Electric Power Outlook for Pennsylvania 2012-17

August 2013

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ELECTRIC POWER OUTLOOK FOR PENNSYLVANIA 2012–17

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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 2019, 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 PJM Interconnection, LLC (PJM) that concludes PJM will meet its reserve margin requirements in 2013 by 15.4 percent. However, the projected reserve margin is anticipated to fall below the required reserve margin in 2020.

Pennsylvania's aggregate electrical energy usage (residential, commercial, industrial, sales for resale, and other) in 2012 was 144,955 gigawatt hours (GWh) versus 148,671 GWh for 2011, which is a 2.5 percent decrease in electrical usage[5]. The current average aggregate five-year growth projection in Pennsylvania's energy usage is 0.8 percent per year. This includes a residential growth rate of 0.6 percent, a commercial growth rate of 0.7 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.
[5] The decrease in usage could be attributable to any number of factors such as weather, efficiency and conservation programs, and socioeconomic.

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Section 1 – Regional Electric Outlook

Purpose

The *Electric Power Outlook for Pennsylvania 2012-17* 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.[6]

The information contained in this report includes highlights of the past year, as well as EDCs' projections of energy demand and peak load for 2012-17. The state's seven largest EDCs[7] represent 92 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, which 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 Reliability*First* 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.[8] 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

[6] This report is available at http://www.puc.pa.gov/utility_industry/electricity/electric_reports.aspx.
[7] Those EDCs with at least 100,000 customers.
[8] *See* 52 Pa. Code §§ 57.141—57.154.

system that provides electricity to 334 million people, has a total demand of 830,000 MW, 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 Reliability*First* 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 *2012 Long-Term Reliability Assessment*[9] 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 2012 assessment, NERC identifies the following key issues for the North American bulk power system:

- Resources are sufficient to meet reliability targets in most areas as planning reserve margins appear sufficient to maintain reliability during the long-term horizon.

- Approximately 71 GW of fossil-fired generation is projected to retire by 2022, with more than 90 percent retiring by 2017. The retirements are largely due to the unique confluence of final and potential federal environmental regulations; low natural gas prices; and other economic factors.

- Starting as early as next year, an increased risk of capacity deficiencies exist in the Electric Reliability Council of Texas (ERCOT) as planning reserve margins projected to fall below the NERC reference margin level of 15.4 percent.

- Increased dependence on natural gas for electricity generation has amplified the need for all gas consumers, electric system planners and operators, and policy makers to focus more on the interaction between the electric and gas industries.

[9] *See* NERC, *2012 Long-Term Reliability Assessment*, November 2012 available at http://www.nerc.com/files/2012_LTRA_FINAL.pdf.

- During the next 10 years, more long-term generator maintenance outages for environmental retrofits are anticipated in order for generators to comply with federal and state-level environmental regulations.

- Renewable resource additions introduce new planning and operational challenges as the number of new facilities in North America continues to increase.

- The existing electric transmission systems and planned additions during the next 10 years appear adequate to reliably meet customer electricity requirements.

- During the next 10 years, increases in demand-side management will help offset future resource needs, contributing either to the deferral of new generating capacity or improving operator flexibility in the day-ahead or real-time time period.

ReliabilityFirst Corporation

Reliability*First* Corporation (RFC), headquartered in Fairlawn Ohio, is one of eight NERC regional entities serving North America, and is the regional reliability entity for Pennsylvania. It 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.

Regional Transmission Organizations

The two RTOs within the RFC footprint are PJM and the Midwest Independent System Operator (MISO).

PJM Interconnection

PJM is a regional transmission organization that ensures the reliability of the largest centrally dispatched control area in North America, covering 214,000 square miles. PJM coordinates the operation of 185,600 MW of generating capacity and more than 59,750 miles of transmission lines. The PJM RTO coordinates the movement of electricity through all or parts of Delaware, Illinois,

Figure 1 PJM RTO service territory

Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.[10] 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 2012, PJM processed $29.18 billion in settlements among its more than 800 members, a 19 percent decrease from 2011.[11] PJM's 2012 transmission volumes were 819 terawatt hours (TWhs), compared with 778 TWhs for 2011. The increase in transmission volumes is primarily attributable to the integration of FirstEnergy Service Company on June 1, 2011, and Duke Ohio and Duke Kentucky on January 1, 2012.[12]

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 2013 by 15.4 percent. However, the projected reserve margin is anticipated to fall below the required reserve margin in 2020.

The NERC reserve margins for PJM are projected to range from 27 percent in 2013 to 15.7 percent in 2019. NERC projects by 2020 some PJM conceptual queued units will become planned, and then placed in service to ensure adequate reserve margins. Significant generation-facility retirements are the major contributing factors to the shortfall. NERC notes generator developers are expected to make up the shortfall in those future years. Based on that expectation, the projected adjusted potential reserves will meet the required reserve margin until at least 2022.

[10] *See* PJM 2012 Annual Report, available at http://pjm.com/about-pjm/who-we-are/~/media/about-pjm/newsroom/annual-reports/2012-annual-report.ashx.
[11] *Id.*
[12] *See* PJM 2012 Financial Report, available at http://pjm.com/about-pjm/who-we-are/~/media/about-pjm/newsroom/annual-reports/2012-financial-report.ashx.

Continued use of the PJM Reliability Pricing Model (RPM) will ensure that the planning reserve margin is met at least three years into the future.[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. Also the PUC does not regulate transmission and generation. 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, participate in the PJM-operated capacity market, own generation, and/or pursue 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 14,979 MW. These facilities are under active study by PJM. Natural gas projects make up more than 9,954 MW of this queued capacity. This additional capacity may be used to serve 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 46,385 MW.[16] As stated earlier, the output of some of these facilities may serve loads outside Pennsylvania. Appendix C lists the existing generation facilities in Pennsylvania.

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[13] *See* NERC, *2012 Long-Term Reliability Assessment*, November 2012, available at http://www.nerc.com/files/2012_LTRA_FINAL.pdf.

[14] A 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)

[15] *See* PJM 2012 RTEP, available at http://pjm.com/documents/reports/rtep-documents/2012-rtep.aspx.

[16] *See* Electric Power Generation Association, email received August 2, 2013, from Sharon Barbour, EPGA.

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 2022. Peak winter load-growth rates are expected to range between 0.6 and 2.0 percent on average over 10 years through 2021-22. Forecasted summer peak loads are modeled in power flow studies used in PJM's 2011 Regional Transmission Expansion Plan (RTEP) studies. PJM's RTEP includes baseline transmission upgrades in Pennsylvania to meet expected near-term 2017 peak load conditions. RTEP studies also assess anticipated needs for additional transmission expansion plans to meet long-term load growth requirements through 2027.[17]

PJM receives generation deactivation requests on a continuing basis. PJM 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 2012 RTEP, PJM studied the reliability impacts of formally submitted deactivation requests totaling nearly 14,000 MW (submitted between Nov. 1, 2011 and Dec. 31, 2012) for deactivation between May 2012 and the end of 2015. PJM identified the need for more than 130 upgrades comprising a range of solutions: line terminal equipment upgrades; new substations and substation additions to reinforce underlying systems; existing line rebuilds to achieve higher line ratings; and new transmission lines. As identified in the 2012 RTEP, more than 43 of these baseline upgrades are for the mid-Atlantic PJM region. Of the mid-Atlantic baseline upgrades that cost $5 million or more to implement, 13 were identified for Pennsylvania (see Table 1).[18] In addition, deactivation studies identified the need for many previously identified RTEP baseline projects to be completed earlier. If an upgrade is not completed before a deactivation occurs, PJM operators will develop operating procedures to manage any constraints in real time.[19]

In 2012, PJM acquired, through its RPM auctions, 164,561 MWs of generation capacity to meet power supply needs for the year starting June 1, 2015. The auction procured 4,900 MWs of new generation, most of which was natural-gas fueled. Additionally, the auction acquired 14,833 MWs total of demand response and energy efficiency. [20]

[17] *See* PJM 2012 RTEP, available at http://pjm.com/documents/reports/rtep-documents/2012-rtep.aspx.
[18] *Id.*
[19] *Id.*
[20] *See* PJM 2011-2012 BRA Results News Release, available at http://www.pjm.com/~/media/markets-ops/rpm/rpm-auction-info/20080515-2011-2012-bra-report.ashx

Table 1 PJM baseline transmission upgrades identified for PA due to generator deactivations

Owner	Upgrade
PECO	Reconductor the underground portion of the Richmond - Waneeta 230 kV, replace terminal equipment, and replace three 230 kV circuit breakers to give an emergency rating of 1195 MVA
Penelec	Reconductor the New Baltimore - Bedford North 115 kV
Penelec	Construct a new 345/115 kV substation (Mainesburg) and loop the Mansfield - Everts 115 kV
Penelec	Construct Four Mile Junction 230/115 kV substation. Loop the Erie South - Erie East 230 kV line, Buffalo Road - Corry East and Buffalo Road - Erie South 115 kV lines
Met-Ed	Build a 500 MVAR SVC at Hunterstown 500 kV
Penelec	Build a 250 MVAR SVC at Altoona 230 kV
Penelec	Build a 100 MVAR Fast Switched Shunt and 100 MVAR Switched Shunt near Mansfield at the new Mainesburg 345 kV substation
Penelec	Construct a 115 kV ring bus at Claysburg Substation. Bedford North and Saxton lines will no longer share a common breaker
Penelec	Construct Farmers Valley 345/230 kV and 230/115 kV substation. Loop the Homer City-Stolle Road 345 kV line into Farmers Valley
Penelec	Relocate the Erie South 345 kV line terminal
Penelec	Convert Lewis Run-Farmers Valley to 230 kV using 1033.5 ACSR conductor
PPL	Install North Lancaster 500/230 kV substation (below 500 kV portion)
PPL	Install North Lancaster 500/230 kV substation (500 kV portion)

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 by summer 2017 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 June 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 June 1, 2015.

Updated analysis using the 2011 load forecast confirmed double circuit tower line (DCTL) violations beginning in summer 2012. The near term solution is to operate to the DCTL violations in real time operation and adjust generation and implement demand side response (DSR)[21] as required to maintain grid reliability. Updated studies also show that Hudson Unit 1, previously designated as a must-run unit, is not required to maintain reliability and will be released.

PATH

The Potomac-Appalachian Transmission Highline (PATH) Line analysis performed during the 2010 RTEP cycle required an in-service date of June 1, 2015. The PJM Board issued a statement on February 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 September 2012.

Section 2 – Pennsylvania Electric Outlook

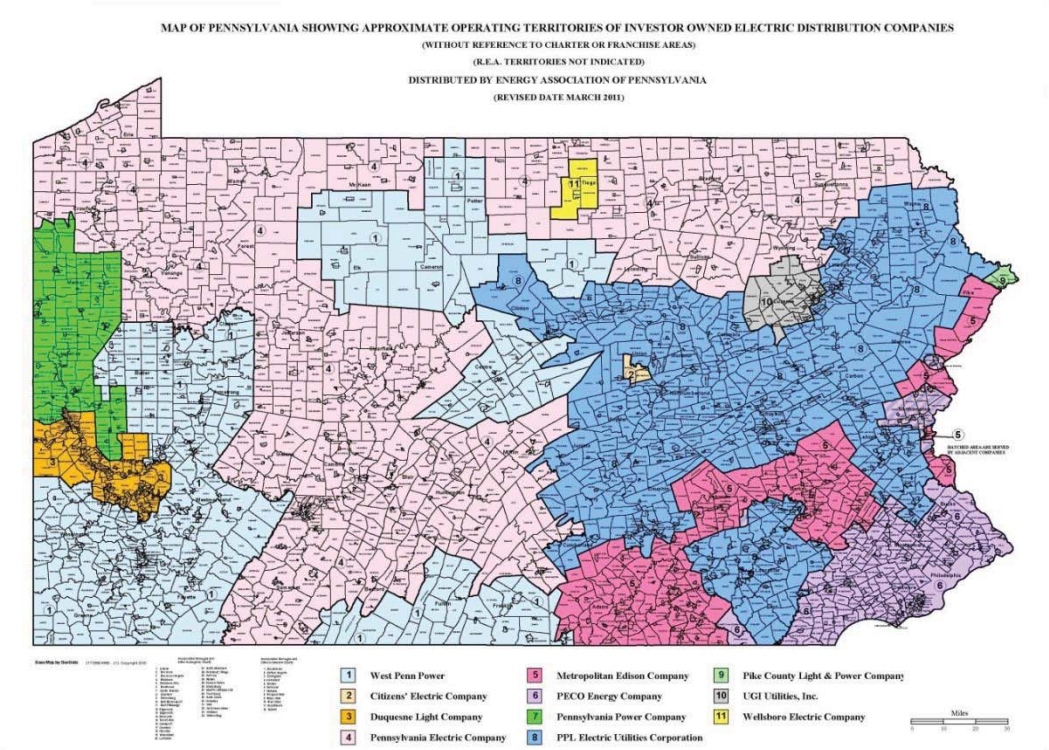
Electric Distribution Companies

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)

[21] Demand Side Response is a voluntary change in electricity usage by a customer in response to price or an emergency event affecting grid reliability.(definition from PJM.com glossary)

Figure 2 Map of EDC service territories



Each load-serving entity (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.[22] 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.[23]

Alternative Energy Portfolio Standards

The PUC continues to implement procedures and guidelines necessary to carry out the requirements of Alternative Energy Portfolio Standards Act of 2004 (Act 213).[24] The Act requires that an annually increasing percentage of electricity sold to Pennsylvania retail customers be derived from alternative energy resources. The amount of electricity to be supplied by alternative

[22] 66 Pa. C.S. § 2803.
[23] *See id.*. § 2807(e)(3).
[24] Alternative Energy Portfolio Standards Act, effective Feb. 28, 2005; 73 P.S. §§ 1648.1—1648.8.

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.[25]

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)[26] 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 required 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 2. Since Jan. 1, 2011, all EDCs and EGSs have been required to comply.

Table 2 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.[27]

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

[25] *See* Docket No. L-00060180; 52 Pa. Code §§ 75.61-75.70.
[26] *See* 66 Pa.C.S. § 2814(b).
[27] *See* 52 Pa. Code §§ 75.61—75.70.

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 (CPM) serves as the AEC program administrator. 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[28]. 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.[29] Act 35 of 2007 amended Act 213 and provisions including the reconciliation mechanism for surplus energy supplied through net metering.[30]

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.[31]

As of May 31, 2013, Pennsylvania had certified 9,187[32] alternate energy facilities, of which 6,950 are located within the state. The total cost for AEPS compliance for all load-serving entities in Pennsylvania is estimated to be $25.5 million in 2014.[33]

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)

Energy Efficiency and Conservation (Act 129)

Act 129 of 2008[34] required the seven Pennsylvania EDCs with at least 100,000 customers[35] to establish an energy efficiency and conservation (EE&C) plan. The Commission-approved plans

[28] 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.
[29] *See* Docket No. L-00050174; 52 Pa. Code §§ 75.11-75.15.
[30] *Id.* (I assume you want to cite to the same sections as in the previous footnote – at minimum, you need to change to 75.11 – 75.14 if that wasn't your intention)
[31] *See* Docket No. L-00050175; 52 Pa. Code §§ 75.21-75.40.
[32] See paaeps.com/credit/showQualified.do?todo=qualified
[33] See puc.state.pa.us/electric/pdf/AEPS/AEPS_Ann_Rpt_2011.pdf
[34] Act 129 of 2008, effective November 14, 2008; 66 Pa. C.S. §§2806.1-2806.2.
[35] *See* 66 Pa.C.S. § 2806.1.

must 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 megawatts (MW) for 2013.[36]

Under Act 129, the Commission was required to evaluate the costs and benefits of the EE&C programs by Nov. 31, 2013.[37] The Commission determined the program benefits outweighed the costs. Based on the Act 129 Statewide Evaluator's (SWE)[38] Electric Energy Efficiency Potential for Pennsylvania Final Report,[39] the PUC set new reduction targets for the EDCs subject to the Act 129 EE&C requirements.[40] Phase II will operate from June 1, 2013, to May 31, 2016. Met-Ed, Penelec, Penn Power, West Penn Power, PECO and PPL initially challenged the Phase II targets, but, following hearings, the Commission determined the Phase II targets were appropriate.[41] These targets are outlined in Table 3 below.

Table 3 Consumption and Peak Demand Reduction Targets

2009-2010 Reduction Targets		
EDC	**Peak Demand (%)**	**Consumption (MWh)**
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

While initiating Phase II EE&C plans, 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. The Commission received the results of the SWE's Demand Response Study on May 16, 2013 and is currently reviewing the findings before prescribing new peak demand reduction targets.[42] However, assuming an EDC is able to meet its Phase II target under its Act 129 budget, the Commission has provided the opportunity for EDCs to propose, either in the EE&C plans or otherwise, residential demand response programs.

