



Electric Power Outlook for Pennsylvania 2013-2018

August 2014



Pennsylvania Public Utility Commission

ELECTRIC POWER OUTLOOK FOR PENNSYLVANIA 2013–2018

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Executive Summary

Introduction

Section 524(a) of the Public Utility Code (Code) requires jurisdictional electric distribution companies (EDCs) to submit to the Pennsylvania Public Utility Commission (PUC or Commission) information concerning plans and projections for meeting future customer demand.¹ The PUC's regulations set forth the form and content of such information, which is to be filed on or before May 1 of each year.² Section 524(b) of the Code requires the Commission to prepare an annual report summarizing and discussing the data provided, on or before September 1. This report is to be submitted to the General Assembly, the Governor, the Office of Consumer Advocate and each affected public utility.³

Since the enactment of the *Electricity Generation Customer Choice and Competition Act*,⁴ the Commission's regulations have been modified to reflect the competitive market. Thus, projections of generating capability and overall system reliability have been obtained from regional assessments.

Any comments or conclusions contained in this report do not necessarily reflect the views or opinions of the Commission or individual Commissioners. Although issued by the Commission, this report is not to be considered or construed as approval or acceptance by the Commission of any of the plans, assumptions, or calculations made by the EDCs or regional reliability entities and reflected in the information submitted.

Overview

This report concludes that sufficient generation, transmission and distribution capacity exists to reasonably meet the needs of Pennsylvania's electricity consumers for the foreseeable future.

Regional generation adequacy and reserve margins of the mid-Atlantic will be satisfied through 2023, provided that planned generation and transmission projects will be forthcoming in a timely manner. The North American Electric Reliability Corporation (NERC) provided a reliability assessment of the Regional Transmission Organization, PJM Interconnection, LLC (PJM), that concludes PJM will meet its reserve margin requirements in 2014 of 15.9 percent. NERC projects that PJM will meet its reserve margin requirements through 2023.

Pennsylvania's aggregate electrical energy usage (residential, commercial, industrial, sales for resale, and other) in 2013 was 146,235 gigawatt hours (GWh) versus 144,955 GWh for 2012, which is a 0.9 percent increase in electrical usage. The current average aggregate five-year growth projection in Pennsylvania's energy usage for the residential, commercial and industrial classes is 0.72 percent per year. This includes a residential growth rate of 0.33 percent, a commercial growth rate of 0.68 percent and an industrial growth rate of 1.2 percent.

¹ See 66 Pa. C.S. § 524(a).

² See 52 Pa. Code §§ 57.141—57.154.

³ See 66 Pa.C.S. § 524(b).

⁴ 66 Pa.C.S. §§ 2801—2812.

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Section 1 – Regional Electric Outlook

Purpose

The *Electric Power Outlook for Pennsylvania 2013-2018* discusses the current and future electric power supply and demand situation for the 11 investor-owned jurisdictional electric distribution companies (EDCs) operating in the state and the entities responsible for maintaining the reliability of the bulk electric supply system within the region that encompasses the state.

Pursuant to Title 66, Pennsylvania Consolidated Statutes, Section 524(b), the PUC annually submits this report to the General Assembly, the Governor, the Office of Consumer Advocate and affected public utilities. It also is posted on the Commission's website.⁵

The information contained in this report includes highlights of the past year, as well as EDCs' projections of energy demand and peak load for 2014-18. The state's seven largest EDCs⁶ represent over 93 percent of jurisdictional electricity usage in Pennsylvania. Accordingly, information regarding the four smaller EDCs contained in this report is limited. The report also provides a regional perspective with statistical information on the projected resources and aggregate peak loads for the region that impacts Pennsylvania.

As permitted under the Section 2809(e) of the Public Utility Code, the Commission has adopted revised regulations, reducing from 20 years to five years the reporting requirements and the reporting horizon for energy demand, connected peak load and number of customers. Because of deregulation, information regarding generation facilities, including capital investments, energy costs, new facilities and expansions of existing facilities, are no longer required. The Commission relies on reports and analyses of regional entities, including the ReliabilityFirst Corporation and PJM, to obtain a more complete assessment of the current and future status of the electric power supply within the region. Also, data for the report is submitted annually by EDCs, pursuant to the Commission's regulations.⁷ Sources also include data submitted by regional reliability councils to the NERC, which is subsequently forwarded to the U.S. Energy Information Administration (EIA).

Regional Reliability Organizations

In Pennsylvania, all major EDCs are interconnected with neighboring systems extending beyond state boundaries. These systems are organized into regional reliability councils responsible for ensuring the reliability of the bulk electric system.

North American Electric Reliability Corporation

The North American Electric Reliability Corporation (NERC) has been granted legal authority by the Federal Energy Regulatory Commission (FERC) to enforce reliability standards, and make compliance with those standards mandatory. NERC oversees the reliability of the bulk power

⁵ This report is available at http://www.puc.pa.gov/utility_industry/electricity/electric_reports.aspx.

⁶ Those EDCs with at least 100,000 customers.

⁷ See 52 Pa. Code §§ 57.141—57.154.

system that provides electricity to 334 million people, has a total demand of 830 gigawatts (GW), has 211,000 miles of high-voltage transmission lines (230,000 volts and greater), and represents more than \$1 trillion worth of assets.

NERC's members include eight regional reliability entities. Members include investor-owned utilities, federal and provincial entities, rural electric cooperatives, state/municipal and provincial utilities, independent power producers, independent system operators, merchant electricity generators, power marketers and end-use electricity customers. The membership accounts for virtually all the electricity supplied in the United States, Canada, and a portion of Baja California Norte, Mexico. The regional entity operating in Pennsylvania is ReliabilityFirst Corporation.

NERC establishes criteria, standards and requirements for its members and all control areas. All control areas must operate in a seamless and stable condition to prevent uncontrolled system separations and cascading outages caused by any single transient event.

NERC Reliability Assessment

The *2013 Long-Term Reliability Assessment*⁸ is NERC's independent review of the 10-year reliability outlook for the North American bulk power system (BPS) while identifying trends, emerging issues, and potential risk. Also reported is insight on resource adequacy and operating reliability, as well as an overview of projected electricity demand growth for individual assessments areas. NERC also provides specific review of the PJM Regional Transmission Organization (RTO).

In the 2013 assessment, NERC identifies the following key issues for the North American bulk power system:

- Resources are sufficient to meet reliability targets in most areas in the 10-year review period.
- Resource adequacy assessments in the Electric Reliability Council of Texas (ERCOT) and Midcontinent Independent System Operator, Inc. (MISO) areas fall below the planning reserve margin targets. ERCOT's planning reserve margins remain below the targets through the 10-year review period in the *2013 Long-Term Reliability Assessment*. NERC noted that MISO will fall below the targets during the 2015 summer season and possible firm load shedding will occur if more resources do not come online.
- Over 46 GW of wind and solar installed capacity is planned over the 10-year review period. This may present operational and planning challenges as those resources are variable and traditional methods for system planning and operation may need to be changed to meet the dynamics of those resources.

⁸ See NERC, *2013 Long-Term Reliability Assessment*, Dec. 2013 available at http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/2013_LTRA_FINAL.pdf.

- Increased retirements of fossil-fired generation continue to be a trend and a possible reliability concern. Approximately 25 GW of fossil-fired generation has retired since 2011 and it is projected that this total will surpass 85 GW by 2023.
- Natural gas-fired generation continues to increase with over 28 GW of gas-fired capacity planned in the next 10 years and over 108 GW in a conceptual phase. This increased dependence on natural gas-fired generation will require additional planning and operational coordination. NERC encourages addressing the recommendations in their report entitled *2013 Special Reliability Assessment: Accommodating an Increased Dependence on Natural Gas for Electric Power*.⁹
- Increasing use of Demand-Side Management can offset future capacity needs, but this also creates uncertainties for system planners such as performance and availability. NERC recommended that RTOs should determine if there is a need for requirements or guidelines to support demand response planning and operations, especially for those that meet bulk system reliability requirements.
- Retirements and long-term outages of nuclear generation plants may present potential reliability issues. NERC is concerned about the aging nuclear fleet and any potential future retirements as a result of relicensing requirement problems. A total of 4.2 GW of nuclear generation has been retired, or has announced decommissioning plans, since 2011.

ReliabilityFirst Corporation

ReliabilityFirst Corporation (RFC), headquartered in Fairlawn Ohio, is one of eight NERC regional entities serving North America, and is the regional reliability entity for Pennsylvania. Its service territory consists of more than 72 million people in a 238,000 square-mile area covering all of New Jersey, Delaware, Pennsylvania, Maryland, District of Columbia, West Virginia, Ohio, Indiana and parts of Michigan, Wisconsin, Illinois, Kentucky, Tennessee and Virginia. Its membership includes load-serving entities, RTOs, suppliers and transmission companies.

The RFC controls reliability standards and enforcement by entering into delegation agreements with regional entities to ensure adequate generating capacity and transmission. Some performance factors considered in establishing acceptable reliability levels include load characteristics, load forecast error, scheduled maintenance requirements, and the forced outage rates of generating units. The RFC reliability standards require sufficient generating capacity to be installed to ensure the probability of the system load exceeding available capacity is no greater than one day in 10 years. Load-serving entities that are members of RFC have a capacity obligation determined by evaluating individual system load characteristics, unit size and operating characteristics.

⁹ See 2013 Special Reliability Assessment: Accommodating an Increased Dependence on Natural Gas for Electric Power, available at http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_PhaseII_FINAL.pdf

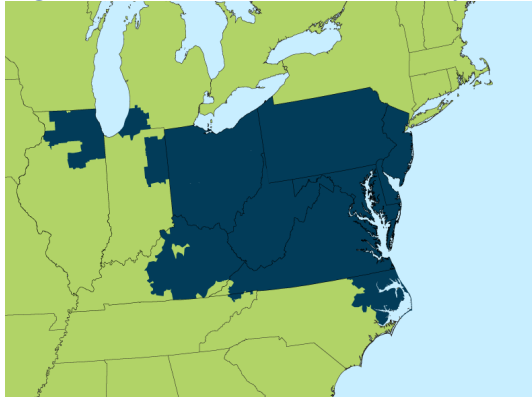
Regional Transmission Organizations

The two RTOs within the RFC footprint are PJM Interconnection, LLC (PJM) and Midcontinent Independent System Operator, Inc (MISO).

PJM Interconnection

PJM is a regional transmission organization that ensures the reliability of the largest centrally dispatched control area in North America, covering 234,417 square miles. PJM coordinates the operation of 183,600 megawatts (MW) of generating capacity and more than 62,556 miles of transmission lines. The PJM RTO coordinates the movement of electricity through all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.¹⁰

Figure 1 PJM RTO service territory



PJM manages a sophisticated regional planning process for generation and transmission expansion to ensure the continued reliability of the electric system. PJM is responsible for maintaining the integrity of the regional power grid and for managing changes and additions to the grid to accommodate new generating plants, substations and transmission lines.

In addition, PJM analyzes and forecasts future electricity needs of the region. Its planning process ensures that the electric system growth is efficient and takes place in an orderly fashion. PJM also supports market innovation through its active support for demand response markets for energy, capacity and ancillary services, and helps ensure that appropriate infrastructure and operational capabilities are in place to support newly installed renewable energy facilities.

PJM coordinates the continuous buying, selling and delivery of wholesale electricity through robust, open and competitive spot markets. PJM balances the needs of suppliers, wholesale customers and other market participants, and continuously monitors market behavior. In 2013, PJM processed \$34 billion in settlements among its more than 879 members, a 17 percent increase over 2012.¹¹ PJM's 2013 transmission volumes were 834 terawatt hours (TWhs), compared with 819 TWhs for 2012. The increase in transmission volumes is primarily attributable to the integration of FirstEnergy Service Company on Jun. 1, 2011, and Duke Ohio and Duke Kentucky on Jan.1, 2012. PJM also added the generation and load of East Kentucky Power Cooperative (EKPC), which was integrated on Jun. 1, 2013.¹²

¹⁰ See PJM 2013 Annual Report, available at <http://www.pjm.com/~media/about-pjm/newsroom/annual-reports/2013-annual-report.ashx>.

¹¹ *Id.*

¹² See PJM 2013 Financial Report, available at <http://www.pjm.com/~media/about-pjm/newsroom/annual-reports/2013-financial-report.ashx>.

PJM exercises a broader reliability role than that of a local electric utility. PJM system operators conduct dispatch operations and monitor the status of the grid over a wide area. NERC provided a PJM reliability assessment that concludes PJM will meet its reserve margin requirements in 2014 of 15.9 percent. NERC projects that PJM will meet its reserve margin requirements through 2023. Continued use of the PJM Reliability Pricing Model (RPM) will ensure that the planning reserve margin is met. The NERC projections for the reserve margins for PJM range from 31 percent in 2014 to 15.93 percent in 2023. NERC notes that with the exception of the added demand from the integration of the EKPC, the demand growth forecast for PJM has remained at a rate of 1.3 percent. PJM has announced plans for the retirement of over 13,000 MW of generation during the NERC assessment period, which represents approximately 6.9 percent of PJM's existing fleet. Of that 13,400 MW, 9,700 MW is coal, 2,000 MW is gas, and 1,300 is oil-fired generation.¹³

PJM Pennsylvania Regional Transmission Expansion Plan Overview

The Pennsylvania electric power outlook generally reflects the projections of RFC, which are based on forecasts of PJM and MISO. We look to regional data concerning the current and future condition of the bulk electric system because it is planned on a regional rather than state basis. While the aggregate load for the state's consumers can be determined, the availability and mix of electrical generation units cannot be predicted since the complexities of a changing free market will be the primary driving force.

An RTO such as PJM has the primary responsibility to coordinate and plan future upgrades and expansion of the regional transmission system. A key part of the planning process is to evaluate both generation interconnection and merchant transmission interconnection requests. Although transmission planning is performed on a regional basis, most upgrades and expansion in Pennsylvania are planned to support the local delivery system and new generating facilities.

Load-serving entities (LSE)¹⁴ acquire capacity resources by: entering bilateral agreements, participating in the PJM-operated capacity market, owning generation, and/or pursuing load management options. The PJM generator interconnection process ensures new capacity resources satisfy LSE requirements to reliably meet their obligations.

All new generation that anticipates interconnecting and operating in parallel with the PJM transmission grid and participating in the PJM capacity and/or energy markets must submit an interconnection request to PJM for technical evaluation and approval.

Proposed new generating plants and increased capacity of existing plants in Pennsylvania total 12,324 MW. These facilities are under active study by PJM. Natural gas projects make up more than 11,609 MW of this queued capacity. This additional capacity may be used to serve

¹³ See NERC, *2013 Long-Term Reliability Assessment*, December 2013 available at http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/2013_LTRA_FINAL.pdf

¹⁴A Load Serving Entity (LSE) is any entity (or the duly designated agent of such an entity), including a load aggregator or power marketer that (a) serves end-users within the PJM Control Area, and (b) is granted the authority or has an obligation pursuant to state or local law, regulation or franchise to sell electric energy to end-users located within the PJM Control Area.(definition from *PJM.com* glossary)

Pennsylvania or out-of-state customers.¹⁵ Appendix B lists the current PJM interconnection requests for new generating resources in Pennsylvania. The existing generating capacity in Pennsylvania totals 43,956 MW.¹⁶ As stated earlier, the output of some of these facilities may serve loads outside Pennsylvania. Appendix C lists existing generation facilities in Pennsylvania.

Peak summer load growth rates for the Transmission Owner zones within Pennsylvania are expected to range from 0.9 percent to 1.9 percent over 10 years through 2023. Peak winter load-growth rates are expected to range between 0.6 and 2.0 percent on average over 10 years through 2023. Forecasted summer peak loads are modeled in power flow studies used in PJM's 2012 Regional Transmission Expansion Plan (RTEP) studies. PJM's RTEP includes baseline transmission upgrades in Pennsylvania to meet expected near-term 2018 peak load conditions. RTEP studies also assess anticipated needs for additional transmission expansion plans to meet long-term load growth requirements through 2028.¹⁷

PJM receives generation deactivation requests on a continuing basis and conducts reliability studies to identify RTEP baseline upgrades needed to resolve all identified reliability criteria violations. PJM cannot compel a generator to operate, but can make financial arrangements with a generator to continue operating for reliability.

For the 2013 RTEP, PJM studied the reliability impacts of formally submitted deactivation requests totaling nearly 7,655 MW (submitted between Jan. 1, 2012 and Dec. 31, 2013) for deactivation between Apr. 1, 2013 and Jun. 2017. PJM identified the need for more than 54 upgrades comprising a range of solutions: line terminal equipment upgrades; new substations; substation reconfiguration; existing line rebuilds to achieve higher line ratings; and new transmission lines. Only one of the upgrades for generation deactivation applied to Pennsylvania. A complete list of all of the 31 upgrades approved by PJM in 2013 for Pennsylvania facilities can be found in Table 12.12 of Book 5 of the PJM 2013 RTEP.¹⁸

In 2013, PJM acquired, through its RPM auctions, 169,160 MWs of generation capacity to meet power supply needs for the year starting Jun. 1, 2016. The auction procured 5,463 MWs of new generation, most of which was natural-gas fueled. Additionally, the auction acquired 13,525 MWs total of demand response and energy efficiency.¹⁹

¹⁵ See PJM 2013 RTEP, available at <http://www.pjm.com/documents/reports/rtep-documents/2013-rtep.aspx>.

¹⁶ Data reported to SNL and received by PUC staff on Aug. 5, 2014.

¹⁷ See PJM 2013 RTEP, available at <http://www.pjm.com/documents/reports/rtep-documents/2013-rtep.aspx>.

¹⁸ *Id.*

¹⁹ See PJM 2012-2013 BRA Results News Release, available at <http://www.pjm.com/~media/about-pjm/newsroom/2013-releases/20130524-pjm-capacity-auction.ashx>.

Status of PJM Backbone Transmission Lines

Mid-Atlantic Power Pathway

The Mid-Atlantic Power Pathway (MAPP) was to include new 500 kV transmission lines, two new 500 kV circuits, four new substations and an underwater cable crossing of the Chesapeake Bay. The project was to be located in Virginia, Maryland and Delaware but was canceled by the PJM Board in August 2012.

Susquehanna–Roseland

The PJM Board approved the Susquehanna-Roseland 500 kV transmission line to be in service by summer 2012 to resolve numerous overloads on critical 230 kV circuits across eastern Pennsylvania and northern New Jersey beginning in 2012. After multiple studies showed a need for a Jun. 1, 2012, in-service date for the project, PJM conducted an additional analysis in 2011 to assess the impact of regulatory delays to the construction. Regulatory delays have pushed the expected completion date to Jun. 1, 2015. The Hopatcong to Roseland portion of the line was put in service on Mar. 31, 2014.

PATH

The Potomac-Appalachian Transmission Highline (PATH) Line analysis performed during the 2010 RTEP cycle required an in-service date of Jun. 1, 2015. The PJM Board issued a statement on Feb. 28, 2011, suspending the PATH line, which was to include a 765-kilovolt, 275-mile transmission project from Putnam County, West Virginia, to Frederick County, Maryland. The 2011 RTEP analysis suggested the need for the PATH line has moved several years beyond 2015, leading the PJM Board to cancel the project in Sep. 2012.

Section 2 – Pennsylvania Electric Outlook

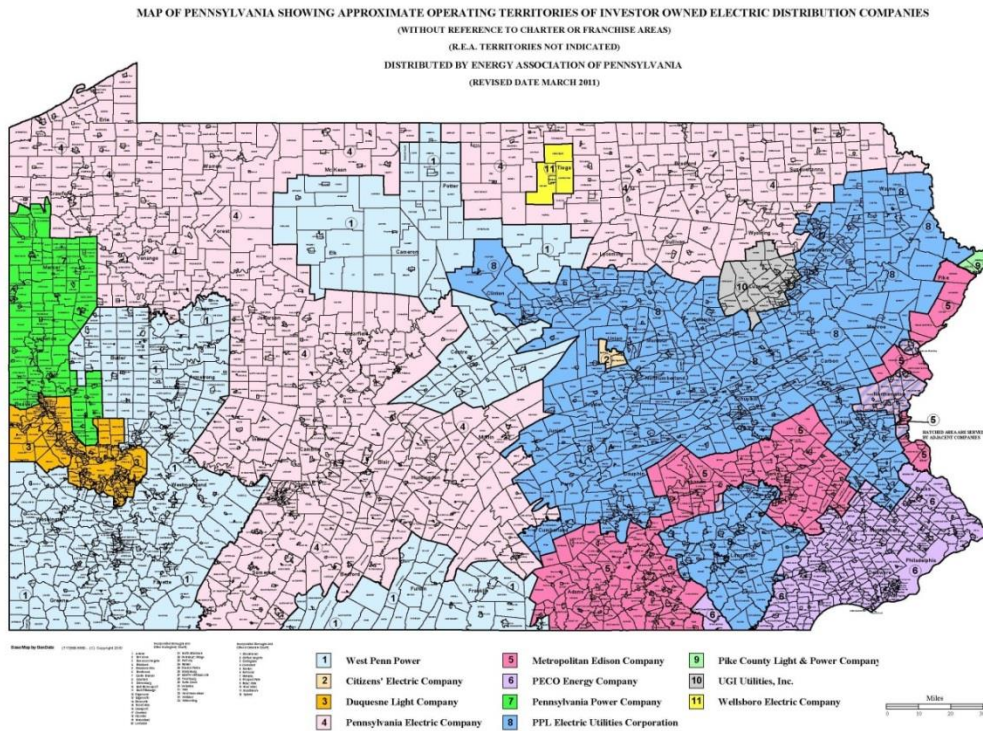
Electric Distribution Companies

Eleven EDCs currently serve the electricity needs of the majority of Pennsylvania's homes, businesses and industries. Cooperatives and municipal systems provide service to several rural and urban areas. The 11 jurisdictional EDCs are:

- Citizens' Electric Company
- Duquesne Light Company
- Metropolitan Edison Company (FirstEnergy)
- Pennsylvania Electric Company (FirstEnergy)
- Pennsylvania Power Company (FirstEnergy)
- PPL Electric Utilities Corporation
- PECO Energy Company (Exelon)
- Pike County Light & Power Company (Orange & Rockland Utilities Inc.)
- UGI Utilities Inc. – Electric Division

- Wellsboro Electric Company
- West Penn Power Company (FirstEnergy)

Figure 2 Map of EDC Service Territories



Each LSE is responsible to make provisions for adequate generating resources to serve its customers. The local EDC or Commission-approved alternative default-service provider (DSP) must acquire electricity, pursuant to a Commission-approved competitive procurement process, for customers who (1) contract for electric power, including energy and capacity, and the chosen electric generation supplier (EGS) does not supply the service or (2) do not choose an alternate supplier.²⁰ Under current law, the default service prices for electric generation service are required to be based upon a “prudent mix” procurement strategy that will produce the least cost to customers over time.²¹

Alternative Energy Portfolio Standards

The PUC continues to implement procedures and guidelines necessary to carry out the requirements of the Alternative Energy Portfolio Standards Act of 2004 (Act 213).²² Act 213 requires that an annually increasing percentage of electricity sold to Pennsylvania retail customers

²⁰ 66 Pa. C.S. § 2803.

²¹ *See id.* § 2807(e)(3).

²² Alternative Energy Portfolio Standards Act, effective Feb. 28, 2005; 73 P.S. §§ 1648.1—1648.8.

be derived from alternative energy resources. The amount of electricity to be supplied by alternative resources increases to a total of 18 percent by 2021. In 2008, the Commission adopted regulations pertaining to the AEPS obligations of EDCs and EGSs.²³ AEPS resources must be located in PJM.

Alternative energy resources are categorized as Tier I and Tier II resources. Tier I resources include solar, wind, low-impact hydropower, geothermal, biologically derived methane gas, fuel cells, biomass (including electricity generated in Pennsylvania utilizing by-products of the pulping process and wood manufacturing process, including bark, wood chips, sawdust and lignins in spent pulping liquors)²⁴ and coal mine methane. Tier II resources include waste coal, demand side management, distributed generation, large-scale hydropower, by-products of wood pulping and wood manufacturing, municipal solid waste, and integrated combined coal gasification technology.

Act 213 requires that by 2021, 8 percent of the electricity sold in each EDC service territory will be derived from Tier I resources, including solar. Energy derived from Tier II resources is to increase to 10 percent. Act 213 sets forth a 15-year schedule for complying with its mandates, as shown in Table 1. Since Jan. 1, 2011, all EDCs and EGSs have been required to comply.

