Electric Power Outlook for Pennsylvania 2011-2016

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Executive Summary

Introduction

Section 524(a) of the Public Utility Code (Code) requires jurisdictional electric distribution companies to submit to the Pennsylvania Public Utility Commission (Commission) information concerning plans and projections for meeting future customer demand.[1] The Commission'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 that the Commission 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.

Overview

This report concludes that there is sufficient generation, transmission and distribution capacity 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 2021, provided that planned generation and transmission projects will be forthcoming in a timely manner. Summer reserve margins are projected to range from 26 percent in 2012 to 17.7 percent in 2021 for the PJM Interconnection LLC (PJM) Regional Transmission Organization (RTO).

Pennsylvania retail sales (total of residential, commercial and industrial) decreased 0.17 percent from 142,991 GWh in 2010 to 142,746 GWh in 2011. The current average aggregate five-year projection of growth in energy sales is 3.5 percent per year. This includes a residential growth rate of 1.97 percent, a commercial rate of 4.5 percent and an industrial rate of 4.3 percent. (These growth rates reflect revised data based on improved economic outlook – earlier estimates had proven too low.)

The aggregate non-coincident peak load for the major electric distribution companies (EDCs) increased at an average rate of 5.68 percent from 2010 to 2011. The peak load is expected to increase at an average annual growth rate of 1.0 percent.

[1] 66 Pa. C.S. § 524(a).
[2] 52 Pa. Code §§ 57.141—57.154.
[3] 66 Pa.C.S. § 524(b).
[4] 66 Pa.C.S. §§ 2801—2812.

Alternative Energy Portfolio Standards (Act 213)

The Commission continues to implement procedures and guidelines necessary to carry out the requirements of Act 213.[5] Act 213 requires that an annually increasing percentage of electricity sold to retail customers be derived from alternative energy resources, including solar, wind, low-impact hydropower, geothermal, biologically derived methane gas, fuel cells, biomass, coal mine methane, 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. The amount of electricity to be supplied by alternative resources increases to a total of 18 percent by program year 15 which ends in 2021.

Energy Efficiency and Conservation Program (Act 129)

Act 129 of 2008[6] added Section 2806.1 to the Code, which requires that the Commission adopt an energy efficiency and conservation (EE&C) program for the reduction of energy demand and consumption by each Pennsylvania EDC with at least 100,000 customers.[7] Sales are to be reduced by 1 percent by May 31, 2011, and 3 percent by May 31, 2013. Peak demand is 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 will total 4,400 GWh in 2013. Peak demand reduction goals are projected to total 1,193 MW for 2013.[8]

The EDCs' Program Year 2 Final Annual Reports,[9] as filed on November 15, 2011, indicate that all but one (West Penn Power) of the seven companies subject to the Act 129 EE&C requirements appear to have met the May 31, 2011 consumption reduction target of 1 percent.[10] Additionally, the EDCs' Program Year 3 Preliminary Annual Reports,[11] as filed on July 16, 2012, indicate that all seven of the companies are projected to meet, and in some instances exceed, the May 31, 2013 consumption reduction target of 3 percent.

The peak demand reduction target of 4.5 percent by May 31, 2013, is to be met through the curtailing of resources during the top 100 hours of the summer beginning June 1, 2012, and ending September 30, 2012.[12] As such, the Commission does not currently have the information available regarding the EDCs' compliance with this mandate.

[5] Alternative Energy Portfolio Standards Act, effective Feb. 28, 2005; 73 P.S. §§ 1648.1—1648.8.
[6] Act 129 of 2008, effective November 14, 2008; 66 Pa. C.S. §§2806.1-2806.2.
[7] 66 Pa.C.S. § 2806.1.
[8] *Energy Consumption and Peak Demand Reduction Targets* Order, at Docket No. M-2008-2069887, served March 30, 2009.
[9] These reports are available at http://www.puc.pa.gov/electric/Act129/Act129_EDC_Reporting.aspx.
[10] The Commission is currently reviewing West Penn Power's compliance with the 2011 reduction mandate.
[11] These reports are available at http://www.puc.pa.gov/electric/Act129/Act129_EDC_Reporting.aspx.
[12] See 66 Pa. C.S. § 2806.1 (d).

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Section 1 - Introduction

Purpose

Electric Power Outlook for Pennsylvania 2011-16 summarizes and discusses the current and future electric power supply and demand situation for the 11 investor-owned jurisdictional electric distribution companies (EDCs) operating within the Commonwealth and the entities responsible for maintaining the reliability of the bulk electric supply system within the region that encompasses the state.

The Bureau of Technical Utility Services prepared this report, pursuant to Title 66, Pennsylvania Consolidated Statutes, Section 524(b). This report is submitted annually to the General Assembly, the Governor, the Office of Consumer Advocate and each affected public utility, and also is made available to the general public on the Commission's website.[13]

The information contained in this report includes highlights of the past year, as well as EDCs' projections of energy demand and peak load for 2011-2016. Since the eight largest EDCs operating in Pennsylvania represent 99.8 percent of jurisdictional electricity sales, information regarding the three smaller EDCs has been limited in this report. The report also provides a regional perspective with statistical information on the projected resources and aggregate peak loads for the region, which impacts Pennsylvania.

Under Section 2809(e) of the Public Utility Code, the Commission has the authority to forbear from applying any requirements of the Code, including Section 524 and existing regulations promulgated thereto, which it found no longer to be necessary due to competition among electric generation suppliers. Thus, the Commission adopted revised regulations reflecting a reduction in reporting requirements and a reduction in the reporting horizon for energy demand, connected peak load and number of customers from 20 years to five years. Information regarding generation facilities, including capital investments, energy costs, new facilities and expansions of existing facilities, are no longer required. With the divestiture of generating facilities by the EDCs, the Commission relies on reports and analyses of regional entities, including the Reliability*First* Corporation and the PJM Interconnection, to obtain a more complete assessment of the current and future status of the electric power supply within the region.

Informational sources include data submitted by EDCs, which is filed annually pursuant to the Commission's regulations.[14] Sources also include data submitted by regional reliability councils to the North American Electric Reliability Corporation, which is subsequently forwarded to the U.S. Energy Information Administration (EIA).

Any comments or conclusions contained in this report do not necessarily reflect the views or opinions of the Commission or individual Commissioners. Although this report has been issued by the Commission, it is not to be considered or construed as approval or acceptance by the

[13] http://www.puc.pa.gov/general/publications_reports/pdf/EPO_2012.pdf.
[14] 52 Pa. Code §§ 57.141—57.154.

Commission of any of the plans, assumptions or calculations made by the EDCs or regional reliability entities and reflected in the information submitted.

Regional Reliability Organizations

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

North American Electric Reliability Corporation

In 2006, the North American Electric Reliability Council (NERC), formerly operated as a voluntary organization, dependent on reciprocity and mutual self-interest, was certified as the Electric Reliability Organization (ERO) in the United States, pursuant to Section 215 of the Federal Power Act of 2005. Included in this certification was a provision for the ERO to delegate authority for the purpose of proposing and enforcing reliability standards by entering into delegation agreements with regional entities. Effective January 1, 2007, NERC and the North American Electric Reliability Corporation merged, with the latter being the surviving entity (also referred to as NERC). As of June 18, 2007, the Federal Energy Regulatory Commission (FERC) granted NERC the legal authority to enforce reliability standards, and made compliance with those standards mandatory.

NERC oversees the reliability of a bulk power system that provides electricity to 334 million people, has a total demand of 830,000 megawatts (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 currently include eight regional reliability entities. Members of these regional entities 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, and account 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 manner such that system instability, uncontrolled system separation and cascading outages will not occur as a result of the most severe single contingency.

During 2011, NERC's Compliance Enforcement Subcommittee introduced two new concepts in enforcement processing: the Spreadsheet Notice of Penalty and the Find, Fix and Track (FFT) methods of reporting. NERC is focusing resources on risks deemed most significant to reliability and streamlining violation processing. NERC's caseload of active violations expanded from 3,258 in March 2011 to 3,702 in March 2012. This increase is attributable to the large number of violations of critical infrastructure protection standards. The FFT process and the streamlining activities have allowed NERC to improve efficiency in the enforcement process.

As of December 29, 2011, NERC had 1,914 registered entities on the NERC Compliance Registry. Enforcement actions are designed to ensure and improve bulk power system reliability by mitigating risk; ensuring transparent, efficient and fair processing; and communicating lessons learned to the industry.[15]

ReliabilityFirst Corporation

The regional reliability entity covering the state of Pennsylvania is the Reliability*First* Corporation (RFC), based in Akron, Ohio. RFC is one of eight regional entities of NERC and serves the electrical requirements 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, Lower Michigan and portions of Upper Michigan, Wisconsin, Illinois, Kentucky, Tennessee and Virginia. RFC became operational on January 1, 2006. Its membership includes load-serving entities, regional transmission organizations (RTOs), suppliers and transmission companies.

RFC sets forth the criteria which individual utilities and systems must follow in planning adequate levels of generating capability. Among the factors considered in establishing these levels are load characteristics, load forecast error, scheduled maintenance requirements and the forced outage rates of generating units. The RFC reliability standards require that sufficient generating capacity be installed to ensure that the probability of 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 main control areas within the RFC footprint are PJM and the Midwest Independent System Operator (MISO). Two-thirds of the RFC load is in the PJM RTO.

PJM Interconnection

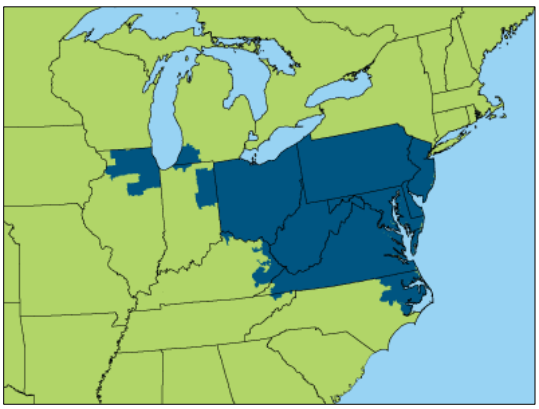

Figure 1 PJM RTO service territory

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 65,000 miles of transmission lines. The PJM RTO coordinates the movement of electricity through all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio,

[15] NERC, *2011 Annual Report*, May 2012, http://www.nerc.com/files/NERC_2011_Annual_Report.pdf.

Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.[16]

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 the future electricity needs of the region. Its planning process ensures that the growth of the electric system takes place efficiently, in an orderly fashion, and that reliability is maintained. 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. In operating the markets, PJM balances the needs of suppliers, wholesale customers and other market participants, and continuously monitors market behavior. In 2011, PJM processed $35.9 billion in settlements among its 750 members, a 32 percent increase over 2010.[17] PJM's transmission volumes for 2011 were 778 terawatt hours (TWhs) as compared with 745 TWhs for 2010. The increase in transmission volumes is primarily attributable to higher customer demand due to warmer weather in the summer of 2011 and the integration of additional territory in June 2011.[18]

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, using telemetered data from about 110,200 points on the grid. This gives PJM a big-picture view of regional conditions and reliability issues, including those in neighboring systems.[19]

Midwest Independent System Operator

MISO is the nation's first RTO approved by FERC. MISO, with control centers in Carmel, Indiana, and St. Paul, Minnesota, is responsible for monitoring the electric transmission system, ensuring equal access to the transmission system and maintaining and improving electric system reliability in 11 Midwest states and the Canadian province of Manitoba.

Utilities with 131,581 MW of generating capacity and 49,670 miles of transmission lines have committed to participate in MISO. In 2011, gross market charges totaled $23.6 billion.[20]

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[16] PJM 2011 Annual Report, http://pjm.com/about-pjm/who-we-are/~/media/about-pjm/newsroom/annual-reports/2011-annual-report.ashx.

[17] PJM 2011Annual Report, http://pjm.com/about-pjm/who-we-are/~/media/about-pjm/newsroom/annual-reports/2011-annual-report.ashx.

[18] PJM 201l Financial Report, http://pjm.com/about-pjm/who-we-are/~/media/about-pjm/newsroom/annual-reports/2011-annual-report.ashx.