[36] *See* Docket No. M-2008-2069887
[37] *See* 66 Pa.C.S. §§ 2806.1(c) and (d)
[38] Public Meeting of June 25, 2009, the Commission selected GDS Associates, Inc. Engineers and Consultants as the statewide evaluator for Phase I.
[39] *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
[40] *See Energy Efficiency and Conservation Program Implementation Order,* Docket No. M-2012-2289411
[41] *See* the EDCs' petitions, available at http://www.puc.pa.gov/filing_resources/issues_laws_regulations/act_129_information/energy_efficiency_and_conservation_ee_c_program.aspx
[42] *See* the SWE's Demand Response Study, available at http://www.puc.pa.gov/pcdocs/1230512.docx

Statewide Review of Electrical Energy Usage

Pennsylvania's aggregate electrical energy usage (residential, commercial, industrial, sales for resale, and other) in 2012 was 144,955 gigawatt hours (GWh) versus 148,671 GWh for 2011, which is a 2.5 percent decrease in electrical usage[43]. The number of electrical energy customers decreased by 29,818 or 0.52 percent. Residential usage represented 34.7 percent of the total usage, followed by industrial (32.7 percent) and commercial (28.7 percent). Aggregate non-coincident peak load[44] decreased to 29,780 MW in 2012 from 31,192 MW in 2011, which is a 4.5 percent decrease from the previous year.

The total average aggregate five-year energy usage growth projection is 0.8 percent per year as shown in Table 4 below. This includes a residential growth rate of 0.6 percent, a commercial growth rate of 0.7 percent and an industrial growth rate of 1.2 percent for the entire five-year period. These annual growth rates are lower than the comparable PJM forecast of 1.3 percent annual growth rate for the mid-Atlantic region.[45]

Table 4 Average Aggregate five-year Electrical Energy Projection

Energy Usage Projection (GWh)				
Year	Residential	Commercial	Industrial	Total
2013	50155	41746	47905	139806
2014	51095	42036	48183	141314
2015	51175	42407	48919	142501
2016	51411	42806	49575	143792
2017	51683	43138	49992	144813
average annual growth	0.6%	0.7%	1.2%	0.8%

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 5 and 6 below provide metrics for 2012 and 2011, respectively.

[43] The decrease in usage could be attributable to any number of factors such as weather, efficiency and conservation programs, and socioeconomic.
[44] Non-coincident peak load is the sum of EDCs' annual peak loads regardless of their date or time of occurrence.
[45] *See* PJM load forecast report 2013, Table E-1, available at http://www.pjm.com/sitecore%20modules/web/~/media/documents/reports/2013-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	6,223	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%				
2012 VS 2011	-0.52%	-3.68%	-1.35%	-2.10%	1.53%	-5.17%	-2.50%	3.91%	-30.69%	-2.95%	-4.53%

Table 6 PA EDC customers served, energy usage, and peak load (2011)

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	587,230	4,231,988	6,612,354	3,119,737	63,076	25,515	14,049,670	678,915	29,245	14,757,830	3,012
Met-Ed	552,935	5,587,870	2,947,296	5,403,990	30,476	552,452	14,522,084	1,121,989	12,926	15,656,999	3,125
Penelec	589,536	4,554,116	3,533,712	6,005,071	40,724	2,528,172	16,661,795	1,371,212	5,170	18,038,177	3,128
Penn Power	160,455	1,710,846	1,326,819	1,541,950	6,236	177,863	4,763,714	457,781	2,108	5,223,606	1,102
PPL	1,402,058	14,355,969	14,178,891	8,466,690	193,883	0	37,195,433	2,683,020	68,730	40,647,696	7,527
PECO	1,658,184	13,685,877	8,331,936	15,755,017	953,194	530,172	39,256,196	1,737,035	30,716	39,286,912	8,984
West Penn	718,243	7,348,700	4,889,110	7,817,714	48,567	770,348	20,874,439	1,125,374	34,986	22,034,799	4,017
UGI	62,003	542,952	330,243	108,646	6,218	118	988,177	61,229	1,967	1,051,373	216
Citizens'	6,823	84,903	28,876	50,263	635	0	164,677	5,905	210	170,792	40
Pike County	4,662	29,838	44,982	0	422	0	75,242		18	75,224	18
Wellsboro	6152	44,638	30,646	44,216	226	133	119,860	9,129	305	110,426	23
Total	**5,748,281**	**52,177,697**	**42,254,865**	**48,313,294**	**1,343,657**	**4,584,773**	**148,671,287**	**9,251,589**	**186,381**	**157,053,834**	**31,192**
% of Total		35.10%	28.42%	32.50%	0.90%	3.08%	100.00%				

Figure 3 depicts Pennsylvania residential, commercial and industrial retail energy usage since 1972.

Figure 3 Pennsylvania retail energy usage (GWh)

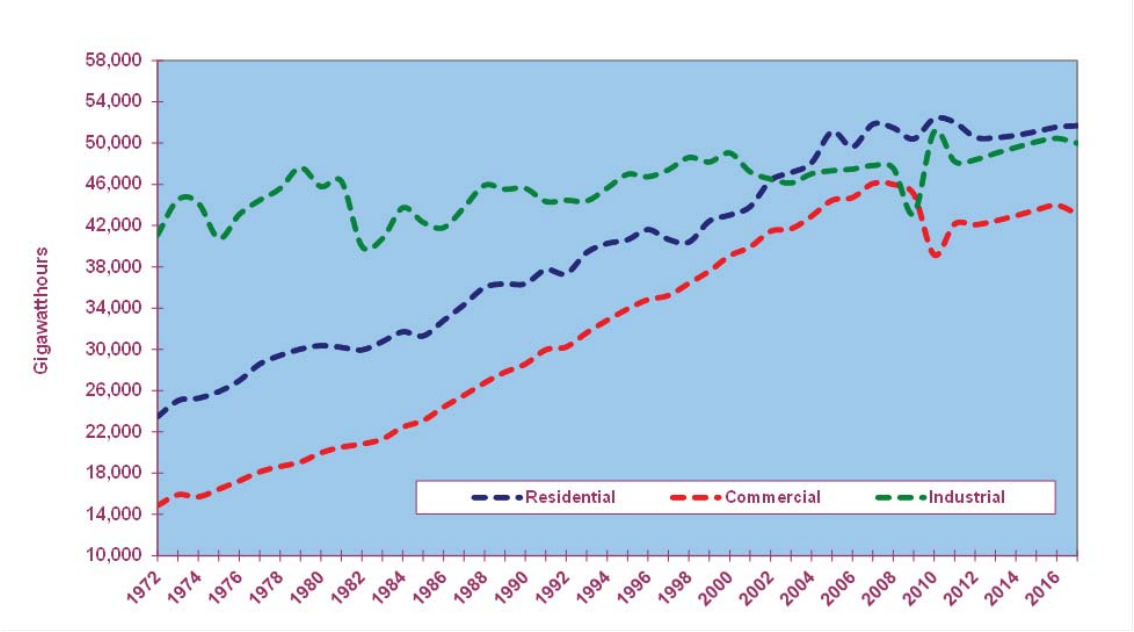


Figure 4 shows average residential cost and average usage from 1940 to 2013. Between 1970 and 2010, average residential usage in Pennsylvania increased 1.4 percent each year, while average cost increased 4.1 percent each year. During the last 10 years, average residential usage increased 1.1 percent each year, while average cost increased 3.3 percent a year.

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

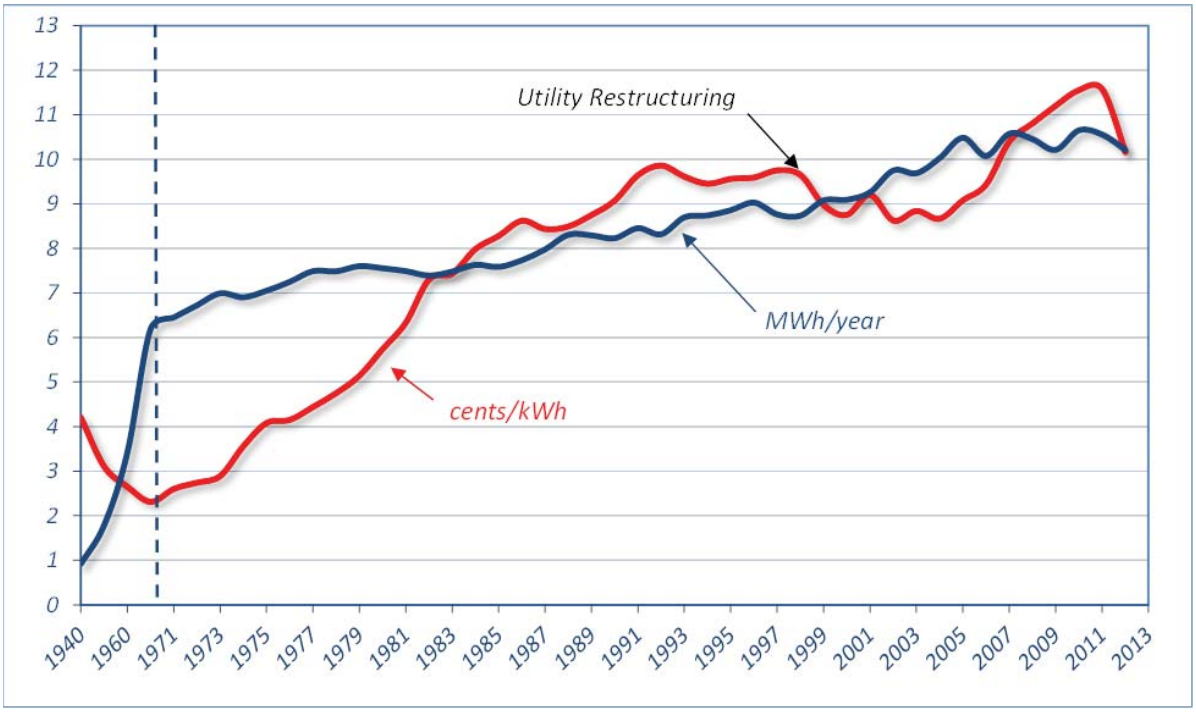
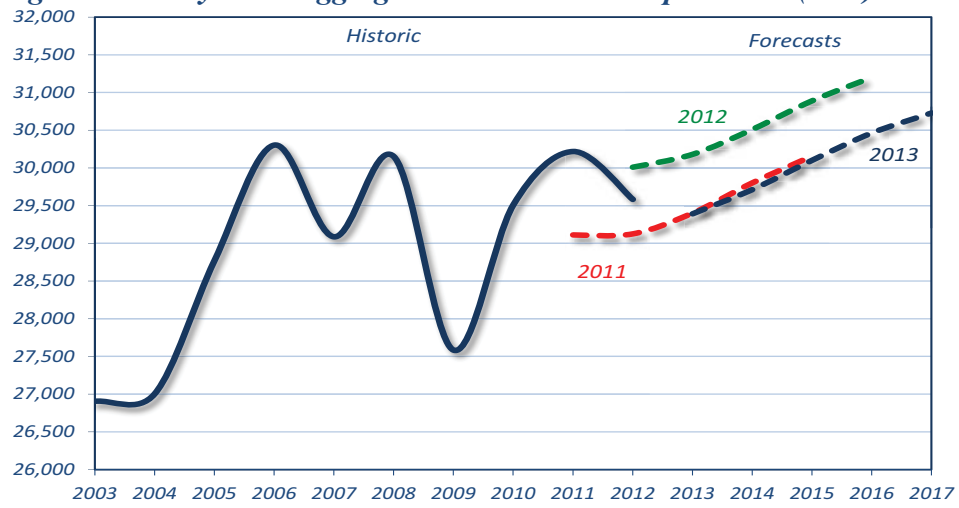


Figure 5 shows Pennsylvania's aggregate non-coincidental peak load demand from 2003 to 2012 and the associated 5 year projections estimated the past 3 years.

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

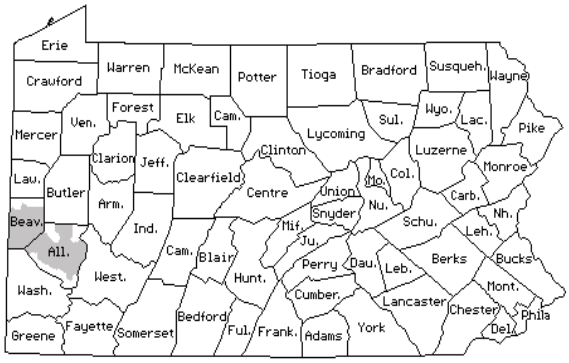


Summary of Data for the Seven Largest EDCs

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 588,579 customers in the City of Pittsburgh and portions of Allegheny and Beaver counties in Southwestern Pennsylvania. Duquesne's 2012 energy usage total was 14,193 GWh, while in 2011 it was 14,050 GWh (an increase of 1.0 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 decrease at an average annual rate of 0.2 percent. This includes an average annual increase in residential usage of 0.6 percent, an average annual increase in commercial usage by 0.3 percent, and an average annual decrease of industrial usage by 2.31 percent. See Figure 6.

Duquesne's highest peak load of 3,054 MW occurred on June 29, 2012. This represents an increase of 1.4 percent from the previous year's peak of 3,012 MW. Summer peak load is projected to increase from 3,054 MW in summer 2012 to 3,167 MW by summer 2017, or by an average annual increase of 0.7 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 2003 through 2013.

Figure 6 Duquesne energy usage (GWh)

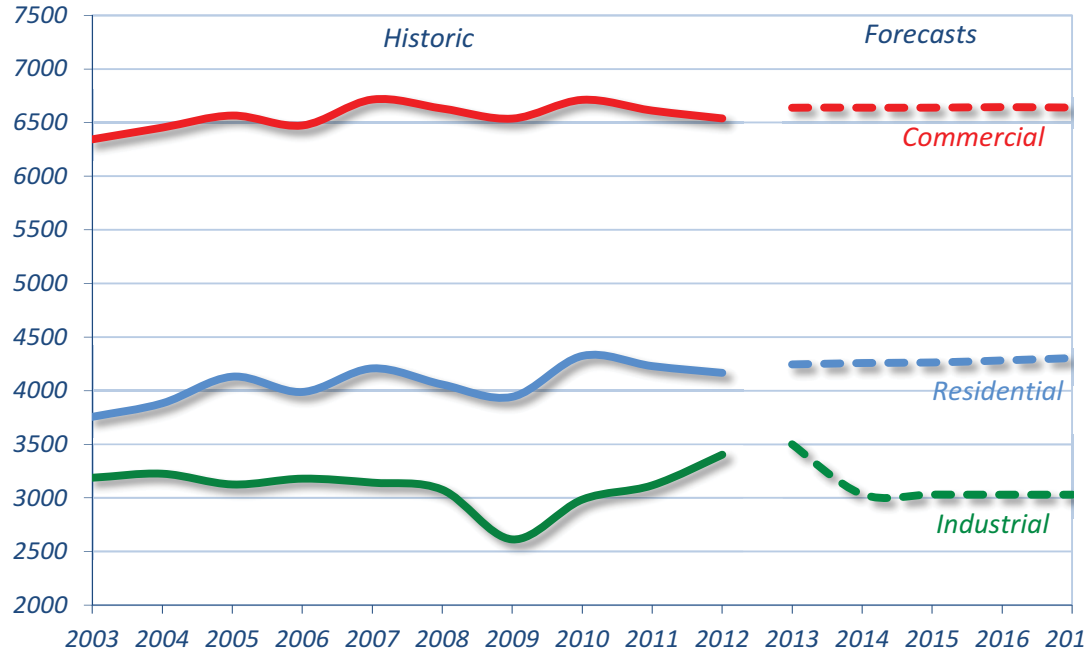
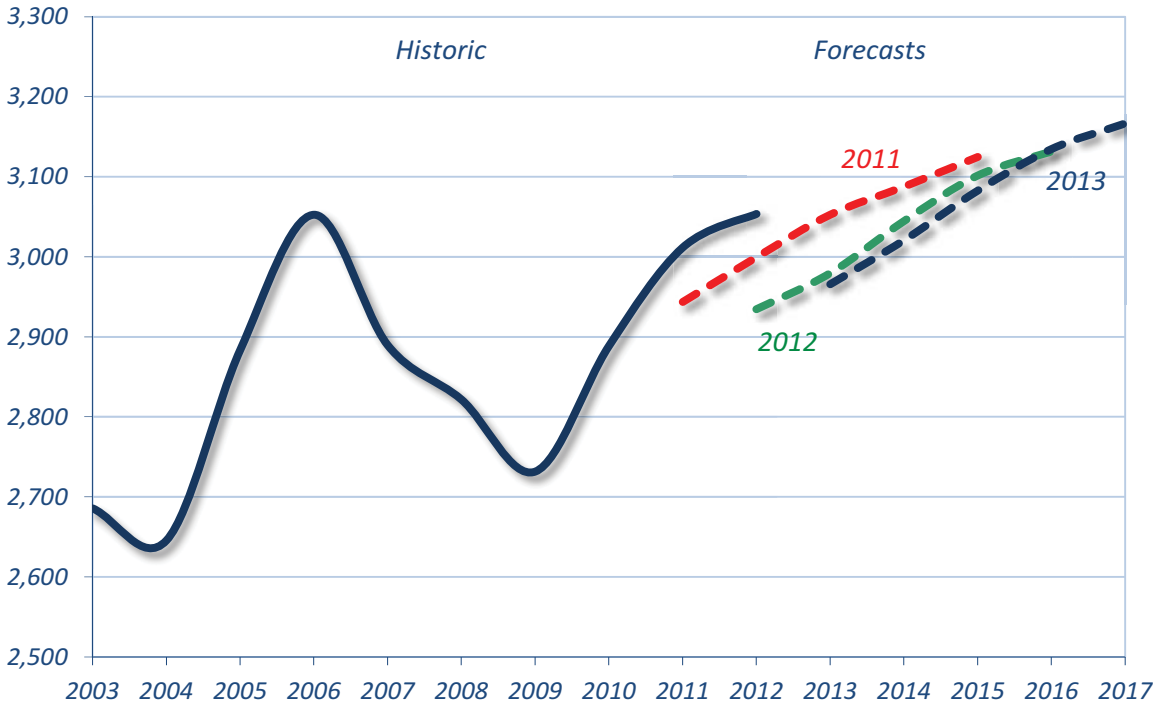
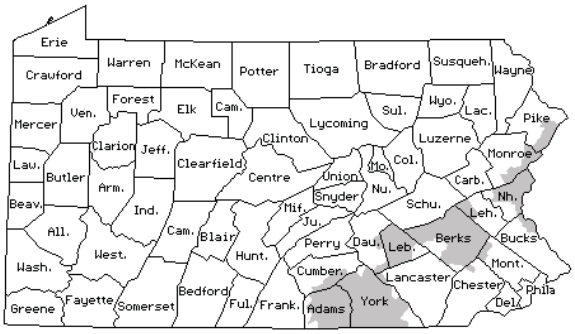


Figure 7 Duquesne peak load (MW)



Metropolitan Edison Company (Met-Ed)



Met-Ed provides service to 554,109 customers in all or portions of 14 counties in Eastern and Southcentral Pennsylvania. Met-Ed's 2012 energy usage total was 14,104 GWh, while in 2011 it was 13,970 GWh (an increase of 1.0 percent from the previous year). Met-Ed's total sales mix consisted of residential (38 percent), industrial (37 percent), commercial (21 percent), and sales for resale (3.9 percent).