Table 1 Alternative Energy Portfolio Standards

Year	Period	Tier I (incl. Solar)	Tier II	Solar PV
1	June 1, 2006, through May 31, 2007	1.50%	4.20%	0.0013%
2	June 1, 2007, through May 31, 2008	1.50%	4.20%	0.0030%
3	June 1, 2008, through May 31, 2009	2.00%	4.20%	0.0063%
4	June 1, 2009, through May 31, 2010	2.50%	4.20%	0.0120%
5	June 1, 2010, through May 31, 2011	3.00%	6.20%	0.0203%
6	June 1, 2011, through May 31, 2012	3.50%	6.20%	0.0325%
7	June 1, 2012, through May 31, 2013	4.00%	6.20%	0.0510%
8	June 1, 2013, through May 31, 2014	4.50%	6.20%	0.0840%
9	June 1, 2014, through May 31, 2015	5.00%	6.20%	0.1440%
10	June 1, 2015, through May 31, 2016	5.50%	8.20%	0.2500%
11	June 1, 2016, through May 31, 2017	6.00%	8.20%	0.2933%
12	June 1, 2017, through May 31, 2018	6.50%	8.20%	0.3400%
13	June 1, 2018, through May 31, 2019	7.00%	8.20%	0.3900%
14	June 1, 2019, through May 31, 2020	7.50%	8.20%	0.4433%
15	June 1, 2020, through May 31, 2021	8.00%	10.00%	0.5000%

Act 213 also requires that EDCs and EGSs acquire alternative energy credits (AECs) in quantities equal to an increasing percentage of electricity sold to retail customers. AECs are separate from the electricity that is sold to customers. An AEC represents one MWh of qualified alternative electric generation or conservation, whether self-generated, purchased along with the electric commodity, or separately through a tradable instrument.²⁵

²³ See Docket No. L-00060180; 52 Pa. Code §§ 75.61-75.70.

²⁴ See 66 Pa.C.S. § 2814(b).

²⁵ See 52 Pa. Code §§ 75.61—75.70.

AECs are earned when a qualified facility generates 1,000 kilowatt-hours (kWh) of electricity through either estimated or actual metered production. An AEC is a tradable certificate that represents all the renewable energy benefits of electricity generated from a facility. An AEC can be sold or traded separately from the power. AECs are generally purchased by EDCs and EGSs in order to meet the percentages required under AEPS for any given year. AECs can be traded multiple times until they are retired for compliance purposes. An AEC can only be retired once and may not be used to satisfy any other obligations, whether voluntarily or mandated by a renewable energy portfolio standard in another state.

Clean Power Markets Inc. (CPM) serves as the AEC program administrator for Pennsylvania. CPM has been administering the program since 2007 and will continue in that role under its current contract until 2015. CPM verifies that EGSs and EDCs are complying with the minimum requirements of Act 213. PJM's Generation Attribute Tracking System (GATS) assists EDCs in compliance with the requirements of Act 213, including registration of projects.

Under Act 213, the Commission adopted regulations promoting onsite generation by customer-generators using renewable resources and eliminating barriers that may have previously existed regarding net metering.²⁶ The regulations also provide for metering capabilities that will be required and a compensation mechanism that reimburses customer-generators for surplus energy supplied to the electric grid.²⁷ Act 35 of 2007 amended Act 213. One aspect of Act 35 altered the reconciliation mechanism used to compensate resellers for surplus energy supplied through net metering.²⁸

The Commission also adopted regulations that govern interconnection for customer-generators. The regulations strive to eliminate barriers which may have previously existed with regard to interconnection, while ensuring that interconnection by customer-generators will not pose unnecessary risks to the electric distribution systems in the Commonwealth.²⁹

As of May 31, 2013, Pennsylvania had certified 9,874³⁰ alternate energy facilities, of which 7,474 are located within the state. The total cost for AEPS compliance for all load-serving entities in Pennsylvania is estimated to be \$35 million in 2015.³¹

For additional information on Alternative Energy in Pennsylvania, please visit the Commission's website (http://www.puc.pa.gov/consumer_info/electricity/alternative_energy.aspx).

²⁶ Net metering measures the difference between the electricity supplied by an electric utility or EGS and the electricity generated by a customer-generator when any portion of the electricity generated by the alternative energy generating system is used to offset part or all of the customer-generator's requirements for electricity. *See* 52 Pa. Code § 75.12.

²⁷ *See* Docket No. L-00050174; 52 Pa. Code §§ 75.11-75.15.

²⁸ *Id.*

²⁹ *See* Docket No. L-00050175; 52 Pa. Code §§ 75.21-75.40.

³⁰ *See* paaeps.com/credit/showQualified.do?todo=qualified

³¹ *See* http://www.puc.state.pa.us/electric/pdf/AEPS/AEPS_Ann_Rpt_2012.pdf

Energy Efficiency and Conservation (Act 129)

Act 129 of 2008³² required the seven Pennsylvania EDCs³³ with at least 100,000 customers³⁴ to establish an energy efficiency and conservation (EE&C) plan. The Commission-approved plans were to reduce energy demand and consumption by 1 percent by May 31, 2011, and 3 percent by May 31, 2013. Peak demand was to be reduced by 4.5 percent by May 31, 2013. Based on forecast growth data, consumption reduction goals totaled 1,467 GWh in 2011 and 4,400 GWh in 2013. Peak demand reduction goals were projected to total 1,193 MW for 2013.³⁵ The Commission determined that, with the exception of West Penn Power, the EDCs achieved the 1 percent energy consumption reduction target by May 31, 2011. The Commission also determined that all seven EDCs achieved both the 3 percent by May 31, 2013 consumption reduction and the 4.5 percent by May 31, 2013 peak demand reduction targets.³⁶

The Commission referred the issue of whether West Penn Power met its 1 percent by May 31, 2011 consumption reduction goal to its Bureau of Investigation and Enforcement.³⁷ West Penn Power was provided with 20 days to file a petition disagreeing with the Commission's determination regarding its compliance. On Apr. 9, 2014, West Penn Power submitted a petition challenging the Commission's initial determination.³⁸ Additionally, on Apr. 22, 2014, the Commission's Bureau of Investigation and Enforcement filed a complaint against West Penn Power for its potential non-compliance.³⁹ On Aug. 21, 2014, the Commission adopted the Recommended Decision of Administrative Law Judge Mary D. Long and approved without modification the Joint Petition for Approval of Unanimous Settlement of All Issues. As per the Joint Petition, West Penn Power agreed to a monetary penalty of \$1.3 million and to withdraw their petition challenging the Commission's initial determination.⁴⁰

Additionally, under Act 129, the Commission was required to evaluate the costs and benefits of the EE&C programs by Nov. 31, 2013.⁴¹ The Commission determined the program benefits outweighed the costs. Based on the Act 129 Statewide Evaluator's (SWE)⁴² *Electric Energy*

³² Act 129 of 2008, effective November 14, 2008; 66 Pa. C.S. §§2806.1-2806.2.

³³ The seven EDCs with Act 129 Energy Efficiency and Conservation obligations are Duquesne Light Company; Metropolitan Edison Company; PECO Energy Company; Pennsylvania Electric Company; Pennsylvania Power Company; PPL Electric Utilities Corporation and West Penn Power Company.

³⁴ See 66 Pa.C.S. § 2806.1.

³⁵ See Energy Consumption and Peak Demand Reduction Targets Order, Docket No. M-2008-2069887, entered Mar. 30, 2009.

³⁶ See Energy Efficiency and Conservation Program Order, Docket No. M-2008-2069887, entered Mar. 20, 2014.

³⁷ *Id.* at 9 and 10.

³⁸ See Petition of West Penn Power Company Challenging an Initial Determination of Non-Compliance with Section 2806.1(c) of Act 129, Docket No. P-2014-2415521, submitted Apr. 9, 2014.

³⁹ See Bureau of Investigation and Enforcement v. West Penn Power Company, Docket No. C-2014-2417325, served Apr. 22, 2014.

⁴⁰ See Joint Petition for Approval of Unanimous Settlement of All Issues, Docket No. C-2014-2417325, submitted Jul. 30, 2014.

⁴¹ See 66 Pa.C.S. §§ 2806.1(c) and (d)

⁴² Public Meeting of Jun. 25, 2009, the Commission selected GDS Associates, Inc. Engineers and Consultants as the statewide evaluator for Phase I.

Efficiency Potential for Pennsylvania Final Report,⁴³ the Commission set new consumption reduction targets to be attained in the three-year period from Jun. 1, 2013, to May 31, 2016, for the EDCs subject to the Act 129 EE&C requirements.⁴⁴ These targets are outlined in Table 2, below.

Table 2 Consumption Reduction Targets

Act 129 Phase II Three-Year Energy Efficiency Reduction Compliance Targets		
EDC	Three-Year % of 2009/10 Forecast Reductions (%)	Three-Year MWh Value of 2009/10 Forecast Reductions
Duquesne	2.0	276,722
Met-Ed	2.3	337,753
Penelec	2.2	318,813
Penn Power	2.0	95,502
PPL	2.1	821,072
PECO	2.9	1,125,851
West Penn	1.6	337,533

The Commission determined that not enough information was available regarding the cost-effectiveness of Act 129 demand response programs to set additional peak demand reduction targets for Phase II of Act 129.⁴⁵ However, assuming an EDC would be able to meet its Phase II consumption reduction target under its Act 129 budget, the Commission provided the opportunity for EDCs to propose, either in the EE&C plans or otherwise, voluntary residential demand response programs.⁴⁶ Additionally, the Commission directed the SWE to perform a Demand Response Potential Study using residential direct load control and commercial and industrial load curtailment models provided by the Commission.⁴⁷ This study will provide the Commission with the information necessary to determine whether Act 129 Phase III peak demand reduction programs would be cost-effective. The study is to be submitted to the Commission by the end of calendar year 2014.

Statewide Review of Electrical Energy Usage

Pennsylvania’s aggregate electrical energy usage (residential, commercial, industrial, sales for resale, and other) in 2013 was 146,235 GWh versus 144,955 GWh for 2012, which is a 0.9 percent increase in electrical usage. The number of electrical energy customers decreased by 22,506 or 0.39 percent. Residential usage represented 35.2 percent of the total usage, followed by industrial

⁴³ See the Electric Energy Efficiency Potential for Pennsylvania Final Report, available at http://www.puc.pa.gov/filing_resources/issues_laws_regulations/act_129_information/act_129_statewide_evaluator_swe_.aspx.

⁴⁴ See Energy Efficiency and Conservation Program Implementation Order, Docket No. M-2012-2289411, entered Aug. 3, 2012.

⁴⁵ *Id.* at 38-42.

⁴⁶ *Id.* at 42 and 43.

⁴⁷ See *Energy Efficiency and Conservation Program* Final Order, Docket No. M-2012-2289411, entered Feb. 20, 2014.

(32.4 percent) and commercial (28.6 percent). Aggregate non-coincident peak load⁴⁸ increased to 30,021 MW in 2013 from 29,780 MW in 2012, which is a 0.81 percent increase from the previous year.

The total average aggregate five-year energy usage growth projection for the residential, commercial and industrial classes is 0.72 percent per year as shown in Table 3, below. This includes a residential growth rate of 0.33 percent, a commercial growth rate of 0.68 percent and an industrial growth rate of 1.2 percent for the entire five-year period. Only the industrial class' growth rate was higher than the comparable PJM 10-year forecast of 1.0 percent annual growth rate for the mid-Atlantic region.⁴⁹

Table 3 Average Aggregate five-year Electrical Energy Projection

Energy Usage Projection (GWh)				
Year	Residential	Commercial	Industrial	Total
2014	50,494	41,873	47,159	139,526
2015	50,676	42,157	47,996	140,829
2016	50,876	42,531	48,606	142,013
2017	50,996	42,804	49,087	142,887
2018	51,169	43,031	49,399	143,599
average annual growth (%)	0.33	0.68	1.2	0.72

Individual EDC forecasts are more specific to customers and geographical areas. Each EDC bases its forecasts on financial forecasts of its choosing. The EDC's forecasts are more specific for its territory than the PJM forecasts, which is a broader forecast that includes Pennsylvania EDC territories. Tables 4 and 5 below provide metrics for 2013 and 2012, respectively.

Table 4 PA EDC customers served, energy usage, and peak load (2013)

Company	Total Customers Served	Residential (MWh)	Commercial (MWh)	Industrial (MWh)	Other (MWh)	Sales For Resale (MWh)	Total Consumption (MWh)	System Losses (MWh)	Company Use (MWh)	Net Energy For Load (MWh)	Peak Load (MW)
Duquesne	591,815	4,090,906	6,494,254	3,337,255	60,635	24,223	14,007,272	677,542	29,249	14,714,063	2,951
Met-Ed	555,729	5,553,153	2,933,482	5,328,311	28,868	544,502	14,388,316	1,082,202	0	15,470,518	3,012
Penelec	589,755	4,490,880	3,531,240	5,731,434	38,627	2,431,531	16,223,713	1,570,453	0	17,794,165	3,087
Penn Power	161,870	1,703,976	1,348,582	1,508,839	6,212	192,213	4,759,822	345,978	0	5,105,800	962
PPL	1,410,345	14,295,182	14,140,450	8,051,581	203,532	0	36,690,745	2,646,353	64,151	39,401,248	7,190
PECO	1,586,969	13,340,802	8,100,575	15,378,728	936,139	287,886	38,044,130	2,332,503	38,491	38,082,621	8,618
West Penn	719,572	7,318,190	4,878,138	7,776,666	47,663	737,202	20,757,860	1,430,142	0	22,188,002	3,914
UGI	62,089	558,418	327,355	109,174	5,627	128	1,000,701	73,086	1,983	1,075,770	205
Citizens'	6,883	85,565	29,024	53,195	616	0	168,400	9,021	190	177,611	37
Pike County	4,673	30,364	43,597	0	414	0	74,375		122	74,253	19
Wellsboro	6,257	43,840	32,391	42,651	221	112	119,215	9,982	283	108,840	26
Total	5,695,957	51,511,276	41,859,088	47,317,834	1,328,554	4,217,797	146,234,549	10,177,262	134,469	154,192,891	30,021
% of Total		35.23%	28.62%	32.36%	0.91%	2.88%	100.00%				

⁴⁸ Non-coincident peak load is the sum of EDCs' annual peak loads regardless of their date or time of occurrence.

⁴⁹ See PJM load forecast report 2014, Table E-1, available at <http://www.pjm.com/~media/documents/reports/2014-load-forecast-report.ashx>

Table 5 PA EDC customers served, energy usage, and peak load (2012)

Company	Total Customers Served	Residential (MWh)	Commercial (MWh)	Industrial (MWh)	Other (MWh)	Sales For Resale (MWh)	Total Consumption (MWh)	System Losses (MWh)	Company Use (MWh)	Net Energy For Load (MWh)	Peak Load (MW)
Duquesne	588,579	4,168,931	6,538,581	3,406,312	60,532	19,592	14,193,948	686,670	28,260	14,908,878	3,054
Met-Ed	554,109	5,362,819	2,907,035	5,261,037	28,469	544,390	14,103,750	1,258,160	0	15,361,909	3,036
Penelec	590,076	4,425,053	3,537,965	5,862,496	39,449	2,438,035	16,302,998	1,343,798	0	17,646,796	2,908
Penn Power	161,066	1,668,049	1,333,795	1,455,742	6,200	179,541	4,643,327	100,628	0	4,743,955	963
PPL	1,404,898	13,615,825	14,026,593	8,172,757	223,032	0	36,038,207	2,599,114	60,592	38,697,913	7,182
PECO	1,622,584	13,233,318	8,063,130	15,252,526	951,078	378,446	37,878,498	2,258,435	37,868	37,916,366	8,549
West Penn	717,372	7,091,985	4,848,911	7,684,495	48,580	787,305	20,461,276	1,290,529	0	21,751,806	3,808
UGI	62,066	538,707	325,722	108,623	5,580	120	978,752	57,414	1,925	1,038,091	203
Citizens'	6,831	80,082	27,939	51,400	629	0	160,050	8,194	187	168,431	37
Pike County	4,659	30,047	45,156	0	421	0	75,624	591	32	75,592	18
Wellsboro	622.3	43,269	31,569	43,806	225	118	118,987	10,009	310	108,668	22
Total	5,718,463	50,258,085	41,686,396	47,299,194	1,364,195	4,347,547	144,955,417	9,613,542	129,174	152,418,405	29,780
% of Total		34.67%	28.76%	32.63%	0.94%	3.00%	100.00%				

Figure 3 shows Pennsylvania historic and forecast energy usage for residential, commercial and industrial retail since 1972.

Figure 3 Pennsylvania retail energy usage (GWh)

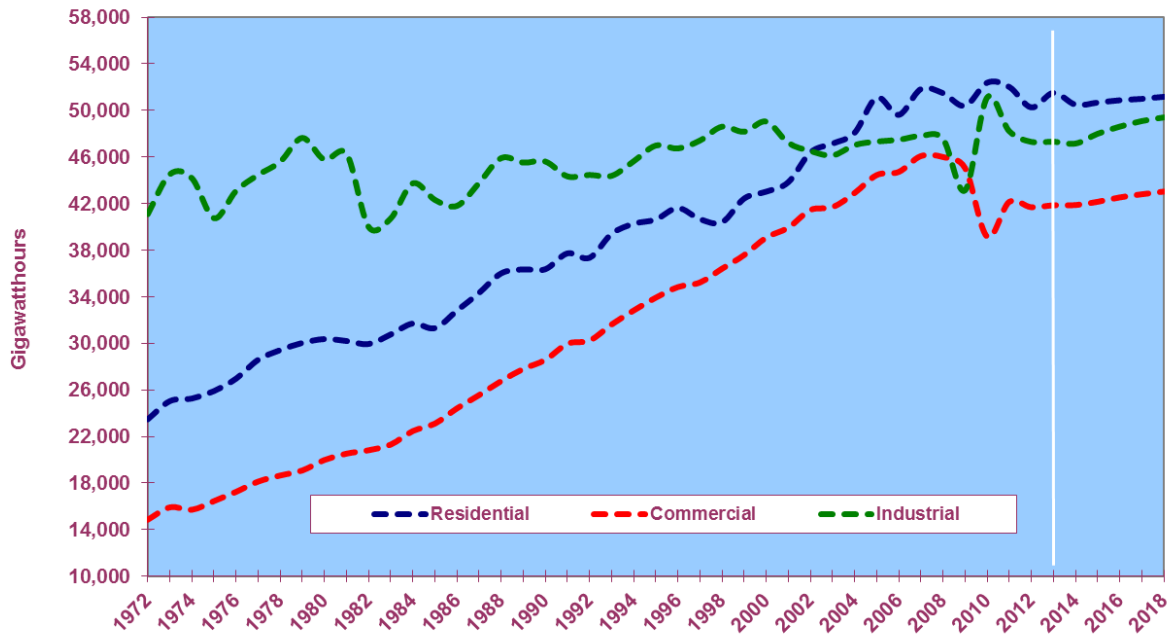


Figure 4 shows average residential cost and average usage from 1940 to 2013. Between 1970 and 2010, average residential usage in Pennsylvania increased 1.4 percent each year, while average cost increased 4.1 percent each year. During the last 10 years, average residential usage increased 1.4 percent each year, while average cost increased 1.3 percent a year.

Figure 4 Average residential cost (cents/kWh) and usage (MWh/year)

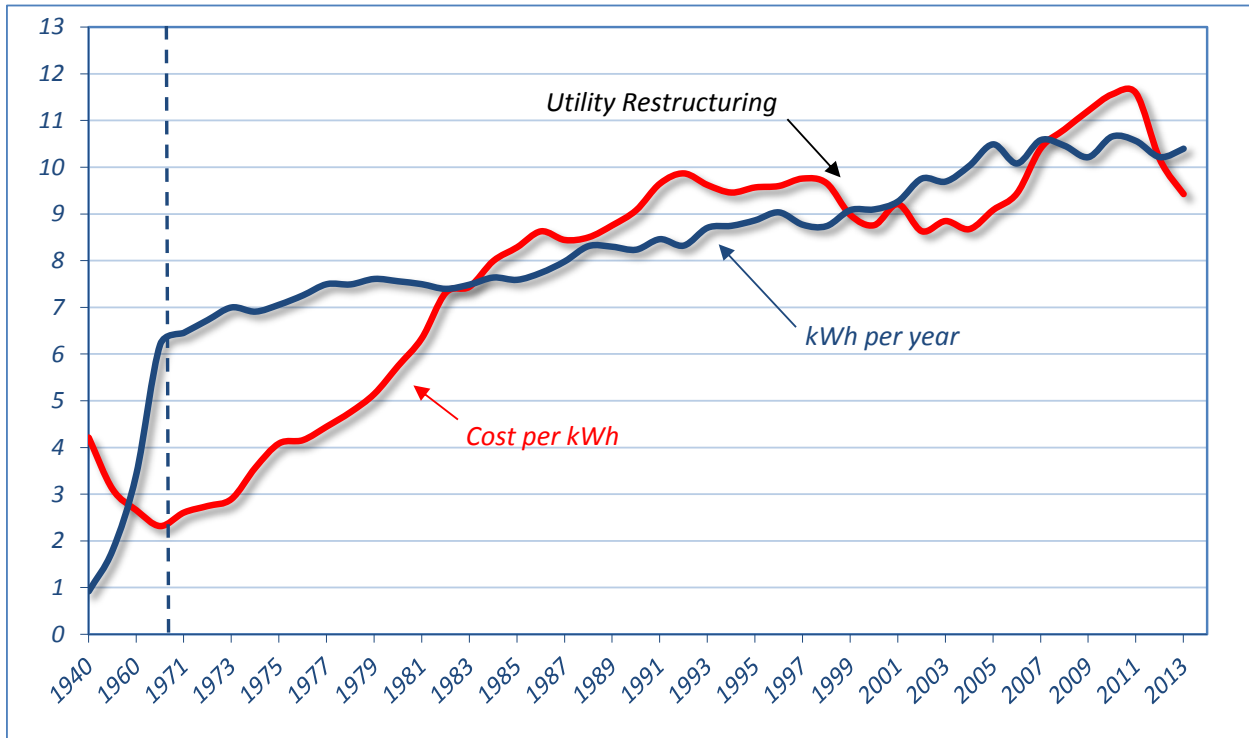
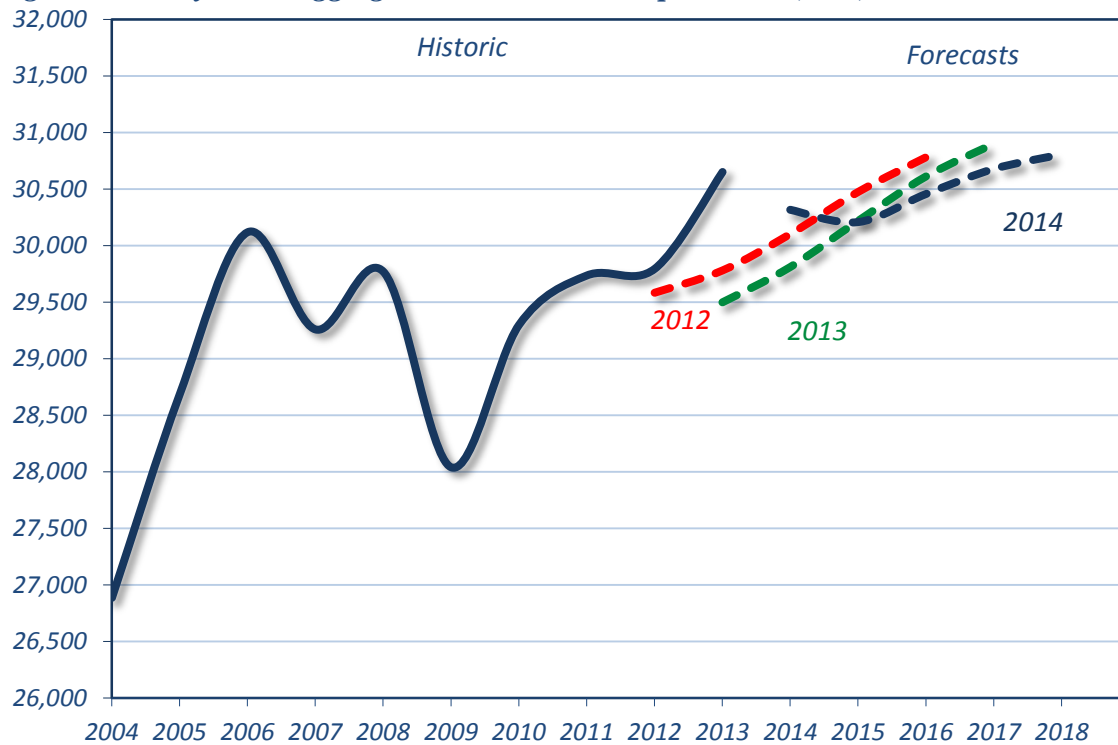


Figure 5 shows Pennsylvania’s aggregate non-coincidental peak load demand from 2004 to 2013 and the associated 5 year projections estimated the past 3 years.

Figure 5 Pennsylvania aggregate non-coincidental peak load (MW)



Summary of Data for the Seven Largest EDCs

The following sections provide historic and projected energy usage and peak load demand statistics, purchases from cogeneration and small power production projects, planned transmission line additions, and conservation activities for Pennsylvania’s seven largest EDCs.

Duquesne Light Company (Duquesne)

Duquesne provides electric service to 591,815 customers in the City of Pittsburgh and portions of Allegheny and Beaver counties in Southwestern Pennsylvania. Duquesne’s 2013 energy usage total was 14,007 GWh, while in 2012 it was 14,193 GWh (a decrease of 1.3 percent from the previous year). Duquesne’s total usage mix consisted of commercial (46 percent), residential (29 percent), industrial (24 percent), and sales for resale (0.4 percent).

Over the next five years, total energy usage is projected to increase at an average annual rate of 0.05 percent. This includes an average annual increase in residential usage of 0.3 percent, an average annual increase in commercial usage by 0.2 percent, and an average annual decrease of industrial usage by 0.7 percent. See Figure 6.