[19] PJM *"What Happens in the Control Room?"* http://www.pjm.com/~/media/about-pjm/newsroom/fact-sheets/what-happens-in-the-control-room-fact-sheet.ash.

[20] www.midwestiso.org, Corporate Information.

As indicated in *Section 3 – Regional Reliability*, both PJM and MISO analyses are used to determine the reliability of the RFC region. Although no Pennsylvania utility remains within MISO, this report continues to provide information concerning both RTOs with regard to the RFC assessment of regional reliability.

Transmission Line Expansion

Effective October 5, 2007, the U.S. Department of Energy (DOE) designated all or major portions of West Virginia, Pennsylvania, Maryland, Delaware, the District of Columbia, New Jersey, New York and Virginia, as well as minor portions of Ohio, as the Mid-Atlantic Area National Interest Electric Transmission Corridor (NIETC) under Section 1221 of the Energy Policy Act of 2005. The designation was to remain in effect until October 7, 2019. The corridor includes 52 out of Pennsylvania's 67 counties. Section 1221 gives FERC authority to approve the construction or modification of electric transmission facilities within a designated corridor if the state does not approve an application within one year.[21]

DOE issued a Federal Register Notice initiating preparations for development of the 2012 National Electric Transmission Congestion Study.[22] DOE hosted four regional pre-study workshops in early December 2011 to receive input and suggestions concerning the study. The Commission filed comments.[23]

DOE is preparing the 2012 Congestion Study and hosted three webinars in August 2012 to receive input and suggestions concerning the preliminary findings of the study. After the webinars, DOE plans to release a draft of the study for public comment. DOE plans to publish a final version of the study after reviewing and considering the comments to the draft study.

Background

Section 216(a) of the Federal Power Act, as amended by the Energy Policy Act of 2005, directs the DOE to conduct a study every three years on electric transmission congestion and constraints within the Eastern and Western Interconnections. The American Reinvestment and Recovery Act of 2009 (Recovery Act) further directed the Secretary to include in the 2009 Congestion Study an analysis of significant potential sources of renewable energy that are constrained by lack of adequate transmission capacity. Based on this study, and comments concerning it from states and other stakeholders, the Secretary of Energy may designate any geographic area experiencing electric transmission capacity constraints or congestion as a NIETC.

[21] On Feb. 18, 2009, the U.S. Court of Appeals for the Fourth Circuit issued a decision reversing, vacating and remanding key elements of FERC's final rule implementing its backstop siting authority under Section 216 of the Federal Power Act. In essence, the Court rejected FERC's interpretation that it may exercise its backstop authority when a state commission has affirmatively denied a permit application within one year. *Piedmont Environmental Council v. FERC*, No. 07-1651 (4th Cir. Feb. 18, 2009).

[22] http://energy.gov/oe/services/electricity-policy-coordination-and-implementation/transmission-planning/2012-national

[23] http://energy.gov/sites/prod/files/Pennsylvania%20Public%20Utility%20Commission%20-%20Comments%20to%20the%202012%20Congestion%20Study.pdf

Congestion occurs on the nation's electric transmission grids when actual or scheduled flows of electricity over a line or piece of equipment are constrained below desired levels. These restrictions may be imposed either by the physical or electrical capacity of the line or by operational directives that are created and enforced to protect the security and reliability of the grid. The term "transmission constraint" can refer to a piece of equipment that restricts power flows, to an operational limit imposed to protect reliability, or to a lack of transmission capacity to deliver electricity from existing or potential generation sources without violating reliability requirements.

Because wholesale power purchasers typically seek to buy the least expensive electricity available, if transmission constraints frequently limit the amount of electricity that can be delivered into an area where demand for it is high, the power purchasers must buy more often from higher-cost suppliers, and the result is higher electricity costs for consumers. In more severe congestion conditions, transmission constraints can impair grid reliability by reducing the diversity of available electricity supplies and rendering the area more vulnerable to unanticipated outages of major generators or transmission lines.

Low-level transmission congestion is very common, and it would not be economic or practical to eliminate all congestion. Broadly speaking, there are three ways to mitigate congestion where it is significant enough to merit remediation. These are: 1), reduce electricity demand in the congested area through energy efficiency and demand management programs; 2) build more generation capacity close to the demand area; and 3) build additional transmission capacity so as to enable more electricity to be delivered from distant generators. Electric system planners frequently find that a combination of the three approaches is most desirable.

DOE's Congestion Studies may contribute information needed to support the future designation of one or more NIETCs. On the basis of a congestion study, and after reviewing and considering public comments, the Secretary of Energy is authorized but not required to designate related geographic areas as NIETCs. Designation of a NIETC has two effects: 1) it emphasizes that the Department considers the particular congestion problem to which the corridor pertains to be sufficiently acute to merit federal concern; and 2) it enables the FERC to exercise "backstop" authority (under conditions specified in the Federal Power Act) to approve the siting of transmission facilities within the area of the corridor. In particular, the Commission may exercise its jurisdiction if a state agency has "withheld approval" for more than one year of an application to site a transmission facility within the corridor.

The Commission[24] has participated in opportunities for comment and at technical conferences sponsored by DOE in preparation of the two prior studies. The Commission most recently attended a technical conference in Philadelphia on December 6, 2011 sponsored by DOE in relation to the preparation of the 2012 Congestion Study.

The 2006 Study identified the Mid-Atlantic region from northern New York to southern Virginia as part of the Mid-Atlantic NIETC. With regard to Pennsylvania, the 2006 Study noted that there were high congestion costs caused by constraints that limit east-bound flows of electricity across the Allegheny Mountains. The Study identified specific constraints at several locations including lines from western Pennsylvania to Maryland and Virginia; on the interfaces between western, central and eastern PJM and at various transformer sites in Pennsylvania. The most significant congestion occurred in the following metropolitan regions: New York City, northern New Jersey, the Delmarva Peninsula and the Baltimore-Washington, DC area. DOE noted that it would not be economic to eliminate all transmission congestion within the Mid-Atlantic NIETC but that its intent would be to focus on congestion that creates significant reliability risks or increases economic costs to consumers.[25]

In its 2009 Study, DOE noted that some improvements within the Mid-Atlantic region have occurred, primarily regional progress in reducing loads and improving reliability through aggressive demand response and energy efficiency programs and PJM-approved backbone transmission projects such as the Trans-Allegheny Interstate Line (TrAIL) and the Susquehanna-Roseland Project, both of which have received state regulatory approval.

DOE also concluded that load centers continue to experience the impacts of significant levels of transmission congestion and that transmission system upgrades and expansion projects sufficient to impact current transmission congestion levels are several years into the future. Also, new generation is slow to come on-line and is often offset by retirement of older generation capacity. Based on the foregoing, DOE concluded that no changes should be made in the Mid-Atlantic NIETC designation at this time.

Status of PJM Backbone Transmission Lines

Upgrades approved by the PJM Board along with merchant transmission projects expected to be in service by June 1, 2016, were modeled in PJM's 2016 power flow case. Interchange values were consistent with approved long-term firm transmission service requests in PJM's transmission modeling system. Power flow cases also included upgrades to interconnect new generation for which System Impact Studies have been completed.

TrAIL

The 500 kilovolt (kV) TrAIL was placed in service on May 23, 2011, improving reliability into such congested areas as Washington, D.C., Baltimore and northern Virginia. The TrAIL line was built in three segments, connecting substations in southwestern Pennsylvania, northern West

[24] http://energy.gov/sites/prod/files/Pennsylvania%20Public%20Utility%20Commission%20-%20Comments%20to%20the%202012%20Congestion%20Study.pdf

[25] DOE 2006 Congestion Study, pp. 41-42. www.doe.gov.

Virginia and northern Virginia. Built by and jointly owned by Allegheny Energy (now FirstEnergy) and Dominion, the 220-mile TrAIL line was the first high-voltage backbone transmission line approved by the PJM Board through PJM's planning process to enter commercial operation.

MAPP

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 line in 2007 to resolve numerous overloads on critical 230 kV circuits across eastern Pennsylvania and northern New Jersey beginning in 2012. PJM's 2008 Regional Transmission Expansion Plan (RTEP) Retool validated the required June 1, 2012 in-service date in light of 23 single contingency reliability criteria thermal violations and NERC Category C double-circuit tower line contingency thermal violations. PJM's 2009 RTEP Retool analysis for 2012 also included an assessment of the continued need for the Susquehanna - Roseland 500 kV line. Based on the identification of 13 single contingency thermal overloads and 10 double circuit tower line outage overloads, PJM re-validated the line's June 1, 2012 in-service date.

PJM conducted additional analysis in 2011 to assess the impact of delays to the construction. Originally required to be in service by June 1 2012, regulatory delays have pushed the expected in service 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) 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

Analysis performed during the 2010 RTEP cycle required an in service date of June 1, 2015 for the PATH Line. The PJM Board issued a statement on February 28, 2011, suspending the PATH line. PATH was to include a 765-kilovolt, 275-mile transmission project from Putnam County, W.Va., to Frederick County, Md. 2011 RTEP analysis suggests that the need for the PATH line has moved several years beyond 2015. The PJM Board has decided to cancel the project.

Carson – Suffolk

The Carson - Suffolk 500 kV transmission line was constructed by Dominion Virginia Power and was energized on May 29, 2011. The 60-mile Carson-Suffolk project serves growing

demand in the South Hampton Roads region of Virginia and the Outer Banks of North Carolina.[26]

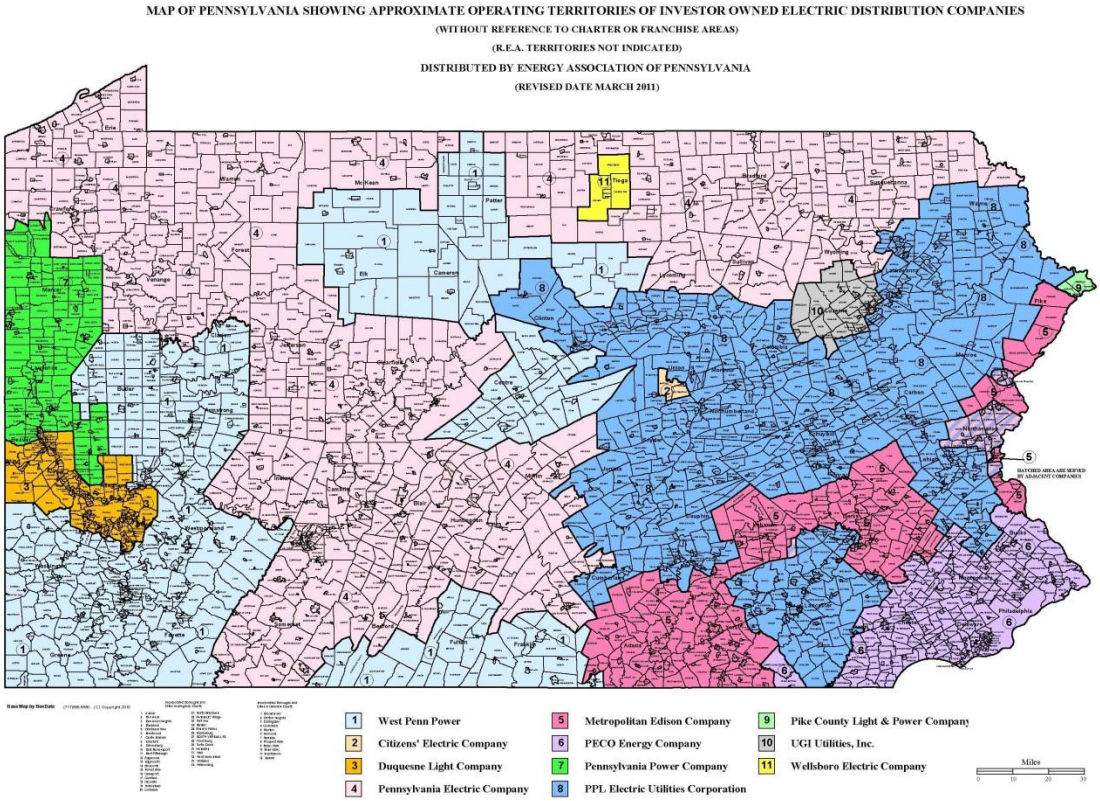
[26] PJM 2011 Annual Report, http://pjm.com/about-pjm/who-we-are/~/media/about-pjm/newsroom/annual-reports/2011-annual-report.ashx, retrieved August 22, 2012.