Over the next five years, total energy usage is projected to have zero growth. This includes an average annual decrease in residential usage of 1.4 percent, an average annual increase in commercial usage by 0.3 percent, and an average annual increase of industrial usage by 1.3 percent. See Figure 8.

Met-Ed's highest peak load of 3,036 MW occurred on July 18, 2012. This represents a decrease of 2.85 percent from previous year's peak of 3,125 MW. Summer peak load is projected to decrease from 3,036 MW in summer 2012 to 2,932 MW by summer 2017, or by an average annual decrease of 0.7 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 2003 through 2013.

Figure 8 Met-Ed energy usage (GWh)

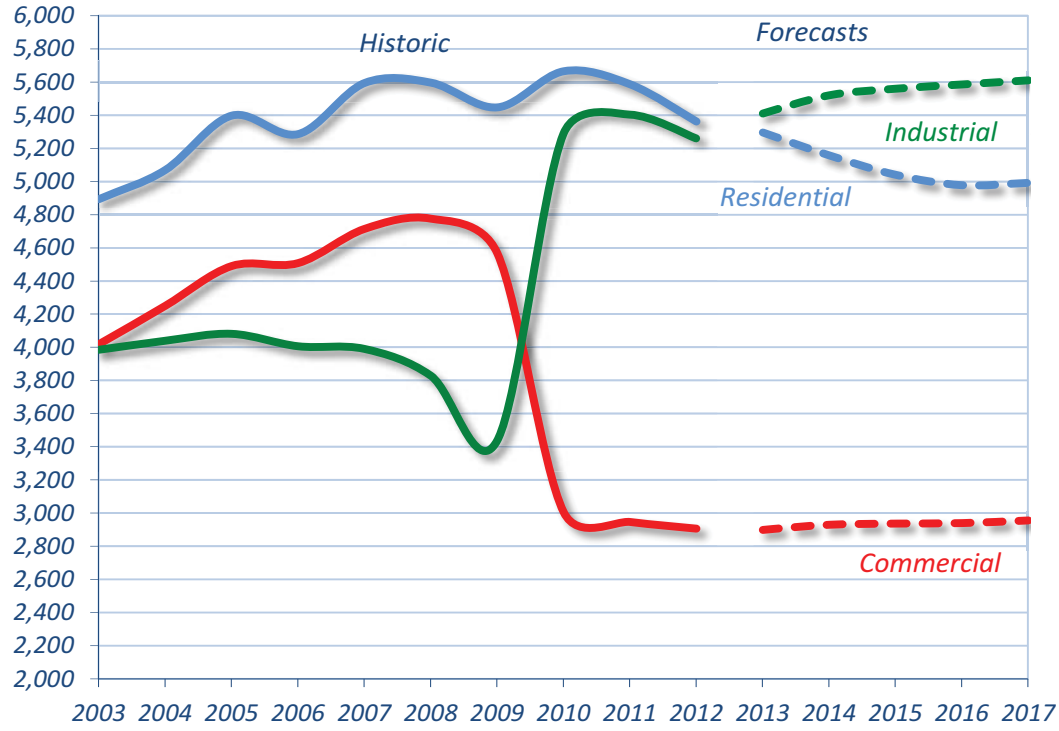
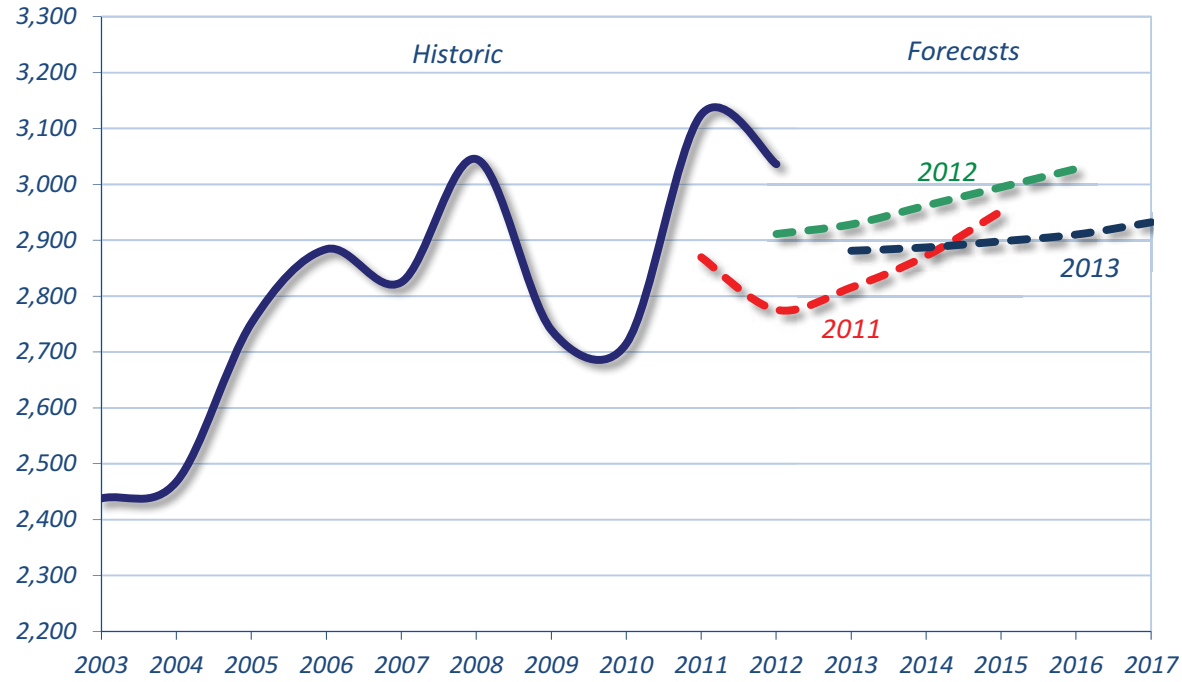
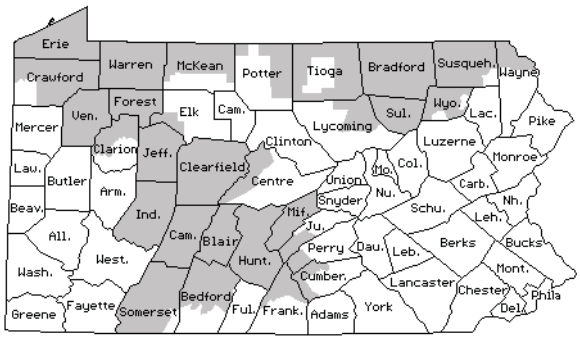


Figure 9 Met-Ed peak load (MW)



Pennsylvania Electric Company (Penelec)

Penelec provides service to 590,076 customers in all or portions of 29 counties in Western and Northern Pennsylvania. Penelec's 2012 energy usage total was 16,303 GWh, while in 2011 it was 16,662 GWh (a decrease of 2.1 percent from the previous year). Penelec's total sales mix consisted of residential (27 percent), industrial (36 percent), commercial (22 percent), and sales for resale (15 percent).



Over the next five years, total energy usage is projected to decrease at an average annual rate of 0.1 percent. This includes an average annual decrease in residential usage of 1.2 percent, an average annual increase in commercial usage by 0.5 percent, and an average annual increase in industrial usage by 0.43 percent. See Figure 10.

Penelec's highest peak load of 2,908 MW occurred on July 17, 2012. This represents a decrease of 7.03 percent from previous year's peak of 3,128 MW. Summer peak load is projected to decrease from 2,908 MW in summer 2012 to 2,906 MW by summer 2017, or by an average annual decrease of 0.01 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 2003 through 2013.

Figure 10 Penelec energy usage (GWh)

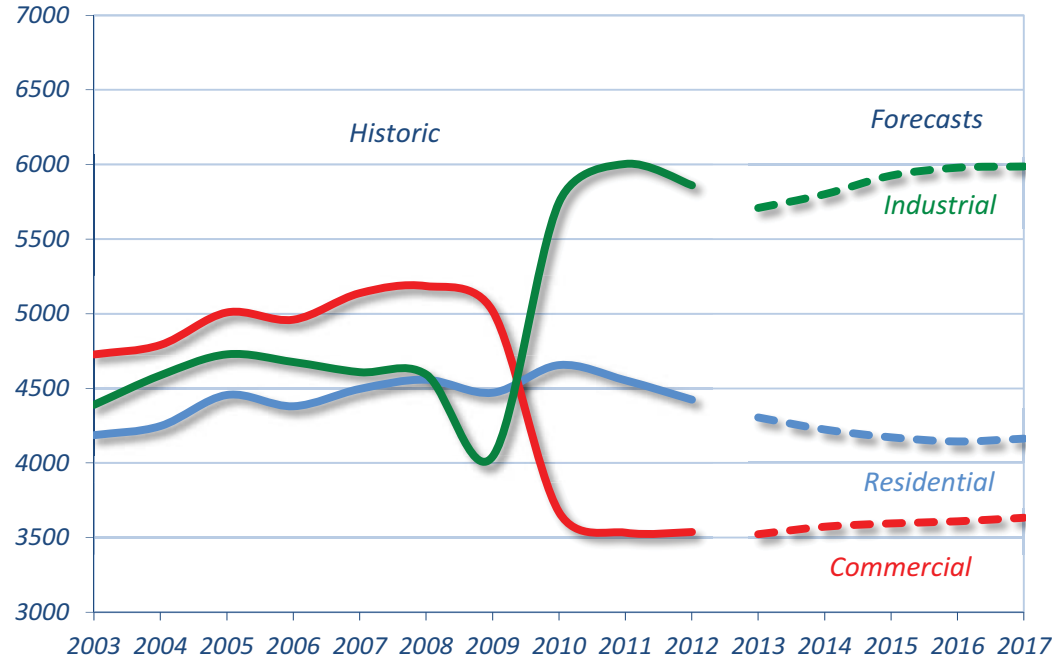
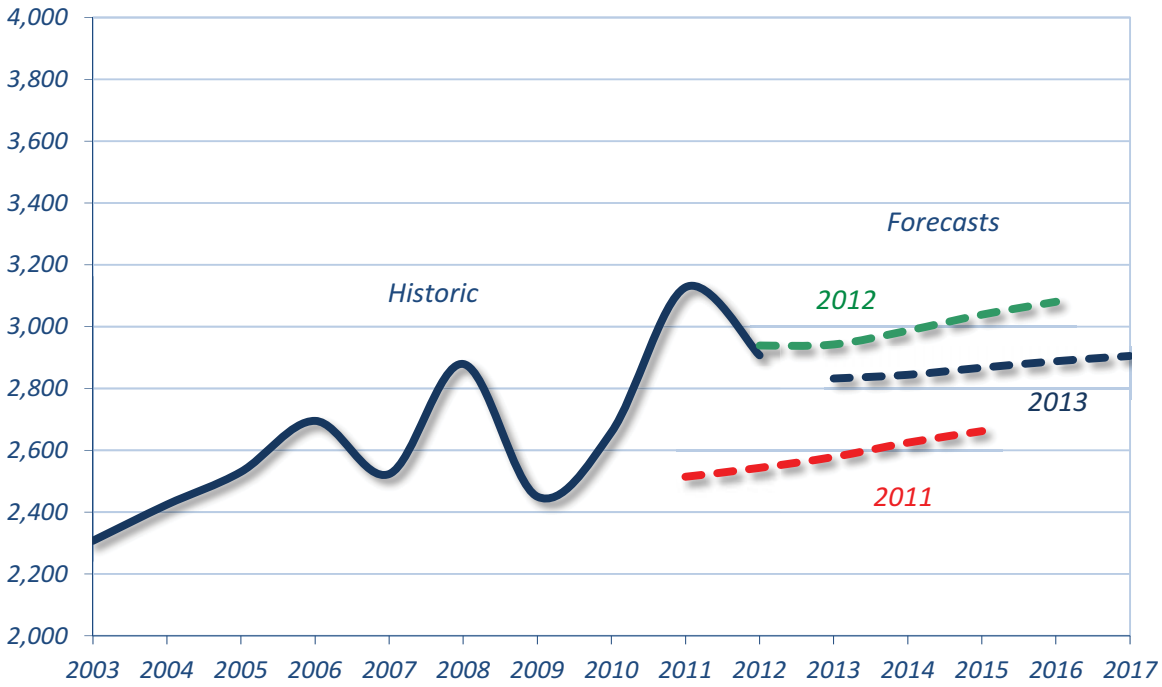
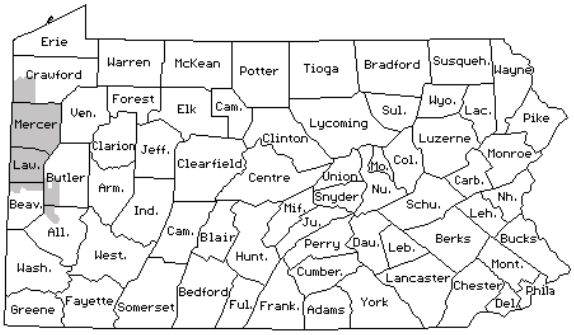


Figure 11 Penelec peak load (MW)



Pennsylvania Power Company (Penn Power)



Penn Power provides service to 161,066 customers in all or portions of six counties in Western Pennsylvania. Penn Power's 2012 energy usage total was 4643 GWh, while in 2011 it was 4764 GWh (a decrease of 2.5 percent from the previous year). Penn Power's total usage mix consisted of commercial (29 percent), residential (36 percent), industrial (31 percent), and sales for resale (4 percent).

Over the next five years, total energy usage is projected to decrease at an average annual rate of 0.2 percent. This includes an average annual decreasing residential growth rate of 0.2 percent, an average annual increasing commercial growth rate of 0.6 percent, and an average annual increasing industrial growth rate of 0.4 percent. See Figure 12.

Penn Power's highest peak load of 963 MW occurred on July 23, 2012. This represents a decrease of 12.6 percent from the previous year's peak of 1,102 MW. Summer peak load is projected to decrease from 963 MW in summer 2012 to 980 MW by summer 2017, or by an average annual decrease of 0.4 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 2003 through 2013.