Duquesne's highest peak load of 2,951 MW occurred on Jul. 17, 2013. This represents a decrease of 3.4 percent from the previous year's peak of 3,054 MW. Summer peak load is projected to increase from 2,951 MW in summer 2013 to 3,143 MW by summer 2018, or by an average annual growth rate increase of 1.3 percent. See Figure 7.

Refer to Appendix A, Tables A01-A04 for Duquesne's forecasts of peak load and residential, commercial and industrial energy demand, filed with the Commission in years 2004 through 2014.

Figure 6 Duquesne energy usage (GWh)

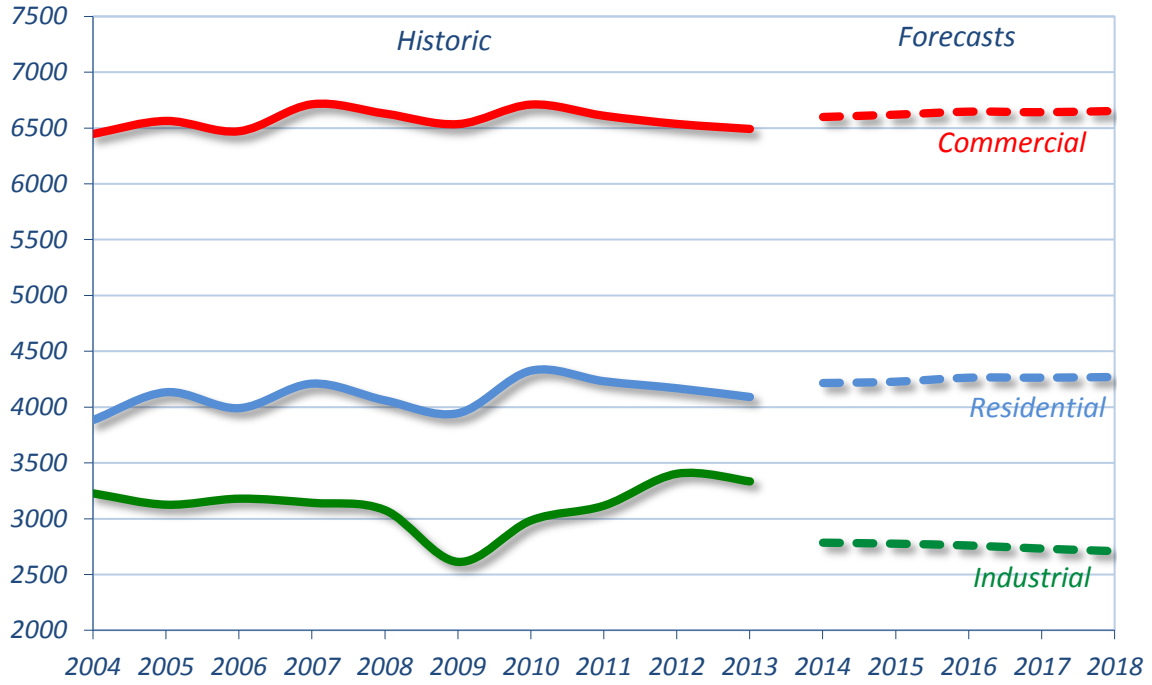
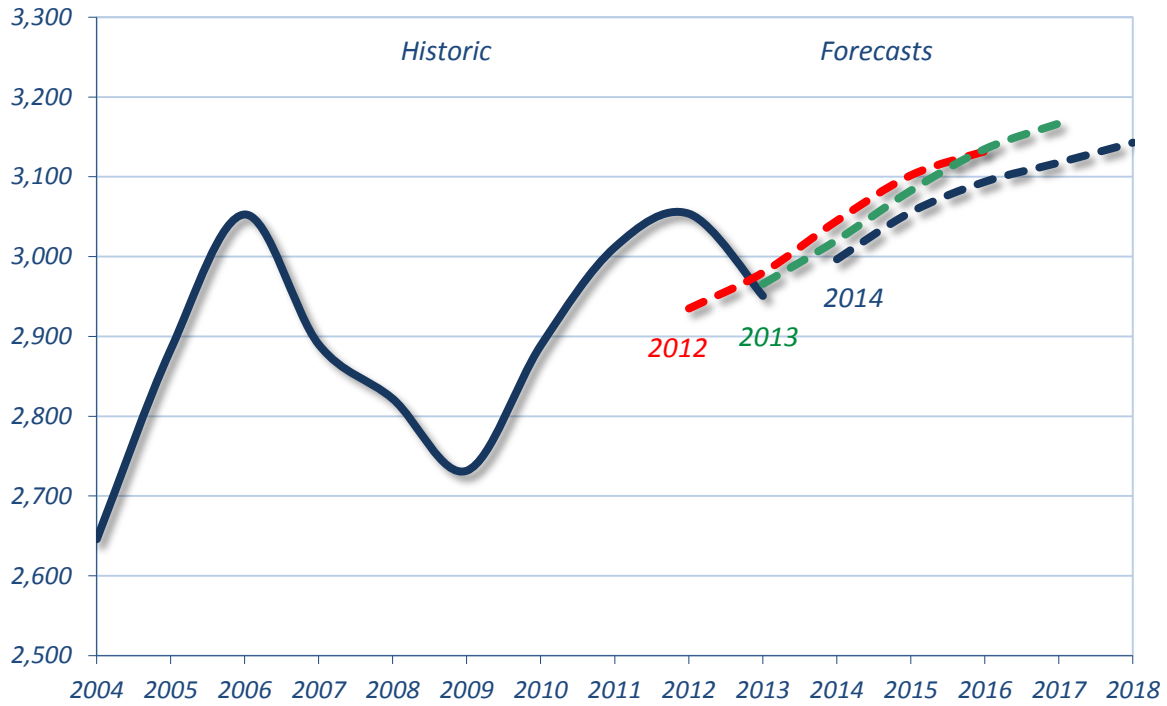
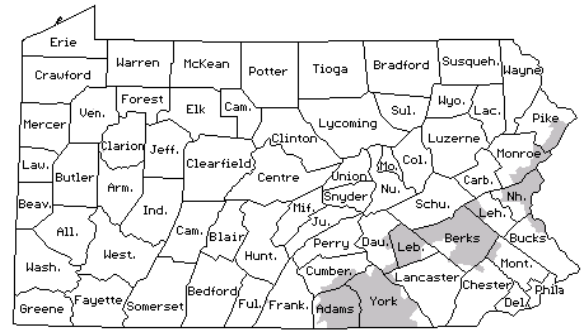


Figure 7 Duquesne peak load (MW)



Metropolitan Edison Company (Met-Ed)

Met-Ed provides service to 554,729 customers in all or portions of 14 counties in Eastern and Southcentral Pennsylvania. Met-Ed's 2013 energy usage total was 14,388 GWh, while in 2012 it was 14,104 GWh (an increase of 2.0 percent from the previous year). Met-Ed's total sales mix consisted of residential (39 percent), industrial (37 percent), commercial (20 percent), and sales for resale (3.7 percent).



Over the next five years, total energy usage is projected to increase at an average annual rate of 0.7 percent. This includes an average annual increase in residential usage of 0.6 percent, an average annual increase in commercial usage by 0.6 percent, and an average annual increase of industrial usage by 0.9 percent. See Figure 8.

Met-Ed's highest peak load of 3,012 MW occurred on Jul. 18, 2013. This represents a decrease of 0.8 percent from previous year's peak of 3,036 MW. Summer peak load is projected to increase from 3,012 MW in summer 2013 to 3,017 MW by summer 2018, or by an average annual growth rate of 0.3 percent. See Figure 9.

Refer to Appendix A, Tables A05-A08 for Met-Ed's forecasts of peak load and residential, commercial and industrial energy demand, filed with the Commission in years 2004 through 2014.

Figure 8 Met-Ed energy usage (GWh)

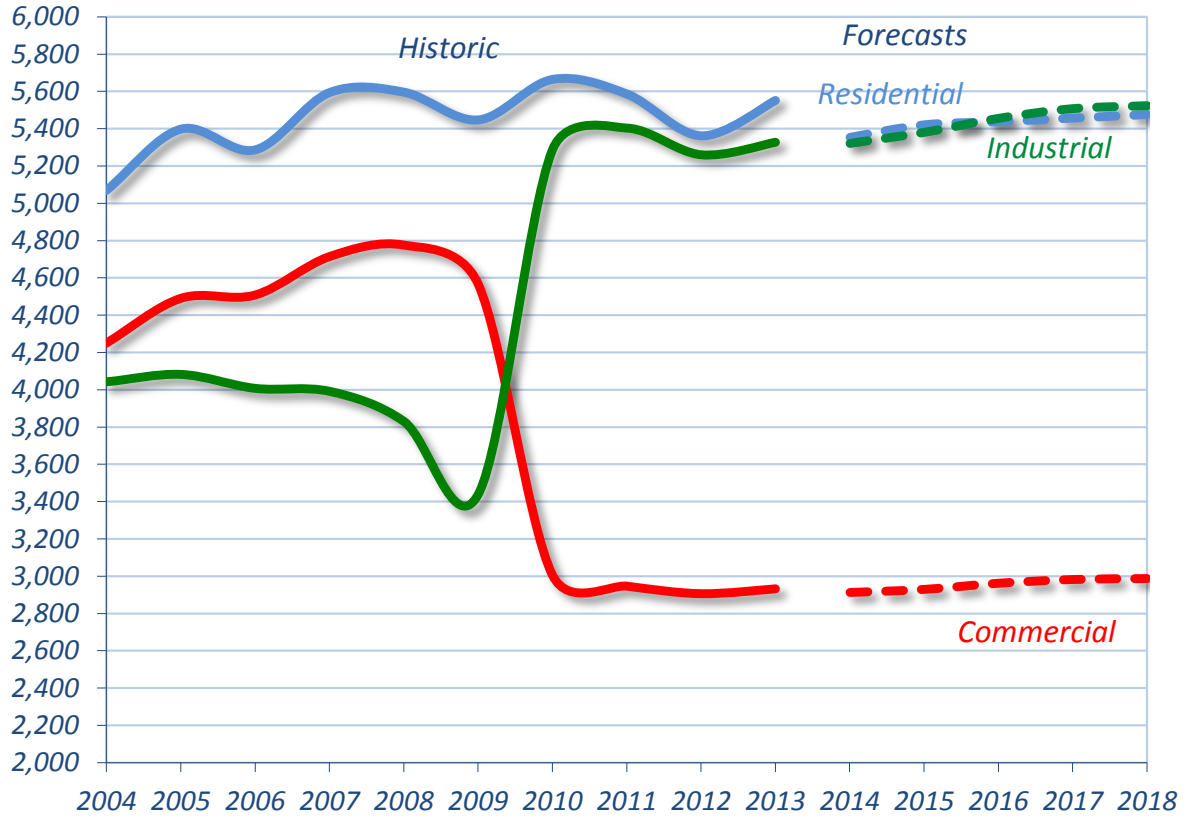
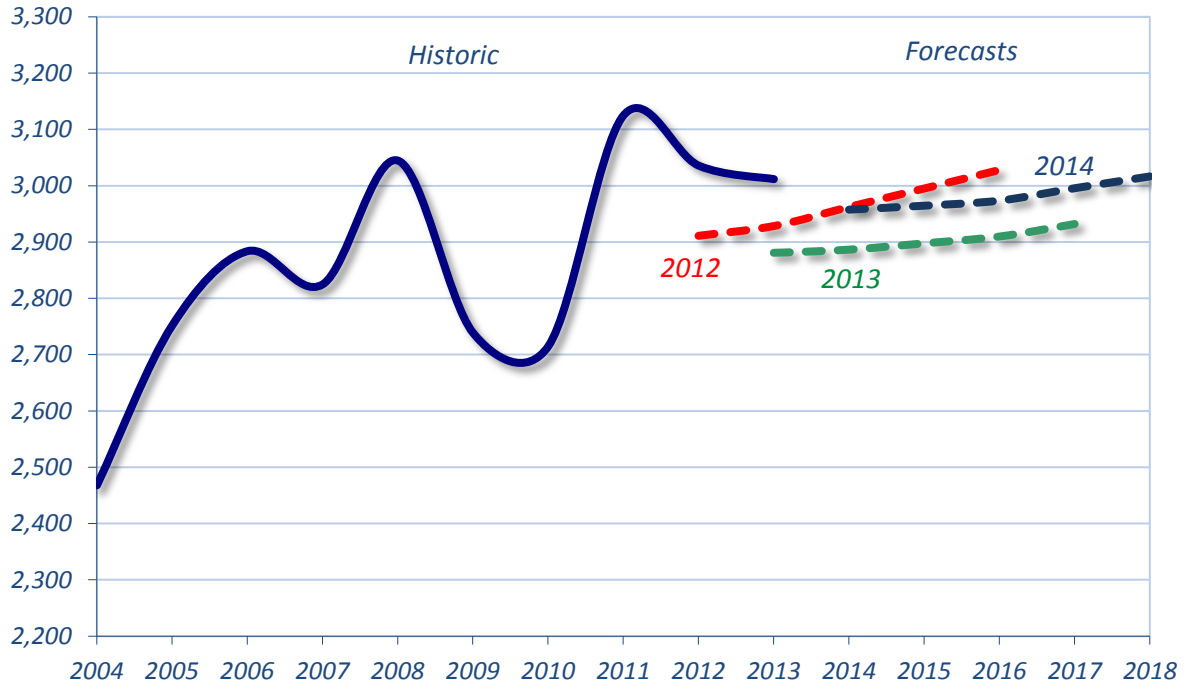
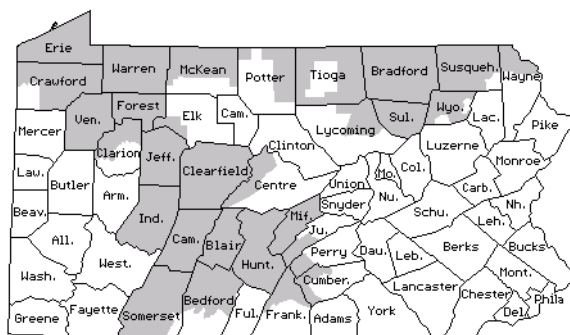


Figure 9 Met-Ed peak load (MW)



Pennsylvania Electric Company (Penelec)

Penelec provides service to 589,755 customers in all or portions of 29 counties in Western and Northern Pennsylvania. Penelec's 2013 energy usage total was 16,224 GWh, while in 2012 it was 16,303 GWh (a decrease of 0.5 percent from the previous year). Penelec's total sales mix consisted of residential (28 percent), industrial (35 percent), commercial (22 percent), and sales for resale (15 percent).



Over the next five years, total energy usage is projected to increase at an average annual rate of 0.7 percent. This includes an average annual increase in residential usage of 0.6 percent, an average annual increase in commercial usage by 0.4 percent, and an average annual increase in industrial usage by 0.9 percent. See Figure 10.

Penelec's highest peak load of 3,087 MW occurred on Jul. 18, 2013. This represents an increase of 5.8 percent from previous year's peak of 2,908 MW. Summer peak load is projected to decrease from 3,087 MW in summer 2013 to 2,968 MW by summer 2018, or by an average annual growth rate decrease of 0.78 percent. See Figure 11.

Refer to Appendix A, Tables A09-A12 for Penelec's forecasts of peak load and residential, commercial and industrial energy demand, filed with the Commission in years 2004 through 2014.

Figure 10 Penelec energy usage (GWh)

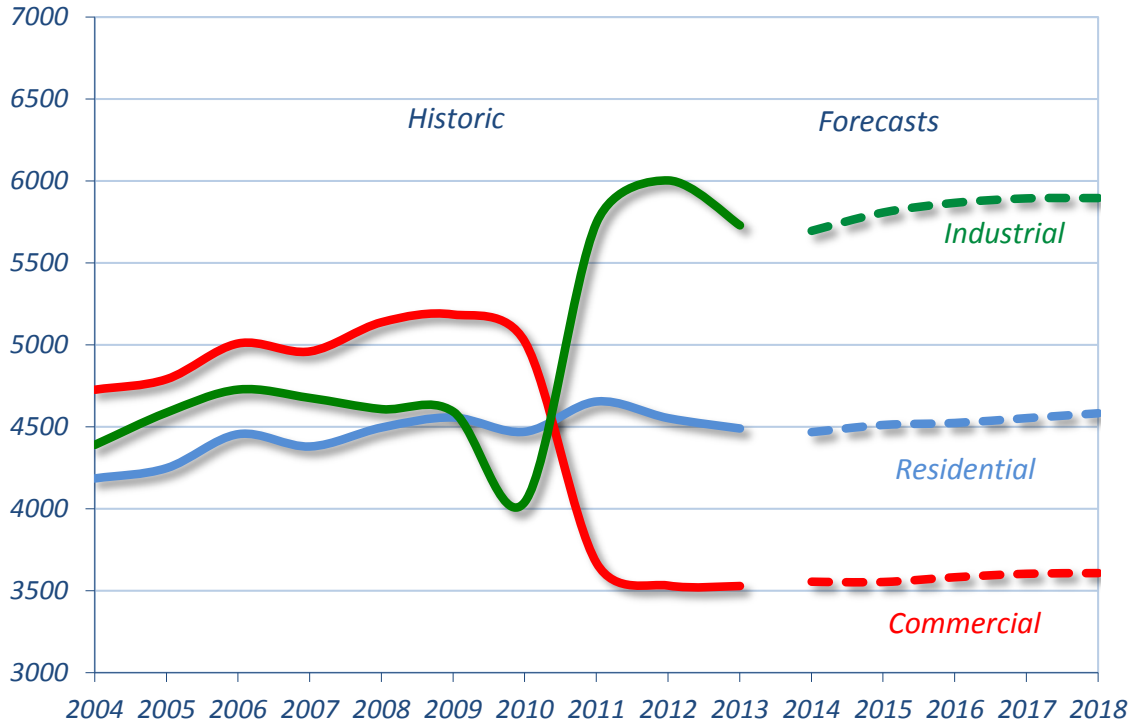
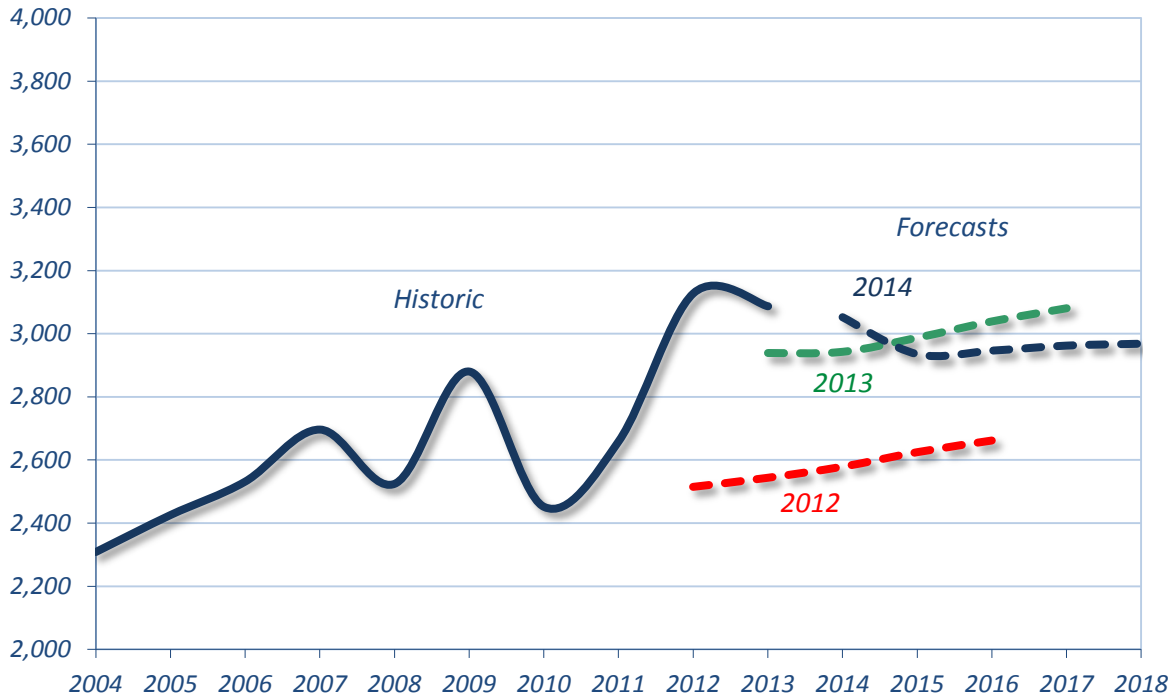
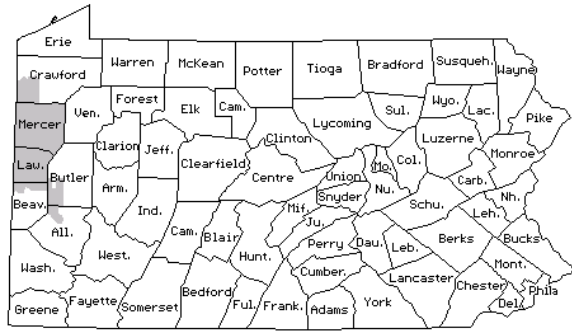


Figure 11 Penelec peak load (MW)



Pennsylvania Power Company (Penn Power)

Penn Power provides service to 161,870 customers in all or portions of six counties in Western Pennsylvania. Penn Power’s 2013 energy usage total was 4,760 GWh, while in 2012 it was 4,643 GWh (an increase of 2.5 percent from the previous year). Penn Power’s total usage mix consisted of commercial (28.3 percent), residential (36 percent), industrial (31.7 percent), and sales for resale (4 percent).



Over the next five years, total energy usage is projected to increase at an average annual rate of 0.8 percent. This includes an average annual increase in residential usage of 0.4 percent, an average annual increase in commercial usage of 0.2 percent, and an average annual increase in industrial usage of 2.1 percent. See Figure 12.

Penn Power's highest peak load of 962 MW occurred on Jul. 16, 2013. This represents a decrease of 0.2 percent from the previous year’s peak of 963 MW. Summer peak load is projected to increase from 962 MW in summer 2013 to 1,022 MW by summer 2018, or by an average annual growth rate of 1.2 percent. See Figure 13.

Refer to Appendix A, Tables A13-A16 for Penn Power’s forecasts of peak load and residential, commercial and industrial energy demand, filed with the Commission in years 2004 through 2014.

