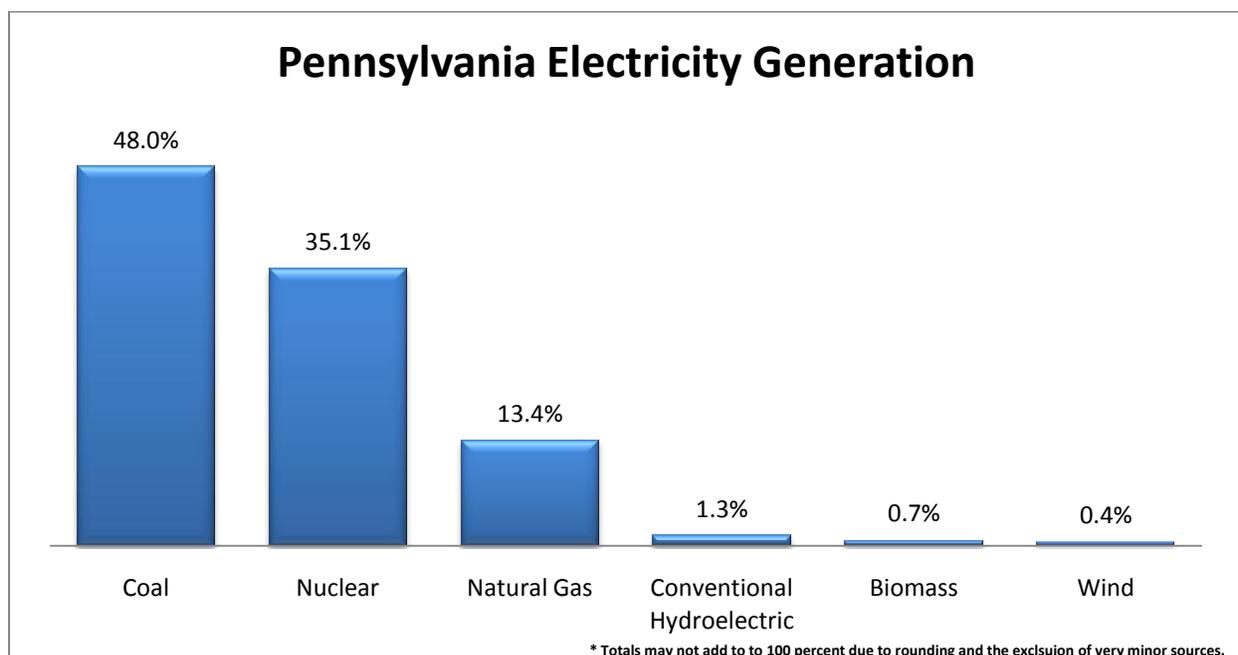




Pennsylvania Energy Facts

Pennsylvania – Select Economic and Energy Data [†]		State Rank
Real Gross Domestic Product, per capita	\$35,641	25th lowest
Unemployment	8.9%	25th lowest
Gasoline Price, per gallon	\$2.82	21st highest
Electricity Price, per kWh	9.60¢	18th highest

Pennsylvania has average electricity prices. Coal generates almost half of Pennsylvania’s electricity, while nuclear provides more than a third of the state’s supply from its five operating nuclear plants. Most of the rest of its electricity generation is supplied by natural gas. Pennsylvania is one of the nation’s largest users of municipal solid waste and landfill gas for electricity generation and has hydroelectric and wind generation, but these resources contribute minimally to the state’s electricity.



Pennsylvania has a rich endowment of fossil fuels, with substantial reserves of coal, recent production and reserves in shale natural gas in its Marcellus gas formation, but minor reserves of oil. Pennsylvania was the site of the world’s first commercial oil well drilled at Titusville in 1859 and of the world’s first oil boom, but the state’s oil production is now relatively minor. Despite producing little oil, Pennsylvania is the leading petroleum-refining state in the Northeast, getting its oil mainly from foreign sources. Besides its shale natural gas resources, Pennsylvania gets its natural gas mainly from pipelines from the Gulf Coast. The state is a major coal producer, exporting coal to other states on the East Coast and in the Midwest. In addition to fossil fuel resources, Pennsylvania has the second-largest nuclear capacity in the United

States and was home to the nation's first commercial nuclear reactor at Shippingport in 1957. This, along with the state's fossil fuels, has made Pennsylvania one of the largest electricity generators in the country.

Regulatory Impediments to Affordable Energy

Although affordable energy is a vital component of a healthy economy, regulations frequently increase energy costs. Regulations imposed in the name of reducing carbon dioxide and greenhouse gas emissions are especially costly. Carbon dioxide is a natural byproduct of the combustion of all carbon-containing fuels, such as natural gas, petroleum, coal, wood, and other organic materials. Today, there is no cost-effective way to capture the carbon dioxide output of the combustion of these fuels, so any regulations that limit carbon dioxide emissions will either limit the use of natural gas, petroleum, or coal, or dramatically increase their prices.

Below are some facts about Pennsylvania's regulatory environment that are likely to affect the cost of energy or the cost of using energy.