Figure 12 Penn Power energy usage (GWh)

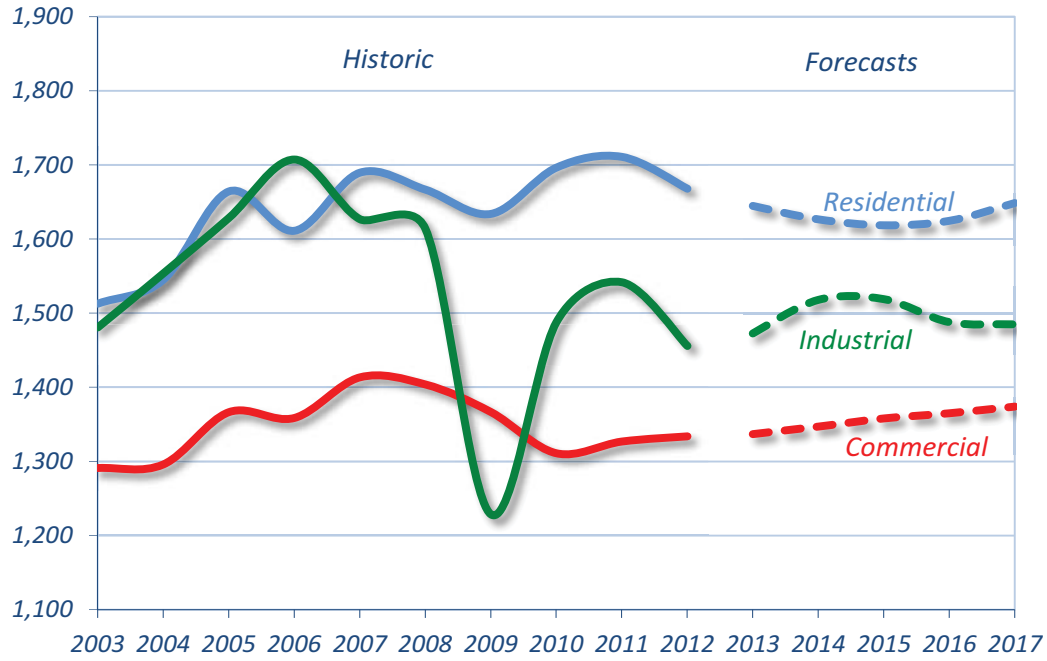
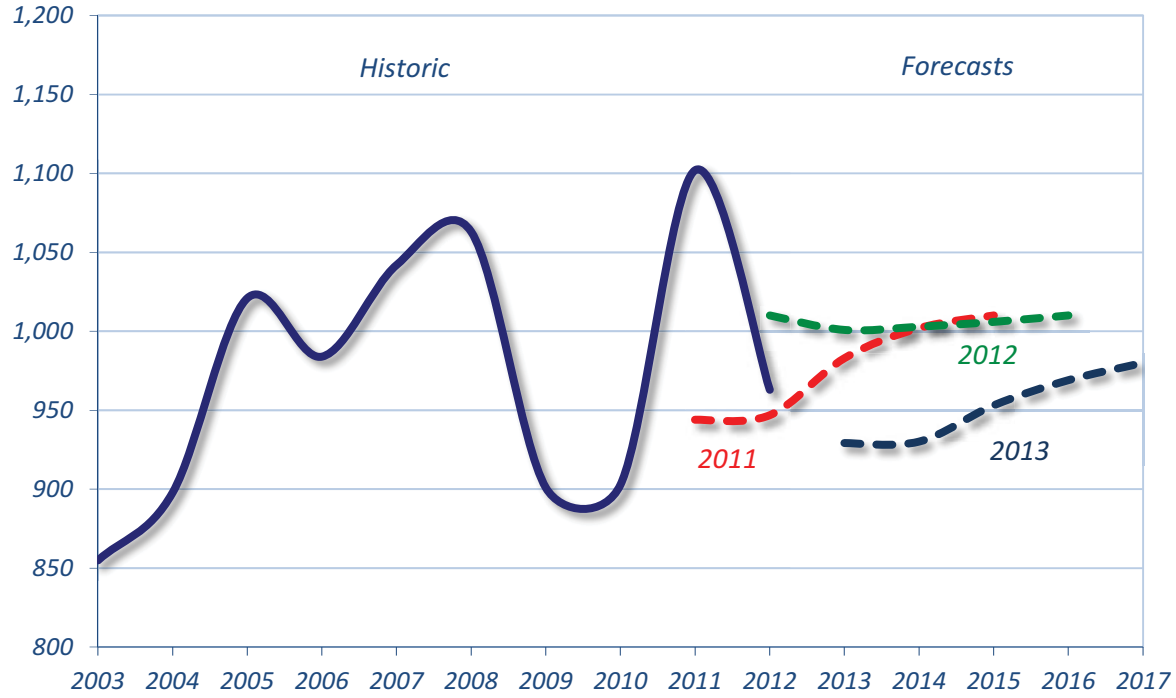
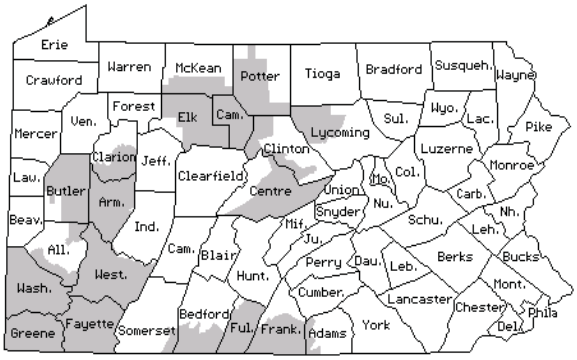


Figure 13 Penn Power peak load (MW)



West Penn Power Company (West Penn)



West Penn provides service to 717,372 customers in all or portions of 24 counties in Western, North and South Central Pennsylvania. West Penn's 2012 energy usage total was 20,461 GWh, while in 2011 it was 20,874 GWh (a decrease of 2 percent from the previous year). West Penn's total usage mix consisted of commercial (24 percent), residential (35 percent), industrial (38 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 1.8 percent. This includes an average annual increase in residential usage of 1.1 percent, an average annual increase in commercial usage by 0.8 percent, and an average annual increase in industrial usage by 2.9 percent. See Figure 14.

West Penn's highest peak load of 3,808 MW occurred on July 17, 2012. This represens a decrease of 5.2 percent from the previous year's peak of 4017 MW. Summer peak load is projected to increase from 3,808 MW in 2012 to 4,015 MW by the year 2017, or by an annual growth rate of 1.1 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 2003 through 2013.

Figure 14 West Penn energy usage (GWh)

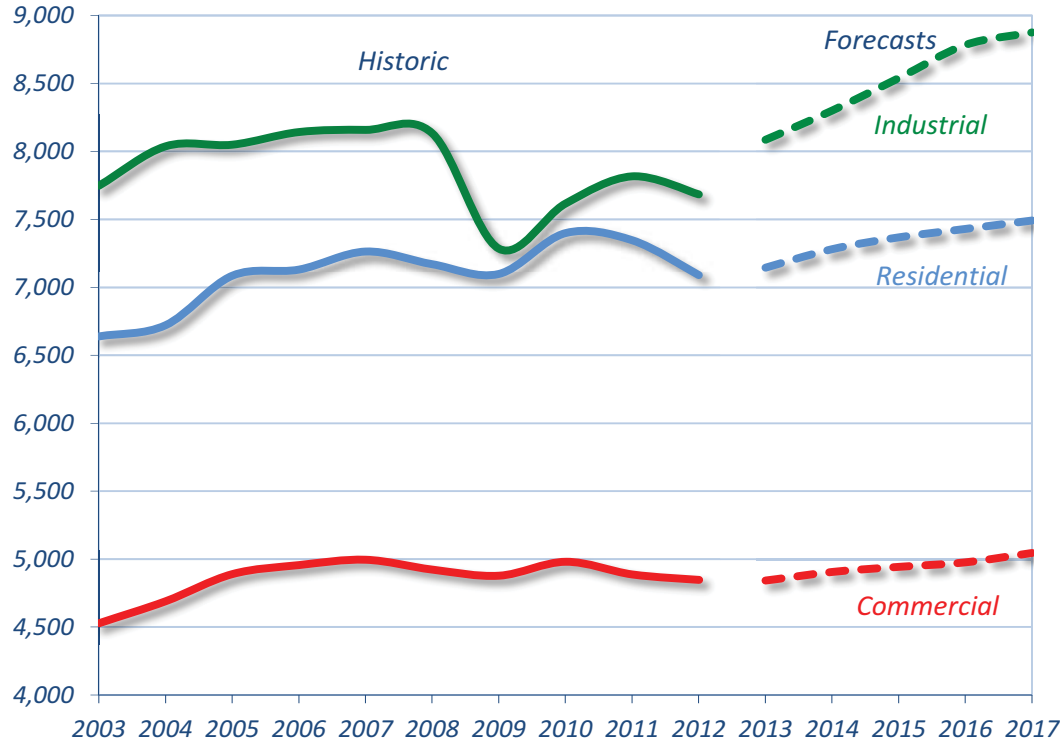
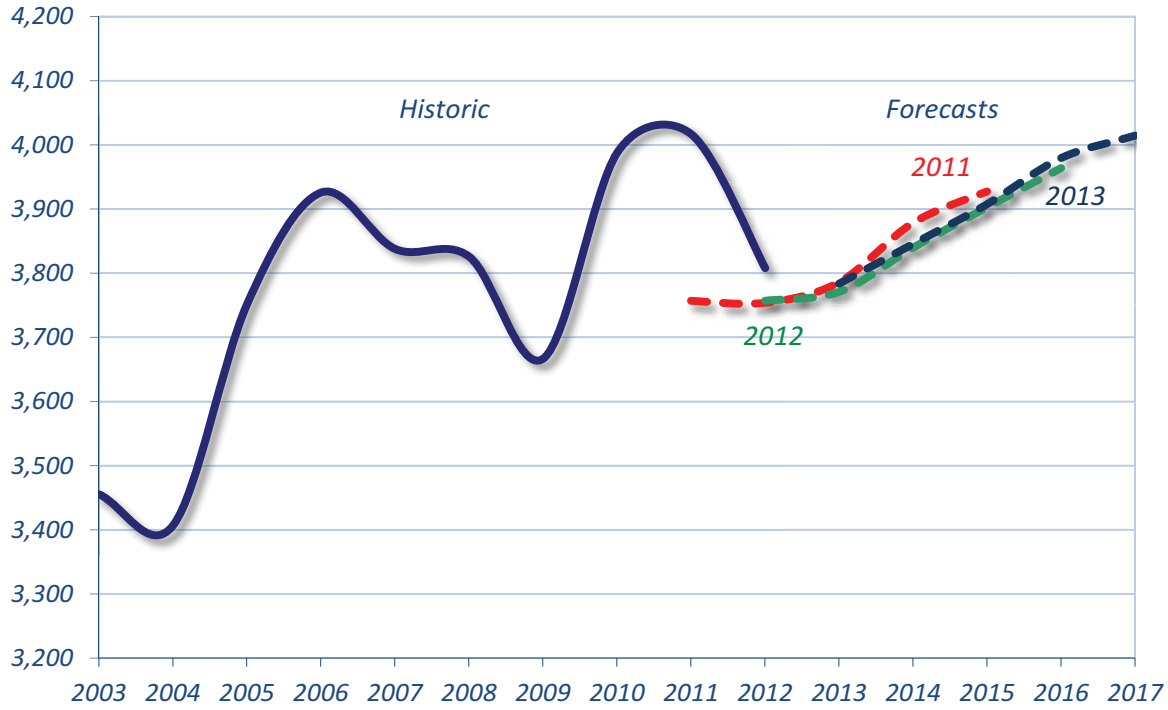
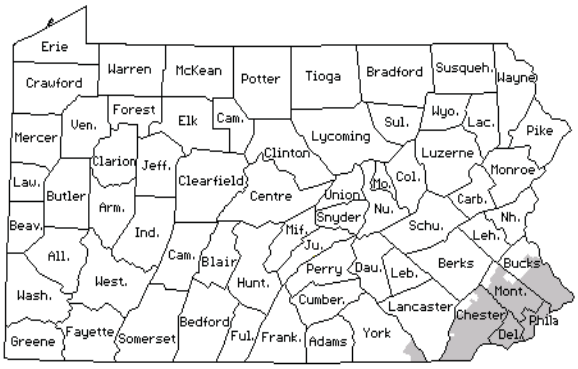


Figure 15 West Penn peak load (MW)



PECO Energy Company (PECO)

PECO is the largest electric utility in Pennsylvania, providing service to 1,622,584 customers in the City of Philadelphia and all or portions of six counties in Southeastern Pennsylvania. PECO's 2012 energy usage total was 37,879 GWh, while in 2011 it was 39,256 GWh (a decrease of 3.5 percent from the previous year). PECO's total usage mix consisted of residential (35 percent), commercial (21 percent), industrial (40 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 0.4 percent. This includes an average annual increase in residential usage of 2.4 percent, an average annual decrease in commercial usage of 0.1 percent, and an average annual increase of industrial usage by 1.5 percent. See Figure 16.

PECO's highest peak load of 8,549 MW occurred on July 18, 2012. This represents a decrease of 4.8 percent from the previous year's peak of 8,984 MW. Summer peak load is projected to increase from 8549 MW in summer 2012 to 8735 MW by summer 2017, or by an average annual increase of 0.4 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 2003 through 2013.

Figure 16 PECO energy ***usage*** *(GWh)*

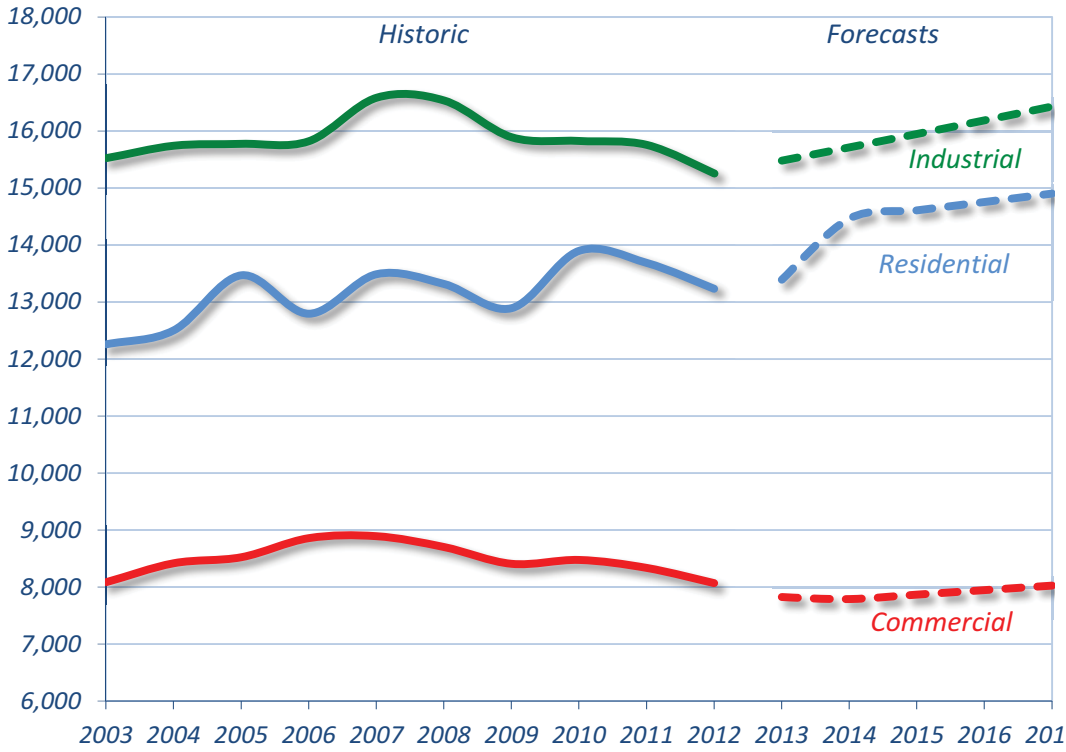
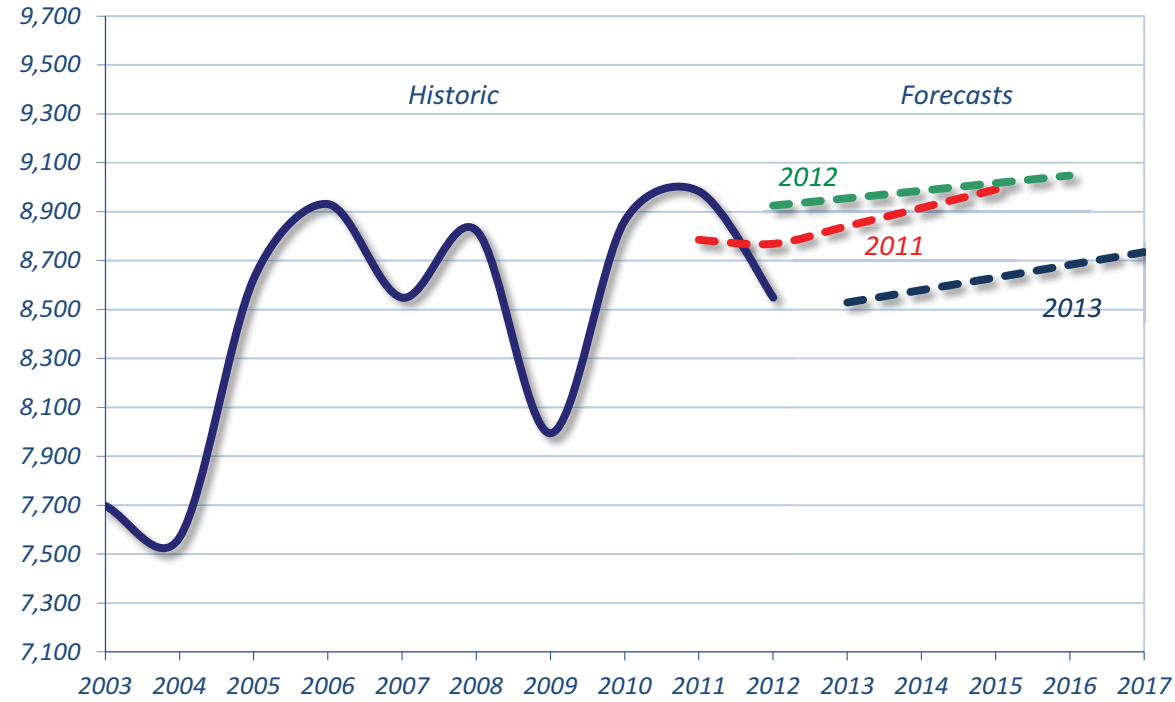
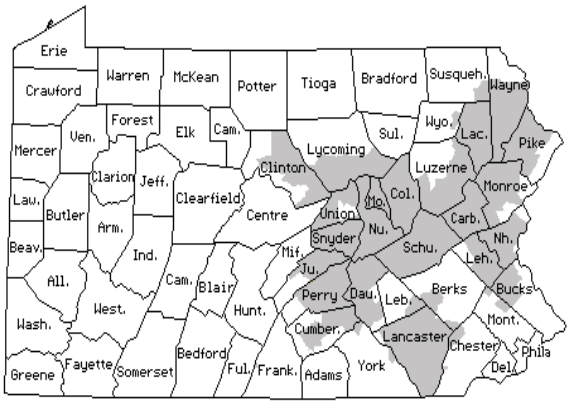


Figure 17 PECO Energy Company peak load (MW)



PPL Electric Utilities Corporation (PPL)



PPL provides service to 1,404,898 customers over a 10,000-square-mile area in all or portions of 29 counties in Central Eastern Pennsylvania. PPL's 2012 energy usage total was 36,038 GWh, while in 2011 it was 39,002 GWh (a decrease of 2.6 percent from the previous year). PPL's total usage mix consisted of residential (38 percent), commercial (39 percent), industrial (23 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 0.8 percent. This includes an average annual increase in residential usage of 0.1 percent, an average annual increase in commercial usage of 1.5 percent, and an average annual increase in industrial usage of 0.7 percent. See Figure 18.