Figure 12 Penn Power energy usage (GWh)

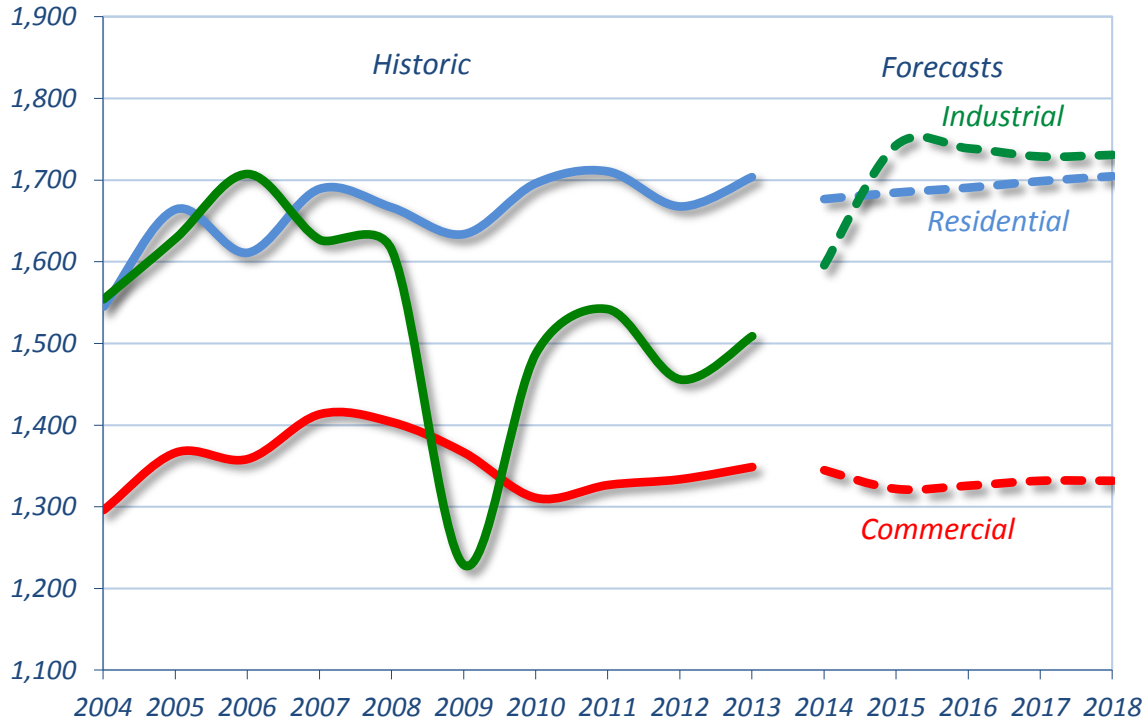
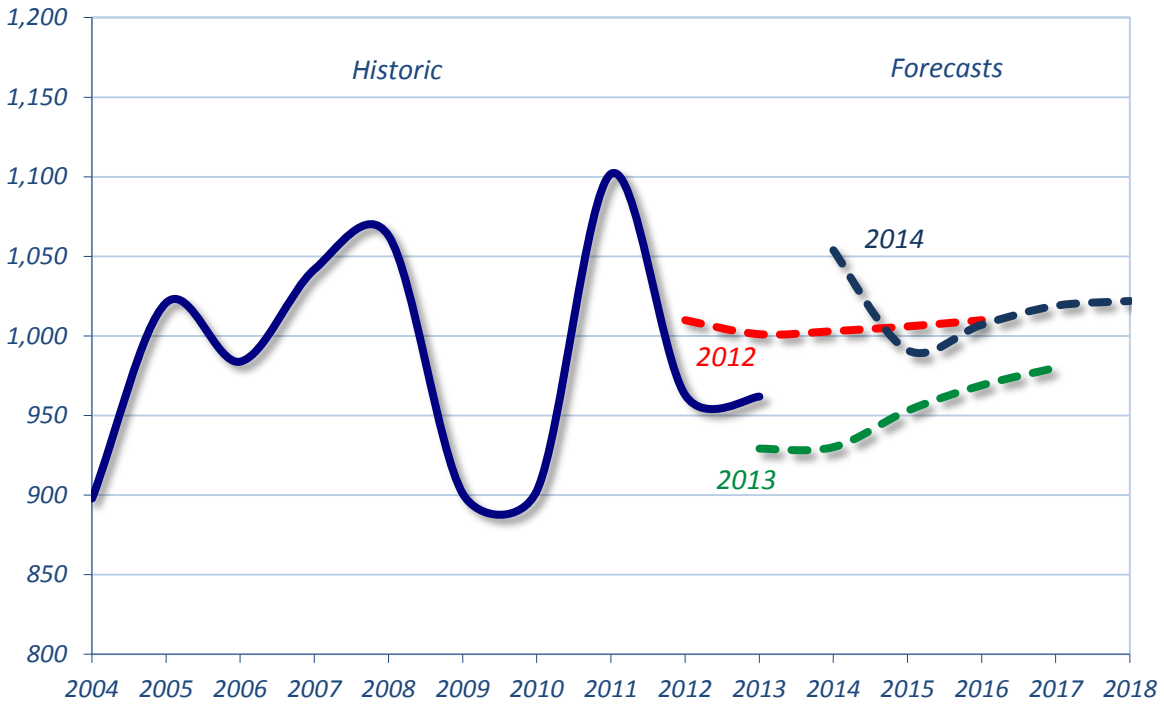
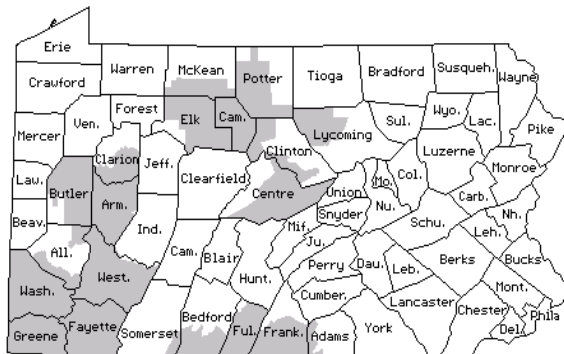


Figure 13 Penn Power peak load (MW)



West Penn Power Company (West Penn)

West Penn provides service to 717,572 customers in all or portions of 24 counties in Western, North and South Central Pennsylvania. West Penn's 2013 energy usage total was 20,758 GWh, while in 2012 it was 20,461 GWh (an increase of 1.5 percent from the previous year). West Penn's total usage mix consisted of commercial (23.5 percent), residential (35 percent), industrial (37.5 percent), and sales for resale (3.5 percent).



Over the next five years, total energy usage is projected to increase at an average annual rate of 0.9 percent. This includes an average annual increase in residential usage of 0.1 percent, an average annual increase in commercial usage by 0.5 percent, and an average annual increase in industrial usage by 1.7 percent. See Figure 14.

West Penn's highest peak load of 3,914 MW occurred on Jul. 18, 2013. This represents an increase of 2.7 percent from the previous year's peak of 3,808 MW. Summer peak load is projected to increase from 3,914 MW in 2013 to 4,077 MW by the year 2018, or by an average annual growth rate of 0.8 percent. See Figure 15.

Refer to Appendix A, Tables A25-A28 for West Penn's forecasts of peak load and residential, commercial and industrial energy demand, filed with the Commission in years 2004 through 2014.

Figure 14 West Penn energy usage (GWh)

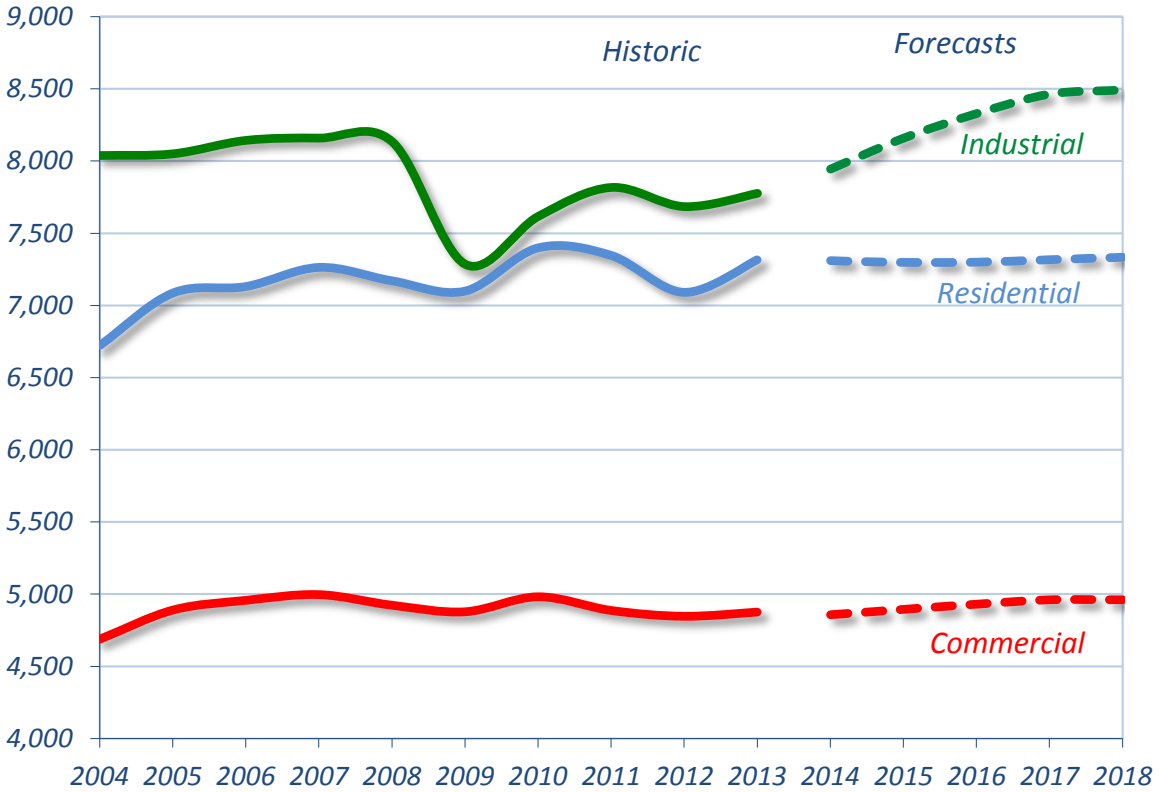
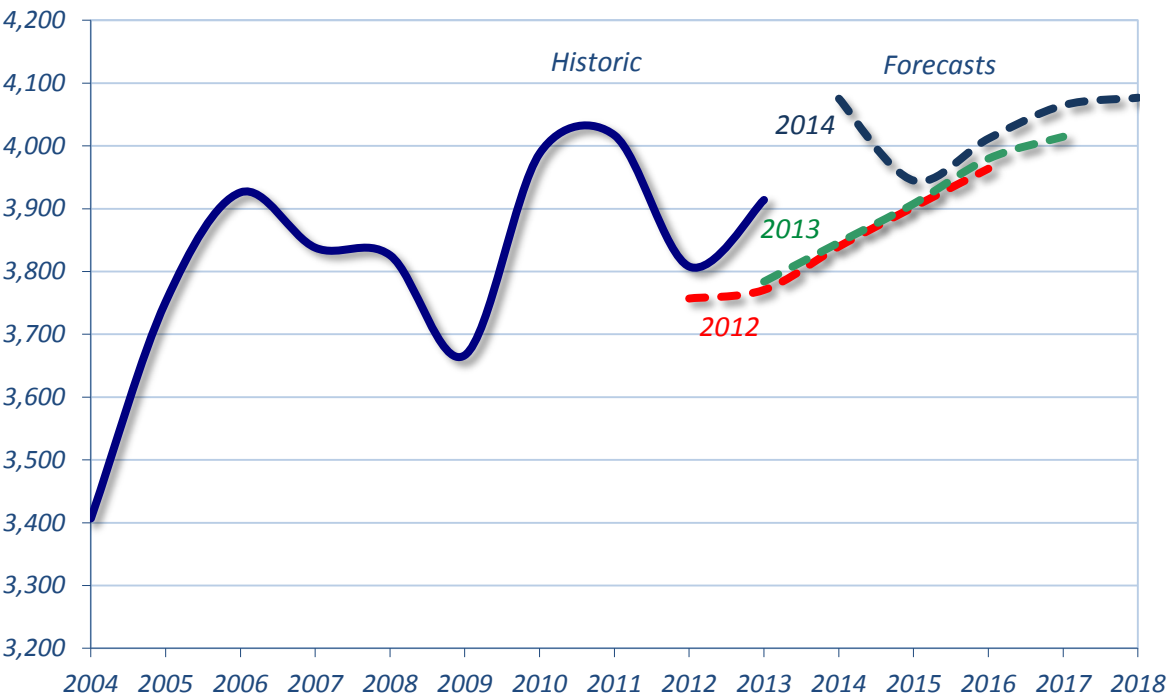
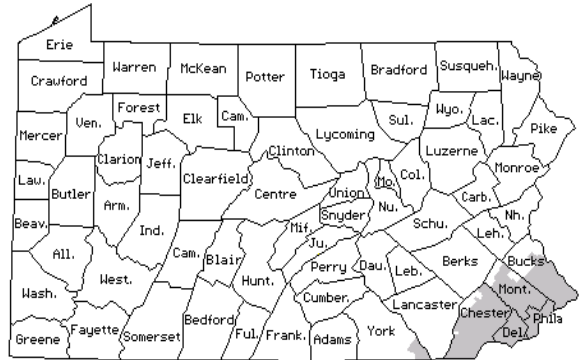


Figure 15 West Penn peak load (MW)



PECO Energy Company (PECO)

PECO is the largest electric utility in Pennsylvania, providing service to 1,706,148 customers in the City of Philadelphia and all or portions of six counties in Southeastern Pennsylvania. PECO’s 2013 energy usage total was 38,044 GWh, while in 2012 it was 37,879 GWh (an increase of 0.4 percent from the previous year). PECO’s total usage mix consisted of residential (35 percent), commercial (21 percent), industrial (40 percent), other⁵⁰ (2.5 percent), and sales for resale (1 percent).



Over the next five years, total energy usage is projected to increase at an average annual rate of 0.8 percent. This includes an average annual increase in residential usage of 0.1 percent, an average annual increase in commercial usage of 1.0 percent, and an average annual increase of industrial usage by 1.5 percent. See Figure 16.

PECO’s highest peak load of 8,618 MW occurred on Jul. 19, 2013. This represents an increase of 0.8 percent from the previous year’s peak of 8,549 MW. Summer peak load is projected to increase from 8,618 MW in summer 2013 to 8,661 MW by summer 2018, or by an average annual growth rate of 0.1 percent. See Figure 17.

Refer to Appendix A, Tables A21-A24 for PECO’s forecasts of peak load and residential, commercial and industrial energy demand, filed with the Commission in years 2004 through 2014.

⁵⁰ Sales in the “other” category include public streetlights, highway lighting, other public authorities, railroads, railways, and interdepartmental.

Figure 16 PECO energy usage (GWh)

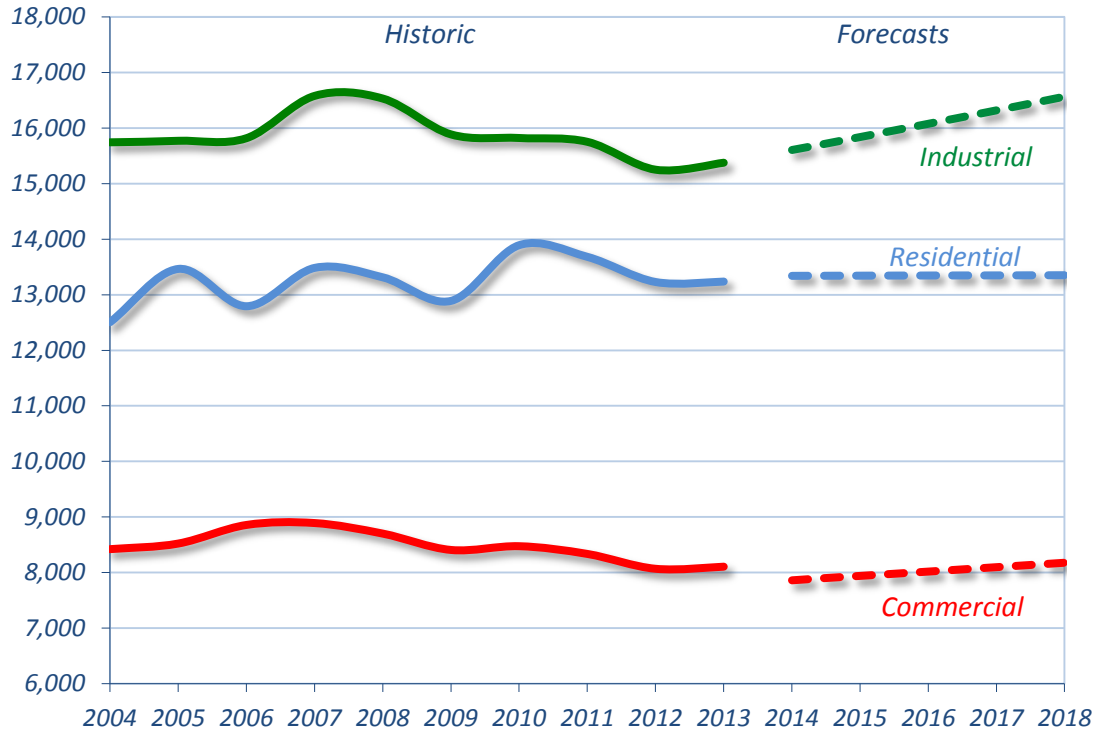
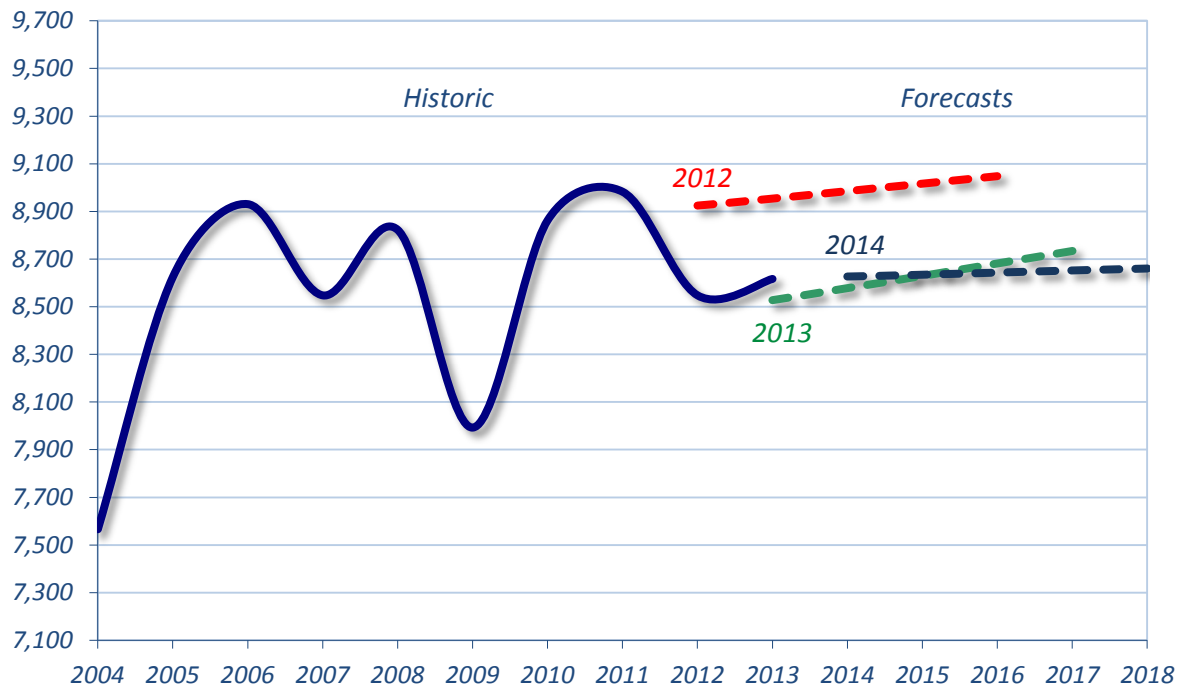
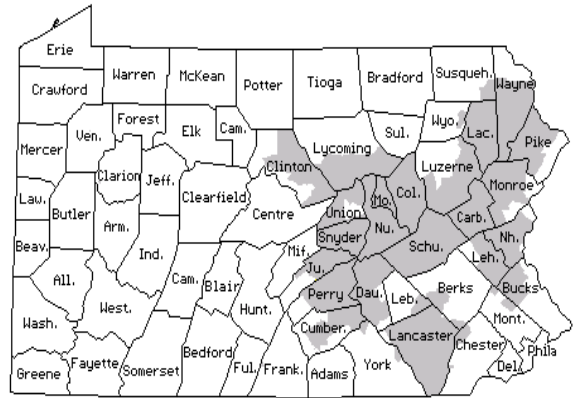


Figure 17 PECO Energy Company peak load (MW)



PPL Electric Utilities Corporation (PPL)

PPL provides service to 1,410,345 customers over a 10,000-square-mile area in all or portions of 29 counties in Central Eastern Pennsylvania. PPL’s 2013 energy usage total was 36,691 GWh, while in 2012 it was 36,038 GWh (an increase of 1.8 percent from the previous year). PPL’s total usage mix consisted of residential (39 percent), commercial (39 percent), industrial (22 percent), and other (0.6 percent).



Over the next five years, total energy usage is projected to increase at an average annual rate of 0.8 percent. This includes an average annual increase in residential usage of 0.5 percent, an average annual increase in commercial usage of 1.0 percent, and an average annual increase in industrial usage of 0.8 percent. See Figure 18.

PPL’s highest peak load of 7,190 MW occurred on Jul. 18, 2013. This represents an increase of 0.1 percent from the previous year’s peak of 7,182 MW. Summer peak load is projected to grow from 7,190 MW in 2013 to 7,686 MW by the year 2018, or by an average annual growth rate of 1.4 percent. See Figure 19.

Refer to Appendix A, Tables A17-A20 for PPL’s forecasts of peak load and residential, commercial and industrial energy demand, filed with the Commission in years 2004 through 2014.

Figure 18 PPL Electric Utilities Corporation energy usage (GWh)

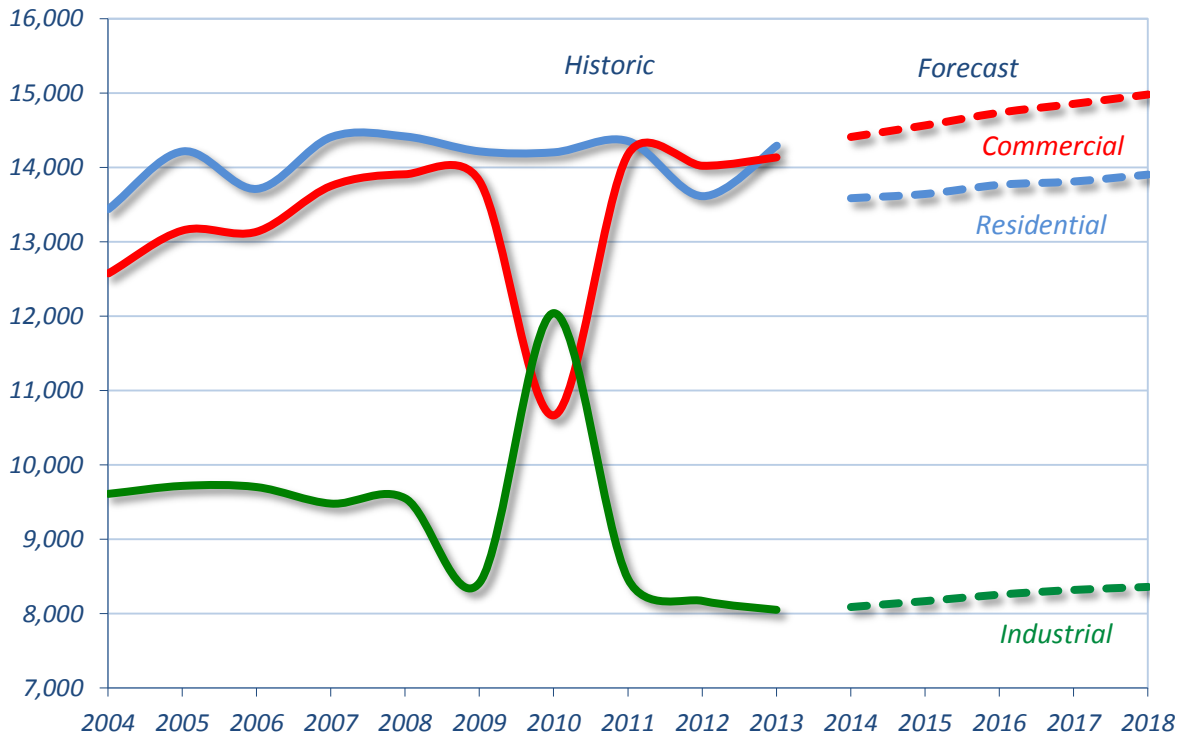
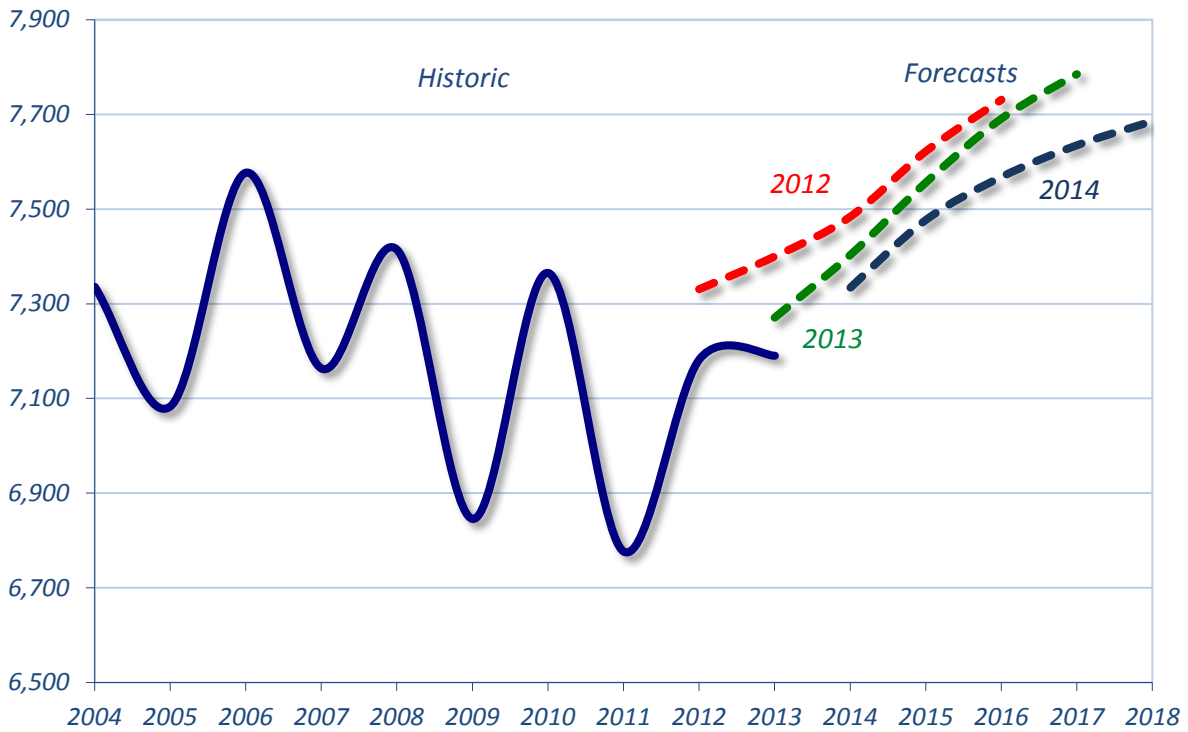


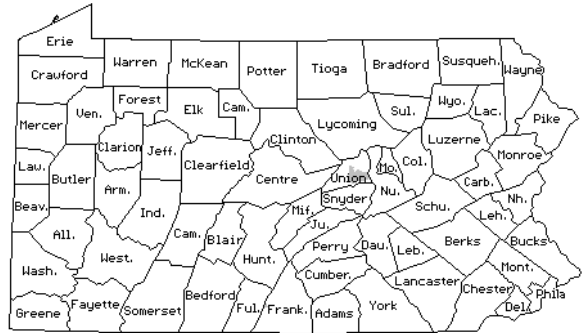
Figure 19 PPL Electric Utilities Corporation peak load (MW)



Summary of Data for the Four Smallest EDCs

Citizens' Electric Company (Citizens')

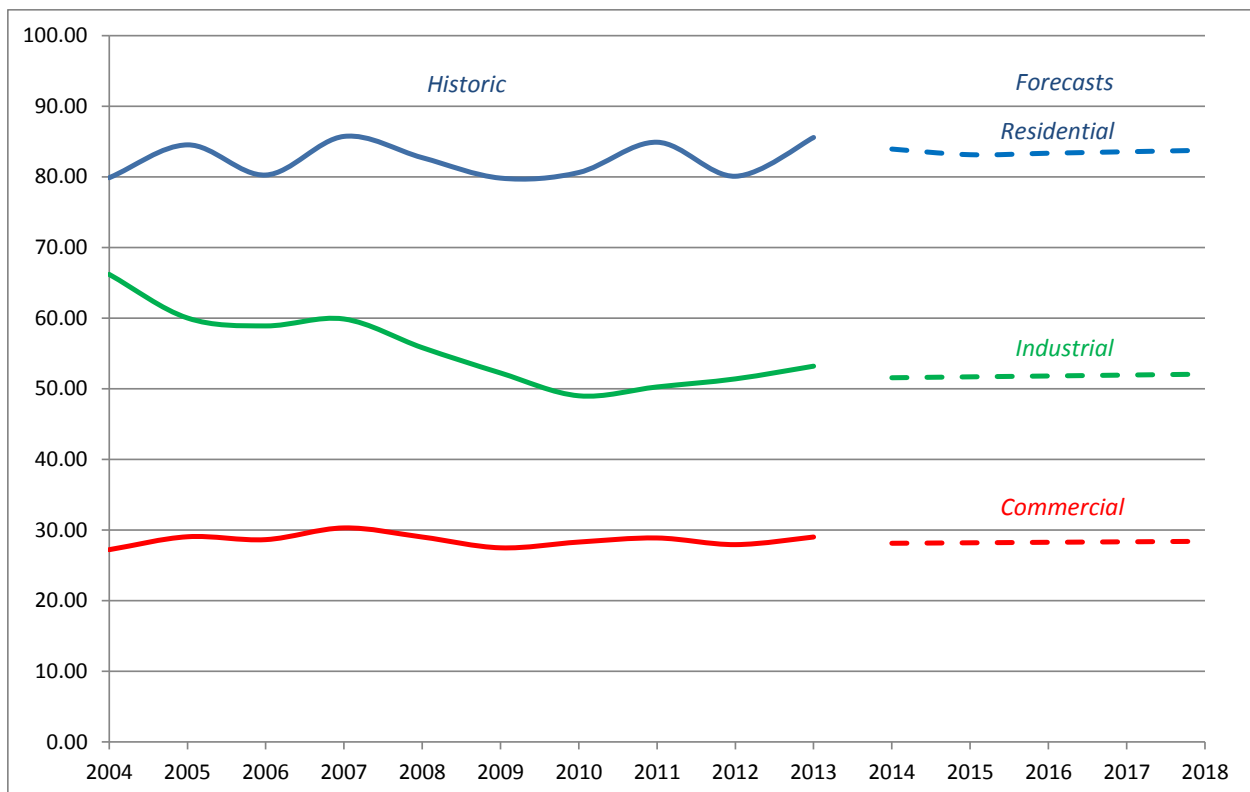
Citizens' provides service to 8,831 customers in Union County, Pennsylvania. Citizens' 2013 energy usage total was 168 GWh, while in 2012 it was 160 GWh (an increase of 5 percent from the previous year). Citizens' total usage mix consisted of residential (51 percent), commercial (17 percent), industrial (32 percent), and other (less than 1 percent).