Electric Distribution Companies

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

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

Figure 2 Map of EDC service territories



It is the responsibility of each load-serving entity to make provisions for adequate generating resources to serve its customers. The local EDC or Commission-approved alternative default service provider must acquire electric energy, pursuant to a Commission-approved competitive procurement process, for customers who contract for power which is not delivered, or for customers who do not choose an alternate supplier. The acquired electric power must include a prudent mix of spot market purchases, short-term contracts and long-term purchase contracts, designed to ensure adequate and reliable service at the least cost to customers over time. EDCs must also assume the role of provider of last resort for customers choosing to return to the EDC.[27]

Alternative Energy Portfolio Standards

Act 213[28] 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.[29]

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)[30] and coal mine methane. Tier II resources include waste coal, demand side management, distributed generation, large-scale hydropower, by-products of wood pulping and wood manufacturing, municipal solid waste, and integrated combined coal gasification technology.

Act 213 requires that, within two years of the effective date, the Tier I requirement is 1.5 percent of all retail sales. The percentage of electric energy derived from Tier 1 resources (including solar) is to increase by at least 0.5 percent each year so that, by the 15th year, at least 8 percent of the electric energy in each service territory will come from these resources. Energy derived from Tier II resources is to increase to 10 percent (a total of 18 percent from both Tier I and Tier II) by program year 15. Act 213 sets forth a 15-year schedule for complying with its mandates, as shown in Table 1. Since January 1, 2011, all EDCs and EGSs have been required to comply.

[27] 66 Pa.C.S. § 2807(e)(3).
[28] Alternative Energy Portfolio Standards Act, effective Feb. 28, 2005; 73 P.S. §§ 1648.1–1648.8.
[29] 52 Pa. Code §§ 75.61—75.70.
[30] 66 Pa.C.S. § 2814(b).

Table 1 Alternative Energy Portfolio Standards

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

AECs are earned when a qualified facility generates 1,000 kilowatt-hours (kWh) of electricity through either estimated or actual metered production. An AEC is a tradable certificate that represents all the renewable energy benefits of electricity generated from a facility. An AEC can be sold or traded separately from the power. AECs are generally purchased by EDCs and EGSs in order to meet the percentages required under AEPS for any given energy year. The 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 voluntary or mandated by a renewable energy portfolio standard in another state.

On June 3, 2010, the Commission approved Clean Power Markets (CPM) to be the AEC Program Administrator through 2013. CPM, which had been the administrator since 2007, verifies that EGSs and EDCs are complying with the minimum requirements of Act 213. The Commission also has chosen PJM's Generation Attribute Tracking System (GATS) to assist EDCs in their compliance with the requirements of Act 213, including registration of projects.

In 2006, the Commission adopted regulations promoting onsite generation by customer-generators using renewable resources and eliminating barriers that may have previously existed regarding net metering. 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.[31] On July 19, 2007, Act 35 was signed, which amended Act 213 and provisions of the law including the reconciliation mechanism for surplus energy supplied through net metering. In response to Act 35 and following a public comment period, the Commission issued a final rulemaking on Docket No. L-00050174 at Public Meeting on May 22, 2008 and became effective upon publication in the *Pennsylvania Bulletin* November 20, 2008.[32]

[31] Docket No. L-00050174; 52 Pa. Code §§ 75.11-75.15.
[32] Docket No. L-00050174; 52 Pa. Code §§ 75.1-75.14

The Commission also adopted regulations that govern interconnection for customer-generators. The regulations promote onsite generation by customer-generators using renewable resources, consistent with the goal of Act 213. 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.[33]

In 2008, the Commission adopted a Final Rulemaking Order pertaining to the AEPS obligations of the EDCs and EGSs.[34]

As of May 31, 2012, Pennsylvania had certified 8,240 alternate energy facilities, of which 6,235 are located within the state. The total cost for compliance with AEPS for all load-serving entities in Pennsylvania is estimated to be $29.14 million in 2013.[35]

For additional information, visit the Commission's AEPS website at http://paaeps.com/credit/.

[33] Docket No. L-00050175; 52 Pa. Code §§ 75.21-75.40.
[34] Docket No. L-00060180; 52 Pa. Code §§ 75.61-75.70.
[35] http://www.puc.pa.gov/electric/pdf/AEPS/AEPS_Ann_Rpt_2010.pdf.

Energy Efficiency and Conservation

Act 129

On October 15, 2008, House Bill 2200 was signed into law as Act 129[36] with an effective date of November 14, 2008. Among other things, Act 129 required EE&C programs for the Commonwealth's largest electric distribution companies EDCs. These programs were to provide a reduction in energy consumption and peak demand within the service territory of each EDC with at least 100,000 customers.[37] Specifically, sales are to be reduced 1 percent by May 31, 2011, and 3 percent by May 31, 2013. Additionally, peak demand is to be reduced 4.5 percent by May 31, 2013.

The EDCs' Program Year 2 Final Annual Reports,[38] as filed on November 15, 2011, indicate that all but one (West Penn Power) of the seven companies subject to the Act 129 EE&C requirements appear to have met the May 31, 2011 consumption reduction target of 1 percent. Additionally, the EDCs' Program Year 3 Preliminary Annual Reports,[39] as filed on July 16, 2012, indicate that all seven of the companies are projected to meet, and in some instances exceed, the May 31, 2013 consumption reduction target of 3 percent.

The peak demand reduction target of 4.5 percent by May 31, 2013, is to be met through the curtailing of resources during the top 100 hours of the summer beginning June 1, 2012, and ending September 30, 2012.[40] As such, the Commission does not currently have the information available regarding the EDCs' compliance with this mandate.

Act 129 also required that the Commission evaluate the costs and benefits of the EE&C programs by November 31, 2013. If the benefits of the EE&C programs are found to outweigh the costs, the Act required the Commission to set new reduction targets.[41] On August 2, 2012, the Commission adopted an *Implementation Order*[42] that tentatively defined the EE&C program requirements for Phase II, which will operate from June 1, 2013, to May 31, 2016, finding that the benefits of the Phase II Act 129 program will exceed the costs and adopting additional incremental reductions in consumption. Specifically, based on the Act 129 Statewide Evaluator's[43] Electric Energy Efficiency Potential for Pennsylvania Final Report,[44] the Commission determined that it was most appropriate to tentatively set individual consumption reduction targets for each of the seven EDCs subject to the Act 129 EE&C requirements. These targets are outlined in Table 2 below.

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[36] Energy Efficiency and Conservation Program, signed by Gov. Rendell on Oct. 15, 2008.
[37] 66 Pa.C.S. § 2806.1.
[38] These reports are available at http://www.puc.pa.gov/electric/Act129/Act129_EDC_Reporting.aspx.
[39] *Id.*
[40] 66 Pa. C.S. § 2806.1 (d).
[41] 66 Pa.C.S. §§ 2806.1(c) and (d).
[42] *Energy Efficiency and Conservation Program Implementation Order*, at Docket No. M-2012-2289411, (*Implementation Order*), entered August 3, 2012.
[43] At its Public Meeting of June 25, 2009, the Commission selected GDS Associates, Inc. Engineers and Consultants as the Statewide Evaluator for Phase I of Act 129.
[44] The Electric Energy Efficiency Potential for Pennsylvania Final Report can be found on the Commission's website at http://www.puc.pa.gov/electric/Act_129_info.aspx.

Table 2 Consumption and Peak Demand Reduction Targets

EDC	3-Year % of 2009/10 Forecast Reductions	3-Year MWh Value of 2009/10 Forecast Reductions
Duquesne	2.0	276,722
Met-Ed	2.3	337,753
Penelec	2.2	318,813
Penn Power	2.0	95,502
PPL	2.1	821,072
PECO	2.9	1,125,851
West Penn	1.6	337,533

While the Commission prescribed consumption reduction targets for Phase II, it determined that it did not yet have enough information regarding the cost-effectiveness of Act 129 demand response programs to set additional peak demand reduction targets. The Commission will await the results of the Statewide Evaluator's Demand Response Study[45] before prescribing further peak demand reduction targets. However, the Commission did provide the opportunity for the EDCs to propose, either in their Act 129 EE&C Plans or outside of Act 129, residential demand response programs for Phase II.

[45] *See Energy Efficiency and Conservation*, Secretarial Letter, at Docket No. M-2008-2069887, served March 4, 2011.

Section 2 – Historic and Forecast Data

Statewide Review

Pennsylvania's aggregate retail electricity sales (residential, commercial and industrial) in 2011 totaled 142,746 gigawatthours (GWh),[46] a 0.02 decrease from that of 2010 while the number of customers increased by 1.8 percent. Residential sales represented 35.1 percent of the total sales, followed by industrial (32.5 percent) and commercial (28.4 percent). Aggregate non-coincident peak load[47] increased to 31,192 MW in 2011, an increase of 5.7 percent over 2010.

The current average aggregate five-year projection of growth in energy demand is 3.5 percent per year as shown in Table 3 below. This includes a residential growth rate of 1.97 percent, a commercial rate of 4.5 percent and an industrial rate of 4.3 percent for the entire five-year period. (These growth rates reflect revised data based on improved economic outlook – earlier estimates had proven too low.) Each EDC has individual annual growth rates that are comparable to the PJM has forecast average 1.4 percent annual growth rate for the Mid-Atlantic region in its annual load forecast report, except where the EDC underestimated 2011 usage and had to revise predictions upwards to correct this issue. Each EDC bases their forecasts on financial forecasts of their choosing. Theoretically, their forecasts would also include knowledge of their particular customers in their geographic area, for instance a large plant closure might affect their industrial usage forecasts. So an EDC's forecast may be more specific for their territory than PJM may have for a larger service territory.

Table 3 Aggregate retail sales

	Energy Sales (GWh)					
	Residential	Commercial	Industrial	Other	Total	Peak Load (MW)
2012	50566	42080	48383	1152	142,181	29809
2013	50518	42463	49015	1153	143,149	29978
2014	50751	42965	49579	1154	144,449	30372
2015	51123	43515	50124	1154	145,916	30764
2016	51564	43976	50470	1156	147,166	31070
Change	1.97%	4.51%	4.31%	0.35%	3.51%	4.23%

Tables 4 and 5 provide statistics for 2011 and 2010. It is noted that several EDCs have redefined their commercial and industrial (C&I) customers into small C&I and large C&I. Thus, comparisons with historical data are not valid for these sectors.

[46] A GWh is equivalent to 1,000 MWh or 1,000,000 kWh.
[47] Non-coincident peak load is the sum of EDCs' annual peak loads regardless of their date or time of occurrence.