PPL's highest peak load of 7,182 MW occurred on July 18, 2012. This represents a decrease of 4.6 percent from the previous year's peak of 7,527 MW. Summer peak load is projected to grow from 7,182 MW in 2012 to 7,785 MW by the year 2017, or by an annual growth rate of 1.6 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 2003 through 2013.

Figure 18 PPL Electric Utilities Corporation energy usage (GWh)

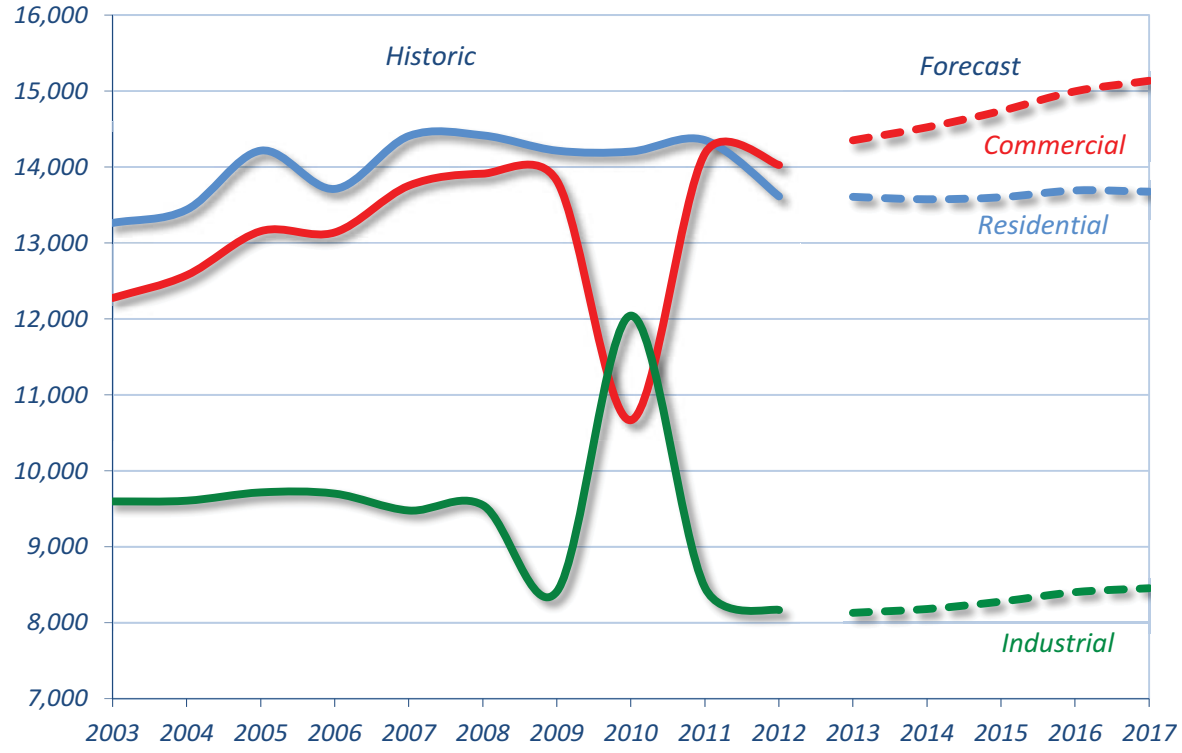
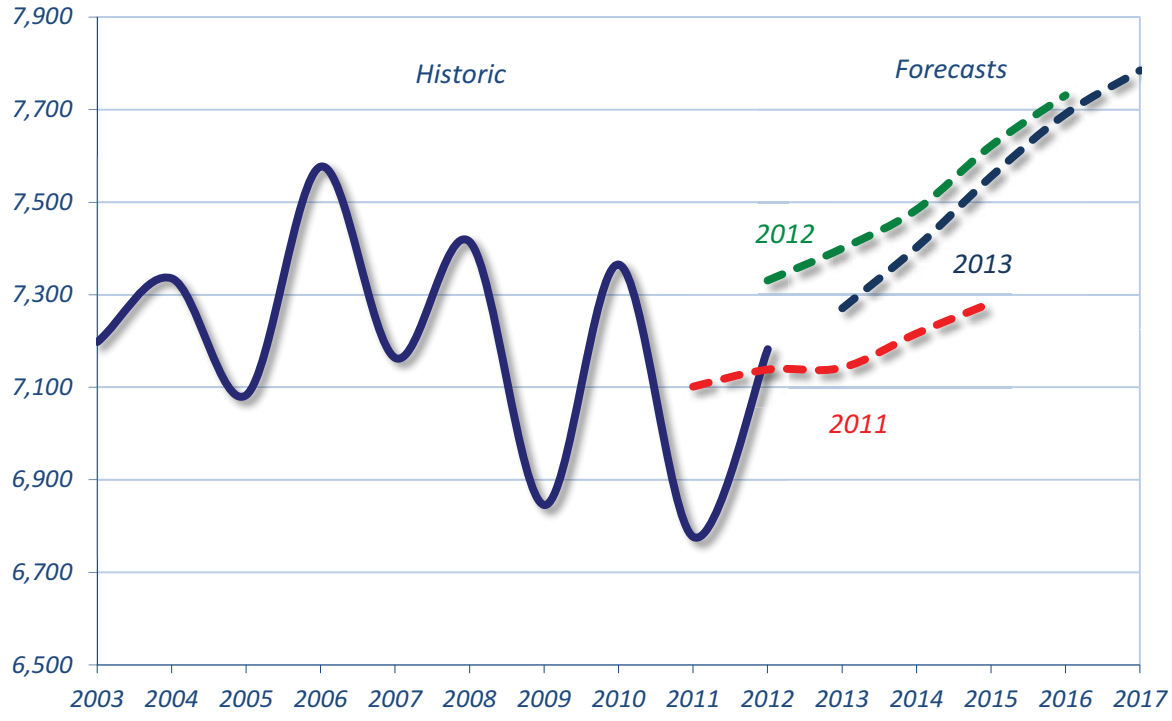
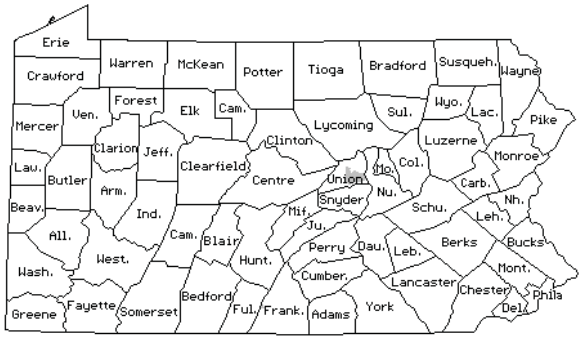


Figure 19 PPL Electric Utilities Corporation peak load (MW)



Summary of Data for the Four Smallest EDCs

Citizens' Electric Company (Citizens')



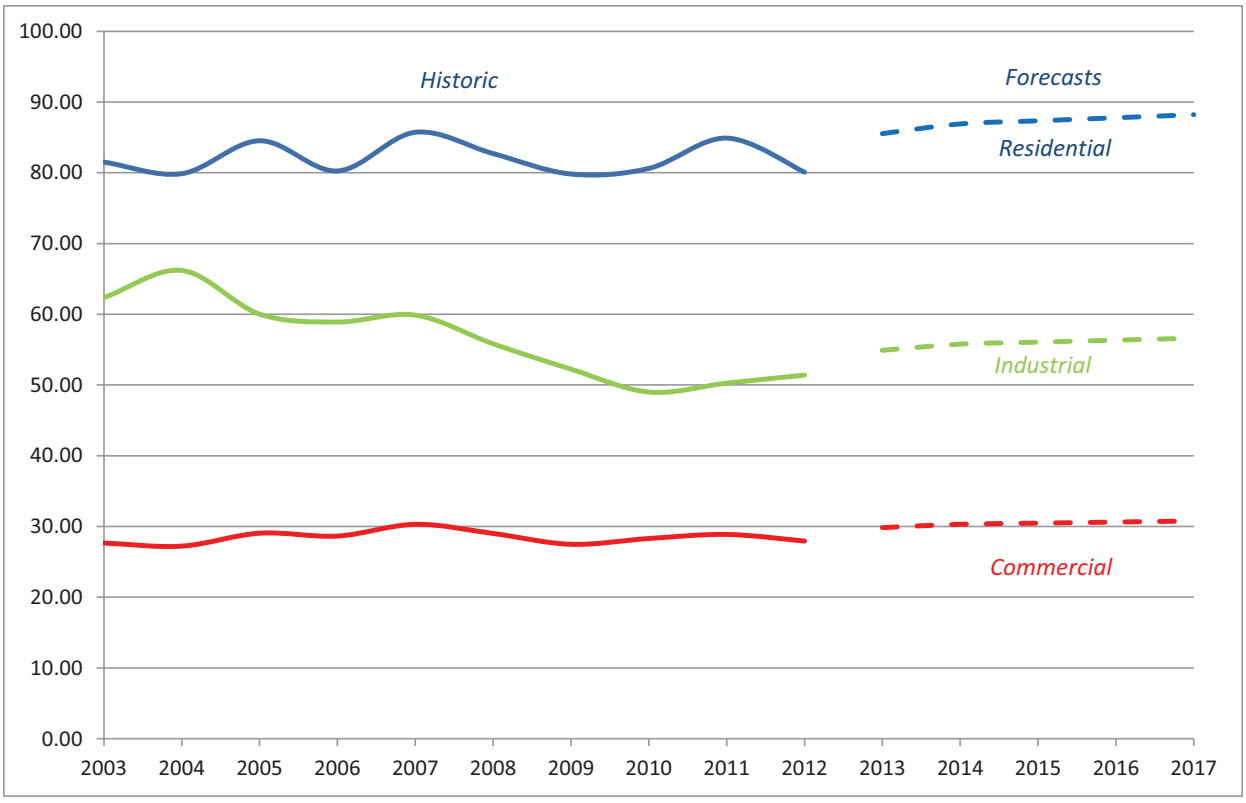
Citizens' provides service to 6,831 customers in Union County, Pennsylvania. Citizens' 2012 energy usage total was 160 GWh, while in 2011 it was 164 GWh (a decrease of 2.4 percent from the previous year). Citizens' total usage mix consisted of residential (50 percent), commercial (18 percent), industrial (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 2 percent. Residential, commercial, and industrial usage is forecasted to increase at an average annual rate of 2 percent. See Figure 22 below.

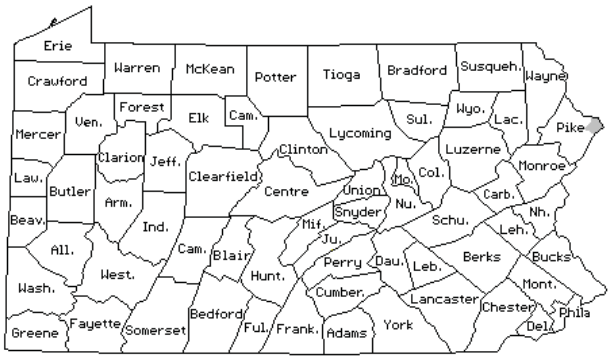
Citizens' highest peak load of 37.4 MW occurred on July 18, 2012. This represents a decrease of 1.1 percent from the previous year's peak of 37.8 MW. Summer peak load is projected to grow from 37.4 MW in 2012 to 43.4 MW by the year 2017, or by an annual growth rate of 3.0 percent.

Note: Citizens' does not own any generation facilities.

Figure 20 Citizens' energy usage (GWh)



Pike County Light & Power Company (Pike)



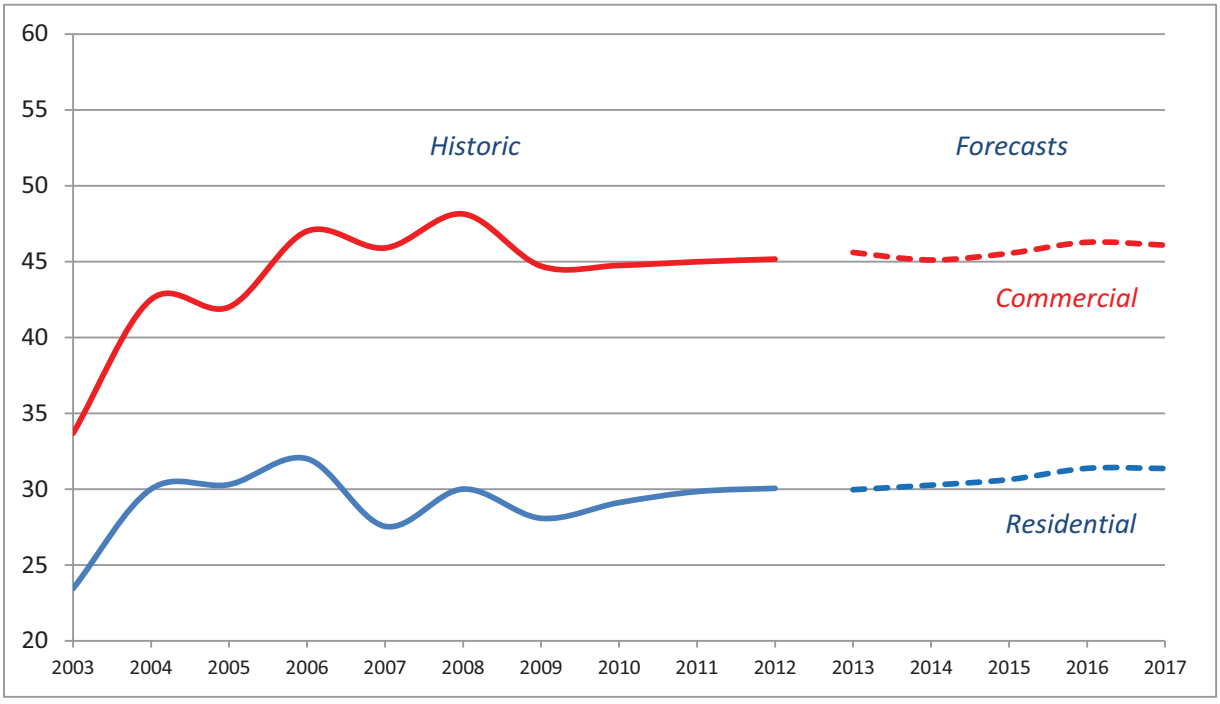
Pike provides service to 4,659 customers in Eastern Pike County, Northeastern Pennsylvania. Pike's 2012 energy usage total was 75.0 GWh, while in 2011 it was 75.2 GWh (a decrease of 0.3 percent from the previous year). Pike's total usage mix consisted of residential (40 percent) and commercial (60 percent). 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 0.6 percent, which includes an average annual residential growth rate of 0.9% and an average annual commercial growth rate of 0.4 percent. See Figure 23.

