purchases, wages, and taxes paid by the coal-fired power sector.

<sup>vi</sup> EIA, *Electric Power Monthly*, June 2016.

<sup>vii</sup> *Ibid.*

<sup>viii</sup> EIA, *State Electricity Profiles*, Pennsylvania, Table 2, Ten Largest Plants by Generation Capacity, 2014.

<sup>ix</sup> Energy Ventures Analysis, *Capital Investments in Emission Control Retrofits in the U.S. Coal-fired Generating Fleet through the Years, 2016 Update*, January 26, 2016.

<sup>x</sup> EPA Air Markets Program Division Database Query (April 4, 2016). The U.S. coal-fired electric generating fleet has reduced its emissions of conventional air pollutants by 92% per kWh since 1970. Nationwide, owners of coal-fired power plants had invested \$111 billion through 2015 to achieve these emission reductions, and they are projected to invest an additional \$16 billion through 2020.

<sup>xi</sup> ACCCE, *Coal Unit Retirements as of June 13, 2016*. Retirements are based on public announcements by the coal unit owners.

<sup>xii</sup> EIA, *Quarterly Coal Report, October – December 2015*, released April 2016.

<sup>xiii</sup> EIA, *Coal Data Browser*. <http://www.eia.gov/beta/coal/data/browser/>

<sup>xiv</sup> EIA, *Annual Coal Distribution Report 2014*, released April 2016, Table OS-21. Of the 53 million tons of coal produced in the Commonwealth in 2014, 21 million tons were used within Pennsylvania, while 32 million tons were shipped to 24 other states.

<sup>xv</sup> Bureau of Labor Statistics, *BLS Data Viewer*.

<sup>xvi</sup> To estimate indirect and induced jobs, we used the same 1.61 multiplier as in *The Economic Impact of the Coal Industry in Pennsylvania*, Pennsylvania Economy League of Greater Pittsburgh, March 2014.