Table 4 PA EDCs' energy demand, peak load and customers served (2011)

Pennsylvania EDCs' Energy Demand, Peak Load and Customers Served (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	1402058	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	34986	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**	**151,395**	**157,053,834**	**31,192**
% of Total		35.10%	28.42%	32.50%	0.90%	3.08%	100.00%				
2011 VS 2010	1.82%	-0.68%	7.63%	-5.64%	19.10%	187.11%	2.03%	2.22%	-11.27%	1.37%	5.68%

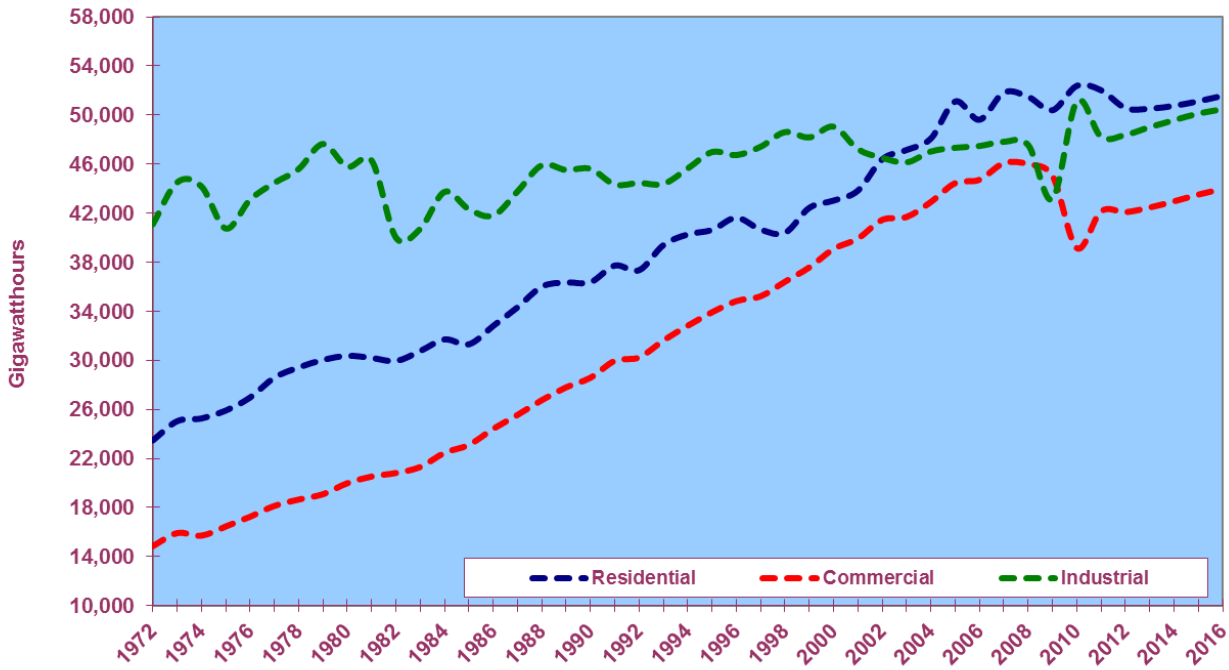
Table 5 PA EDCs' energy demand, peak load and customers served (2010)

Pennsylvania EDCs' Energy Demand, Peak Load and Customers Served (2010)

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	578,094	4,326,761	6,712,326	2,987,278	63,598	19,998	14,109,961	701,201	29,199	14,840,361	2,889
Met-Ed	552,594	5,666,240	3,006,378	5,288,187	35,436	0	13,996,241	793,215	12,563	14,802,019	2,715
Penelec	590,712	4,655,812	3,670,566	5,748,044	41,969	0	14,116,391	955,381	4,141	15,075,913	2,659
Penn Power	160,116	1,696,442	1,311,186	1,488,033	6,434	0	4,502,095	191,470	1,947	4,695,512	903
PPL	1,401,274	14,205,788	10,667,407	12,045,496	0	0	36,918,691	2,662,968	66,975	39,648,634	7,365
PECO	1,566,873	13,895,996	8,472,056	15,823,964	924,797	808,446	39,925,259	2,225,117	53,184	42,203,560	8,864
West Penn	716,115	7,401,268	4,983,018	7,617,476	48,923	768,307	20,818,992	1,447,475	--	22,266,467	3,838
UGI	62,250	533,472	332,493	108,999	5,683	98	980,745	53,600	2,092	1,036,437	198
Citizens'	6,814	80,611	28,303	49,007	653	0	158,574	8,139	202	166,915	46
Pike County	4,661	29,110	44,743	0	419	0	74,272	4,112	16	78,400	18
Wellsboro	6,151	42,539	29,543	42,598	227	9	114,916	7,985	302	123,203	20
Total	**5,645,654**	**52,534,039**	**39,258,019**	**51,199,082**	**1,128,139**	**1,596,858**	**145,716,137**	**9,050,663**	**170,621**	**154,937,421**	**29,515**
% of Total		36.05%	26.94%	35.14%	0.77%	1.10%	100.00%				

See Figure 3, which depicts Pennsylvania residential, commercial and industrial retail energy demand since 1972, in GWh.

Figure 3 Pennsylvania retail energy demand (GWh)



Between 1970 and 2010, residential demand and cost increased at annual rates of 1.4 percent and 4.1 percent, respectively. Figure 4 compares the changes in residential cost and usage from 1990 to 2010.

Over the past 15 years, the average aggregate non-coincident peak load for the major EDCs increased 1.0 percent per year. The combined forecast of the EDCs' peak load shows the load increasing from 29,809 MW in 2011 to 31,070 MW in 2016 at an average annual growth rate of 1.0 percent. See Figure 5. Actual peak loads are weather adjusted to reflect normal weather conditions prior to applying forecasting methodologies. Thus, the projected growth rates reflect the year-to-year fluctuations in energy sales and peak load. Projections of energy demand and peak load reflect EDC compliance with the requirements of Act 129 relating to energy efficiency and demand response options available for each customer class.

Figure 4 Average residential cost and use (cents per kWh or MWh per year)

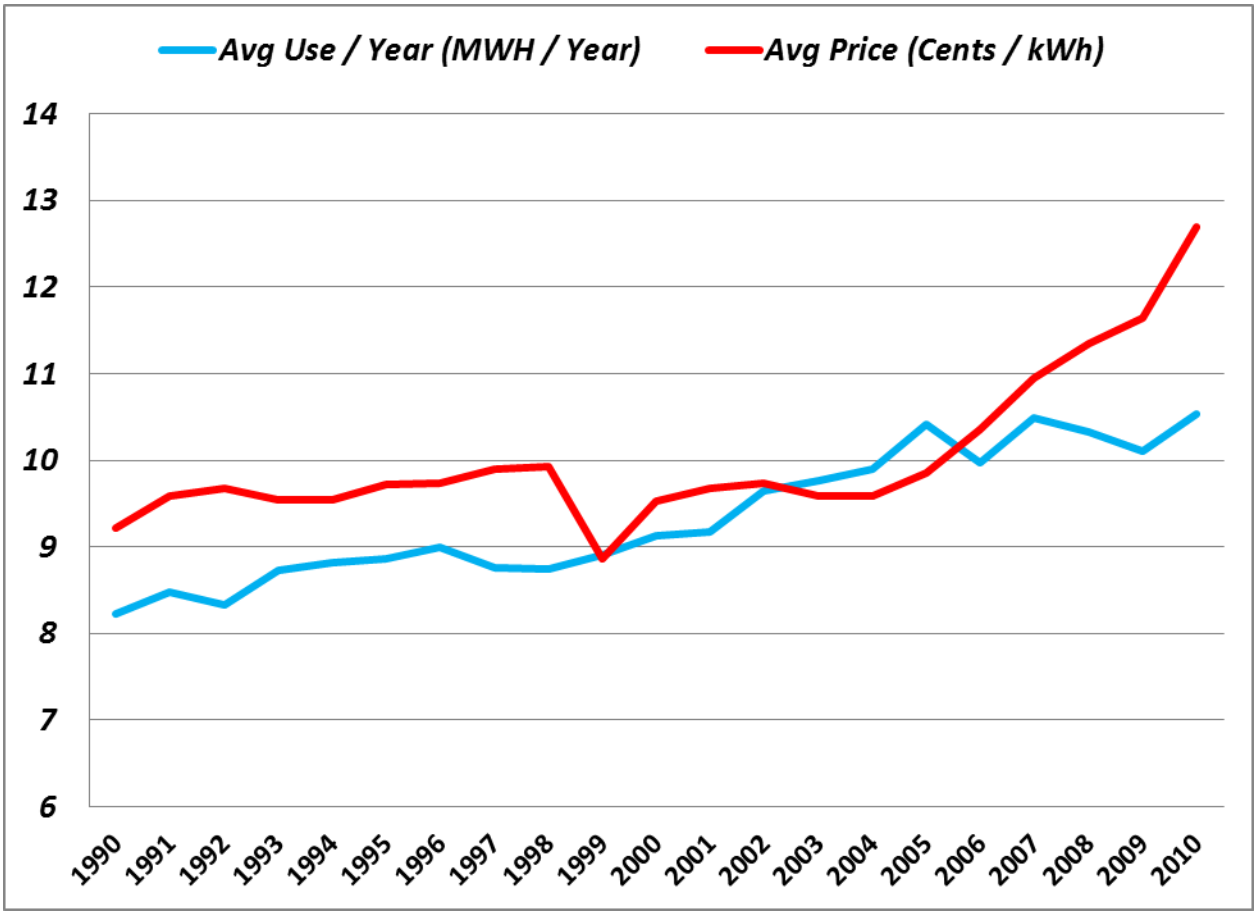
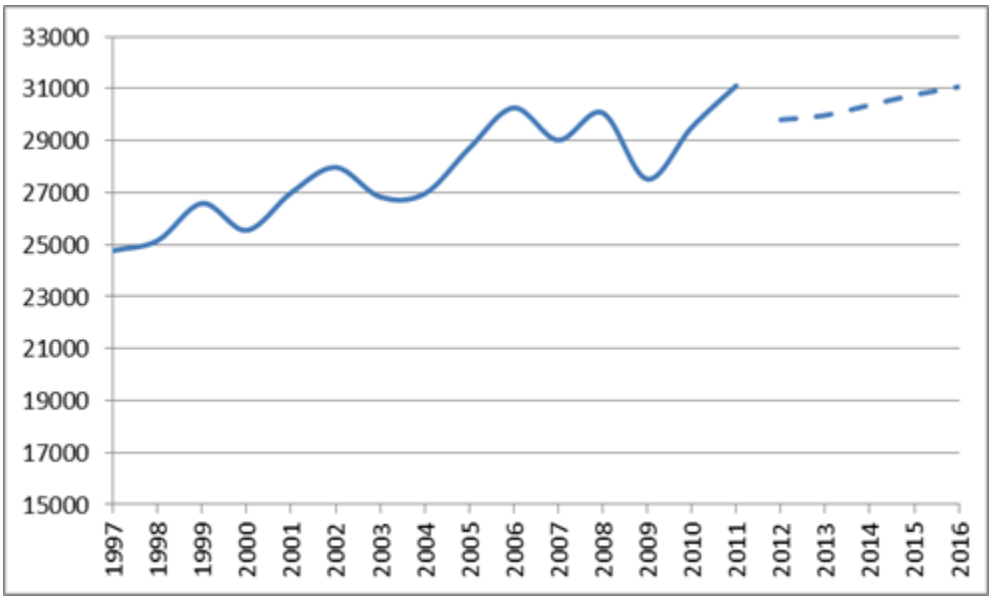


Figure 5 Pennsylvania aggregate non-coincidental peak load (MW)

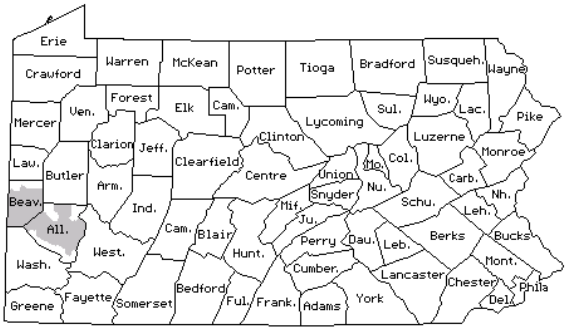


Summary of EDC Data- eight largest EDCs

The following sections provide, for each jurisdictional EDC, historic and projected energy sales and peak load, EGS sales statistics, purchases from cogeneration and small power production projects, planned transmission line additions, and conservation activities.

Duquesne Light Company

Duquesne Light Company (Duquesne) is the principal subsidiary of DQE Holdings[48] and provides electric service to 587,230 electric utility customers in the City of Pittsburgh and portions of Allegheny and Beaver counties in Southwestern Pennsylvania. In 2011, Duquesne had energy sales totaling 14,045 GWh – down 0.43 percent from 2010. Commercial sales continued to dominate Duquesne's market with 47.06 percent of the total sales, followed by residential (30.12 percent) and industrial (22.21 percent).



The current 5-year projection of average increase in total energy consumption is 1.07 percent per year. This includes a residential growth rate of 1.49 percent, a commercial growth rate of 1.0 percent and an increase in industrial sales of 0.65 percent per year. See Figure 6 below.

Duquesne's summer peak load, occurring on July 21, 2011, was 3,012 MW, representing an increase of 4.25 percent from last year's peak of 2,889 MW. The 2011-12 winter peak load was 2,206 MW or 3.3 percent lower than the previous year. The actual average annual peak load growth rate over the past 15 years was 0.98 percent. Duquesne's forecast shows the peak load increasing from 3,012 MW in the summer of 2011 to 3,132 MW in 2016, or an average annual growth rate of 0.8 percent. The current forecast for 2012 is 0.3 percent less than the forecasted 2011 peak load. See Figure 7 below.