Pike's highest peak load of 18 MW occurred on July 18, 2012. This represents a decrease of 2.2 percent from the previous year's peak of 18.4 MW. Summer peak load is projected to increase from 18.0 MW in summer 2012 to 18.9 MW by summer 2017, or by an average annual increase of 1 percent.

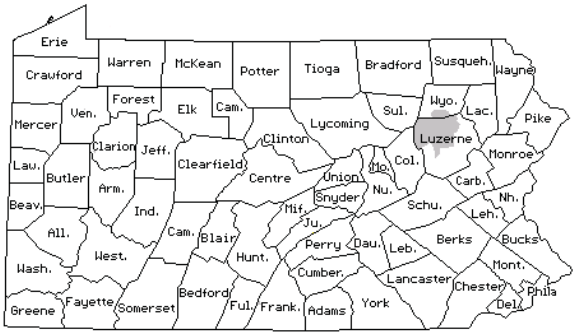
Note: Pike does not have generating capability and its parent company, Orange & Rockland Co. does not own any generating facilities.

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



UGI Utilities Inc.—Electric Division (UGI)

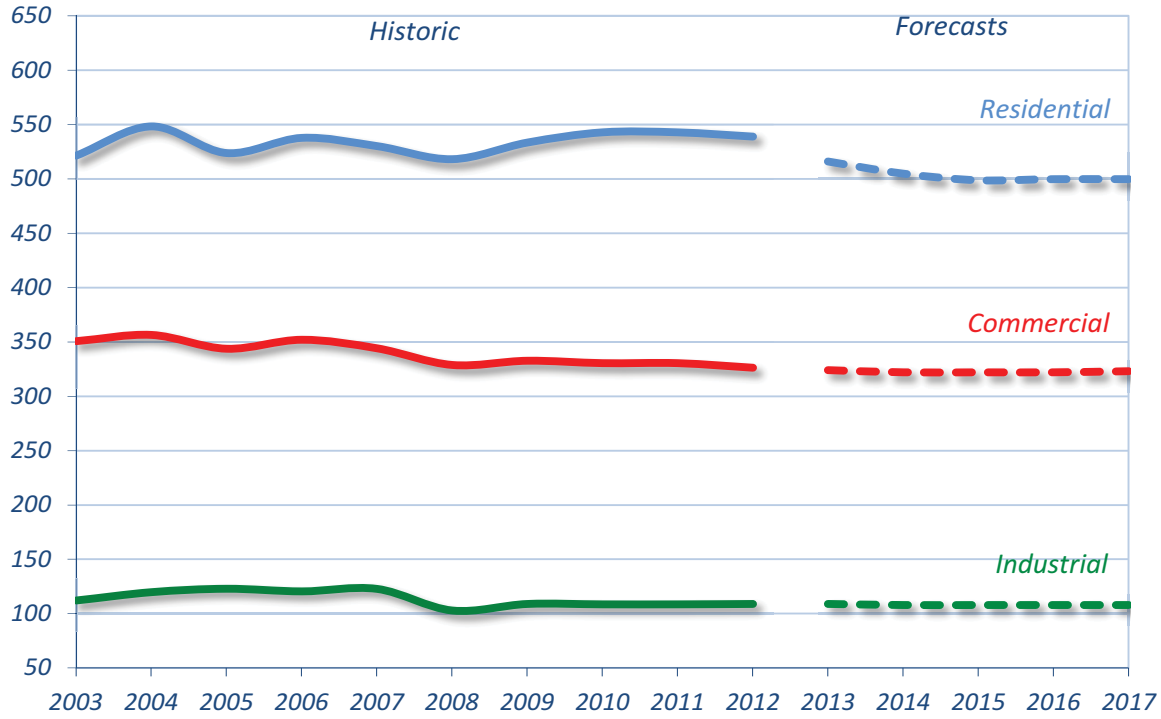
UGI provides electric service to 62,066 customers in Northwestern Luzerne and Southern Wyoming counties in Pennsylvania. UGI's 2012 energy usage total was 979 GWh, while in 2011 it was 988 GWh (a decrease of 1.0 percent from the previous year). UGI's total usage mix consisted of residential (55 percent), commercial (33 percent), industrial (11 percent), and sales for resale (0.01 percent).



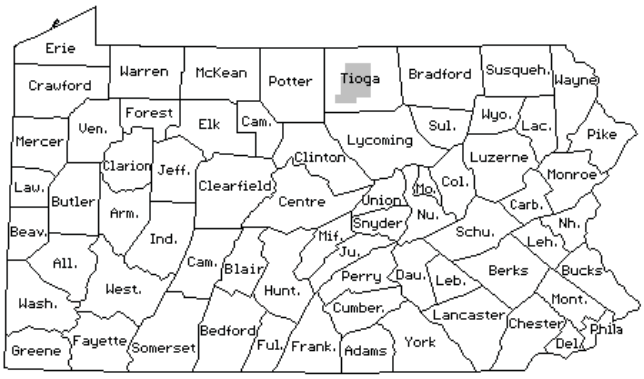
Over the next five years, total energy usage is projected to decrease at an average annual rate of 0.9 percent. This includes an average annual decrease in residential usage of 1.5 percent, an average annual decrease in commercial usage of 0.18 percent, and an average annual decrease in industrial usage of 0.20 percent. See Figure 20.

UGI's highest peak load of 200 MW occurred on July 18, 2012. This represents a decrease of 7.4 percent from the previous year's peak of 216 MW. Summer peak load is projected to grow from 200 MW in 2012 to 209 MW by the year 2017, or by an annual growth rate of 0.9 percent. See Figure 21.

Figure 22 UGI Utilities Inc. energy usage (GWh)



Wellsboro Electric Company (Wellsboro)



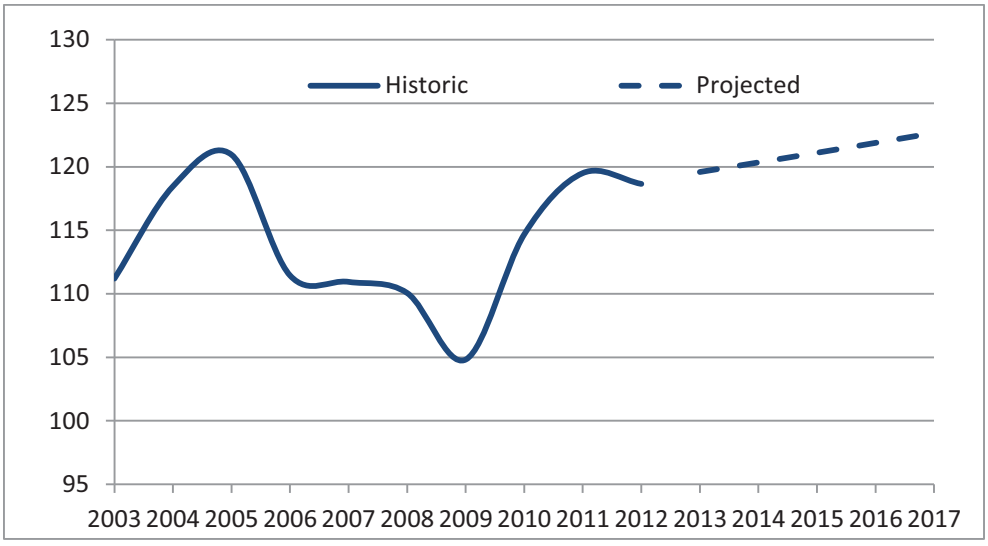
Wellsboro provides electric service to 6,223 customers in Tioga County, North Central Pennsylvania. Wellsboro's 2012 energy usage total was 119 GWh, while in 2011 it was 120 GWh (a decrease of 0.8 percent from the previous year). Wellsboro's total usage mix consisted of residential (35 percent), commercial (27 percent), industrial (37 percent), and sales for resale (0.12 percent).

Over the next five years, total energy usage is projected to grow at an average annual rate of 0.6 percent. This includes an average annual residential growth rate of 1 percent, an average annual commercial growth rate of 1 percent, and an average annual industrial growth rate of 0.1 percent. See Figure 24.

Wellsboro's highest peak load of 22.1 MW occurred on June 21, 2012. This represents a decrease of 3.9 percent from the previous year's peak of 23 MW. Summer peak load is projected to grow from 22.1 MW in 2012 to 24 MW by the year 2017, or by an annual growth rate of 1.66 percent.

Note: Wellsboro does not own any generation facilities.

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 2003 through 2012. Five-year projections are those filed with the Commission in years 2003 through 2013.

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

		Projected Peak Load Requirments (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	2686	2822										
2004	2646	2841	2719									
2005	2884	2855	2740	2722								
2006	3053	2870	2771	2765	2765							
2007	2890	2884	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								2890	2917	3053	2980	2966
2014									2960	3088	3045	3021
2015										3125	3102	3083
2016											3132	3135
2017												3167

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

		Projected Residential Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	3759	3697										
2004	3886	3721	3811									
2005	4134	3744	3832	3941								
2006	3991	3767	3879	4018	3984							
2007	4211	3791	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								4197	4352	4332	4436	4246
2014									4448	4402	4509	4260
2015										4474	4579	4265
2016											4676	4284
2017												4306

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

		Projected Commercial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	6346	6436										
2004	6454	6505	6428									
2005	6566	6570	6479	6568								
2006	6474	6636	6597	6711	6693							
2007	6715	6703	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								6527	6666	6854	6749	6642
2014									6742	6957	6842	6640
2015										7056	6929	6640
2016											7017	6645
2017												6641

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

		Projected Industrial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	3189	3349										
2004	3229	3415	3031									
2005	3128	3437	2990	3347								
2006	3182	3453	3033	3407	3229							
2007	3145	3471	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								2726	2385	2815	3226	3501
2014									2359	2770	3252	3035
2015										2724	3272	3032
2016											3289	3031
2017												3031

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

		Projected Peak Load Requirements (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	2438	2527										
2004	2468	2584	2570									
2005	2752	2639	2634	2625								
2006	2884	2691	2702	2689	2689							
2007	2825	2747	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								3158	2668	2815	2928	2881
2014									2731	2872	2962	2887
2015										2952	2995	2898
2016											3028	2910
2017												2932

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

		Projected Residential Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	4895	4846										
2004	5071	4860	4885									
2005	5399	4980	4977	5097								
2006	5287	5094	5083	5176	5325							
2007	5595	5211	5190	5276	5390	5516						
2008	5598		5300	5376	5515	5699	5699					
2009	5448			5472	5640	5872	5872	5771				
2010	5666				5764	6037	6037	5836	5587			
2011	5588					6187	6187	5969	5552	5424		
2012	5363						6341	6109	5577	5226	5201	
2013								6232	5682	5386	5184	5297
2014									5799	5547	5183	5159
2015										5650	5212	5042
2016											5210	4979
2017												4993

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

		Projected Commercial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	4018	4057										
2004	4251	4144	4170									
2005	4491	4258	4281	4310								
2006	4509	4363	4388	4400	4462							
2007	4715	4464	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								5421	4887	3019	2909	2900
2014									4963	3090	2948	2930
2015										3158	2997	2937
2016											2995	2940
2017												2956

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

		Projected Industrial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	3986	3954										
2004	4042	3989	4080									
2005	4083	4010	4136	4077								
2006	4008	4030	4162	4119	4176							
2007	3992	4050	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								4048	3731	5589	5652	5411
2014									4021	5610	5765	5521
2015										5625	5851	5561
2016											5847	5587
2017												5612

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

		Projected Peak Load Requirements (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	2308	2410										
2004	2425	2456	2438									
2005	2531	2505	2481	2511								
2006	2696	2544	2525	2554	2554							
2007	2524	2592	2565	2598	2598	2598						
2008	2880		2604	2637	2637	2637	2637					
2009	2451			2674	2674	2674	2674	2603				
2010	2659				2711	2711	2711	2630	2465			
2011	3128					2750	2750	2661	2452	2515		
2012	2908						2789	2688	2458	2544	2938	
2013								2715	2496	2579	2942	2833
2014									2531	2625	2987	2845
2015										2662	3039	2868
2016											3081	2889
2017												2906

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

		Projected Residential Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	4187	4194										
2004	4249	4162	4135									
2005	4457	4203	4186	4295								
2006	4381	4245	4236	4333	4420							
2007	4497	4287	4287	4385	4438	4469						
2008	4558		4339	4438	4496	4533	4533					
2009	4471			4524	4554	4598	4598	4611				
2010	4656				4614	4662	4662	4614	4569			
2011	4554					4727	4727	4662	4489	4460		
2012	4425						4793	4721	4443	4304	4257	
2013								4776	4442	4387	4164	4306
2014									4486	4539	4145	4224
2015										4653	4157	4171
2016											4156	4143
2017												4162

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

		Projected Commercial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	4727	4782										
2004	4792	4874	4825									
2005	5010	4976	4912	4928								
2006	4961	5076	4986	4990	5049							
2007	5139	5178	5060	5064	5099	5045						
2008	5186		5136	5140	5188	5122	5122					
2009	5019			5213	5277	5199	5199	5159				
2010	3671				5367	5277	5277	5213	5196			
2011	3534					5356	5356	5265	5215	3562		
2012	3538						5436	5320	5257	3526	3512	
2013								5364	5343	3593	3535	3523
2014									5424	3650	3510	3574
2015										3698	3503	3596
2016											3503	3610
2017												3634

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

		Projected Industrial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	4391	4492										
2004	4589	4708	4561									
2005	4729	4749	4666	4527								
2006	4678	4797	4737	4612	4807							
2007	4610	4845	4791	4679	4828	4809						
2008	4594		4815	4708	4881	4881	4881					
2009	4044			4725	4905	4954	4954	4203				
2010	5748				4930	4983	4983	4538	4126			
2011	6005					5013	5013	4859	4222	6026		
2012	5862						5043	4889	4370	6175	5883	
2013								4922	4607	6266	5993	5710
2014									4674	6304	6062	5802
2015										6325	6133	5927
2016											6130	5980
2017												5988

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

		Projected Peak Load Requirements (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	855	891										
2004	898	923	865									
2005	1021	958	884	952								
2006	984	985	900	921	904							
2007	1042	1020	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								995	930	983	1001	929
2014									977	1002	1003	930
2015										1010	1006	953
2016											1010	969
2017												980

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

		Projected Residential Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	1513	1512										
2004	1545	1523	1542									
2005	1664	1552	1571	1612								
2006	1611	1579	1599	1636	1659							
2007	1690	1607	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								1904	1714	1638	1588	1645
2014									1739	1664	1582	1627
2015										1684	1589	1619
2016											1588	1625
2017												1649

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

		Projected Commercial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	1291	1279										
2004	1296	1310	1309									
2005	1367	1342	1339	1353								
2006	1359	1373	1370	1374	1384							
2007	1414	1405	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								1535	1500	1272	1297	1337
2014									1535	1277	1314	1347
2015										1278	1335	1358
2016											1334	1365
2017												1374

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

		Projected Industrial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	1481	1521										
2004	1554	1507	1529									
2005	1629	1500	1555	1582								
2006	1708	1493	1570	1558	1565							
2007	1627	1489	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								1700	1370	1705	1483	1473
2014									1596	1725	1486	1518
2015										1738	1490	1519
2016											1490	1488
2017												1485

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

		Projected Peak Load Requirements (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	7197	6790										
2004	7335	6860	7200									
2005	7083	7000	7300	7200								
2006	7577	7140	7410	7290	7310							
2007	7163	7320	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								7450	7366	7142	7400	7271
2014									7487	7216	7484	7403
2015										7282	7622	7556
2016											7731	7691
2017												7785

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

		Projected Residential Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	13266	12868										
2004	13441	13062	13308									
2005	14218	13259	13505	13950								
2006	13714	13462	13728	14311	14099							
2007	14411	13671	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								14443	14164	14005	13658	13607
2014									14325	14161	13667	13575
2015										14335	13738	13602
2016											13896	13695
2017												13678

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

		Projected Commercial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	12273	12212										
2004	12576	12507	13275									
2005	13157	12757	13601	12967								
2006	13140	13101	13975	13436	13188							
2007	13756	13418	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								15228	15295	11022	14270	14354
2014									15827	11251	14411	14524
2015										11499	14580	14740
2016											14754	14998
2017												15137

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

		Projected Industrial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	9599	10355										
2004	9611	10503	9938									
2005	9720	10641	10035	9750								
2006	9704	10795	10155	9926	9968							
2007	9482	10924	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								8864	8110	12269	8468	8133
2014									8054	12450	8501	8182
2015										12686	8550	8281
2016											8603	8407
2017												8459

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

		Projected Peak Load Requirements (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	7696	8229										
2004	7567	8295	8129									
2005	8626	8362	8320	8320								
2006	8932	8428	8445	8445	8755							
2007	8549	8496	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								9506	8485	8842	8956	8529
2014									8612	8916	8987	8580
2015										8991	9018	8631
2016											9049	8683
2017												8735