Over the next five years, total energy usage is projected to increase at an average annual rate of 0.3 percent. Residential, commercial, and industrial usage is forecasted to increase at an average annual rate of 0.3 percent. See Figure 20 below.

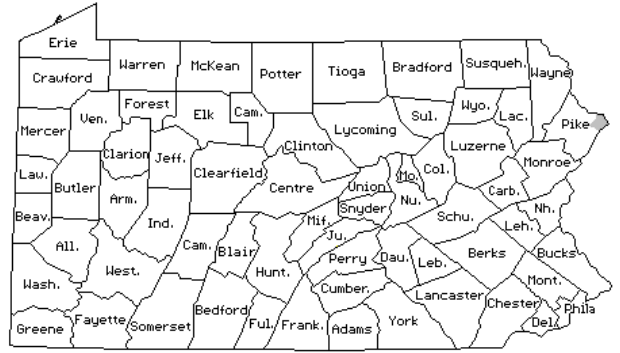
Citizens' highest peak load of 37.1 MW occurred on Jul. 18, 2013. This represents a decrease of 0.8 percent from the previous year's peak of 37.4 MW. Summer peak load is projected to grow from 37.1 MW in 2013 to 40.3 MW by the year 2018, or by an average annual growth rate of 1.7 percent.

Figure 20 Citizens' energy usage (GWh)



Pike County Light & Power Company (Pike)

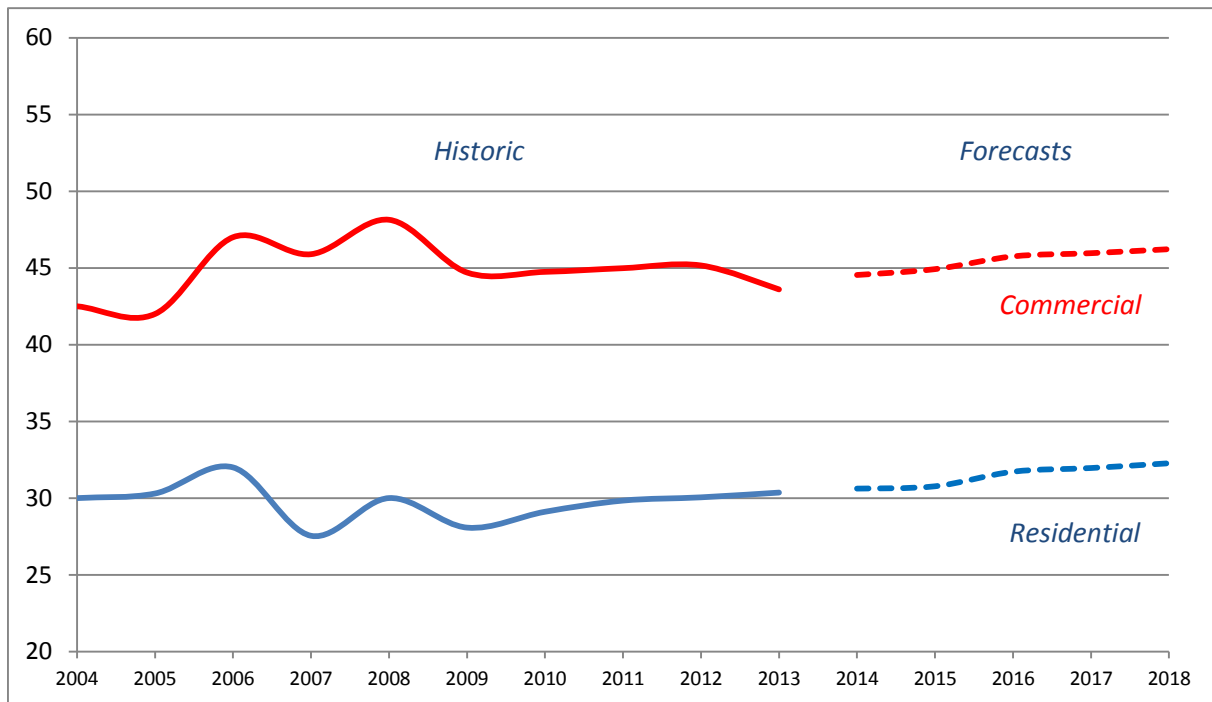
Pike provides service to 4,673 customers in Eastern Pike County, Northeastern Pennsylvania. Pike’s 2013 energy usage total was 75.0 GWh, which was the same as in 2012. Pike’s total usage mix consisted of residential (41 percent) and commercial (59 percent). Pike has no industrial customers or sales for resale.



Over the next five years, total energy usage is projected to increase at an average annual rate of 1.1 percent, which includes an average annual residential growth rate increase of 1.3 percent and an average annual commercial growth rate increase of 0.9 percent. See Figure 21.

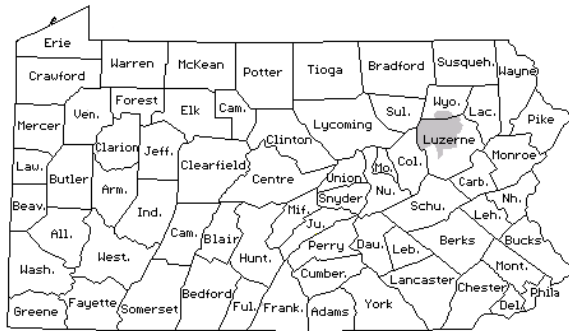
Pike’s highest peak load of 18.5 MW occurred on Jul. 18, 2013. This represents an increase of 7 percent from the previous year’s peak of 18 MW. Summer peak load is projected to increase from 18.5 MW in summer 2013 to 19.3 MW by summer 2018, or by an average annual growth rate of 0.85 percent.

Figure 21 Pike County Light & Power energy usage (GWh)



UGI Utilities Inc.—Electric Division (UGI)

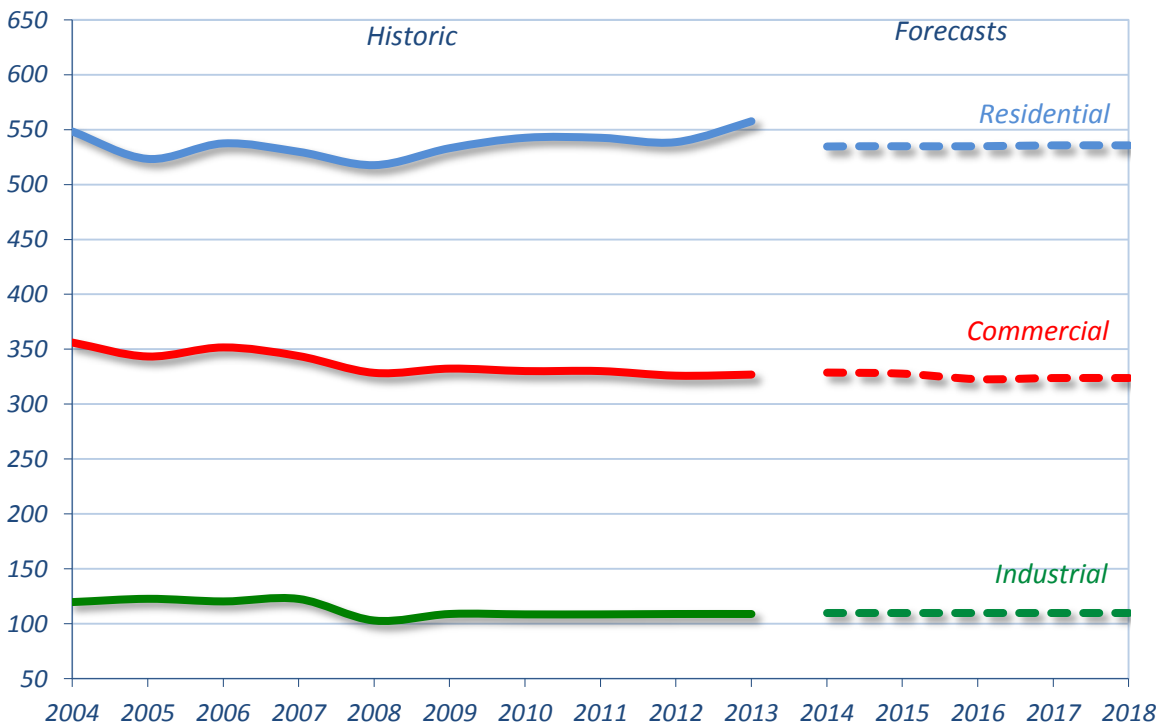
UGI provides electric service to 62,089 customers in Northwestern Luzerne and Southern Wyoming counties in Pennsylvania. UGI’s 2013 energy usage total was 1001 GWh, while in 2012 it was 979 GWh (an increase of 2.2 percent from the previous year). UGI’s total usage mix consisted of residential (56 percent), commercial (33 percent), industrial (11 percent), and sales for resale (0.01 percent).



Over the next five years, total energy usage is projected to remain relatively flat. See Figure 22.

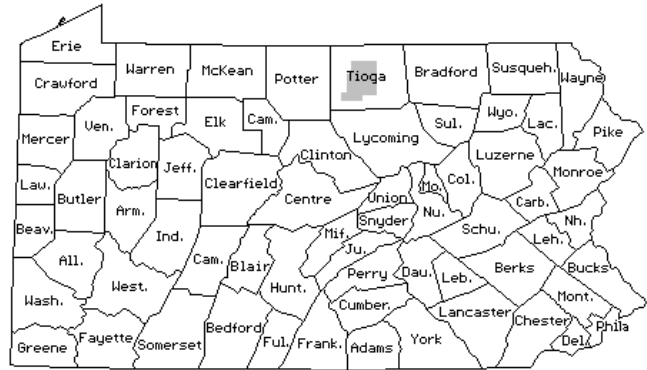
UGI’s highest peak load of 205 MW occurred on Jul. 18, 2013. This represents an increase of 2.5 percent from the previous year’s peak of 200MW. Summer peak load is projected to grow from 205 MW in 2013 to 208 MW by the year 2018, or by an average annual growth rate of 0.3 percent. See Figure 21.

Figure 22 UGI Utilities Inc. energy usage (GWh)



Wellsboro Electric Company (Wellsboro)

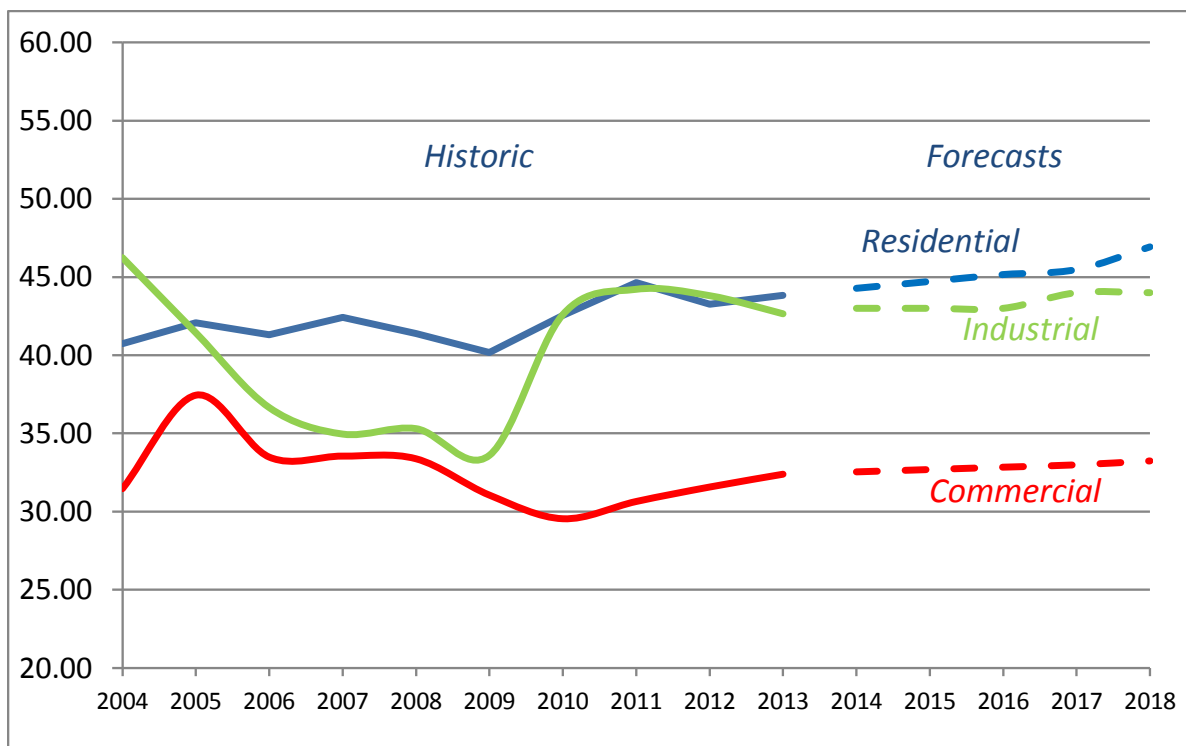
Wellsboro provides electric service to 6,257 customers in Tioga County, North Central Pennsylvania. Wellsboro’s 2013 energy usage total was 119.2 GWh, while in 2012 it was 119 GWh (an increase of 0.2 percent from the previous year). Wellsboro’s total usage mix consisted of residential (37 percent), commercial (27 percent), and industrial (36 percent).



Over the next five years, total energy usage is projected to grow at an average annual rate of 0.9 percent. This includes an average annual residential growth rate of 1.5 percent, an average annual commercial growth rate of 0.5 percent, and an average annual industrial growth rate of 0.5 percent. See Figure 23.

Wellsboro’s highest peak load of 23 MW occurred on Jul. 17, 2013. This represents an increase of 3.9 percent from the previous year’s peak of 22.1 MW. Summer peak load is projected to grow from 23 MW in 2013 to 24 MW by the year 2018, or by an average annual growth rate of 0.85 percent.

Figure 23 Wellsboro Electric Company energy usage (GWh)



Appendix A – Data Tables

The following tables provide actual and projected peak load as well as residential, commercial and industrial energy demand by EDC. Actual data covers years 2004 through 2013. Five-year projections are those filed with the Commission in years 2004 through 2014.

**Table A01 Duquesne Light Company
Actual and Projected Peak Load (MW)**

Year	Actual	Projected Peak Load Requirments (Year Forecast Was Filed)											
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
2004	2646	2719											
2005	2884	2740	2722										
2006	3053	2771	2765	2765									
2007	2890	2801	2805	2805	3039								
2008	2822	2831	2835	2835	3086	2948							
2009	2732		2873	2873	3141	3007	2862						
2010	2889			2910	3194	3067	2836	2854					
2011	3012				3242	3128	2857	2863	2944				
2012	3054					3191	2850	2860	3000	2935			
2013	2951						2890	2917	3053	2980	2966		
2014								2960	3088	3045	3021	2997	
2015									3125	3102	3083	3056	
2016										3132	3135	3094	
2017											3167	3118	
2018												3143	

**Table A03 Duquesne Light Company
Actual and Projected Commercial Energy Demand (GWh)**

Year	Actual	Projected Commercial Energy Demand (Year Forecast Was Filed)											
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
2004	6454	6428											
2005	6566	6479	6568										
2006	6474	6597	6711	6693									
2007	6715	6713	6870	6847	6784								
2008	6631	6841	6949	6991	6942	6731							
2009	6537		7076	7129	7127	6768	6648						
2010	6712			7259	7302	6815	6627	6428					
2011	6612				7457	6878	6583	6501	6681				
2012	6539					6952	6533	6585	6782	6682			
2013	6494						6527	6666	6854	6749	6642		
2014								6742	6957	6842	6640	6600	
2015									7056	6929	6640	6621	
2016										7017	6645	6648	
2017											6641	6643	
2018												6654	

**Table A02 Duquesne Light Company
Actual and Projected Residential Energy Demand (GWh)**

Year	Actual	Projected Residential Energy Demand (Year Forecast Was Filed)											
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
2004	3886	3811											
2005	4134	3832	3941										
2006	3991	3879	4018	3984									
2007	4211	3925	4088	4054	4141								
2008	4060	3978	4125	4118	4214	4216							
2009	3946		4198	4181	4293	4293	4177						
2010	4327			4243	4372	4371	4188	4117					
2011	4232				4453	4444	4181	4184	4213				
2012	4169					4527	4171	4267	4275	4350			
2013	4091						4197	4352	4332	4436	4246		
2014								4448	4402	4509	4260	4217	
2015									4474	4579	4265	4230	
2016										4676	4284	4266	
2017											4306	4266	
2018												4272	

**Table A04 Duquesne Light Company
Actual and Projected Industrial Energy Demand (GWh)**

Year	Actual	Projected Industrial Energy Demand (Year Forecast Was Filed)											
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
2004	3229	3031											
2005	3128	2990	3347										
2006	3182	3033	3407	3229									
2007	3145	3075	3458	3299	3271								
2008	3079	3123	3501	3359	3315	3098							
2009	2616		3542	3411	3369	3102	3002						
2010	2987			3464	3420	3084	2933	2440					
2011	3120				3467	3140	2851	2407	2865				
2012	3406					3141	2777	2395	2846	3185			
2013	3337						2726	2385	2815	3226	3501		
2014								2359	2770	3252	3035	2787	
2015									2724	3272	3032	2778	
2016										3289	3031	2762	
2017											3031	2734	
2018												2711	

**Table A05 Metropolitan Edison Company
Actual and Projected Peak Load (MW)**

Year	Actual	Projected Peak Load Requirements (Year Forecast Was Filed)											
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
2004	2468	2570											
2005	2752	2634	2625										
2006	2884	2702	2689	2689									
2007	2825	2756	2740	2740	2740								
2008	3045	2817	2801	2801	2801	2801							
2009	2739		2857	2856	2857	2857	2829						
2010	2715			2915	2915	2915	2932	2687					
2011	3125				2972	2972	3017	2640	2869				
2012	3036					3032	3085	2630	2775	2911			
2013	3012						3158	2668	2815	2928	2881		
2014								2731	2872	2962	2887	2958	
2015									2952	2995	2898	2965	
2016										3028	2910	2974	
2017											2932	2996	
2018												3017	

**Table A07 Metropolitan Edison Company
Actual and Projected Commercial Energy Demand (GWh)***

Year	Actual	Projected Commercial Energy Demand (Year Forecast Was Filed)											
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
2004	4251	4170											
2005	4491	4281	4310										
2006	4509	4388	4400	4462									
2007	4715	4498	4506	4547	4664								
2008	4777	4601	4616	4668	4818	4818							
2009	4568		4721	4788	4969	4969	4853						
2010	3006			4908	5108	5108	5020	4671					
2011	2947				5244	5244	5152	4706	2955				
2012	2907					5375	5291	4783	2959	2871			
2013	2933						5421	4887	3019	2909	2900		
2014								4963	3090	2948	2930	2914	
2015									3158	2997	2937	2931	
2016										2995	2940	2964	
2017											2956	2984	
2018												2989	

* The 2010 actual and 2011 forecast are based on a reclassification of the commercial and industrial classes.

**Table A06 Metropolitan Edison Company
Actual and Projected Residential Energy Demand (GWh)**

Year	Actual	Projected Residential Energy Demand (Year Forecast Was Filed)											
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
2004	5071	4885											
2005	5399	4977	5097										
2006	5287	5083	5176	5325									
2007	5595	5190	5276	5390	5516								
2008	5598	5300	5376	5515	5699	5699							
2009	5448		5472	5640	5872	5771							
2010	5666			5764	6037	5836	5587						
2011	5588				6187	6187	5969	5552	5424				
2012	5363					6341	6109	5577	5226	5201			
2013	5553						6232	5682	5386	5184	5297		
2014								5799	5547	5183	5159	5354	
2015									5650	5212	5042	5421	
2016										5210	4979	5438	
2017											4993	5457	
2018												5476	

**Table A08 Metropolitan Edison Company
Actual and Projected Industrial Energy Demand (GWh)***

Year	Actual	Projected Industrial Energy Demand (Year Forecast Was Filed)											
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
2004	4042	4080											
2005	4083	4136	4077										
2006	4008	4162	4119	4176									
2007	3992	4206	4145	4155	4123								
2008	3831	4237	4175	4177	4156	4156							
2009	3439		4195	4200	4181	4181	3620						
2010	5288			4221	4193	4193	3842	3538					
2011	5404				4201	4201	4035	3497	5443				
2012	5261					4209	4047	3528	5545	5434			
2013	5328						4048	3731	5589	5652	5411		
2014									4021	5610	5765	5521	5322
2015										5625	5851	5561	5381
2016											5847	5587	5456
2017												5612	5508
2018													5524

* The 2010 actual and 2011 forecast are based on a reclassification of the commercial and industrial classes.

**Table A09 Pennsylvania Electric Company
Actual and Projected Peak Load (MW)**

Year	Actual	Projected Peak Load Requirements (Year Forecast Was Filed)												
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014		
		2004	2308	2410										
2005	2425	2456	2438											
2006	2531	2505	2481	2511										
2007	2696	2544	2525	2554	2554									
2008	2524	2592	2565	2598	2598	2598								
2009	2880		2604	2637	2637	2637	2637							
2010	2451			2674	2674	2674	2674	2603						
2011	2659				2711	2711	2711	2630	2465					
2012	3128					2750	2750	2661	2452	2515				
2013	3087							2789	2688	2458	2544	2938		
2014										2715	2496	2579	2942	3052
2015											2531	2625	2987	2935
2016												2662	3039	2946
2017													3081	2962
2018														2968

**Table A11 Pennsylvania Electric Company
Actual and Projected Commercial Energy Demand (GWh)***

Year	Actual	Projected Commercial Energy Demand (Year Forecast Was Filed)												
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014		
		2004	4727	4782										
2005	4792	4874	4825											
2006	5010	4976	4912	4928										
2007	4961	5076	4986	4990	5049									
2008	5139	5178	5060	5064	5099	5045								
2009	5186		5136	5140	5188	5122	5122							
2010	5019			5213	5277	5199	5199	5159						
2011	3671				5367	5277	5277	5213	5196					
2012	3534					5356	5356	5265	5215	3562				
2013	3531						5436	5320	5257	3526	3512			
2014									5364	5343	3593	3535	3553	
2015										5424	3650	3510	3552	
2016											3698	3503	3582	
2017												3503	3604	
2018														3608

* The 2010 actual and 2011 forecast are based on a reclassification of the commercial and industrial classes.