Tables A01-A04 in Appendix A provide Duquesne's forecasts of peak load and residential, commercial and industrial energy demand, filed with the Commission in years 2002 through 2012.

[48] On April 24, 2007, the Commission approved the acquisition of Duquesne Light Holdings Inc., by merger, with the Macquarie Consortium. Headquarters remain in Pittsburgh. See Docket No. A-110150F0035.

Figure 6 Duquesne Light Company energy demand (GWh)

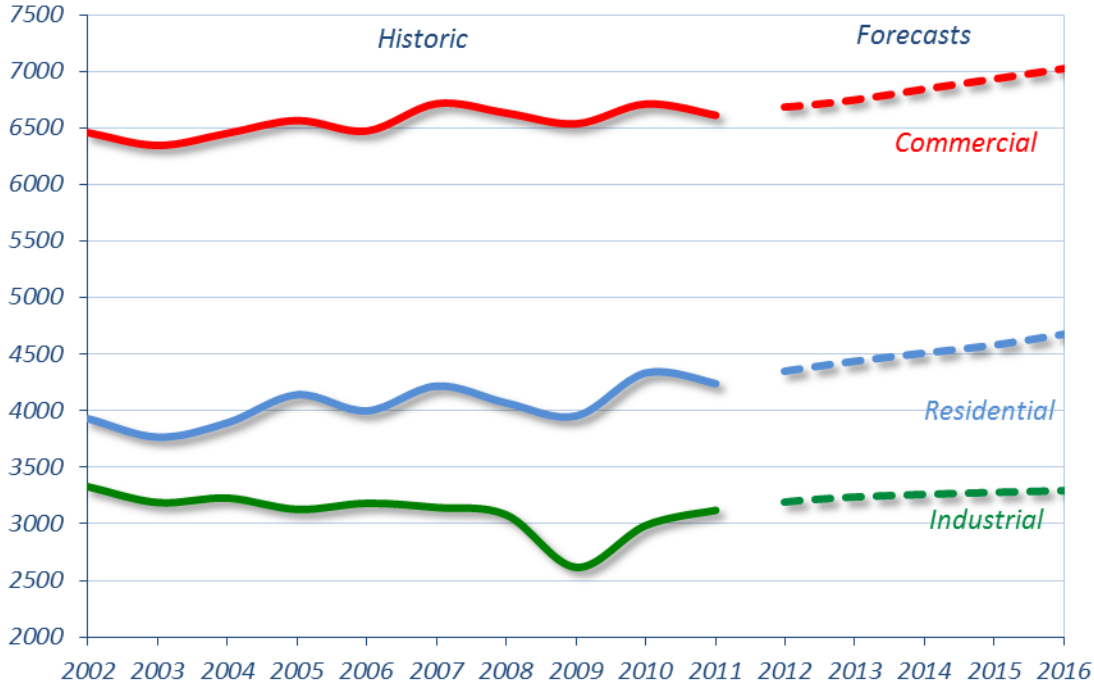
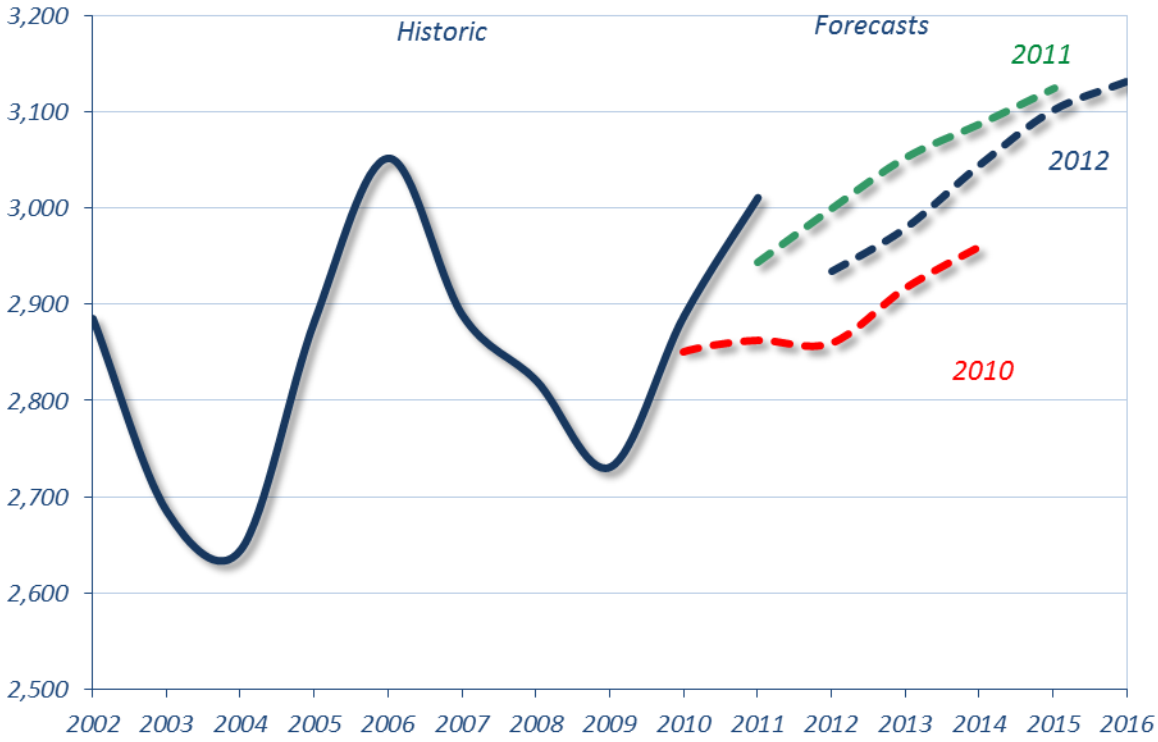


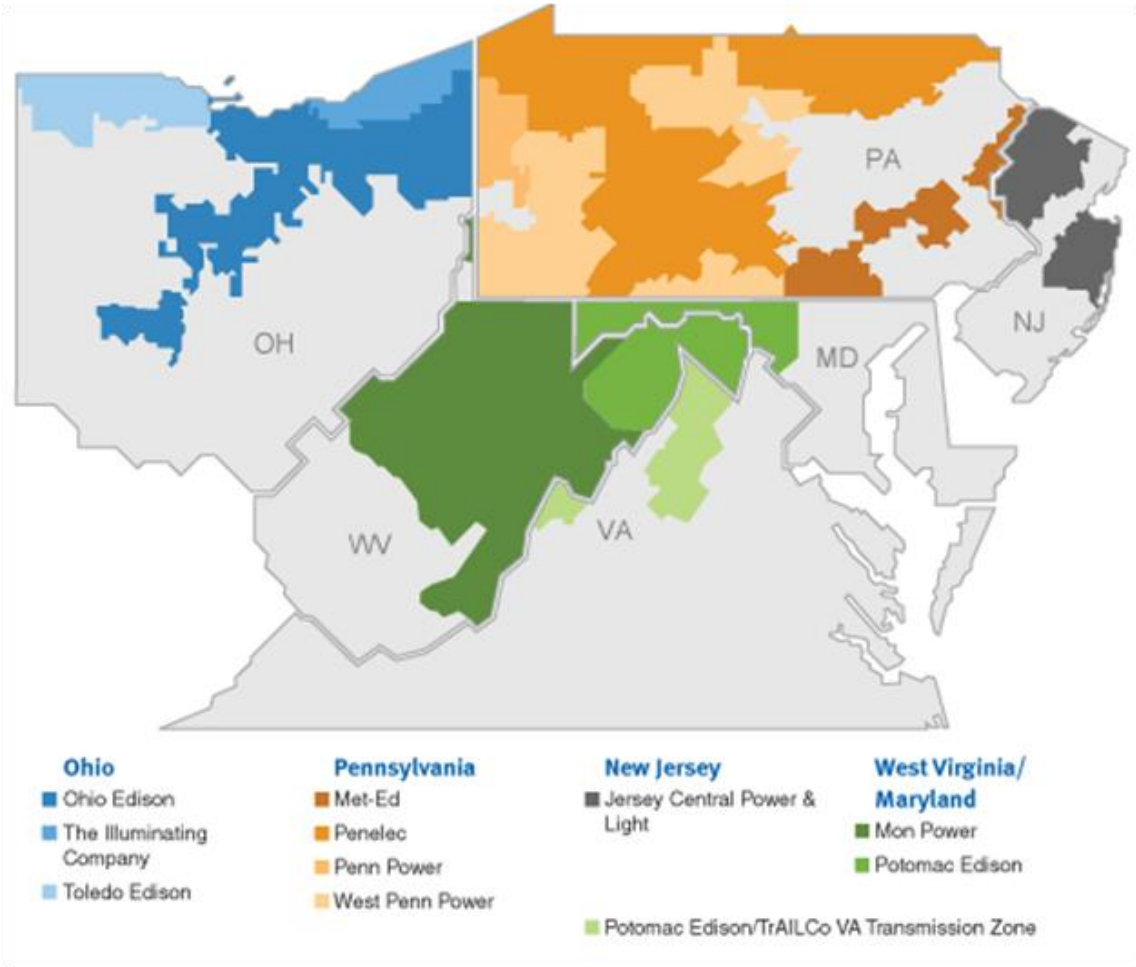
Figure 7 Duquesne Light Company peak load (MW)



FirstEnergy Corporation

FirstEnergy Corporation (FirstEnergy) is a holding company with 10 electric utility operating companies, comprising the nation's largest investor-owned electric system, serving 6 million customers within 67,000 square miles of Ohio, Maryland, Pennsylvania, New Jersey, Virginia and West Virginia, with $16 billion in annual revenues. Its generation subsidiaries control approximately 24,000 MW of capacity (62 percent coal and 17 percent nuclear). The four FirstEnergy companies in Pennsylvania include Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company. See Figure 8 below.

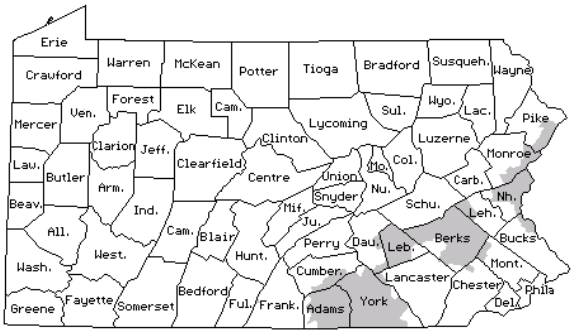
Figure 8 FirstEnergy service territory



The merger between FirstEnergy and Allegheny Power was finalized when the Commission approved the merger on Feb. 24, 2011.[49]

[49] Docket No. A-2010-2176520.

Metropolitan Edison Company



Metropolitan Edison Company (Met-Ed) provides service to 552,935 electric utility customers in all or portions of 14 counties in Eastern and Southcentral Pennsylvania. In 2011, Met-Ed had total energy sales of 13,970 GWh—down 0.18 percent from 2010. Residential sales account for 38.48 percent of Met-Ed's total sales, followed closely by industrial (37.21 percent) and commercial (20.3 percent). These figures reflect a reclassification of commercial and industrial (C&I) customers based on rate schedule. The commercial class now includes small C&I customers, and the industrial class includes large C&I customers.

The current 5-year projection of growth in total energy demand is 0.1 percent. This includes a slight *decline* in residential sales from the 2011 level at an average rate of 1.35 percent, an increase of commercial demand with a growth rate of 0.3 percent and an industrial growth rate of 1.6 percent, based on the recent reclassifications. See Figure 9 below.

Met-Ed's summer peak load, occurring on July 22, 2011, was 3,125 MW, representing an increase of 15 percent from the 2011's system peak of 2,715 MW. The 2011-12 winter peak load was 2,538 MW or 5.18 percent higher than the previous year's winter peak of 2,413 MW. The actual average annual peak load growth rate over the past 15 years was 2.7 percent. Met-Ed's forecast shows its peak decreasing from 3,125 MW in 2011 to 3,028 MW in 2016, or an annual average reduction rate of 0.25 percent. The current peak load forecast for 2012 is 2,911 MW, 4.9 percent greater than the forecast made in 2011. See Figure 10 below.