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

		Projected Residential Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	12259	12020										
2004	12507	11905	12250									
2005	13469	11981	12385	12385								
2006	12797	12054	12592	12592	13738							
2007	13487	12128	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								14703	13956	14317	13806	13392
2014									14235	14604	13944	14463
2015										14896	14083	14608
2016											14224	14754
2017												14902

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

		Projected Commercial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	8077	8135										
2004	8414	8233	8140									
2005	8520	8434	8349	8349								
2006	8857	8637	8550	8550	8691							
2007	8892	8839	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								9606	9097	8879	8443	7821
2014									9279	9057	8528	7790
2015										9238	8613	7868
2016											8699	7947
2017												8026

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

		Projected Industrial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	15518	15130										
2004	15741	14959	15477									
2005	15774	14980	15448	15449								
2006	15821	15001	15448	15448	16089							
2007	16582	15022	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								18254	17199	16476	15912	15481
2014									17543	16806	16071	15714
2015										17142	16232	15949
2016											16394	16188
2017												16431

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

		Projected Peak Load Requirements (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	3455	3535										
2004	3407	3572	3621									
2005	3752	3610	3670	3702								
2006	3926	3639	3705	3763	3723							
2007	3838	3674	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								4120	3809	3786	3771	3784
2014									3951	3879	3840	3846
2015										3928	3903	3908
2016											3964	3980
2017												4015

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

		Projected Residential Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	6641	6486										
2004	6724	6599	6818									
2005	7088	6671	6890	6923								
2006	7133	6744	6965	7047	7164							
2007	7266	6821	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								7102	6952	7047	7149	7146
2014									7008	7073	7188	7282
2015										7148	7231	7369
2016											7281	7431
2017												7493

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

		Projected Commercial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	4529	4577										
2004	4691	4653	4701									
2005	4892	4695	4780	4791								
2006	4959	4739	4832	4907	4996							
2007	4998	4776	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								5450	5169	4979	4930	4845
2014									5307	5091	5083	4909
2015										5229	5229	4946
2016											5343	4979
2017												5047

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

		Projected Industrial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2003	7747	7885										
2004	8039	7973	7814									
2005	8051	8023	7913	8027								
2006	8144	8087	7998	8137	8283							
2007	8160	8187	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								9246	8105	8146	8172	8087
2014									8214	8264	8334	8303
2015										8346	8487	8542
2016											8608	8786
2017												8878

Appendix B – Plant Additions and Upgrades

The following data represents PJM interconnection requests for new generating resources located in Pennsylvania. Since 2002 (through Dec. 31, 2012) PJM has received 646 interconnection requests totaling 118,216 MW for new generating resources or incremental additions to existing resources. Of this total, 86,793 MW projects were withdrawn, 14,979 MW were placed in service, and 1,344 MW are under construction.

Below the requests for new generating resources is a chart showing the generation deactivations for Pennsylvania from June 2012 through July 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 2012 RTEP, Book 5, section 11.2: http://pjm.com/~/media/documents/reports/2012-rtep/2012-rtep-book-5.ashx

Status of Pennsylvania's Plant Additions and Upgrades

Queue	PJM Project Name	MW	MWC	Status	Estimated Completion	Transmission Owner	Fuel Type
W2-018	Cumberland County Landfill	5	4.8	Active	2012 Q3	PENELEC	Methane
X4-042	Footedale 12 kV	20	3	Active	2013Q2	APS	Methane
Y1-031	Erie East 230 kV	101.5	13.2	Active	2013Q2	PENELEC	Methane
Y2-098	Freemansburg #1 12 kV	5	5	Active	2012Q4	PPL	Methane
X1-108	Martins Creek 230 kV	33	33	UC	2013Q1	PPL	Natural Gas
X3-003	Mehoopany II 115 kV	20	0	Active	2013Q1	PENELEC	Natural Gas
X3-081	Upper Darby 13 kV	0.5	0	UC	2012Q4	PECO	Natural Gas
X4-016	Bayonne 138 kV	10	10	Active	2013Q2	APS	Natural Gas
Y1-047	North Meshoppen 34.5 kV	15.4	15.4	Active	2013Q2	PENELEC	Natural Gas
Y2-052	South Bend 500 kV	35	35	Active	2013Q2	APS	Natural Gas
Y2-060	North Meshoppen 34.5 kV II	3.5	3.5	Active	2013Q2	PENELEC	Natural Gas
Y2-064	Printz	65.5	19	Active	2012Q4	PECO	Natural Gas
Q47	Peach Bottom	2532	140	UC	2013 Q2	PECO	Nuclear
U3-030	Beaver Valley #2	951	38	UC	2012 Q4	DL	Nuclear
W2-028	Limerick #1	1218	5	Active	2012 Q2	PECO	Nuclear
W2-029	Limerick #2	1218	5	Active	2013 Q2	PECO	Nuclear
X3-044	Three Mile Island	15	15	Active	2013Q2	ME	Nuclear
Y1-056	Three Mile Island	19	19	Active	2013Q2	ME	Nuclear
V4-007	Montgomery Avenue 12.47 kV	13	4.9	UC	2012 Q2	PENELEC	Solar
W2-092	Hunterstown 115kV II	20	7.6	Active	2013 Q2	ME	Solar
W3-008	Mercersburg 34.5kV	20	7.6	Active	2012 Q3	APS	Solar
W3-072	St. Thomas-Guilford 34.5kV	20	7.6	Active	2012 Q3	APS	Solar
X3-062	Upton 34.5 kV	20	7.6	Active	2012Q4	APS	Solar
X4-001	St Thomas-Guilford 34.5 kV	20	7.6	Active	2012Q4	APS	Solar
X4-002	St Thomas-Guilford 34.5 kV	20	7.6	Active	2012Q4	APS	Solar
X4-009	Cumberland-West Shore #1 69 kV	20	7.6	Active	2012Q4	PPL	Solar
X4-011	Mercersburg-Milner 34.5 kV	20	7.6	Active	2012Q4	APS	Solar
Y2-037	Tuscarora 12 kV #1	3	1	Active	2012Q4	PPL	Solar
X4-045	Southwark 13 kV	0.5	0.1	Active	2012Q2	PECO	Storage
Y1-057	Barbadoes 34 kV	2	0.1	Active	2012Q2	PECO	Storage
O52	Gold-Potter Co 115kV	50	10	Suspended	2013 Q4	PENELEC	Wind
O60	Berlin 23 kV	5.4	1.08	Suspended	2012 Q1	PENELEC	Wind
S42	Eldred-Fairview	18	3.6	UC	2013 Q2	PPL	Wind
U2-055	Karthaus-Milesburg 230kV	89.1	11.5	Active	2012 Q3	APS	Wind
U2-073	Frostburg 138 kV ii	200	26	ISP	2012 Q4	APS	Wind
V3-042	Thompson 115kV	84	10.9	Active	2012 Q4	PENELEC	Wind

MW: existing generation + new generation
MWC: new generation
UC: Under Construction
ISP: Partially In-Service;
Active: Project is being studied for feasibility, impact, or facilities phase.

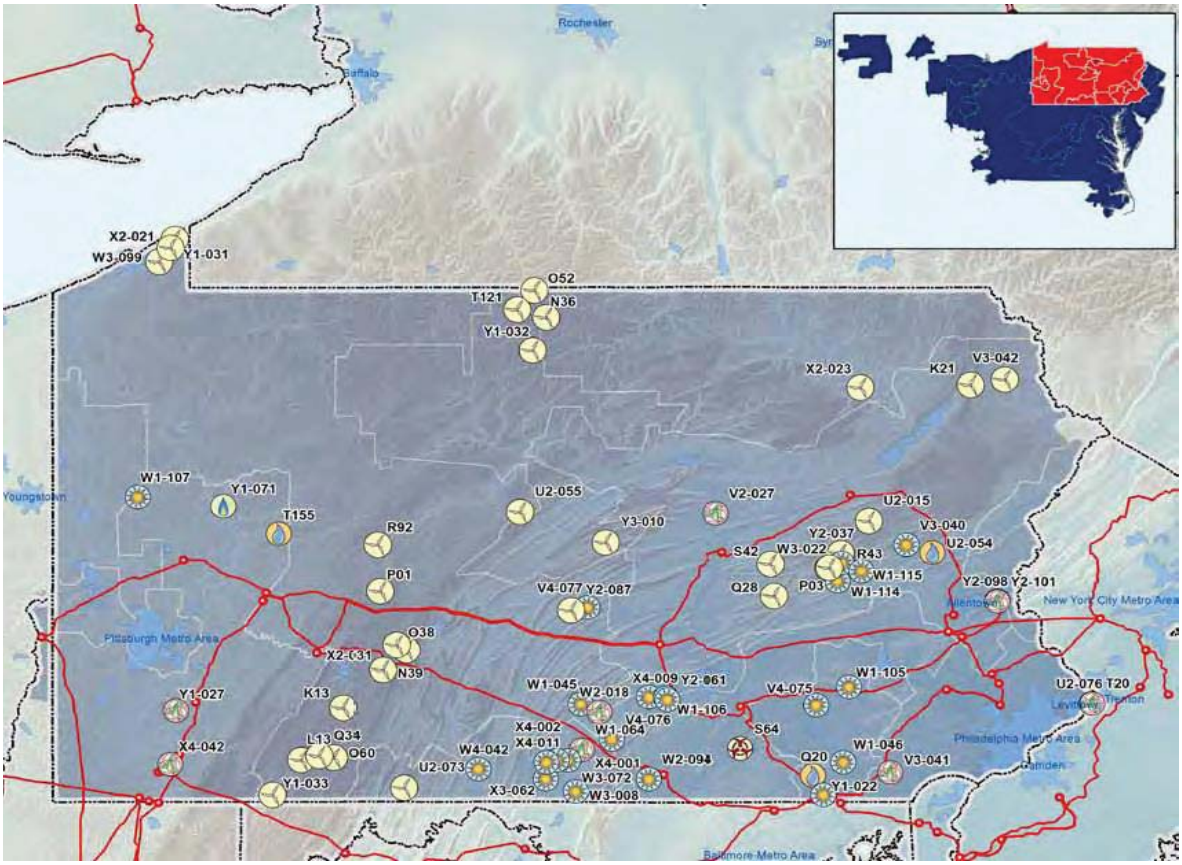
Source: PJM RTEP, Book 5, Tables 11.8 &11.9: http://pjm.com/documents/reports/rtep-documents/2012-rtep.aspx

Generation Deactivations in Pennsylvania June 2012 through July 2013

Unit	Capacity (MW)	Transmission Zone	Age (Years)	Requested Deactivation Date	Actual Deactivation Date	Status
Elrama 1	93	DUQ	59	June-12	June-12	Impacts identified and to be resolved by June 2014. Potential re-use in interconnection project Y3-042.
Elrama 2	93	DUQ	59	June-12	June-12	Impacts identified and to be resolved by June 2014. Potential re-use in interconnection project Y3-042.
Elrama 3	103	DUQ	57	June-12	June-12	Impacts identified and to be resolved by June 2014. Potential re-use in interconnection project Y3-042.
Elrama 4	171	DUQ	51	June-12	October-12	Impacts identified and to be resolved by June 2014. Potential re-use in interconnection project Y3-042.
Schuylkill 1	166	PECO	54	February-13	January-13	Reliability impacts complete
Schuylkill Diesel	3	PECO	45	February-13	January-13	Reliability impacts complete

Source: pjm.com/planning/generation-retirements/~/media/planning/gen-retire/generator-deactivations.ashx

Location of queued generation interconnection requests in Pennsylvania



Source: PJM 2012 Regional Transmission Expansion Plan, http://pjm.com/~/media/documents/reports/2012-rtep/2012-rtep-book-5.ashx

Appendix C – Existing Generating Facilities

Table C-1 shows PJM electricity supply mix summary of generating capacity by fuel type for 2012,[46] and the distribution of actual generation capacity utilized for 2011 and 2012.

Table C-2 shows the most recently available data on existing generating facilities located in Pennsylvania.[47]

Table C-1 Electrical Power Supply Mix

Electricity Supply Mix (PJM Region Supply Mix for 2011 & 2012*)			
Energy Source	2012 Capacity	2011 Generation	2012 Generation
Coal	41.8%	47.1%	42.1%
Nuclear	18.1%	34.5%	34.6%
Natural Gas	28.6%	14.0%	18.8%
Hydro, Wind & Other	5.2%	4.0%	3.9%
Oil	6.3%	0.3%	0.6%
*PJM 2012 State of the Market Report			

[46] See State of the Market Report, Monitoring Analytics, available at http://monitoringanalytics.com/reports/PJM_State_of_the_Market/2012/2012-som-pjm-volume2-sec2.pdf
[47] Electric Power Generation Association, email received May 2, 2012, from Sharon Barbour, EPGA.

Table C-2 Electrical Power Generation in Pennsylvania

COMPANY NAME	ST.	PLANT	FUEL TYPE	ALT. FUEL TYPE	TECH. TYPE	MW
A/C Power-Colver Operations (75% owned)*	PA	Colver Power Project	Waste Coal		ST-S	76.50
Access Energy LLC	PA	Pioneer Crossing Landfill Plant	Lgas		IC	6.40
AES Corporation	PA	AES Beaver Valley LLC	Coal	None	ST/S	120.00
AES Wind Generation	PA	Armenia Mountain Wind LLC	Wind		WTG	100.50
Algonquin Power	PA	Sandy Ridge Wind Farm	Wind		WTG	50.00
Allegheny Electric Cooperative*	PA	William F Matson Hydroelectric Plant	Water		HY	21.70
Allegheny Electric Cooperative*	PA	PPL Susquehanna LLC	Nuclear-BWR			260.00
American Consumer Industries Inc (ACI)	PA	Colmac Clarion Inc - Piney Creek Power Plant	Waste Coal	None	ST	32.00
Babcock & Wilcox Partnership (ESI Energy, Inc.*	PA	Ebensburg Power Co	Waste Coal		ST-S	48.50
Brookfield Renewable Power, Inc.*	PA	Piney Dam (PA) Hydroelectric Plant	Water		HY	28.80
Bucknell University	PA	Bucknell Cogeneration Plant	Gas	Oil	GT/S	7.00
Calpine Corp.*	PA	Bethlehem Energy Center	Gas	WSTH	CC	1037.00
Calpine Corp.*	PA	York Energy Center	Natural Gas	Oil	CCG	519.00
Calypso Energy Holdings	PA	Scrubgrass Generating Plant	Waste Coal		ST	83.00
Chambersburg Borough Electric Dept	PA	Chambersburg Power Plant	Gas	Oil	IC	30.50
Cogentrix Energy LLC*	PA	Northhampton Generating Station	Waste Coal	Tires	ST-S	134.00
Consolidated Rail Corporation	PA	Juniata Locomotive Shop	Coal		ST-H	4.00
Corona Power, LLC	PA	Sunbury Generation LP	Coal	Coke/Oil	ST/GT/IC	462.50
Covanta Energy Corp.	PA	Covanta Plymouth Renewable Energy Ltd.	Ref	None	ST	32.13
Covanta Energy Corp.	PA	Delaware Valley Resource Recovery Facility	Ref	None	ST-S	90.00
Covanta Energy Corp. (for Harrisburg Authority)	PA	Harrisburg WTE Plant	Ref	Gas	ST-S	24.10
Covanta Energy Corp.	PA	Lancaster County Resource Recovery Facility	Ref	None	ST	35.70
Covanta Energy Corp.	PA	York County Resource Recovery Plant	Ref	None	ST	36.50
Dominion Generation (DEI)	PA	Fairless Energy LLC	Gas	WSTH	CC	1200.00
Domtar Corp	PA	Johnsonburg Mill Power Plant	Liq/Coal	Gas/Oil	ST/S	54.00
Duke Energy Renewables*	PA	North Allegheny Wind Farm	Wind		WTG	70.00
Duke Energy Wholesale Power Generation (DEA)	PA	Fayette Energy Facility	Gas	WSTH	CC	677.00
Duquesne Conemaugh LLC (4.26% owned)	PA	Conemaugh Generating Station	Coal	Gas/Oil	IC/ST	69.00
Duquesne Keystone LLC (2.97% owned)	PA	Keystone Generating Station	Coal	Oil	IC/ST	50.82
Duquesne University	PA	Duquesne Uniersity Energy Center	Gas		GT/S	4.75
Dynegy Midwest Generation. Inc.*	PA	Ontelaunee Energy Center	Gas	WSTH	CCGT	545.00
E.On Climate and Renewables	PA	Stonycreek Wind Farm	Wind		WTG	52.50
Ebensburg Power Co.* (Partnership)	PA	Ebensburg Power Co	Waste Coal		ST-S	48.50
Edison Mission Group	PA	Forward Wind Farm	Wind		WTG	29.40
Edison Mission Group	PA	Lookout Windpower Wind Farm	Wind		WTG	37.80
Energy Systems North East LLC	PA	North East Cogeneration Plant	Gas	LPG/WSTH	CC	81.80
EquiPower Resources Corp.	PA	Liberty Electric Power LLC	Gas	WSTH	CC	610.00
Evergreen Community Power LLC	PA	Corrstack Cogeneration Plantg	Wood		ST-S	33.00
EverPower Wind Holdings, Inc.*	PA	Highland Wind Energy	Wind	None	WTG	62.50
EverPower Wind Holdings, Inc.*	PA	Highland North Wind Farm	Wind	None	WTG	75.00
EverPower Wind Holdings, Inc.*	PA	Patton Wind Farm	Wind		WTG	30.00
EverPower Wind Holdings, Inc.*	PA	Twin Ridges Wind Farm	Wind		WTG	139.40
Exelon Nuclear*	PA	Limerick Nuclear Gen. Station, Units 1&2	Nuclear		ST-BWR	2326.00
Exelon Nuclear*	PA	Three Mile Island	Nuclear		ST-PWR	890.00
Exelon Nuclear* (50% owned)	PA	Peach Bottom Atomic Power St., Units 2&3	Nuclear		ST-BWR	1182.00
Exelon Power Generation Co. LLC*	PA	Chester Peaking Plant	Oil		GT	39.00
Exelon Power Generation Co. LLC* (25% owned)	PA	Colver Power Project	Waste Coal		ST-S	25.50
Exelon Power Generation Co. LLC* (31.32% owed)	PA	Conemaugh Generating Station	Coal		ST	535.80
Exelon Power Generation Co. LLC*	PA	Croydon Peaking Plant	Oil		GT	391.00
Exelon Power Generation Co. LLC*	PA	Delaware Peaking Plant	Oil		GT	56.00
Exelon Power Generation Co. LLC*	PA	Eddystone Generating Station 3 & 4	Natural Gas	Oil	ST	760.00
Exelon Power Generation Co. LLC*	PA	Eddystone Peaking Plant	Oil		ST	60.00
Exelon Power Generation Co. LLC*	PA	Exelon-Conergy Solar Energy Center	Other		PV	3.00
Exelon Power Generation Co. LLC*	PA	Fairless Hills Generating (Peaking)	Other		ST-S	60.00
Exelon Power Generation Co. LLC*	PA	Falls Twp Peaking Station	Oil		GT	51.00
Exelon Power Generation Co., LLC*I	PA	Handsome Lake Plant	Gas		SC	267.50
Exelon Power Generation Co. LLC* (41.99% owned)	PA	Keystone Generating Station	Coal		ST	720.40
Exelon Power Generation Co. LLC*	PA	Moser Peaking Station	Oil		GT	51.00
Exelon Power Generation Co. LLC*	PA	Muddy Run HydroElectric Plant	Water		HY	1070.00
Exelon Power Generation Co. LLC*	PA	Pennsbury Peaking Station	Other		GT	6.00
Exelon Power Generation Co. LLC*	PA	Richmond Peaking Station	Oil		GT	96.00
Exelon Power Generation Co. LLC*	PA	Safe Harbor Hydroelectric Plant (66.7% owner)	Water		HY	277.70
Exelon Power Generation Co. LLC*	PA	Schuylkill Peaking Station	Oil		GT	30.00
Exelon Power Generation Co. LLC*	PA	Southwark Peaking Station	Oil		GT	52.00
FirstEnergy Corp.*	PA	Springdale, Units 1,2,3,4 & 5	Gas		CC/GT	628.00