**Table A10 Pennsylvania Electric Company
Actual and Projected Residential Energy Demand (GWh)**

Year	Actual	Projected Residential Energy Demand (Year Forecast Was Filed)												
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014		
		2004	4187	4194										
2005	4249	4162	4135											
2006	4457	4203	4186	4295										
2007	4381	4245	4236	4333	4420									
2008	4497	4287	4287	4385	4438	4469								
2009	4558		4339	4438	4496	4533	4533							
2010	4471			4524	4554	4598	4598	4611						
2011	4656				4614	4662	4662	4614	4569					
2012	4554					4727	4727	4662	4489	4460				
2013	4491							4793	4721	4443	4304	4257		
2014										4776	4442	4387	4164	4469
2015											4486	4539	4145	4513
2016												4653	4157	4525
2017													4156	4554
2018														4583

**Table A12 Pennsylvania Electric Company
Actual and Projected Industrial Energy Demand (GWh)***

Year	Actual	Projected Industrial Energy Demand (Year Forecast Was Filed)												
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014		
		2004	4391	4492										
2005	4589	4708	4561											
2006	4729	4749	4666	4527										
2007	4678	4797	4737	4612	4807									
2008	4610	4845	4791	4679	4828	4809								
2009	4594		4815	4708	4881	4881	4881							
2010	4044			4725	4905	4954	4954	4203						
2011	5748				4930	4983	4983	4538	4126					
2012	6005					5013	5013	4859	4222	6026				
2013	5731							5043	4889	4370	6175	5883		
2014									4922	4607	6266	5993	5696	
2015										4674	6304	6062	5808	
2016											6325	6133	5867	
2017												6130	5894	
2018														5896

* The 2010 actual and 2011 forecast are based on a reclassification of the commercial and industrial classes.

**Table A13 Pennsylvania Power Company
Actual and Projected Peak Load (MW)**

Year	Actual	Projected Peak Load Requirements (Year Forecast Was Filed)											
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
2004	898	865											
2005	1021	884	952										
2006	984	900	921	904									
2007	1042	916	930	930	921								
2008	1063	929	938	938	936	936							
2009	901		951	951	951	951	984						
2010	903			965	965	965	941	896					
2011	1102				980	980	963	890	944				
2012	963					994	981	899	947	1010			
2013	962						995	930	983	1001	929		
2014									977	1002	1003	930	1054
2015										1010	1006	953	991
2016											1010	969	1007
2017												980	1019
2018													1022

**Table A15 Pennsylvania Power Company
Actual and Projected Commercial Energy Demand (GWh)**

Year	Actual	Projected Commercial Energy Demand (Year Forecast Was Filed)											
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
2004	1296	1309											
2005	1367	1339	1353										
2006	1359	1370	1374	1384									
2007	1414	1402	1400	1422	1394								
2008	1404	1429	1427	1460	1427	1427							
2009	1367		1453	1498	1461	1461	1401						
2010	1311			1535	1496	1496	1394	1428					
2011	1327				1532	1532	1424	1408	1300				
2012	1334					1569	1491	1449	1267	1291			
2013	1349						1535	1500	1272	1297	1337		
2014									1535	1277	1314	1347	1345
2015										1278	1335	1358	1322
2016											1334	1365	1326
2017												1374	1332
2018													1332

**Table A14 Pennsylvania Power Company
Actual and Projected Residential Energy Demand (GWh)**

Year	Actual	Projected Residential Energy Demand (Year Forecast Was Filed)											
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
2004	1545	1542											
2005	1664	1571	1612										
2006	1611	1599	1636	1659									
2007	1690	1629	1665	1699	1659								
2008	1667	1657	1695	1744	1693	1693							
2009	1634		1723	1789	1724	1724	1780						
2010	1696			1835	1758	1758	1761	1701					
2011	1711				1789	1789	1806	1708	1664				
2012	1668					1821	1860	1721	1624	1590			
2013	1704						1904	1714	1638	1588	1645		
2014									1739	1664	1582	1627	1677
2015										1684	1589	1619	1685
2016											1588	1625	1691
2017												1649	1699
2018													1705

**Table A16 Pennsylvania Power Company
Actual and Projected Industrial Energy Demand (GWh)**

Year	Actual	Projected Industrial Energy Demand (Year Forecast Was Filed)											
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
2004	1554	1529											
2005	1629	1555	1582										
2006	1708	1570	1558	1565									
2007	1627	1580	1563	1578	1720								
2008	1614	1583	1568	1594	1727	1727							
2009	1229		1569	1610	1734	1734	1347						
2010	1488			1626	1741	1741	1517	1226					
2011	1542				1748	1748	1687	1214	1527				
2012	1456					1755	1694	1238	1652	1513			
2013	1509						1700	1370	1705	1483	1473		
2014									1596	1725	1486	1518	1596
2015										1738	1490	1519	1743
2016											1490	1488	1739
2017												1485	1729
2018													1731

**Table A17 PPL Electric Utilities Corporation
Actual and Projected Peak Load (MW)**

Year	Actual	Projected Peak Load Requirements (Year Forecast Was Filed)										
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
2004	7335	7200										
2005	7083	7300	7200									
2006	7577	7410	7290	7310								
2007	7163	7510	7390	7410	7200							
2008	7414	7610	7490	7510	7270	7410						
2009	6845		7580	7610	7340	7450	7180					
2010	7365			7710	7400	7500	7250	7207				
2011	6776				7480	7580	7320	7227	7101			
2012	7182					7680	7360	7283	7138	7331		
2013	7818						7450	7366	7142	7400	7271	
2014								7487	7216	7484	7403	7352
2015									7282	7622	7556	7477
2016										7731	7691	7573
2017											7785	7658
2018												7711

**Table A19 PPL Electric Utilities Corporation
Actual and Projected Commercial Energy Demand (GWh)**

Year	Actual	Projected Commercial Energy Demand (Year Forecast Was Filed)										
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
2004	12576	13275										
2005	13157	13601	12967									
2006	13140	13975	13436	13188								
2007	13756	14286	13946	13562	13184							
2008	13913	14631	14517	13836	13476	13676						
2009	13818		15068	14166	13777	14028	14258					
2010	10667			14492	14045	14253	14486	14098				
2011	14179				14290	14596	14631	14642	10756			
2012	14027					14907	14926	14907	10860	14217		
2013	14140						15228	15295	11022	14270	14354	
2014								15827	11251	14411	14524	14414
2015									11499	14580	14740	14570
2016										14754	14998	14741
2017											15137	14859
2018												14985

**Table A18 PPL Electric Utilities Corporation
Actual and Projected Residential Energy Demand (GWh)**

Year	Actual	Projected Residential Energy Demand (Year Forecast Was Filed)										
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
2004	13441	13308										
2005	14218	13505	13950									
2006	13714	13728	14311	14099								
2007	14411	13962	14675	14392	14180							
2008	14419	14198	15019	14555	14422	14469						
2009	14218		15349	14794	14565	14584	14341					
2010	14206			15036	14702	14562	14340	14384				
2011	14356				14828	14608	14246	14390	14142			
2012	13616					14770	14350	14226	14120	13848		
2013	14295						14443	14164	14005	13658	13607	
2014								14325	14161	13667	13575	13588
2015									14335	13738	13602	13644
2016										13896	13695	13769
2017											13678	13814
2018												13908

**Table A20 PPL Electric Utilities Corporation
Actual and Projected Industrial Energy Demand (GWh)**

Year	Actual	Projected Industrial Energy Demand (Year Forecast Was Filed)										
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
2004	9611	9938										
2005	9720	10035	9750									
2006	9704	10155	9926	9968								
2007	9482	10253	10136	10048	9965							
2008	9551	10346	10349	10084	9999	9625						
2009	8418		10577	10150	10032	9570	9401					
2010	12045			10214	10059	9228	9141	8506				
2011	8467				10084	9005	8879	8365	12151			
2012	8173					9009	8866	8211	12116	8475		
2013	8052						8864	8110	12269	8468	8133	
2014								8054	12450	8501	8182	8092
2015									12686	8550	8281	8171
2016										8603	8407	8260
2017											8459	8324
2018												8365

**Table A21 PECO Energy Company
Actual and Projected Peak Load (MW)**

Year	Actual	Projected Peak Load Requirements (Year Forecast Was Filed)										
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
2004	7567	8129										
2005	8626	8320	8320									
2006	8932	8445	8445	8755								
2007	8549	8571	8571	8887	9066							
2008	8824	8700	8700	9020	9202	8677						
2009	7994		8831	9155	9340	8807	8956					
2010	8864			9293	9480	8940	9091	8114				
2011	8984				9622	9074	9227	8236	8786			
2012	8549					9210	9365	8359	8770	8926		
2013	8618						9506	8485	8842	8956	8529	
2014								8612	8916	8987	8580	8627
2015									8991	9018	8631	8635
2016										9049	8683	8644
2017											8735	8653
2018												8661

**Table A23 PECO Energy Company
Actual and Projected Commercial Energy Demand (GWh)**

Year	Actual	Projected Commercial Energy Demand (Year Forecast Was Filed)										
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
2004	8414	8140										
2005	8520	8349	8349									
2006	8857	8550	8550	8691								
2007	8892	8755	8755	8864	9034							
2008	8700	8965	8965	9042	9215	9069						
2009	8404		9144	9223	9399	9251	8874					
2010	8472			9407	9587	9436	9052	8572				
2011	8332				9779	9625	9233	8744	8589			
2012	8063					9817	9417	8918	8705	8360		
2013	8101						9606	9097	8879	8443	7821	
2014								9279	9057	8528	7790	7858
2015									9238	8613	7868	7936
2016										8699	7947	8015
2017											8026	8096
2018												8177

**Table A22 PECO Energy Company
Actual and Projected Residential Energy Demand (GWh)**

Year	Actual	Projected Residential Energy Demand (Year Forecast Was Filed)										
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
2004	12507	12250										
2005	13469	12385	12385									
2006	12797	12592	12592	13738								
2007	13487	12839	12839	14013	13053							
2008	13317	13179	13179	14293	13314	13757						
2009	12893		13443	14579	13580	14032	13583					
2010	13896			14870	13852	14313	13855	13151				
2011	13686				14129	14599	14132	13414	13912			
2012	13233					14891	14415	13683	14037	13669		
2013	13241						14703	13956	14317	13806	13392	
2014								14235	14604	13944	14463	13343
2015									14896	14083	14608	13346
2016										14224	14754	13349
2017											14902	13351
2018												13354

**Table A24 PECO Energy Company
Actual and Projected Industrial Energy Demand (GWh)**

Year	Actual	Projected Industrial Energy Demand (Year Forecast Was Filed)											
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
2004	15741	15477											
2005	15774	15448	15449										
2006	15821	15448	15448	16089									
2007	16582	15448	15448	16411	16137								
2008	16534	15448	15448	16739	16460	16914							
2009	15889		15757	17074	16789	17252	16864						
2010	15824			17415	17125	17597	17202	16207					
2011	15755				17467	17949	17546	16531	15991				
2012	15253					18308	17897	16861	16153	15755			
2013	15379						18254	17199	16476	15912	15481		
2014									17543	16806	16071	15714	15609
2015										17142	16232	15949	15844
2016											16394	16188	16081
2017												16431	16322
2018													16567

**Table A25 West Penn Power Company
Actual and Projected Peak Load (MW)**

Year	Actual	Projected Peak Load Requirements (Year Forecast Was Filed)										
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
2004	3407	3621										
2005	3752	3670	3702									
2006	3926	3705	3763	3723								
2007	3838	3738	3812	3782	3813							
2008	3826	3766	3845	3824	3882	3871						
2009	3667		3866	3864	3965	3958	3910					
2010	3988			3895	4028	4036	3990	3788				
2011	4017				4078	4083	4032	3755	3757			
2012	3808					4123	4084	3771	3754	3758		
2013	3914						4120	3809	3786	3771	3784	
2014								3951	3879	3840	3846	4075
2015									3928	3903	3908	3945
2016										3964	3980	4012
2017											4015	4065
2018												4077

**Table A27 West Penn Power Company
Actual and Projected Commercial Energy Demand (GWh)**

Year	Actual	Projected Commercial Energy Demand (Year Forecast Was Filed)										
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
2004	4691	4701										
2005	4892	4780	4791									
2006	4959	4832	4907	4996								
2007	4998	4878	5006	5092	5083							
2008	4925	4936	5098	5179	5179	5115						
2009	4880		5135	5249	5279	5235	5048					
2010	4983			5318	5365	5327	5160	4966				
2011	4889				5452	5387	5275	4987	4909			
2012	4849					5462	5353	5059	4931	4819		
2013	4878						5450	5169	4979	4930	4845	
2014								5307	5091	5083	4909	4860
2015									5229	5229	4946	4897
2016										5343	4979	4932
2017											5047	4962
2018												4962

**Table A26 West Penn Power Company
Actual and Projected Residential Energy Demand (GWh)**

Year	Actual	Projected Residential Energy Demand (Year Forecast Was Filed)										
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
2004	6724	6818										
2005	7088	6890	6923									
2006	7133	6965	7047	7164								
2007	7266	7041	7136	7289	7319							
2008	7172	7132	7194	7387	7484	7481						
2009	7101		7189	7417	7639	7654	7206					
2010	7401			7447	7761	7774	7264	7147				
2011	7349				7869	7892	7233	7104	7139			
2012	7092					7965	7248	7085	7122	7121		
2013	7318						7102	6952	7047	7149	7146	
2014									7008	7073	7188	7282
2015										7148	7231	7369
2016											7281	7431
2017												7493
2018												7335

**Table A28 West Penn Power Company
Actual and Projected Industrial Energy Demand (GWh)**

Year	Actual	Projected Industrial Energy Demand (Year Forecast Was Filed)										
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
2004	8039	7814										
2005	8051	7913	8027									
2006	8144	7998	8137	8283								
2007	8160	8069	8220	8429	8282							
2008	8135	8140	8311	8543	8411	8311						
2009	7286		8313	8615	8584	8476	8440					
2010	7617			8634	8728	8699	8711	7612				
2011	7818				8766	8799	8906	7740	7833			
2012	7685					8844	9093	7936	8025	8029		
2013	7777						9246	8105	8146	8172	8087	
2014								8214	8264	8334	8303	7947
2015									8346	8487	8542	8161
2016										8608	8786	8331
2017											8878	8466
2018												8495

Appendix B – Plant Additions and Upgrades

The following data represents PJM interconnection requests for new generating resources located in Pennsylvania. Since 1999 (through Dec. 31, 2013) PJM has received 679 interconnection requests totaling 120,858 MW for new generating resources or incremental additions to existing resources. Of this total, 91,788 MW projects were withdrawn, 15,300 MW were placed in service, and 2,134 MW are under construction.

Below the requests for new generating resources is a chart showing the generation deactivations for Pennsylvania from Jan. 1, through Dec. 31, 2013.

Note: Some project requests may be duplicative, in that the same project may be considered for more than one point of injection into the system; however, in those cases, only one project is being considered for construction.

Source: PJM 2013 RTEP: <http://www.pjm.com/documents/reports/rtep-documents/2013-rtep.aspx>.

PJM Generation Queue for Pennsylvania – Renewable Fuels

Queue	Project Name	MW	MWC	Status	Schedule	TO	Fuel Type
N36	Gold-Sabinsville 115 kV	50	10	UC	12/15/2014	FENELEC	Wind
O60	Berlin 23 kV	5.4	1.08	Suspended	1/31/2012	FENELEC	Wind
R43	Frackville - Hauto #3	20	4	UC	6/1/2015	PPL	Wind
S42	Eldred-Fairview	18	3.6	UC	5/1/2013	PPL	Wind
T121	Potter-Gold 115 kV	75	15	ACTIVE	12/1/2013	FENELEC	Wind
T155	Belknap 25 kV	6	6	UC	3/1/2014	APS	Hydro
U2-015	Harwood-E. Palmerton 230 kV	100	13	UC	4/30/2015	PPL	Wind
U2-054	Weissport	2.6	2.6	UC	6/1/2014	PPL	Hydro
U2-076	Falls	10	10	Suspended	3/1/2011	PECO	Methane
V3-040	Siegfried-Hauto 69 kV	10	3.8	Suspended	4/1/2014	PPL	Solar
V3-041	Daleville	4	3.2	UC	11/1/2011	PECO	Methane
V3-042	Thompson 115 kV	84	10.9	ACTIVE	12/31/2012	FENELEC	Wind
V4-075	Warwick 12 kV	2	0.76	Suspended	3/1/2015	PPL	Solar
V4-076	Carlisle Pike 23 kV	5.3	2	UC	12/31/2014	FENELEC	Solar
V4-077	Montgomery Avenue 12.47 kV	13	4.9	UC	12/31/2014	FENELEC	Solar
W1-045	Roxbury 23 kV	13.5	5.13	ACTIVE	7/1/2011	FENELEC	Solar
W1-064	Grand Point 12 kV	1.6	1.6	ACTIVE	1/31/2011	APS	Methane
W1-105	Reamstown	3	1.14	Suspended	6/30/2017	PPL	Solar
W1-106	West Carlisle	5	1.9	Suspended	6/30/2017	PPL	Solar
W1-107	Grove City Road 12 kV	2	0.74	UC	8/31/2015	APS	Solar
W1-114	Port Carbon	3	1.14	UC	12/31/2013	PPL	Solar
W1-115	Tamanend	3	1.14	UC	6/30/2014	PPL	Solar
W2-094	Straban 13.2 kV	3	1.1	ACTIVE	6/30/2012	ME	Solar
W3-022	Frackville-Eldred #1 230 kV	150	19.5	UC	12/31/2016	PPL	Wind
W3-099	Erie East-Erie South 230 kV	100	13	ACTIVE	12/27/2015	FENELEC	Wind
X2-031	Krayn 115 kV	50	6.5	ACTIVE	10/1/2013	FENELEC	Wind
Y1-027	Belton 12.5 kV	4	1.52	Suspended	12/31/2016	APS	Methane
Y1-033	Penn Mar-Rock Wood 115 kV	38.3	4.98	ACTIVE	12/31/2015	FENELEC	Wind
Y2-037	Tuscarora 12 kV #1	3	1.14	UC	6/1/2016	PPL	Solar
Y2-087	Raystown-Lewistown 230 kV	150.4	19.55	ACTIVE	10/31/2016	FENELEC	Wind
Y2-098	Freemansburg #1 12 kV	5	5	UC	11/1/2012	PPL	Methane
Y3-034	Eldred-Pine Grove 69 kV	10.5	1.8	UC	12/31/2013	PPL	Methane
Y3-041	Peckville-Jackson 69 kV	64.6	8.4	ACTIVE	11/1/2014	PPL	Wind
Y3-062	Erie East 34.5 kV	18.7	2.4	ACTIVE	4/1/2014	FENELEC	Wind
Z1-042	Belleville/New Holland-Logan 46 kV	46	9.2	ACTIVE	8/14/2014	FENELEC	Wind
Z1-069	Gold-Sabinsville 115 kV	70	14.7	ACTIVE	12/30/2016	FENELEC	Wind
Z1-087	Seneca Pumped Hydro 34.5 kV	508	40	ACTIVE	10/31/2013	FENELEC	Hydro
Z1-088	Allegheny Dam 5	8	5	ACTIVE	10/31/2013	APS	Hydro
Z1-089	Allegheny Dam 6 138 kV	9	5	ACTIVE	10/31/2013	APS	Hydro
Z2-007	Harwood-Siegfried 230 kV	212.5	27	ACTIVE	6/1/2015	PPL	Wind
Z2-008	Carbon	99	12.9	ACTIVE	12/31/2017	PPL	Wind
Z2-009	White Haven	67.5	8.48	ACTIVE	12/31/2016	FENELEC	Wind

Active: project is being studied for feasibility, impact, or facilities phase

MW: existing generation, plus new generation

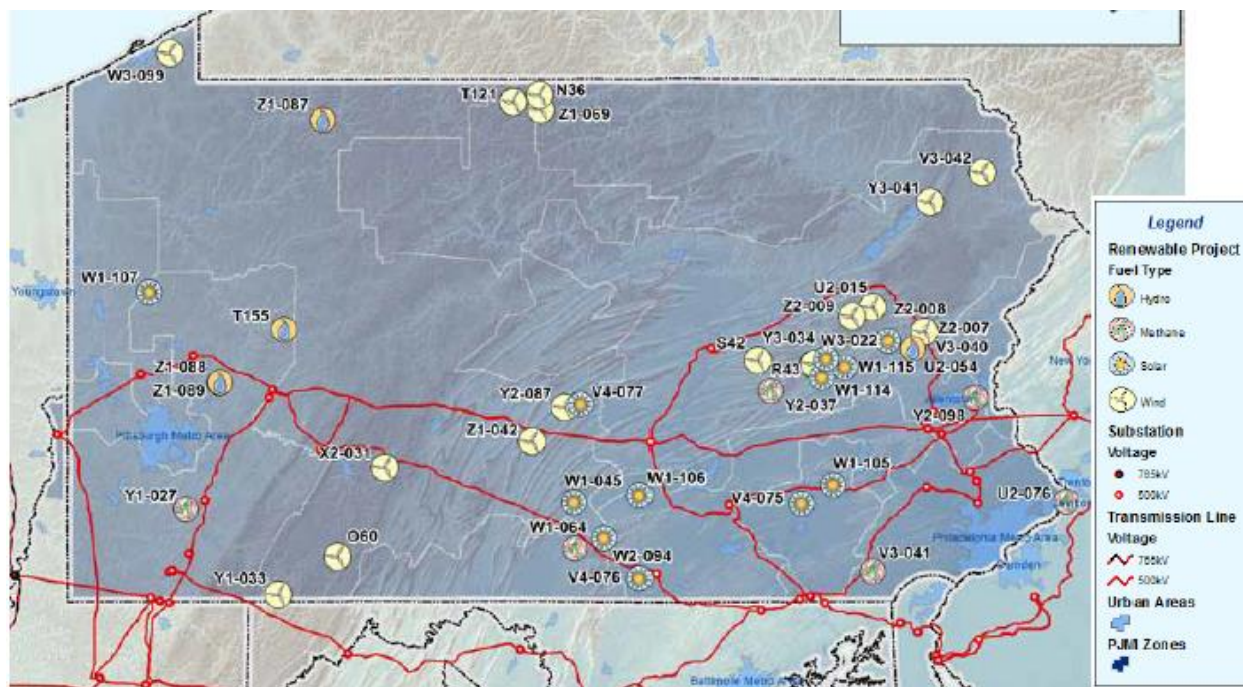
MWC: new generation

UC: under construction

ISP: partially in service

IS-NC: in service, no capacity

*PJM Generation Queue for Pennsylvania – Renewable Fuels (cont'd)
Location of renewable fuel queued generation interconnection requests in Pennsylvania*



PJM Generation Queue for Pennsylvania – Non-Renewable Fuels

Queue	Project Name	MW	MWC	Status	Schedule	TO	Fuel Type
T174	Yukon Hatfield	930	900	ACTIVE	9/30/2014	APS	Natural Gas
T182	TMI 230 kV	845	24	ACTIVE	1/31/2008	ME	Nuclear
U2-063	Croydon 230 kV	391	5	UC	7/1/2008	PECO	Natural Gas
V4-020	North Temple 230 kV	650	650	ACTIVE	6/1/2016	ME	Natural Gas
V4-045	Peach Bottom	2,722	320	ACTIVE	10/3/2015	PECO	Nuclear
W2-014	Richmond	98	2	ACTIVE	11/25/2010	PECO	Oil
W2-028	Limerick #1	1,218	5	ACTIVE	4/15/2012	PECO	Nuclear
W2-029	Limerick #2	1,218	5	ACTIVE	4/15/2013	PECO	Nuclear
W4-085	Grays Ferry	2	0	ACTIVE	5/15/2011	PECO	Storage
X1-109	E. Towanda 230 kV	850	765	UC	2/29/2016	PENELEC	Natural Gas
X2-012	Clinton 230 kV	850	765	UC	7/30/2016	PPL	Natural Gas
X2-025	Sunbury 500 kV	416	416	ACTIVE	10/31/2015	PPL	Natural Gas
X3-006	North Temple 230 kV	800	110	ACTIVE	6/1/2014	ME	Natural Gas
X3-044	Three Mile Island	860	15	ACTIVE	6/30/2013	ME	Nuclear

Active: project is being studied for feasibility, impact, or facilities phase
 MW: existing generation, plus new generation
 MWC: new generation
 UC: under construction
 ISP: partially in service
 IS-NC: in service, no capacity

PJM Generation Queue for Pennsylvania – Non-Renewable Fuels (cont'd)