Tables A05-A08 in Appendix A provide Met-Ed's forecasts of peak load and residential, commercial and industrial energy demand, filed with the Commission in years 2002 through 2012.

Figure 9 Metropolitan Edison Company energy demand (GWh)

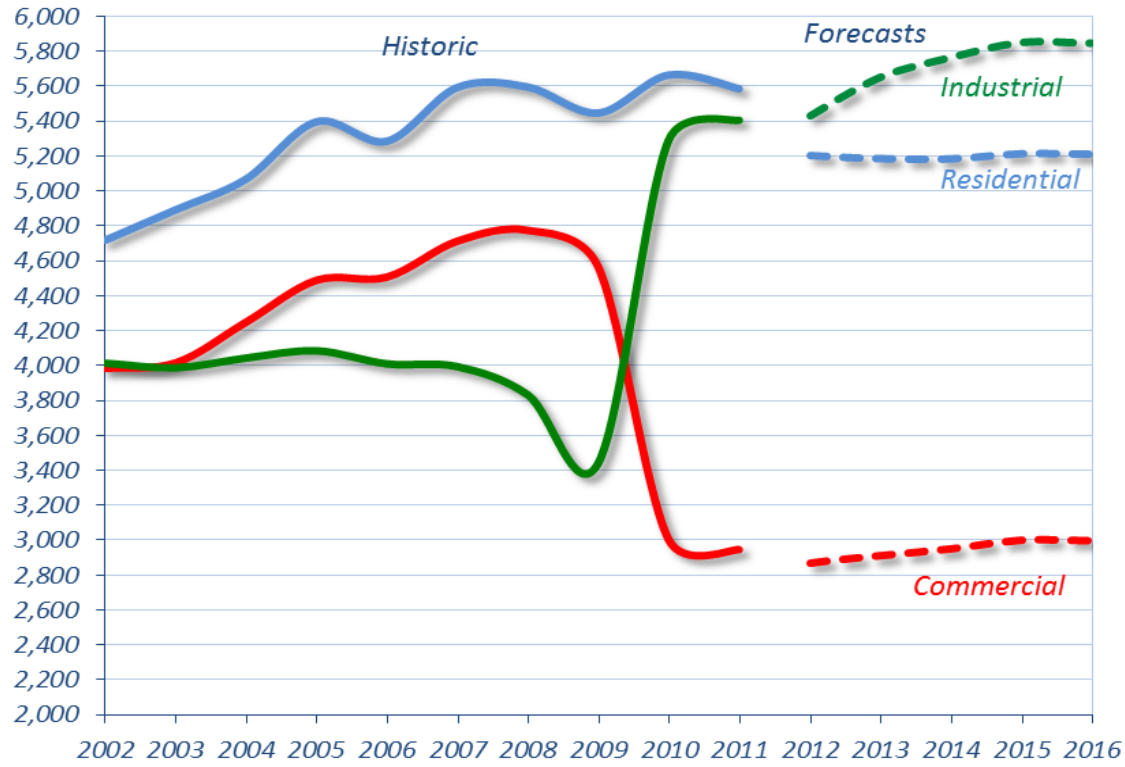
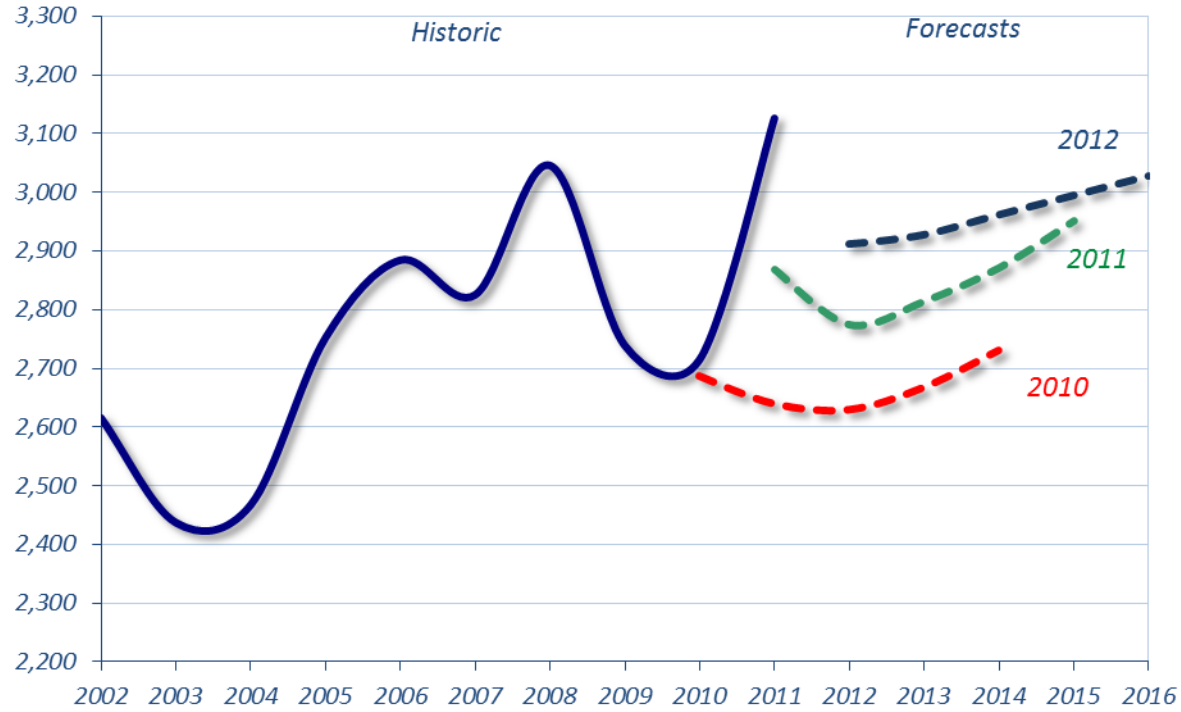
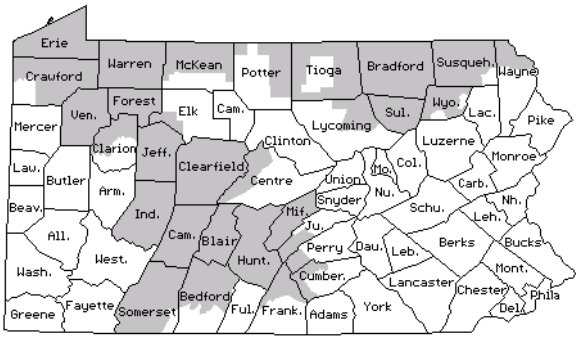


Figure 10 Metropolitan Edison Company peak load (MW)



Pennsylvania Electric Company



Pennsylvania Electric Company (Penelec) provides service to 589,536 electric utility customers in all or portions of 29 counties in Western and Northern Pennsylvania. In 2011, Penelec had energy sales totaling 14,134 GWh—a slight increase of 0.13 percent from 2010. Industrial sales led Penelec's market with 36.0 percent of the total sales, followed by residential (27.3 percent) and commercial (21.2 percent). These figures reflect a reclassification of commercial and industrial (C&I) customers based on rate schedule. The commercial class now includes small C&I customers, and the industrial class includes large C&I customers. Penelec also had sales for resale accounting for 15.1 percent of consumption.

The current 5-year projection predicts a decrease in total energy demand of 2.1 percent during the period. This includes an industrial growth rate of 2.1 percent, but a decrease in residential demand of 8.7 percent and a decrease in commercial demand of 0.9 percent. See Figure 11 below.

Penelec's summer peak load, occurring on July 22, 2011, was 3,128 MW, representing an increase of 17.6 percent from last year's summer peak of 2,659 MW. The 2011-12 winter peak load was 2,752 MW or 8.6 percent higher than the previous year's winter peak of 2,534 MW. The average change in the annual summer peak load over the past 15 years was 1.74 percent per year. Penelec's forecast shows its summer peak load dropping from 3,128 MW in 2011 to 2,938 MW in 2011 and then increasing to 3,081 MW by 2016. The current forecast for 2012 is 14.7 percent above the previous forecast for the same year. See Figure 12 below.

Tables A09-A12 in Appendix A provide Penelec's forecasts of peak load and residential, commercial and industrial energy demand, filed with the Commission in years 2002 through 2012.

Figure 11 Pennsylvania Electric Company energy demand (GWh)

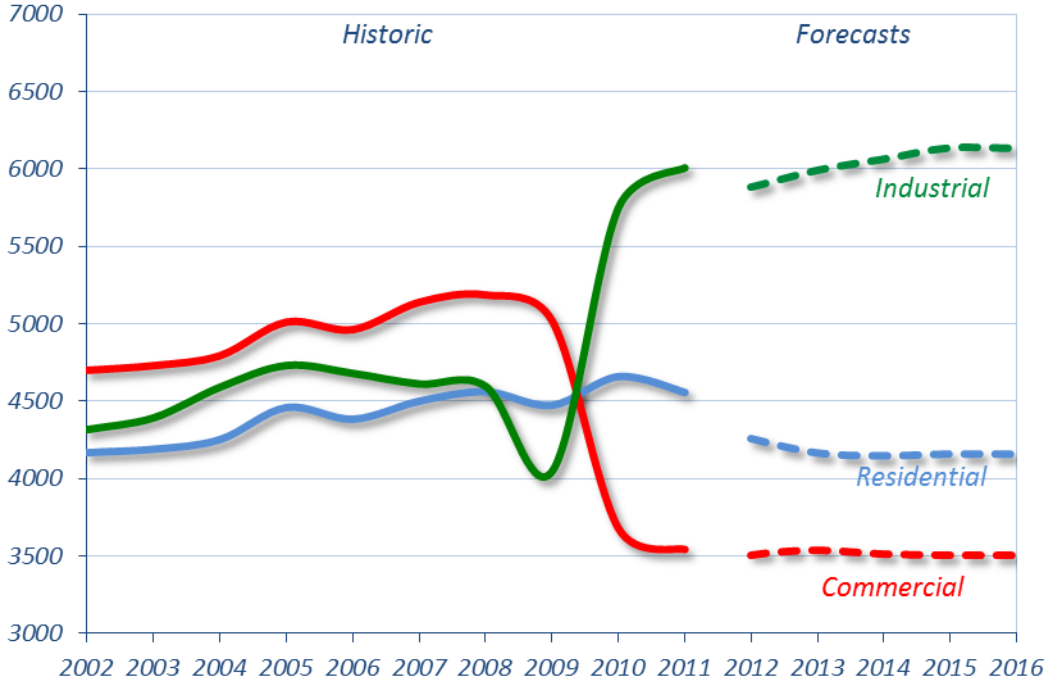
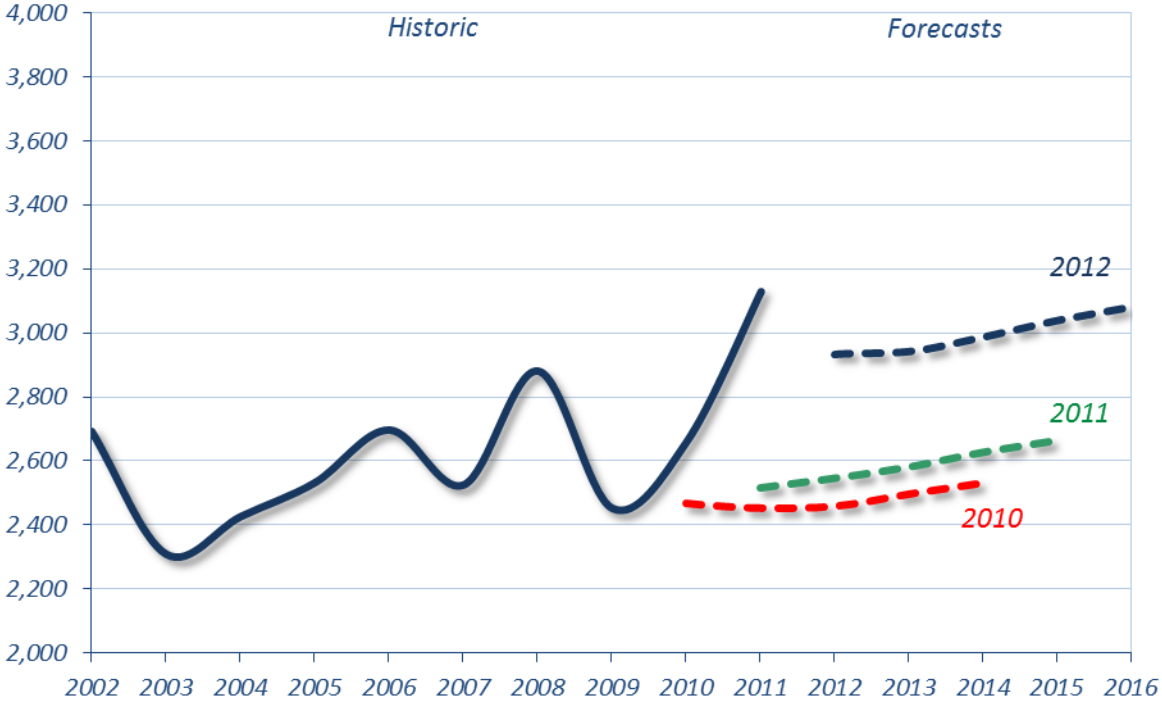
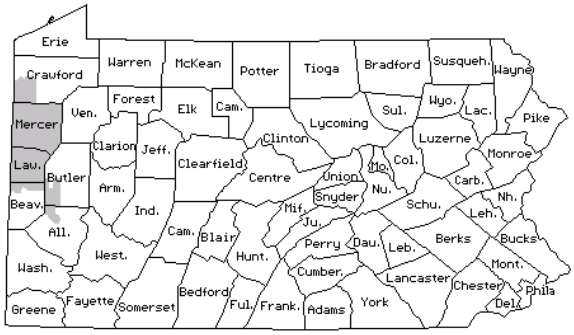