- **Pennsylvania does not cap** greenhouse gas emissions.
- **Pennsylvania is an observer** of the Regional Greenhouse Gas Initiative (RGGI), a regional agreement among ten Northeast states to limit greenhouse gas emissions. This agreement requires states to cap carbon dioxide emissions from the electrical generation sector and to reduce those emissions by 10 percent by 2018 through a cap-and-trade scheme. As an observer to the agreement, Pennsylvania is not required to reduce its carbon dioxide emissions for power plants. It is likely Pennsylvania did not join RGGI because so much of its electricity is generated from coal.
- **Pennsylvania requires** utilities to generate from renewable sources a certain percentage of the electricity that they sell. The state's renewable portfolio standard requires utilities to generate 18 percent of its electricity from alternate energy sources by compliance year 2020 (June 1, 2020 to May 31, 2021).¹ It includes 8 percent from Tier I resources (defined as photovoltaic energy, solar-thermal energy, wind, low-impact hydro, geothermal, biomass, biologically-derived methane gas, coal-mine methane and fuel cells) by compliance year 2020, and 10 percent from Tier II resources (defined as waste coal, distributed generation systems, demand-side management, large-scale hydro, municipal solid waste, wood pulping and manufacturing byproducts, and integrated gasification combined cycle coal technology), and 0.5 percent from solar photovoltaic.²
 - **Pennsylvania requires** utilities to meet a portion of electricity demand with energy efficiency. House Bill 2200, passed in 2008, requires utilities to implement programs to reduce consumer electricity demand. By May 2013, consumption must have decreased by at least 3 percent from levels projected by the Commission for the June 2009–May 2010 period, and peak demand must have decreased by at least 4.5 percent.³
- **Pennsylvania requires** diesel to be mixed with renewable fuels. All diesel fuel must be mixed with two percent biodiesel, with the percentage increasing to five percent after

in-state production of biodiesels reaches 100 million gallons, ten percent when in-state production reaches 200 million gallons, and twenty percent when in-state production reaches 400 million gallons.⁴ Also the state requires the motorists of the Philadelphia metropolitan areas to use reformulated motor gasoline blended with ethanol and the Pittsburgh area must use specially formulated gasoline as well.⁵

- **Pennsylvania imposes** automobile fuel economy standards similar to California's, which include attempts to regulate greenhouse gas emissions from new vehicles. In 2006, the state's Environmental Quality Board approved the Clean Vehicles Program to adopt California's vehicle emissions standards.⁶
- **Pennsylvania requires** new residential and commercial buildings to meet energy efficiency standards. Residential and commercial buildings statewide are required to meet the 2006 International Energy Conservation Code (IECC).⁷ Commercial buildings must also comply with ASHRAE 90.1-2004.⁸ The IECC (developed by the International Code Council) and ASHRAE 90.1 (developed by the American Society of Heating and Refrigeration and Air Conditioning Engineers) are model codes that mandate certain energy efficiency standards.
- **Pennsylvania does not impose** state-based appliance efficiency standards. In 2004, Governor Ed Rendell issued Executive Order 2004-12, requiring state agencies to purchase Energy Star appliances when economical and consistent with life-cycle costs.⁹ In the name of energy efficiency, in state owned or leased buildings, Pennsylvania bans coffee makers, microwave ovens, toasters, water coolers, refrigerators, and other appliances unless specifically approved by the Department of General Services or designated Commonwealth official.¹⁰
- **Pennsylvania does not allow** utilities to "decouple" revenue from the sale of electricity and natural gas. Some states decouple revenue from actual sales, allowing utilities to increase their revenue by selling less electricity and natural gas.

[†] Data Sources: Real GDP per capita 2008: Bureau of Economic Analysis, *News Release: GDP by State* (June 2, 2009), http://www.bea.gov/newsreleases/regional/gdp_state/gsp_newsrelease.htm; Unemployment: Bureau of Labor Statistics, *Regional and State Employment and Unemployment—February 2010* (Mar. 10, 2010); Gasoline Prices: American Automobile Association, *AAA Daily Fuel Gauge Report* (Mar. 30, 2010); Electricity Prices: Energy Information Administration, *Electric Power Monthly*, Table 5.6.B., Average Retail Price of Electricity, (March 15, 2010), http://www.eia.doe.gov/cneaf/electricity/epm/table5_6_b.html; Electricity Generation Data: Energy Information Administration, *Electricity Generation 2009*, http://www.eia.doe.gov/cneaf/electricity/epa/generation_state_mon.xls.

¹ Lawrence Berkeley National Laboratory, *Renewables Portfolio Standards in the United States*, <http://eetd.lbl.gov/ea/ems/reports/lbnl-154e.pdf>.

² For more details on Pennsylvania's renewable portfolio standard, see the overview from the Database of State Incentives for Renewables and Efficiency: http://dsireusa.org/incentives/incentive.cfm?Incentive_Code=PA06R&re=1&ee=1.

³ An Act Amending Title 66 (Public Utilities) of the Pennsylvania Consolidated Statutes, H.B. 2200 (Pa. 2008), <http://www.legis.state.pa.us/cfdocs/billinfo/billinfo.cfm?year=2007&sind=0&body=H&type=B&bn=2200>.

⁴ Pennsylvania Department of Environmental Protection, *Frequently Asked Questions*, http://www.depweb.state.pa.us/portal/server.pt/community/energy_independence/10473/faq/553044.

⁵ Energy Information Administration, *Pennsylvania*, Apr. 8, 2010,
http://tonto.eia.doe.gov/state/state_energy_profiles.cfm?sid=PA.

⁶ The Pennsylvania Bulletin, Environmental Quality Board, Pennsylvania Clean Vehicles Program, 25 PA Code Chs. 121 and 126, <http://www.pabulletin.com/secure/data/vol36/36-49/2406.html>.

⁷ Building Codes Assistance Project, Code Status: Pennsylvania, <http://bcap-energy.org/node/91>.

⁸ *Id.*

⁹ Commonwealth of Pennsylvania Management Directive, *Energy Conservation and Electrical Devices in Commonwealth-Owned or Leased Buildings*,
http://www.portal.state.pa.us/portal/server.pt/gateway/PTARGS_0_2_785_711_0_43/http%3B/pubcontent.state.pa.us/publishedcontent/publish/global/files/management_directives/commonwealth_programs/720_5.pdf.

¹⁰ *Id.*