Queue	Project Name	MW	MWC	Status	Schedule	TO	Fuel Type
X3-068	Graceton 230 kV	678	678	ACTIVE	6/1/2017	BGE	Natural Gas
X3-081	Upper Darby 13 kV	0.5	0	UC	12/30/2012	PECO	Natural Gas
X4-019	Sunbury 500 kV	227	227	ACTIVE	10/31/2015	PPL	Natural Gas
X4-020	Peach Bottom-TMI #1 500 kV I	800	760	ACTIVE	6/1/2017	PPL	Natural Gas
X4-021	Peach Bottom-TMI #2 500 kV II	320	304	ACTIVE	6/1/2017	PPL	Natural Gas
X4-027	Linwood 230 kV	852	35	ACTIVE	12/4/2016	PECO	Natural Gas
X4-048	Lackawanna 230 kV	1,000	1,000	ACTIVE	6/1/2017	PPL	Natural Gas
Y1-015	Shenango-Hoytdale 345 kV	1,000	870	ACTIVE	6/1/2016	ATSI	Natural Gas
Y1-047	North Meshoppen 34.5 kV	15.4	15.4	ACTIVE	12/31/2014	PENELEC	Natural Gas
Y1-071	Burma 25 kV	6	6	UC	6/1/2015	APS	Natural Gas
Y2-011	Brunot Island I 138 kV	20	15	UC	11/1/2015	DL	Oil
Y2-012	Brunot Island II 138 kV	20	15	UC	11/1/2015	DL	Oil
Y2-015	Eldred-Frackville #1 230 kV	344	337	ACTIVE	7/4/2015	PPL	Natural Gas
Y2-042	Oxbow 25 kV	18.3	18.3	ACTIVE	3/1/2014	PENELEC	Natural Gas
Y2-055	Elm Street 34.5 kV	29	29	ACTIVE	7/1/2015	PENELEC	Natural Gas
Y2-060	North Meshoppen 34.5 kV II	18.9	3.5	ACTIVE	12/31/2014	PENELEC	Natural Gas
Y2-063	Eldred-Frackville #2 230 kV	344	337	ACTIVE	12/31/2015	PPL	Natural Gas
Y2-064	Printz	606.5	19	ACTIVE	11/1/2012	PECO	Natural Gas
Y2-080	Rhodes Lane 500 kV	1065	1065	ACTIVE	6/1/2017	APS	Natural Gas
Y2-088	Garards Fort 25 kV	19.9	19.9	ACTIVE	3/1/2014	APS	Natural Gas
Y2-089	Lackawanna 230 kV	1370	370	ACTIVE	6/1/2015	PPL	Natural Gas
Y3-043	Peach Bottom 500 kV	760	760	ACTIVE	6/1/2017	PECO	Natural Gas
Y3-103	Valley-Raccoon 138 kV	205	97	ACTIVE	5/1/2018	DL	Natural Gas
Y3-104	Sullivan Trail-Stanton 69 kV	20	0	ACTIVE	1/1/2015	PPL	Storage
Y3-109	Nyswaner 25k V	19.9	19.9	ACTIVE	1/1/2015	APS	Natural Gas
Z1-015	Springdale 3, 4, 5	590	40	ACTIVE	6/1/2015	APS	Natural Gas
Z1-038	Florey Knob 34.5 kV	19.9	19.9	ACTIVE	1/1/2015	PENELEC	Natural Gas
Z1-055	South Bend 500 kV	714	10	ACTIVE	6/1/2016	APS	Natural Gas
Z1-056	South Bend 500 kV	722	8	ACTIVE	6/1/2016	APS	Natural Gas
Z1-066	Arnold 34.5 kV	19.9	0	ACTIVE	6/30/2014	PENELEC	Storage
Z1-090	Sunbury 230 kV	381	381	ACTIVE	1/27/2017	PPL	Natural Gas
Z1-091	Lenox 34 kV	19.94	19.94	ACTIVE	7/1/2015	PENELEC	Natural Gas
Z1-092	Milan 34 kV	19.94	19.94	ACTIVE	7/1/2015	PENELEC	Natural Gas
Z1-098	Peckville-Jackson 69 kV	20	0	ACTIVE	1/1/2015	PPL	Other
Z1-105	Clarion 34 kV	19.9	19.9	ACTIVE	7/1/2015	PENELEC	Natural Gas
Z1-110	Grover 34 kV	19.9	19.5	ACTIVE	7/1/2015	PENELEC	Natural Gas
Z1-114	Oxford 13 kV	6	4	ACTIVE	12/31/2014	ME	Natural Gas
Z1-115	Crescentville 13 kV	2	1	ACTIVE	12/31/2014	PECO	Natural Gas
Z2-011	Glory Barn Road	19.9	19.9	ACTIVE	1/1/2016	PENELEC	Natural Gas

Active: project is being studied for feasibility, impact, or facilities phase

MW: existing generation, plus new generation

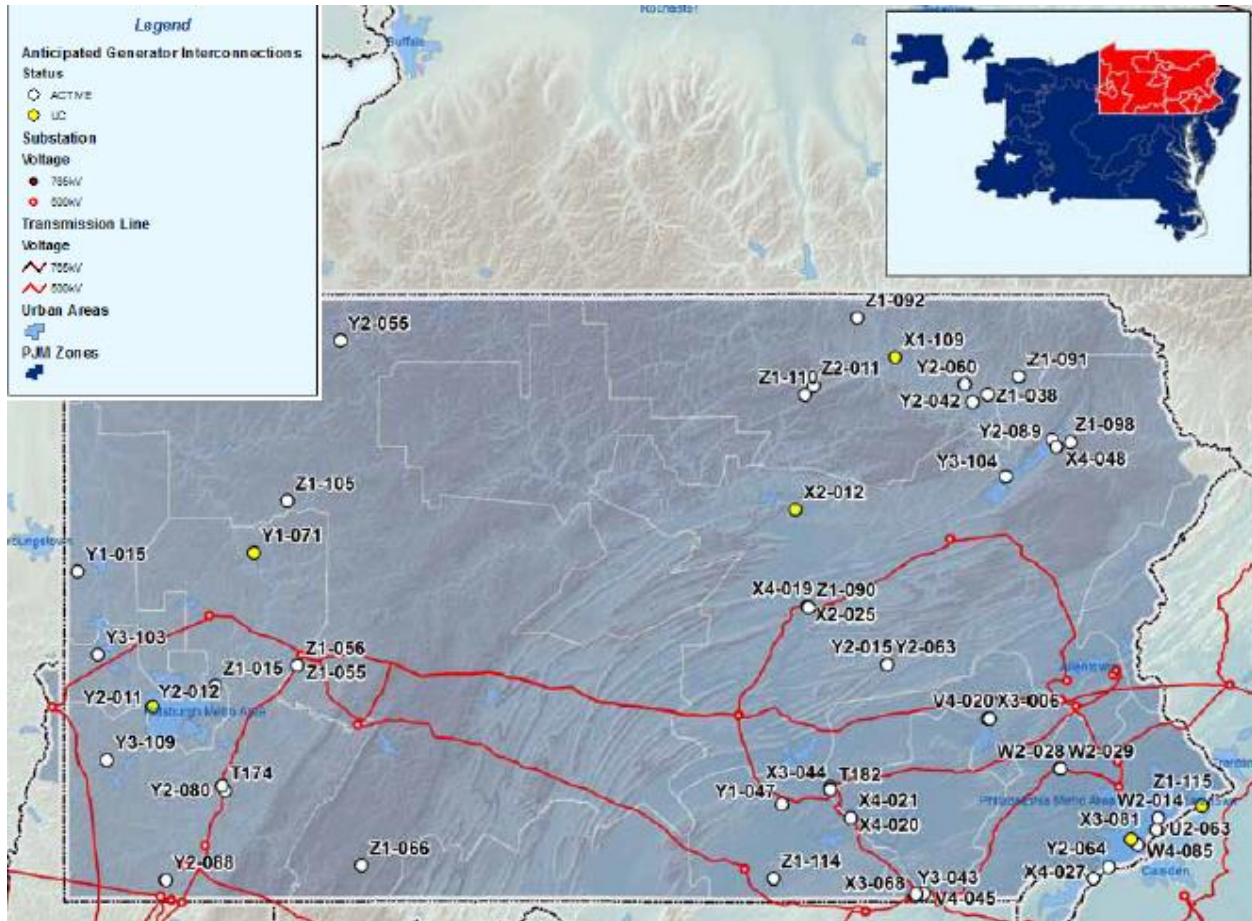
MWC: new generation

UC: under construction

ISP: partially in service

IS-NC: in service, no capacity

PJM Generation Queue for Pennsylvania – Non-Renewable Fuels (cont'd)
Location of non-renewable fuel queued generation interconnection requests in Pennsylvania



Generation Deactivations in Pennsylvania Jan. 1 to Dec. 21, 2013

Stated Deactivation Date	Unit	TO Zone	Capacity (MW)	Status
Sep-13	Titus 1	MetEd	81	Reliability Analysis complete - Impacts Identified - upgrades and operating procedures expected to be in place by May 2015 to allow generators to deactivate as scheduled. On May 15, 2013 NRG submitted an updated deactivation notice with an effective deactivation date of 9/1/2013. New reliability analysis complete and Impacts Identified and upgrades cannot be completed by new deactivation date. Generation owner has informed PJM that Titus will deactivate as scheduled on 9/1/2013. Unit deactivated on 9/1/2013.
Sep-13	Titus 2	MetEd	81	Reliability Analysis complete - Impacts Identified - upgrades and operating procedures expected to be in place by May 2015 to allow generators to deactivate as scheduled. On May 15, 2013 NRG submitted an updated deactivation notice with an effective deactivation date of 9/1/2013. New reliability analysis complete and Impacts Identified and upgrades cannot be completed by new deactivation date. Generation owner has informed PJM that Titus will deactivate as scheduled on 9/1/2013. Unit deactivated on 9/1/2013.
Sep-13	Titus 3	MetEd	81	Reliability Analysis complete - Impacts Identified - upgrades and operating procedures expected to be in place by May 2015 to allow generators to deactivate as scheduled. On May 15, 2013 NRG submitted an updated deactivation notice with an effective deactivation date of 9/1/2013. New reliability analysis complete and Impacts Identified and upgrades cannot be completed by new deactivation date. Generation owner has informed PJM that Titus will deactivate as scheduled on 9/1/2013. Unit deactivated on 9/1/2013.
Apr-13	Piney Creek NUG	PenElec	31	PJM was informed on 6/25/13 that unit had ceased operations on 4/12/13 and was being decommissioned starting on 5/13/13. PJM determined that this was not a PJM generator since it was operating under a State Tariff. However, since the unit was a capacity resource, and in both the Planning and Operations models, PJM has completed Reliability analysis and Identified Impacts. Solution is an already Identified baseline upgrade with a June 2014 expected in-service date. Interim operating procedures are being discussed for implementation.
Sep-13	Koppers Co. IPP	PPL	8	Reliability analysis complete. No Impacts Identified.
Oct-13	Hatfield's Ferry 1	AP	530	Detailed reliability studies complete. The Impacts to the transmission system from the unit deactivation can be mitigated through the completion of required baseline upgrades and the implementation of temporary operating measures in the interim period. Unit not required for system reliability and may deactivate as requested. Unit deactivated on 10/9/2013.
Oct-13	Hatfield's Ferry 2	AP	530	Detailed reliability studies complete. The Impacts to the transmission system from the unit deactivation can be mitigated through the completion of required baseline upgrades and the implementation of temporary operating measures in the interim period. Unit not required for system reliability and may deactivate as requested. Unit deactivated on 10/9/2013.
Oct-13	Hatfield's Ferry 3	AP	530	Detailed reliability studies complete. The Impacts to the transmission system from the unit deactivation can be mitigated through the completion of required baseline upgrades and the implementation of temporary operating measures in the interim period. Unit not required for system reliability and may deactivate as requested. Unit deactivated on 10/9/2013.
Oct-13	Mitchell 2	AP	82	Detailed reliability studies complete. The Impacts to the transmission system from the unit deactivation can be mitigated through the completion of required baseline upgrades and the implementation of temporary operating measures in the interim period. Unit not required for system reliability and may deactivate as requested. Unit deactivated on 10/9/2013.

Generation Deactivations in Pennsylvania Jan. 1 to Dec. 21, 2013 (cont'd)

Stated Deactivation Date	Unit	TO Zone	Capacity (MW)	Status
Oct-13	Mitchell 3	AP	277	Detailed reliability studies complete. The impacts to the transmission system from the unit deactivation can be mitigated through the completion of required baseline upgrades and the implementation of temporary operating measures in the interim period. Unit not required for system reliability and may deactivate as requested. Unit deactivated on 10/9/2013.
Jun-14	Portland 1	MetEd	158	Reliability Analysis complete - Impacts Identified - upgrades and operating procedures expected to be in place by May 2015 to allow generators to deactivate as scheduled. On May 15, 2013, NRG submitted an updated deactivation notice with an effective deactivation date of 6/1/2014. New reliability analysis complete. Impacts Identified and upgrades expected to be completed by new deactivation date (June 1, 2014).
Jun-14	Portland 2	MetEd	243	Reliability Analysis complete - Impacts Identified - upgrades and operating procedures expected to be in place by May 2015 to allow generators to deactivate as scheduled. On May 15, 2013, NRG submitted an updated deactivation notice with an effective deactivation date of 6/1/2014. New reliability analysis complete. Impacts Identified and upgrades expected to be completed by new deactivation date (June 1, 2014).
Jun-15	Sunbury 3	PPL	94	Reliability analysis complete. Impacts Identified. Upgrades and interim operating measures expected to be completed in 2nd quarter 2015. In addition requested to re-use CIRs for project Z1-090.
Jun-15	Sunbury 1	PPL	80	Reliability analysis complete. Impacts Identified. Upgrades and interim operating measures expected to be completed in 2nd quarter 2015. In addition requested to re-use CIRs for project Z1-090.
Jun-15	Sunbury 2	PPL	80	Reliability analysis complete. Impacts Identified. Upgrades and interim operating measures expected to be completed in 2nd quarter 2015. In addition requested to re-use CIRs for project Z1-090.
Jun-15	Sunbury 4	PPL	128	Reliability analysis complete. Impacts Identified. Upgrades and interim operating measures expected to be completed in 2nd quarter 2015. In addition requested to re-use CIRs for project Z1-090.
Jun-17	AES Beaver Valley	DUQ	125	Reliability analysis complete. Impacts Identified. Upgrades and interim operating measures expected to be completed in 2nd quarter 2017.

Appendix C – Existing Generating Facilities

Table C-1 shows PJM electricity supply mix summary of generating capacity by fuel type for 2013,⁵¹ and the distribution of actual generation capacity utilized for 2012 and 2013.

Table C-2 shows the most recently available data on existing generating facilities located in Pennsylvania.⁵²

Table C-1 Electrical Power Supply Mix

Electricity Supply Mix PJM Region Supply Mix for 2012 & 2013			
Energy Source	2013 Capacity	2012 Generation	2013 Generation
Coal	41.3%	42.1%	44.3%
Nuclear	18.1%	34.6%	34.8%
Natural Gas	29.2%	18.8%	16.3%
Hydro, Wind & Other	5.3%	3.9%	4.3%
Oil	6.2%	0.6%	0.2%

Source: PJM - State of the Market 2013 by Monitoring Analytics:

http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2013.shtml

⁵¹ See State of the Market Report, Monitoring Analytics, available at http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2013.shtml

⁵² Data reported to SNL and received by PUC staff on Aug. 5, 2014.

Table C-2 Electric Generating Facilities in Pennsylvania

County	Power Plant	Owner	Ultimate Parent	Operating Ownership (%)	Operating Capacity (MW)	Year First Unit in Service	Age	Fuel Type
Adams	Gettysburg Energy & Nutrient Recovery Facility (GENRF)	EnergyWorks BioPower, Inc	EnergyWorks BioPower, Inc	100	3.3	2013	1	Biomass
Adams	Hamilton	NRG REMA LLC	NRG Energy, Inc.	100	24	1971	43	Oil
Adams	Hunterstown	NRG REMA LLC	NRG Energy, Inc.	100	75	1971	43	Oil
Adams	Hunterstown CC	GenOn Energy Wholesale Generation, LLC	NRG Energy, Inc.	100	810	2003	11	Gas
Adams	Orrtanna	NRG REMA LLC	NRG Energy, Inc.	100	26	1971	43	Oil
Allegheny	Allegheny Energy 3, 4 and 5	Allegheny Energy Supply Company, LLC	FirstEnergy Corp.	100	550	2003	11	Gas
Allegheny	Allegheny Energy Units 1 and 2	Allegheny Energy Supply Company, LLC	FirstEnergy Corp.	100	88	1999	15	Gas
Allegheny	Brunot Island	Orion Power Holdings, Inc.	NRG Energy, Inc.	100	15	1972	42	Oil
Allegheny	Brunot Island CC	NRG Power Midwest LP.	NRG Energy, Inc.	100	235	1973	41	Gas
Allegheny	Cheswick	NRG Power Midwest LP.	NRG Energy, Inc.	100	563	1970	44	Coal
Allegheny	Clairton Works	United States Steel Corporation	United States Steel Corporation	100	27.4	1955	59	Non renewabl
Allegheny	Green Mountain Solar	Sun Power Electric	Conservation Services Group	100	0	2001	13	Solar
Allegheny	Mon Valley Works	United States Steel Corporation	United States Steel Corporation	100	61.9	1943	71	Non renewabl
Allegheny	PPG Monroeville Chemicals Center	PPG Monroeville Chemicals Center	PPG Industries, Incorporated	100	1.1	1998	16	Oil
Allegheny	PPG Place	PPG Industries, Incorporated	PPG Industries, Incorporated	100	2.3	1990	24	Oil
Armstrong	Allegheny 5	Harbor Hydro Holdings, LLC	LS Power Group	100	10	1988	26	Water
Armstrong	Allegheny 6	Harbor Hydro Holdings, LLC	LS Power Group	100	12	1988	26	Water
Armstrong	Allegheny 8	Northbrook Energy, LLC	Northbrook Energy, LLC	3	13.6	1990	24	Water
		EIF United States Power Fund IV, L.P.	EIF Management, LLC	94				
		Northbrook Energy, LLC	NEO Corporation	3				
Armstrong	Allegheny 9	Northbrook Energy, LLC	Northbrook Energy, LLC	3	17.8	1990	24	Water
		EIF United States Power Fund IV, L.P.	EIF Management, LLC	94				
		Northbrook Energy, LLC	NEO Corporation	3				
Armstrong	Armstrong County	International Power America, Inc.	GDF Suez SA	100	676	2002	12	Gas
Armstrong	Keystone	Constellation Power Source Generation LLC	Exelon Corporation	21	1700	1967	47	Coal
		NRG REMA LLC	NRG Energy, Inc.	16.7				
		Duquesne Light Holdings, Inc.	Duquesne Light Holdings, Inc.	2.5				
		Exelon Generation Company, LLC	Exelon Corporation	21				
		NRG Northeast Generating LLC	NRG Energy, Inc.	3.7				
		PPL Generation, LLC	PPL Corporation	12.3				
		PSEG Fossil LLC	Public Service Enterprise Group Inc.	22.8				
Armstrong	Keystone IC	Constellation Power Source Generation LLC	Exelon Corporation	21	11.2	1968	46	Oil
		NRG REMA LLC	NRG Energy, Inc.	16.7				
		Duquesne Light Holdings, Inc.	Duquesne Light Holdings, Inc.	2.5				
		NRG Northeast Generating LLC	NRG Energy, Inc.	3.7				
		PPL Generation, LLC	PPL Corporation	12.3				
		Exelon Generation Company, LLC	Exelon Corporation	21				
		PSEG Fossil LLC	Public Service Enterprise Group Inc.	22.8				
Armstrong	Mahoning Creek	Enduring Hydro LLC	Enduring Hydro LLC	100	6.6	2013	1	Water
Beaver	Beaver Valley	FirstEnergy Nuclear Generation Corp.	FirstEnergy Corp.	86.4	1844	1976	38	Nuclear
		Ohio Edison Company	FirstEnergy Corp.	4.4				
		Toledo Edison Company	FirstEnergy Corp.	9.2				
Beaver	Beaver Valley Patterson Dam	Enel Green Power North America, Inc.	Enel Green Power S.p.A	31.7	1.2	1982	32	Water
		Enel Green Power North America, Inc.	Enel S.p.A.	68.3				
Beaver	Beaver Valley ST	AES Atlantic, Inc.	AES Corporation	100	152	1987	27	Coal
Beaver	Bruce Mansfield	FirstEnergy Generation Corp.	FirstEnergy Corp.	100	2510	1976	38	Coal
Beaver	G.F. Weaton Power Station	Horsehead Corporation	Horsehead Holding Corp.	100	120	1958	56	Coal
Beaver	Townsend Hydro	Beaver Falls Municipal Authority	Beaver Falls Municipal Authority	100	4.2	1987	27	Water
Berks	Evergreen Community Power Plant	Evergreen Community Power LLC	Interstate Resources, Inc.	100	25	2009	5	Biomass
Berks	Morgantown Solar Park	Hankin Group	Hankin Group	100	1.6	2011	3	Solar
Berks	Ontelaunee Energy Center	Dynegey Power, LLC	Dynegey Inc.	100	591.4	2002	12	Gas
Berks	Pioneer Crossing Landfill	Green Gas Americas, Inc.	Green Gas International B.V.	100	9.6	2008	6	Biomass
Berks	Titus CT	NRG REMA LLC	NRG Energy, Inc.	100	35	1967	47	Oil
Blair	Allegheny Ridge Wind Farm	Infigen Energy Limited	Infigen Energy Limited	100	80	2007	7	Wind
Blair	American Eagle Paper Mills	Team Ten LLC	Team Ten LLC	100	17.1	1929	85	Coal
Blair	Chestnut Flats Windfarm	EDF Renewable Energy, Inc.	EDF Group	100	38	2011	3	Wind
Blair	Juniata Locomotive Shop	Norfolk Southern Corporation	Norfolk Southern Corporation	100	1.2	1955	59	Coal
Blair	North Allegheny Wind	Duke Energy Renewables, Inc.	Duke Energy Corporation	100	70	2009	5	Wind
Blair	Sandy Ridge Wind Farm	Emera Incorporated	Emera Incorporated	24.3	48.2	2012	2	Wind
		Algonquin Power Fund (America) Inc.	Algonquin Power & Utilities Corp.	75.7				
Bradford	Armenia Mountain Wind	AES Armenia Mountain Wind, LLC	AES Corporation	100	100.5	2009	5	Wind
Bradford	Northern Tier Landfill	PPL Renewable Energy, LLC	PPL Corporation	100	1.6	2009	5	Biomass
Bucks	Croydon	Exelon Generation Company, LLC	Exelon Corporation	100	512	1974	40	Oil
Bucks	Exelon-Conergy Solar Energy Center	MF Mesa Lane, LLC	Conergy AG	100	1.5	2008	6	Solar
Bucks	Fairless Hills Steam Generating Station	Exelon Generation Company, LLC	Exelon Corporation	100	60	1996	18	Biomass
Bucks	Fairless Works Energy Center	Dominion Energy, Inc.	Dominion Resources, Inc.	100	1276.4	2004	10	Gas
Bucks	Falls	Exelon Generation Company, LLC	Exelon Corporation	100	60	1970	44	Oil
Bucks	Pennsbury Generating Station	Exelon Generation Company, LLC	Exelon Corporation	100	5.4	1996	18	Biomass
Bucks	Tullytown Landfill Gas Facility	WM Renewable Energy, LLC	Waste Management, Inc.	100	1.6	2013	1	Biomass
Bucks	Wheelabrator Falls Inc.	Wheelabrator Technologies, Inc.	Waste Management, Inc.	100	48.1	1994	20	Biomass
Cambria	Cambria Cogeneration	Harbert Power Fund V, LLC	Harbert Management Corporation	12.5	87.5	1991	23	Coal
		Gulf Pacific Power LLC	Harbert Management Corporation	37.5				
		UBS Global Asset Management	UBS AG	50				