Figure 12 Pennsylvania Electric Company peak load (MW)



Pennsylvania Power Company



Pennsylvania Power Company (Penn Power) provides service to 160,445 electric utility customers in all or portions of six counties in Western Pennsylvania. In 2011, Penn Power had energy sales totaling 4,764 GWh—an increase of 5.8 percent from the 2010 figure. Residential sales lead Penn Power's market with 35.9 percent of the total sales, followed by industrial (32.4 percent) and commercial (27.9 percent). These figures reflect a reclassification of commercial and industrial (C&I) customers based on rate schedule. The commercial class now includes small C&I customers, and the industrial class includes large C&I customers. Approximately 3.7 percent of Penn Power's total sales were sales for resale use.

The current 5-year projection is a decline in total energy demand of -3.7 percent. This includes a residential *decline* rate of -7.2 percent, a commercial growth rate of 0.5 percent and an industrial *decline* rate of -3.4 percent, based on the recent reclassifications. See Figure 13 below.

Penn Power's summer peak load, occurring on July 28, 2011, was 1,102 MW, representing an increase of 22 percent over last year's peak of 903 MW. The 2011-12 winter peak load of 701 MW was 15.6 percent lower than the previous year's winter peak of 831 MW. The actual average annual peak load growth rate over the past 15 years was 2.9 percent. Penn Power's forecast shows its summer peak load decreasing from 1,102 MW in summer 2011 to 1010 MW by summer 2016. The current forecast for 2012 is 6.7 percent higher than the previous forecast for the same year. See Figure 14 below.

Tables A13-A16 in Appendix A provide Penn Power's forecasts of peak load and residential, commercial and industrial energy demand, filed with the Commission in years 2002 through 2012.

Figure 13 Pennsylvania Power Company energy demand (GWh)

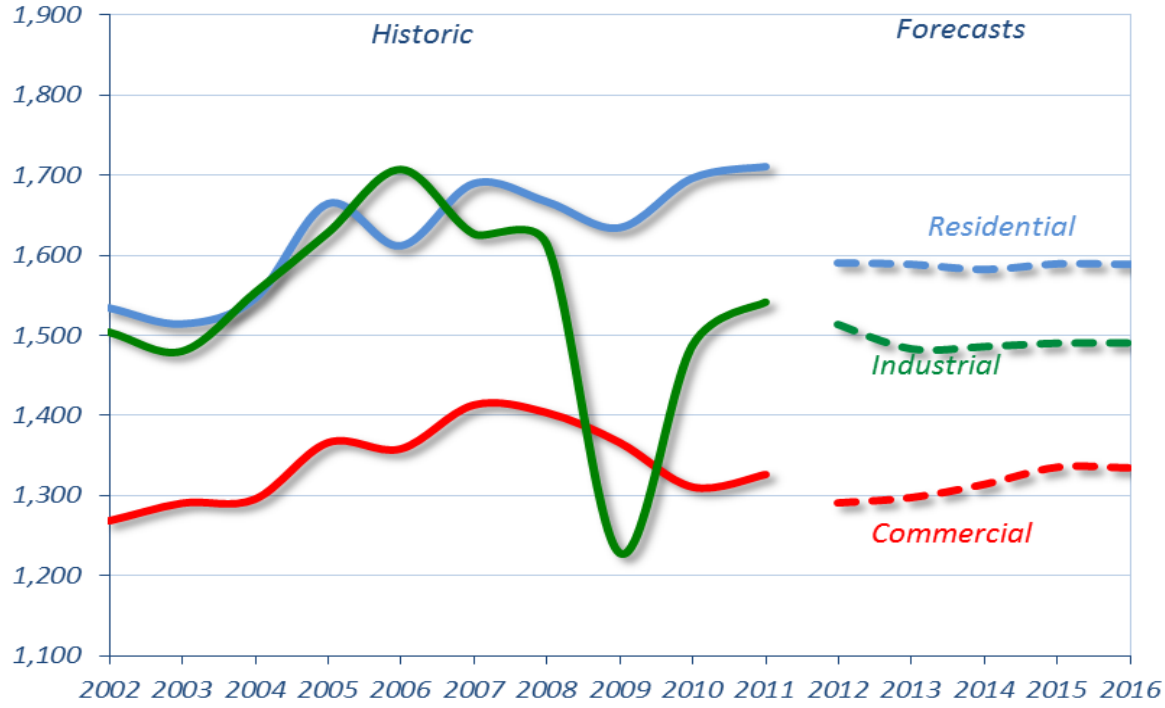
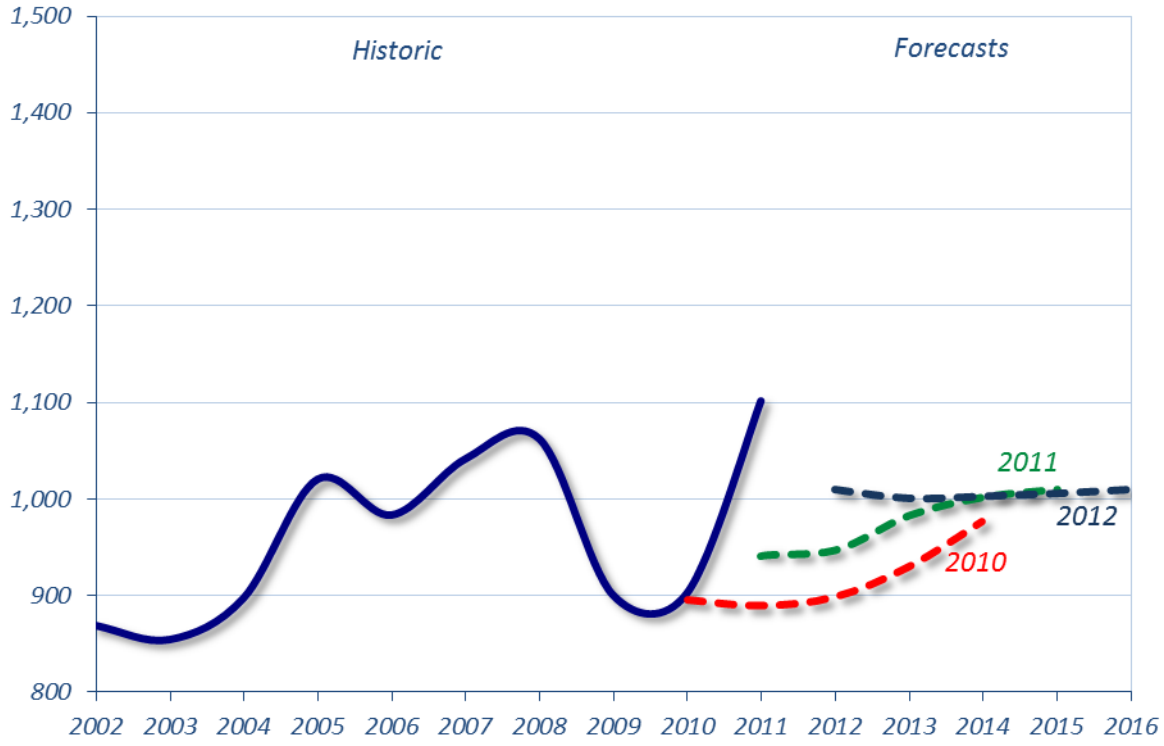
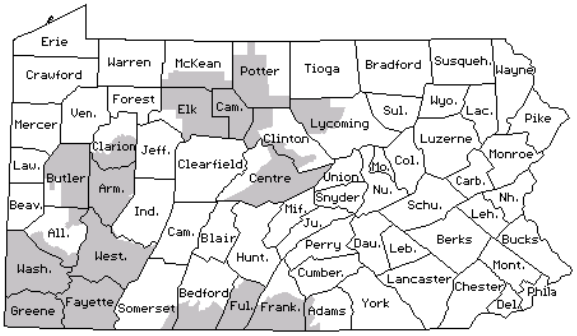


Figure 14 Pennsylvania Power Company peak load (MW)



West Penn Power Company



West Penn Power Company (West Penn), a subsidiary of FirstEnergy, provides service to 718,243 electric utility customers in all or portions of 24 counties in Western, North and South Central Pennsylvania. In 2011, West Penn had total retail energy sales of 20,874 GWh—up 0.26 percent from 2010. Industrial sales continued to lead West Penn's market with 37.4 percent of the total sales, followed by residential (35.2 percent) and commercial (23.4 percent). Approximately 3.7 percent of West Penn's demand results from sales for resale use.

The current 5-year projection of overall growth in energy demand is 1.1 percent. This includes a commercial rate of 1.8 percent and an industrial rate of 1.9 percent. Residential sales are expected to drop 0.2 percent through 2016. See Figure 15 below.

West Penn's summer peak load, occurring on July 21, 2011, was 4,017 MW, representing an increase of 4.7 percent from last year's summer peak of 3,838 MW. The 2011-12 winter peak load was 3,491 MW or 12.5 percent lower than the previous year's winter peak of 3,988 MW. The actual average annual peak load growth rate over the past 15 years was 1.5 percent. West Penn's load forecast scenario shows the peak load decreasing from 4,017 MW in summer 2011 to 3,964 MW in 2016, or an average annual negative growth rate of -0.26 percent. The current forecast for 2012 is 4 MW higher than the previous forecast. See Figure 16 below.

Tables A25-A28 in Appendix A provide West Penn's forecasts of peak load and residential, commercial and industrial energy demand, filed with the Commission in years 2002 through 2012.