Table C-2 Electrical Power Generation in Pennsylvania

FirstEnergy Corp.*	PA	Allegheny Lock & Dam 5 & 6	Water		HY	13.00
FirstEnergy Corp.*	PA	Chambersburg Power Plant	Gas		GT	88.00
FirstEnergy Corp.*	PA	Hunlock Creek Power Station	Gas		GT	44.00
FirstEnergy Corp.*	PA	Hatfield's Ferry Power Station	Coal		ST	1710.00
FirstEnergy Corp.*	PA	Lake Lynn Hydroelectric Project	Water		HY	52.00
FirstEnergy Corp.*	PA	Mitchell Generating Station	Coal	Oil	ST	370.00
FirstEnergy Generation Corp.*	PA	Bruce Mansfield Plant	Coal		ST	2490.00
FirstEnergy Generation Corp.*	PA	Seneca Pumped Storage Plant	Water		HY	451.00
FirstEnergy Nuclear Operating Co.*	PA	Beaver Valley Power Station	Nuclear		ST-PWR	1815.00
General Electric Co.	PA	Erie Works Plant	Coal		**ST**	36.00
General Electric Co.	PA	Grove City Plant	Oil		GT	10.60
Gilberton Power Co.	PA	John B Rich Memorial Power Station	Waste Coal		ST-S	80.00
GlaxoSmith Kline	PA	GSK York RDC Solar Facility	Other		PV	3.00
Iberdrola Renewables, LLC*	PA	Casselman Wind Project	Wind		WTG	34.50
Iberdrola Renewables, LLC*	PA	Locust Ridge II	Wind		WTG	102.00
Iberdrola Renewables, LLC*	PA	Locust Ridge Wind Farm I	Wind		WTG	26.00
Iberdrola Renewables, LLC*	PA	South Chestnut Wind Project	Wind		WTG	46.00
Indiana University of Pennsylvania*	PA	SW Jack Cogeneration Plant	Gas	Oil	IC-H	24.40
Infigen Energy LLC	PA	Allegheny Ridge Wind Farm	Wind		WTG	80.00
Infigen Energy LLC	PA	Bear Creek Wind Farm	Wind		WTG	24.00
Ingenco	PA	Mountain View Landfill	Other	Oil	IC	16.00
Integrys Energy Services, Inc.*	PA	WPS Westwood Generation	Waste Coal		ST	30.00
IPR GDF Suez Energy Generation NA, Inc.*	PA	NEPCO-Northeastern Power Co.	Waste Coal		ST	59.00
IPR GDF Suez Energy Generation NA, Inc.*	PA	Northumberland Cogeneration Facility	Other	NG	GT	18.00
IPR GDF SUEZ North America (ANP)*	PA	Armstrong Energy LLC	Gas		GT	688.00
Keystone Power, LLC (4.2% owned)	PA	Keystone Generating Station	Coal	Oil	IC/ST	71.86
Keystone Sanitary Landfill, Inc	PA	Keystone Rwesource Recovery Plant	LGAS			5.60
Kimberly Clark Corp	PA	Chester Cogeneration Plant	Coal	Coke	ST-S	60.00
Koppers, Inc.*	PA	Koppers Montgomery Cogeneration Plant	Other		ST-S	10.00
Lakeside Energy, LLC	PA	Lakeside Hazelton LLC	Gas	Oil	GT	171.50
LS Power purchased from PPL 3/2011*	PA	Safe Harbor Hydroelectric Plant (33.3% owned)	Water		HY	140.00
Lycoming County Resource Management Services	PA	Lycoming County Landfill	Lgas		IC/H	1.00
Merck & Co., Inc.*	PA	West Point (PA) Merck Plant	Gas	Oil	GT/ST	82.50
Morris Energy Group LLC (MEG)	PA	York Solar Plant	Gas	Oil/WSTH	CC	52.20
Mount Carmel Cogeneration, Inc.*	PA	Mount Carmel Cogeneration, Inc.*	Waste Coal		ST-S	46.50
NextEra Energy Resources (formerly FPL)*	PA	Green Mountain Wind Energy Center	Wind		WTG	10.40
NextEra Energy Resources (formerly FPL)*	PA	Marcus Hook Cogen Power Plant	Gas		GT/S	50.50
NextEra Energy Resources (formerly FPL)*	PA	Marcus Hook Energy Center	Gas		CC	836.10
NextEra Energy Resources (formerly FPL)*	PA	Meyersdale Wind Power Project	Wind		WTG	30.00
NextEra Energy Resources (formerly FPL)*	PA	Mill Run Wind	Wind		WTG	15.00
NextEra Energy Resources (formerly FPL)*	PA	Somerset Wind Farm	Wind		WTG	9.00
NextEra Energy Resources (formerly FPL)*	PA	Waymart Wind Farm	Wind		WTG	64.50
Northbrook Energy LLC	PA	Allegheny Lock & Dam No.8	Water	None	HY	13.00
Northbrook Energy LLC	PA	Allegheny Lock & Dam No.9	Water	None	HY	17.40
Northern Star Generation Services Co.	PA	Cambria County Cogen	Waste Coal		ST-S	98.00
NRG Energy, Inc.*	PA	Blossburg Plant (Mothball Pending)	Gas		GT	19.00
NRG Energy, Inc.*	PA	Brunot Island Generating Station	Natural Gas	Oil	CC/GT	289.00
NRG Energy, Inc.*	PA	Cheswick Generating Station	Coal	Diesel	ST	565.00
NRG Energy, Inc.*	PA	Hamilton Generating Station	Oil		GT	20.00
NRG Energy, Inc.*	PA	Hunterstown Generating Station	Gas	Diesel	CC	60.00
NRG Energy, Inc.*	PA	Hunterstown Generating Station CCGT	Gas		CC	810.00
NRG Energy, Inc.*	PA	Mountain Generating Station	Gas	Oil	GT	40.00
NRG Energy, Inc.*	PA	New Castle Generating Station	Coal	Oil	ST/IC	330.00
NRG Energy, Inc.*	PA	Orrtanna Generating Station	Oil		GT	20.00
NRG Energy, Inc.*	PA	Portland Generating Station	Coal	Gas	GT/ST	570.00
NRG Energy, Inc.*	PA	Seward Generating Station	Waste Coal		ST	525.00
NRG Energy, Inc.*	PA	Shawnee Generating Station	Oil		GT	20.00
NRG Energy, Inc.*	PA	Shawville Generating Station	Coal	Oil	ST	600.00
NRG Energy, Inc.*	PA	Titus Generating Station	Coal	Gas	ST/GT	274.00
NRG Energy, Inc.*	PA	Tolna Station	Oil		GT	39.00
NRG Energy, Inc.*	PA	Warren Generating Station	Gas	Oil	GT	57.00

Table C-2 Electrical Power Generation in Pennsylvania

NRG Energy, Inc.* (20.2% owned)	PA	Conemaugh Power Plant	Coal	Oil	IC/ST	281.00
NRG Energy, Inc.* (20.3% owned)	PA	Keystone Generating Station	Coal	Oil	IC/ST	284.00
NRG Thermal, LLC	PA	NRG Energy Paxton LLC	Gas	Oil	ST-S	12.60
Olympus Power LLC	PA	Panther Creek Partners Energy Facility	Waste Coal		ST-S	95.00
Olympus Power LLC/York Haven Power CO. LLC	PA	York Haven Hydro Station	Water	None	HY	23.50
PEI Power Corp.	PA	Archbald Power Station	Gas	LGAS	GT/ST	79.20
Pennsylvania Renewable Resources Assoc.	PA	Conemaugh Saltsburg	Water		HY	15.00
PH Glatfelter Co.	PA	Spring Grove Glatfelter Cogeneration Plant	Coal		ST-S	67.25
PPL Generation LLC*	PA	Allentown Generating Station	Oil		GT	64.00
PPL Generation LLC*	PA	Fishbach Generating Station	Oil		GT	37.20
PPL Generation LLC*	PA	Harrisburg Generating Station	Oil		GT	64.00
PPL Generation LLC*	PA	Harwood (PA) Generation Station	Oil		GT	32.00
PPL Generation LLC*	PA	Jenkins Generating Station	Oil		GT	32.00
PPL Generation LLC*	PA	Lock Haven Generating Station	Oil		GT	18.60
PPL Generation LLC*	PA	Lower Mt. Bethel Energy LLC	Gas		CC	623.00
PPL Generation LLC*	PA	PPL Brunner Island	Coal		ST	1490.00
PPL Generation LLC*	PA	PPL Holtwood, LLC	Water		HY	109.00
PPL Generation LLC* Purchased from AES 4/2012	PA	PPL Ironwood LLC	Gas	Oil/WSTH	CC	765.00
PPL Generation LLC*	PA	PPL Martins Creek	Oil	Natural Gas	GT/ST	1690.00
PPL Generation LLC*	PA	PPL Montour LLC	Coal		ST	1515.00
PPL Generation LLC* (90% owned)	PA	PPL Susquehanna LLC	Nuclear-BWR		ST	2340.00
PPL Generation LLC*	PA	PPL Wallenpaupack LLC	Water		HY	44.00
PPL Generation LLC*	PA	Suburban Generation Station c/o Martins Creek	Oil		GT	29.00
PPL Generation LLC*	PA	West Shore Generating Station	Oil		GT	37.20
PPL Generation LLC*	PA	Williamsport Generating Station	Oil		GT	32.00
PPL Montour, LLC* (16.25% oned)	PA	Conemaugh Generating Station	Coal	Gas/Oil	IC/ST	279.00
PPL Montour, LLC* (12.34% owned)	PA	Keystone Generating Station	Coal	Oil	IC/ST	212.00
PPL Renewable Energy*	PA	Cumberland County Landfill	LGAS		IC	6.40
PPL Renewable Energy*	PA	Frey Farm Landfill	LGAS		IC	3.20
PPL Renewable Energy*	PA	Greater Lebanon Refuse Authority (2007)	LGAS		IC	3.20
PPL Renewable Energy*	PA	Northern Tier Landfill	LGAS		IC	1.60
PPL Renewable Energy*	PA	The Hill at Whitemarsh	Natural Gas		GT/H	1.60
Procter & Gamble	PA	Mehoopany Plant	Gas		GT-S	53.00
PSEG Fossil* (22.5% owned)	PA	Conemaugh Power Plant	Coal		IC/ST	385.00
PSEG Fossil* (22.84% owned)	PA	Keystone Generating Station	Coal	Oil	IC/ST	391.00
PSEG Power (50%)	PA	Peach Bottom Atomic Power St., Units 2&3	Nuclear		ST-BWR	1182.00
Pure Energy, LLC (GE)	PA	Homer City Generation	Coal		ST	2012.00
Republic Services, Inc.*	PA	Modern Landfill	LGAS	None	IC	9.00
Rock-Tenn Co.	PA	Philadelphia Container Plant	Oil		ST/S	10.00
Rohm and Haas Co.	PA	Bristol	Oil		ST	1.50
Sapphire Power Partners, LLC eff. Oct. 2011	PA	York Solar Plant	Gas		CC	52.20
Schuylkill Energy Resources	PA	St Nicholas Cogeneration Plant	Waste Coal		ST-S	100.00
Sithe Global LLC.	PA	Allegheny Lock & Dam No. 8	Water		HY	13.00
Sithe Global LLC.	PA	Allegheny Lock & Dam No. 9	Water		HY	17.40
Sunoco, Inc.*	PA	Philadelphia Refinery Power Plant	RGAS		ST/S	30.00
Temple University	PA	Temple Univ. Standby Electric Gen. Facility	Gas		IC-H	16.00
UGI Development Co.* (5.97% owned)	PA	Conemaugh Generating Station	Coal	Gas/Oil	IC/ST	102.00
UGI Energy Services	PA	Broad Mountain Power Station	Other		IC	11.00
UGI Energy Services	PA	Crayola Solar Park	Sun		PV	1.90
UGI Energy Services	PA	Hunlock Power Station	Gas			125.00
United States Steel Corp.	PA	Clairton USX B Plant	COG	Gas	GT/S/ST/S	219.75
Veolia Energy North America, Inc.*	PA	Grays Ferry Power Plant	Gas	Oil-WSTH	CC	174.60
Weyerhaeuser Co (WEYCO)	PA	Bradford (PA) Plant	Coal	Liq	ST	52.00
Wheelabrator Technologies Inc.*	PA	Wheelabrator Falls, Inc.*	Other		ST	53.00
Wheelabrator Technologies Inc.*	PA	Wheelabrator Frackville Energy Co.	Waste Coal		ST-S	48.00
WM Renewable Energy LLC (WM)	PA	Arden Landfill Power Plant	LGAS		IC	4.80
WM Renewable Energy LLC (WM)	PA	Lake View Landfill	LGAS	None	IC	6.10
WM Renewable Energy LLC (WM)	PA	Pottstown Plant	Other		GT	6.40
Total MW in PA						**46384.96**
*=verified data						

Technology Type

Classification of plant sites by the technology type (prime mover) of the individual units may include mixed technologies, which are reflected in combination of the following abbreviations:

CC Combined-cycle total unit
CCSS Combined-cycle single shaft
FC Fuel Cell
GT Gas or combustion turbine in single cycle
GT/C Gas or combustion turbine in combined cycle
GT/H Gas or combustion turbine with heat recovery
GT/S Gas or combustion turbine with steam sendout
GT/T Gas or combustion turbine in topping configuration with existing conventional boiler and T/G
HY Hydroelectric turbine (conventional)
HY-P Hydroelectric turbine (pump storage)
IC Gas or liquid-fuel internal combustion (reciprocating) engine
IC-H Internal combustion engine with heat recovery
ORC Organic Rankine-cycle (vapor) turbine or organic Rankine-cycle energy converter
PV Photovoltaic cells (solar)
ST Steam turbine
ST-H Steam turbine with heat recovery
ST-S Steam turbine with steam sendout
TEX Turbo expander/gas expander
WTG Wind turbine generator

EPGA