County	Power Plant	Owner	Ultimate Parent	Operating Ownership (%)	Operating Capacity (MW)	Year First Unit in Service	Age	Fuel Type
Cambria	Colver Power Project	Harbert Power Fund V, LLC	Harbert Management Corporation	9.4	110	1995	19	Coal
		Gulf Pacific Power LLC	Harbert Management Corporation	28.1				
		Constellation Power, Inc.	Exelon Corporation	25				
		UBS Global Asset Management	UBS AG	37.5				
Cambria	Ebensburg Power Company	Babcock & Wilcox Equity Investments, LLC	Babcock & Wilcox Company	100	50	1991	23	Coal
Cambria	Highland North Wind Farm	Everpower Wind Holdings, Inc.	Terra Firma Capital Partners Ltd.	100	75	2012	2	Wind
Cambria	Highland Wind Project	Everpower Wind Holdings, Inc.	Terra Firma Capital Partners Ltd.	100	62.5	2009	5	Wind
Cambria	Patton Wind Farm	Everpower Wind Holdings, Inc.	Terra Firma Capital Partners Ltd.	100	30	2012	2	Wind
Carbon	PA Solar Park Project	Consolidated Edison Development, Inc.	Consolidated Edison, Inc.	100	10	2012	2	Solar
Carbon	Panther Creek	Olympus Power, LLC	Olympus Holdings, LLC	25	83	1992	22	Coal
		ArLight Energy Partners Fund IV, L.P.	ArLight Capital Holdings, LLC	75				
Centre	East Campus Plant	Pennsylvania State University	Pennsylvania State University	100	8.4	2011	3	Gas
Centre	West Campus Plant	Pennsylvania State University	Pennsylvania State University	100	3.8	1938	76	Coal
Chester	Aqua Ingrams Mill Solar	Aqua Pennsylvania Inc.	Aqua America Inc.	100	0.4	2009	5	Solar
Chester	Longwood Gardens Solar Plant	Ecogy Pennsylvania Systems, LLC	Ecogy Pennsylvania Systems, LLC	100	1.3	2011	3	Solar
Chester	Pickering Solar	Aqua America Inc.	Aqua America Inc.	100	1.4	2012	2	Solar
Chester	SECCRA Community Landfill	Southeastern Chester County Refuse Authori	Southeastern Chester County Refuse	100	2.5	2007	7	Biomass
		Brookfield Renewable Energy Partners L.P.	Brookfield Renewable Energy Partner	38				
Clarion	Piney	Brookfield Renewable Energy Partners L.P.	Brookfield Asset Management Inc.	62	28	1924	90	Water
		Brookfield Renewable Energy Partners L.P.	Brookfield Asset Management Inc.	62				
Clearfield	Shawville	NRG REMA LLC	NRG Energy, Inc.	100	588	1954	60	Coal
Clearfield	Shawville IC	NRG REMA LLC	NRG Energy, Inc.	100	6	1960	54	Oil
Clinton	Lock Haven	PPL Generation, LLC	PPL Corporation	100	14	1969	45	Oil
Cumberland	Carlisle Area School District	Carlisle Area School District	Carlisle Area School District	100	1.3	2010	4	Solar
Cumberland	Knouse Foods Solar Plant	Knouse Foods Cooperative Inc	Knouse Foods Cooperative Inc	100	0.4	2010	4	Solar
Cumberland	Mountain	NRG REMA LLC	NRG Energy, Inc.	100	50	1972	42	Oil
Cumberland	PPG Industries Works 6IC Facility	PPG Industries, Incorporated	PPG Industries, Incorporated	100	5	1972	42	Oil
Cumberland	Shippensburg (Cumberland County) Landfill	PPL Renewable Energy, LLC	PPL Corporation	100	6.4	2009	5	Biomass
Cumberland	West Shore	PPL Generation, LLC	PPL Corporation	100	28	1969	45	Oil
Dauphin	Harrisburg	PPL Generation, LLC	PPL Corporation	100	56	1967	47	Oil
Dauphin	Harrisburg Facility	Harrisburg City	Harrisburg City	100	21.8	1986	28	Biomass
Dauphin	Paxton Creek Cogeneration	NRG Yield, Inc.	NRG Energy, Inc.	65.5	12	1986	28	Gas
		NRG Yield, Inc.	NRG Yield, Inc.	34.5				
Dauphin	Three Mile Island-1	Exelon Generation Company, LLC	Exelon Corporation	100	829	1974	40	Nuclear
Delaware	Chester	Exelon Generation Company, LLC	Exelon Corporation	100	54	1969	45	Oil
Delaware	Chester Operations	Kimberly-Clark Corporation	Kimberly-Clark Corporation	100	67	1986	28	Coal
Delaware	Delaware County Resource Recovery Facility	Covanta Energy Corporation	Covanta Holding Corporation	100	80	1991	23	Biomass
Delaware	Eddystone 3-4	Exelon Generation Company, LLC	Exelon Corporation	100	760	1974	40	Oil
Delaware	Eddystone CT	Exelon Generation Company, LLC	Exelon Corporation	100	76	1967	47	Oil
Delaware	Liberty Electric Power	Equipower Resources Corp.	Energy Capital Partners LLC	100	541	2002	12	Gas
Delaware	Marcus Hook	NextEra Energy Resources LLC	NextEra Energy, Inc.	100	808.4	2004	10	Gas
Delaware	Marcus Hook Cogeneration	NextEra Energy Resources LLC	NextEra Energy, Inc.	100	50	1987	27	Gas
Elk	Johnsonburg Mill	Domtar Paper Company, LLC	Domtar Corp.	100	49	1993	21	Biomass
Erie	Erie Coke Corporation	Erie Coke Corporation	Erie Coke Corporation	100	1.3	1953	61	Non renewabl
Erie	Lakeview Gas Recovery	WM Renewable Energy, LLC	Waste Management, Inc.	100	6	1997	17	Biomass
Fayette	Allegheny Energy Units 8 and 9	Allegheny Energy Supply Company, LLC	FirstEnergy Corp.	100	88	2000	14	Gas
Fayette	Fayette Energy Facility	Duke Energy Commercial Asset Managmt, Inc	Duke Energy Corporation	100	649	2003	11	Gas
Fayette	Mill Run Wind Farm	NextEra Energy Resources LLC	NextEra Energy, Inc.	100	15	2001	13	Wind
Fayette	South Chestnut Wind Project	Iberdrola Renewables, LLC	Iberdrola, S.A.	100	50.4	2012	2	Wind
Franklin	Chambersburg Unit 12, 13	Allegheny Energy Supply Company, LLC	FirstEnergy Corp.	100	88	2001	13	Gas
Franklin	Falling Spring	Chambersburg Borough of	Chambersburg Borough of	100	7.1	1967	47	Gas
Franklin	IESI Blue Ridge Landfill	PPL Renewable Energy, LLC	PPL Corporation	100	6.4	2013	1	Biomass
Franklin	Mountain View Landfill	Ingenco Investors LLC	Ingenco Investors LLC	80.2	14.4	2003	11	Biomass
		Ingenco Holdings LLC	Ingenco Holdings LLC	19.8				
Franklin	Orchard Park	Chambersburg Borough of	Chambersburg Borough of	100	23.2	2003	11	Gas
Huntingdon	Warrior Ridge Hydroelectric	American Hydro Power Co.	American Hydro Power Co.	100	2.8	1985	29	Water
Huntingdon	Wm F Matson Generating Station	Allegheny Electric Cooperative Inc.	Allegheny Electric Cooperative Inc.	100	22	1988	26	Water
Indiana	Conemaugh	Constellation Power Source Generation LLC	Exelon Corporation	10.6	1700	1970	44	Coal
		NRG REMA LLC	NRG Energy, Inc.	16.5				
		Duquesne Light Holdings, Inc.	Duquesne Light Holdings, Inc.	3.8				
		Exelon Generation Company, LLC	Exelon Corporation	20.7				
		NRG Northeast Generating LLC	NRG Energy, Inc.	3.7				
		PPL Generation, LLC	PPL Corporation	16.3				
		PSEG Fossil LLC	Public Service Enterprise Group Inc.	22.5				
UGI Development Company	UGI Corporation	6						
Indiana	Conemaugh IC	Constellation Power Source Generation LLC	Exelon Corporation	10.6	11.2	1970	44	Oil
		NRG REMA LLC	NRG Energy, Inc.	16.5				
		Duquesne Light Holdings, Inc.	Duquesne Light Holdings, Inc.	3.8				
		Exelon Generation Company, LLC	Exelon Corporation	20.7				
		PPL Generation, LLC	PPL Corporation	16.3				
		NRG Northeast Generating LLC	NRG Energy, Inc.	3.7				
		PSEG Fossil LLC	Public Service Enterprise Group Inc.	22.5				
UGI Development Company	UGI Corporation	6						
Indiana	Homer City	General Electric Capital Corporation	General Electric Company	90	1884	1969	45	Coal
		Metropolitan Life Insurance Company	MetLife, Inc.	10				
Indiana	Indiana University of Pennsylvania	Indiana University of Pennsylvania	Indiana University of Pennsylvania	100	24	1988	26	Gas
Indiana	Seward Waste Coal	GenOn Energy Wholesale Generation, LLC	NRG Energy, Inc.	100	521	2004	10	Coal

County	Power Plant	Owner	Ultimate Parent	Operating Ownership (%)	Operating Capacity (MW)	Year First Unit in Service	Age	Fuel Type
Lackawanna	Archbald Cogeneration	PEI Power Corporation	Energy Transfer Partners, L.P.	100	20	1988	26	Biomass
Lackawanna	Archbald Power Station	PEI Power Corporation	Energy Transfer Partners, L.P.	57.7	59.2	2001	13	Gas
		Cayuga Energy, Inc.	Iberdrola, S.A.	42.3				
Lackawanna	Keystone Landfill	Keystone Recovery Inc	Keystone Recovery Inc	100	4.9	1995	19	Biomass
Lancaster	Dart Container Corp Cogen	Dart Container Corp.	Dart Container Corp.	100	10.4	2012	2	Biomass
Lancaster	Frey Farm Landfill	PPL Renewable Energy, LLC	PPL Corporation	100	3.2	2006	8	Biomass
Lancaster	Holtwood Hydroelectric Plant	PPL Generation, LLC	PPL Corporation	100	248.1	1910	104	Water
Lancaster	Honey Brook Generating Station (Granger)	Granger Energy of Honey Brook, L.L.C.	Granger Electric Co	100	3.2	2006	8	Biomass
Lancaster	Keystone Solar Project	D. E. Shaw Renewable Investments, LLC	D. E. Shaw & Co., L.P.	50	5	2012	2	Solar
		Bright Plain Renewable Energy, LLC	Bright Plain Renewable Energy, LLC	50				
Lancaster	Lancaster County Resource Recovery	Lancaster County Solid Wr Authority	Lancaster County Solid Wr Authority	100	32.4	1990	24	Biomass
Lancaster	Martin Limestone Solar Array Plant	Sunstream Energy LLC	Sunstream Energy LLC	100	1	2012	2	Solar
Lancaster	Muddy Run Pumped Storage Facility	Exelon Generation Company, LLC	Exelon Corporation	100	1070	1967	47	Water
Lancaster	Safe Harbor	Brookfield Renewable Energy Partners L.P.	Brookfield Renewable Energy Partner	12.7	417.5	1931	83	Water
		Brookfield Renewable Energy Partners L.P.	Brookfield Asset Management Inc.	20.7				
		Constellation Power Source Generation LLC	Exelon Corporation	66.7				
Lancaster	Turkey Point Wind Project (Frey Farm Wind)	PPL Renewable Energy, LLC	PPL Corporation	100	3.2	2011	3	Wind
Lancaster	ZOOK Generating Station (L&S)	Granger Electric Co	Granger Electric Co	100	3.2	2013	1	Biomass
Lawrence	New Castle	NRG Power Midwest LP.	NRG Energy, Inc.	100	320	1939	75	Coal
Lawrence	New Castle IC	Orion Power Holdings, Inc.	NRG Energy, Inc.	100	2.5	1968	46	Oil
Lebanon	Greater Lebanon Refuse Authority Landfill	PPL Renewable Energy, LLC	PPL Corporation	100	3.2	2007	7	Biomass
Lebanon	PPL Ironwood	PPL Newco	PPL Corporation	100	660.1	2001	13	Gas
Lehigh	Air Products Solar (Trexletown Solar)	Air Products Energy Enterprises, L.P.	Air Products and Chemicals, Inc.	100	2	2011	3	Solar
Lehigh	Allentown	PPL Generation, LLC	PPL Corporation	100	56	1967	47	Oil
Luzerne	AE Hunlock 4	Allegheny Energy Supply Company, LLC	FirstEnergy Corp.	100	45	2000	14	Gas
Luzerne	Bear Creek Wind Project	Central Hudson Enterprises Corporation	Fortis Inc.	8.9	24	2006	8	Wind
		Community Energy, Inc.	Iberdrola, S.A.	8.9				
		JPMorgan Chase & Co.	JPMorgan Chase & Co.	56				
		Infigen Energy Limited	Infigen Energy Limited	26.3				
Luzerne	Harwood	PPL Generation, LLC	PPL Corporation	100.0	28	1967	47	Oil
Luzerne	Hazle Township Flywheel Energy Storage	Beacon Power LLC	Rockland Capital, LLC	100	20	2013	1	Non renewabl
Luzerne	Hazleton Cogeneration	Lakeside Energy, LLC	Lakeside Energy, LLC	100	152.2	1989	25	Gas
Luzerne	Hunlock Repowering	UGI Development Company	UGI Corporation	100	128.1	2011	3	Gas
Luzerne	Jenkins	PPL Generation, LLC	PPL Corporation	100	27.6	1969	45	Oil
Luzerne	MATS Wind	Electric City Wind Power Corporation	Electric City Wind Power Corporation	100	0.6	2008	6	Wind
Luzerne	Romark PA Solar	Romark Logistics of PA Inc	Romark Logistics of PA Inc	100	1.8	2011	3	Solar
Luzerne	Susquehanna	PPL Susquehanna, LLC	PPL Corporation	90	2620	1983	31	Nuclear
		Allegheny Electric Cooperative Inc.	Allegheny Electric Cooperative Inc.	10				
Lycoming	Allenwood (PPLRE Lycoming County Landfill Project)	PPL Renewable Energy, LLC	PPL Corporation	100	3.2	2012	2	Biomass
Lycoming	Laurel Hill	Duke Energy Renewables, Inc.	Duke Energy Corporation	100	69	2012	2	Wind
Lycoming	Lycoming County Landfill Project (PPL Renewable)	PPL Renewable Energy, LLC	PPL Corporation	100	3	2012	2	Biomass
Lycoming	Susquehanna Plant- Biomass	Koppers Industries Incorporated	Koppers Industries Incorporated	100	12	1988	26	Biomass
Lycoming	Williamsport	PPL Generation, LLC	PPL Corporation	100	27.2	1967	47	Oil
Mercer	General Electric Company	General Electric Company	General Electric Company	100	4.3	1984	30	Oil
Monroe	Pocono Raceway Solar Project	Pocono International Raceway, Inc.	Pocono International Raceway, Inc.	100	3	2010	4	Solar
Monroe	Shawnee CT	NRG REMA LLC	NRG Energy, Inc.	100	24	1972	42	Oil
Montgomery	500 Virginia Sola	500 Virginia Solar, LP	500 Virginia Solar, LP	100	1	2011	3	Solar
Montgomery	Conshohocken -Solar	Sun Power Electric	Conservation Services Group	100	0.1	1999	15	Solar
Montgomery	Covanta Plymouth (Montenay Montgomery)	Covanta Plymouth Renewable Energy L.P.	Covanta Holding Corporation	100	28	1991	23	Biomass
Montgomery	Hill at Whitmarsh	PPL Renewable Energy, LLC	PPL Corporation	100	1.6	2007	7	Gas
Montgomery	Limerick	Exelon Generation Company, LLC	Exelon Corporation	100	2386	1986	28	Nuclear
Montgomery	Moser	Exelon Generation Company, LLC	Exelon Corporation	100	60	1970	44	Oil
Montgomery	Stowe	Waste Management, Inc.	Waste Management, Inc.	100	3	1989	25	Biomass
Montgomery	West Point Facility	Merck & Company, Inc.	Merck & Company, Inc.	100	66	1989	25	Gas
Montgomery	West Point Facility IC	Merck & Company, Inc.	Merck & Company, Inc.	100	11	1972	42	Oil
Montour	Montour	PPL Generation, LLC	PPL Corporation	100	1515	1972	42	Coal
Northampton	Bethlehem CC	Conectiv Bethlehem LLC	Calpine Corporation	100	1130	2002	12	Gas
Northampton	Bethlehem Landfill	Commonwealth Landfill Gas	Commonwealth Landfill Gas	20	5.4	2008	6	Biomass
		Pepco Energy Services, Inc.	Pepco Holdings, Inc.	80				
		UGI Development Company	UGI Corporation	50				
Northampton	Crayola Solar Park	PPL Renewable Energy, LLC	PPL Corporation	50	2.8	2010	4	Solar
Northampton	Glendon Plant	PPL Renewable Energy, LLC	PPL Corporation	100	3.2	2011	3	Biomass
Northampton	Green Knight Energy Center	Waste Management, Inc.	Waste Management, Inc.	100	8.7	2001	13	Biomass
Northampton	Lower Mount Bethel	PPL Generation, LLC	PPL Corporation	100	560.5	2004	10	Gas
Northampton	Martins Creek 3 and 4	PPL Generation, LLC	PPL Corporation	100	1715.1	1975	39	Gas
Northampton	Martins Creek CT	PPL Generation, LLC	PPL Corporation	100	72	1971	43	Gas
Northampton	Northampton	EIF Northampton LLC	EIF Management, LLC	100	112	1995	19	Coal
Northampton	Portland CT	NRG REMA LLC	NRG Energy, Inc.	100	191	1967	47	Oil
Northumberland	Mount Carmel Cogeneration	Mt Carmel Co-Gen, Inc.	Private investors-Kenneth M. Pollock & Connie J. Pollock Rado	100	43	1990	24	Coal

County	Power Plant	Owner	Ultimate Parent	Operating Ownership (%)	Operating Capacity (MW)	Year First Unit in Service	Age	Fuel Type
Philadelphia	Delaware CT	Exelon Generation Company, LLC	Exelon Corporation	100	74	1969	45	Oil
Philadelphia	Grays Ferry Cogeneration	Grays Ferry Cogeneration Partners	Veolia Environnement SA	100	150	1997	17	Gas
Philadelphia	Lincoln Financial Field Solar Plant	NRG Solar LLC	NRG Energy, Inc.	100	2.9	2013	1	Solar
Philadelphia	Newman & Company Inc.	Newman & Co Inc	Newman & Co Inc	100	1.8	1964	50	Oil
Philadelphia	Philadelphia Refinery	Sunoco, Inc.	Energy Transfer Partners, L.P.	100	20.6	1952	62	Non renewable
Philadelphia	PWD Northeast WPCP Biogas Cogen	Philadelphia Water Department	Philadelphia Water Department	100	5.6	2013	1	Biomass
Philadelphia	Richmond CT	Exelon Generation Company, LLC	Exelon Corporation	100	132	1973	41	Oil
Philadelphia	Schuylkill CT	Exelon Generation Company, LLC	Exelon Corporation	100	38	1969	45	Oil
Philadelphia	Southwark	Exelon Generation Company, LLC	Exelon Corporation	100	72	1967	47	Oil
Pike	Wallenpaupack	PPL Generation, LLC	PPL Corporation	100	44	1926	88	Water
Schuylkill	Broad Mountain Landfill Facility	UGI Development Company	UGI Corporation	100	11	2009	5	Biomass
Schuylkill	Fishbach	PPL Generation, LLC	PPL Corporation	100	28	1969	45	Oil
Schuylkill	John B Rich Memorial Power Station	Cogentrix Energy Power Management LLC	Carlyle Group L.P.	19.6	80	1988	26	Coal
		UBS Global Asset Management	UBS AG	12.5				
		Ontario Teachers' Pension Plan Board	Ontario Teachers' Pension Plan Board	12.5				
		RI-CORP Development Inc.	RI-CORP Development Inc.	50				
		NextEra Energy Resources LLC	NextEra Energy, Inc.	5.5				
Schuylkill	Locust Ridge II	Iberdrola Renewables, LLC	Iberdrola, S.A.	100	102	2009	5	Wind
Schuylkill	Locust Ridge Wind Farm	Iberdrola Renewable Energies USA, Ltd	Iberdrola, S.A.	100	26	2007	7	Wind
Schuylkill	Masser Farms Realty Solar	Masser Farms Realty Ltd	Masser Farms Realty Ltd	100	1	2011	3	Solar
Schuylkill	Northeastern Power Cogeneration Facility	Northeastern Power Company	GDF Suez SA	100	52	1989	25	Coal
Schuylkill	Pine Grove Landfill	Ingenco Investors LLC	Ingenco Investors LLC	80.2	5.4	2008	6	Biomass
		Ingenco Holdings LLC	Ingenco Holdings LLC	19.8				
Schuylkill	St. Nicholas Cogeneration	Schuylkill Energy Resource Inc	Schuylkill Energy Resource Inc	100	86.5	1990	24	Coal
Schuylkill	Westwood Generating Station	Treemont Funding, LLC	ArLight Capital Holdings, LLC	25	30	1987	27	Coal
		Olympus Westwood Funding, LLC	Olympus Holdings, LLC	75				
Schuylkill	Wheelerabrator Trackview Energy	Wheelerabrator Technologies, Inc.	Waste Management, Inc.	100	42.5	1988	26	Coal
Snyder	Sunbury	Corona Power, LLC	Corona Power, LLC	100	388	1949	65	Coal
Snyder	Sunbury CT	Corona Power, LLC	Corona Power, LLC	100	47.2	1971	43	Oil
Snyder	Sunbury IC	Corona Power, LLC	Corona Power, LLC	100	5	1967	47	Oil
Somerset	Casselman Wind	Iberdrola Renewables, LLC	Iberdrola, S.A.	100	34.5	2007	7	Wind
Somerset	Forward WindPower LLC	NRG Energy Holdings Inc	NRG Energy, Inc.	100	29.4	2008	6	Wind
Somerset	Green Mountain Wind Farm	NextEra Energy Resources LLC	NextEra Energy, Inc.	100	10.4	2000	14	Wind
Somerset	Lookout WindPower LLC	NRG Energy Holdings Inc	NRG Energy, Inc.	100	37.8	2008	6	Wind
Somerset	Meyersdale Wind Project	NextEra Energy Resources LLC	NextEra Energy, Inc.	100	30	2003	11	Wind
Somerset	Somerset Wind Project	NextEra Energy Resources LLC	NextEra Energy, Inc.	100	9	2001	13	Wind
Somerset	Stony Creek Wind Farm	EC&R Investco Mgmt, LLC	E.ON SE	50	52.5	2009	5	Wind
		PD Alternative Investments US Inc	PensionDanmark Holding AS	50				
Somerset	Twin Ridges Wind Farm	Everpower Wind Holdings, Inc.	Terra Firma Capital Partners Ltd.	100	139.4	2012	2	Wind
Somerset	Yough Hydro Power	D/R Hydro Co	D/R Hydro Co	100	12.2	1989	25	Water
Tioga	Blossburg	NRG REMA LLC	NRG Energy, Inc.	100	24	1971	43	Gas
Union	Bucknell University	Bucknell University	Bucknell University	100	6.7	1991	23	Gas
Venango	Handsome Lake Energy	Constellation Power, Inc.	Exelon Corporation	100	267.5	2001	13	Gas
Venango	Scrubgrass	Olympus Power, LLC	Olympus Holdings, LLC	30	84.8	1993	21	Coal
		EIF United States Power Fund IV, L.P.	EIF Management, LLC	20				
		United States Power Fund III, L.P.	EIF Management, LLC	50				
Warren	Kinzua Pumped Storage Project	Harbor Hydro Holdings, LLC	LS Power Group	100	451	1970	44	Water
Warren	Warren CT	NRG REMA LLC	NRG Energy, Inc.	100	57	1972	42	Oil
Washington	Arden Landfill	WM Renewable Energy, LLC	Waste Management, Inc.	100	4.8	2009	5	Biomass
Wayne	Waymart Wind Farm	NextEra Energy Resources LLC	NextEra Energy, Inc.	100	64.5	2003	11	Wind
Westmoreland	Conemaugh Hydroelectric	PSEG Global L.L.C.	Public Service Enterprise Group Inc.	50	8	1989	25	Water
		Pennsylvania Renewable Resources	Pennsylvania Renewable Resources	50				
Wyoming	Mehoopany	Procter & Gamble Co.	Procter & Gamble Co.	100	1.6	1984	30	Gas
Wyoming	Mehoopany CT	Procter & Gamble Co.	Procter & Gamble Co.	100	123	1985	29	Gas
Wyoming	Mehoopany Wind	Sempra U.S. Gas & Power, LLC	Sempra Energy	50	142.6	2012	2	Wind
		BP Wind Energy North America Inc.	BP plc	50				
York	Brunner Island	PPL Generation, LLC	PPL Corporation	100	1437	1961	53	Coal
York	Brunner Island IC	PPL Generation, LLC	PPL Corporation	100	8.2	1967	47	Oil
York	Modern Landfill Production	WM Renewable Energy, LLC	Waste Management, Inc.	50	9	1998	16	Biomass
		Republic Services Inc.	Republic Services Inc.	50				
York	P.H. Glatfelter Company - Pennsylvania	P H Glatfelter Co	P H Glatfelter Co	100	89.3	1948	66	Coal
York	Peach Bottom	Exelon Generation Company, LLC	Exelon Corporation	50	2326	1974	40	Nuclear
		PSEG Nuclear LLC	Public Service Enterprise Group Inc.	50				
York	Tolna	NRG REMA LLC	NRG Energy, Inc.	100	50	1972	42	Oil
York	Turnkey Project - GlaxoSmith	GlaxoSmithKline	GlaxoSmithKline	100	1.5	2010	4	Solar
York	York Cogeneration	Sapphire Power Holdings LLC	Riverstone Holdings LLC	100	56.6	1988	26	Gas
York	York County Resource Recovery Center	York County Solid W & R Authority	York County Solid W & R Authority	100	29.5	1989	25	Biomass
York	York Energy Center (Peta Power)	Conectiv Mid Merit, LLC	Calpine Corporation	100	545	2011	3	Gas
York	York Haven	York Haven Power Company LLC	Olympus Holdings, LLC	100	19	1905	109	Water
Total Generators: 220								
Average Age: 25.5								
Total reported Electric Generation in Pennsylvania: 43956								