Figure 15 West Penn Power Company energy demand (GWh)

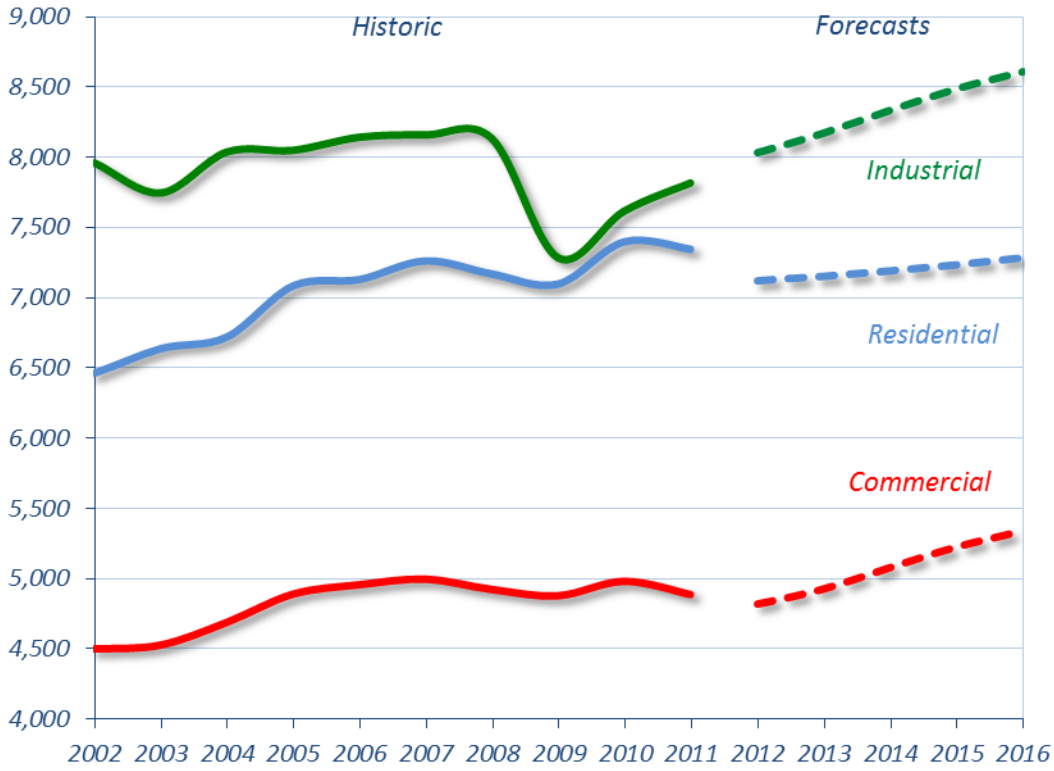
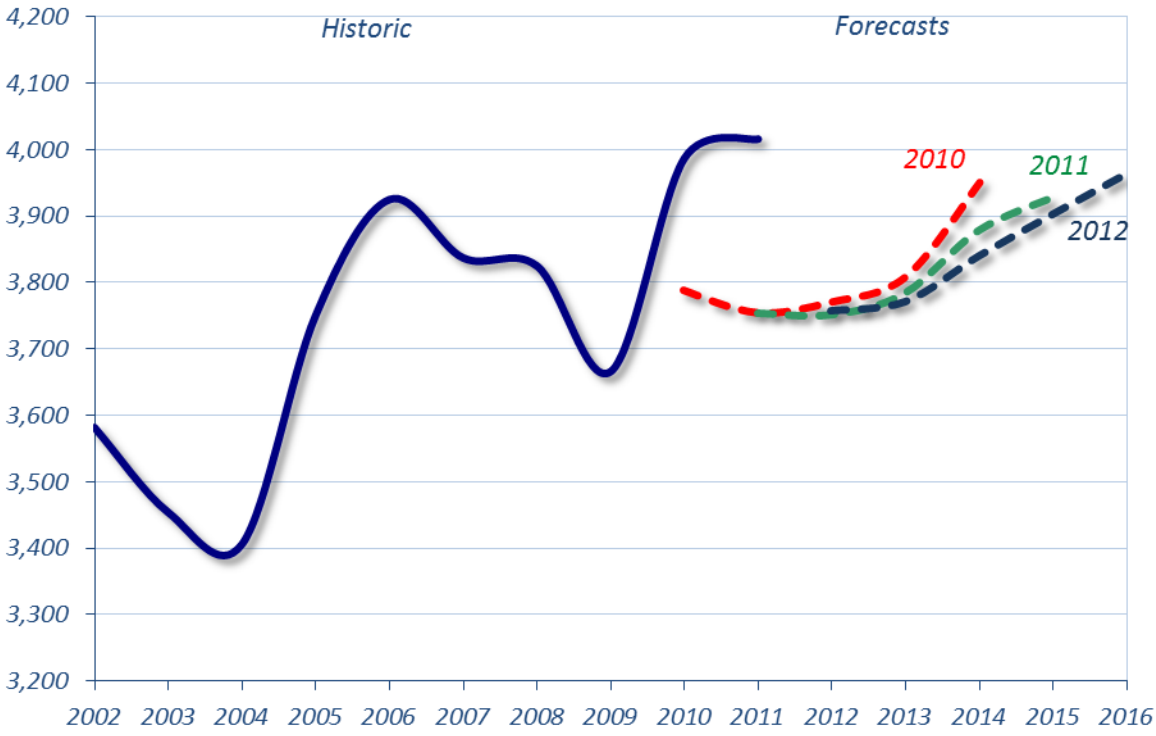
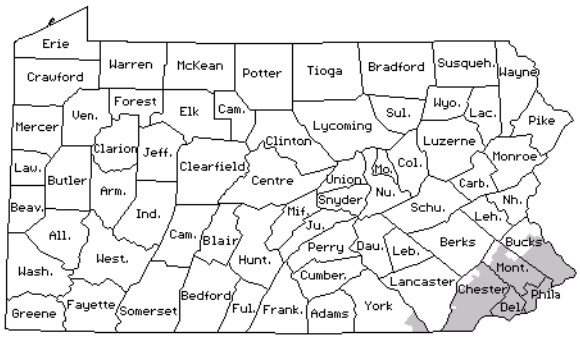


Figure 16 West Penn Power Company peak load (MW)



PECO Energy Company



PECO Energy Company (PECO), a subsidiary of Exelon Corporation, is the largest electric utility in Pennsylvania, providing service to 1,658,184 electric utility customers in the City of Philadelphia and all or portions of six counties in Southeastern Pennsylvania. In 2011, PECO had total energy sales of 39,256 GWh—down 1.7 percent from 2010. Industrial sales continued to dominate PECO's market with 40.3 percent of the total sales, followed by residential (34.9 percent) and commercial (21.2 percent). In 2011, 1.4 percent of PECO's electricity demand was generated by sales for resale purposes.

The current 5-year projection of growth in energy demand is 4.0 percent. This includes an annual growth rate of 0.8 percent for residential, 0.9 percent for commercial and 0.8 percent for industrial. See Figure 17 below.

PECO's summer peak load, occurring on July 22, 201, was 8,984 MW, representing an increase of 1.35 percent from last year's peak of 8,864 MW. The 2011-12 winter peak demand was 6,558 MW or 3.6 percent greater than the previous winter's peak of 6,333 MW. The actual average annual peak demand growth rate over the past 15 years was 1.4 percent. PECO's current forecast shows the peak load increasing from the 2011 summer peak load of 8,984 MW to 9,049 MW in summer 2016, or an annual growth rate of 0.14 percent. The current forecast for 2012 is revised 1.8 percent from the previous forecast for that year. See Figure 18 below.

Tables A21-A24 in Appendix A provide PECO's forecasts of peak load and residential, commercial and industrial energy demand, filed with the Commission in years 2002 through 2012.

Figure 17 PECO Energy Company energy demand (GWh)

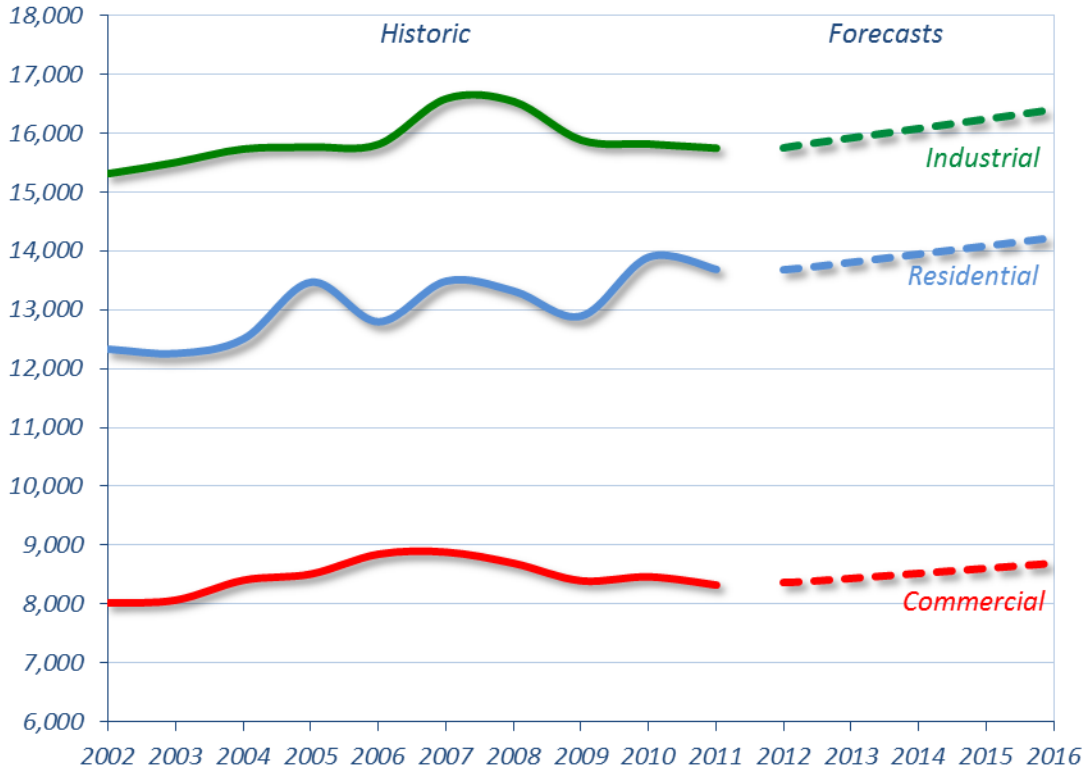
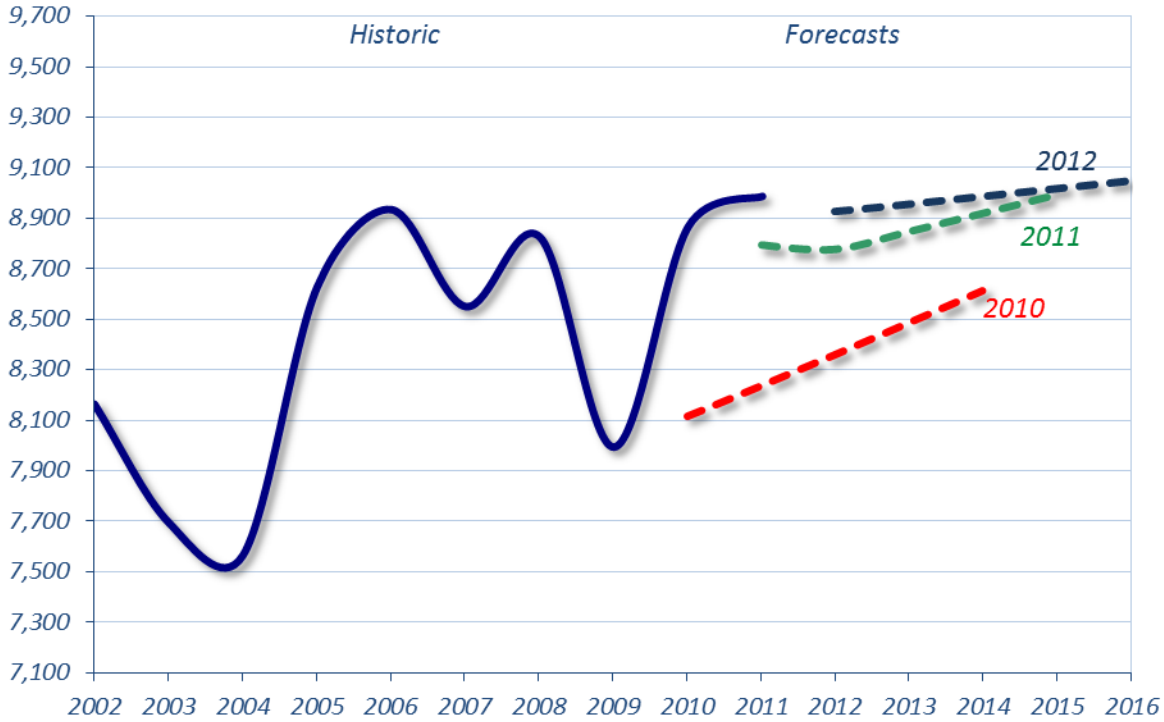
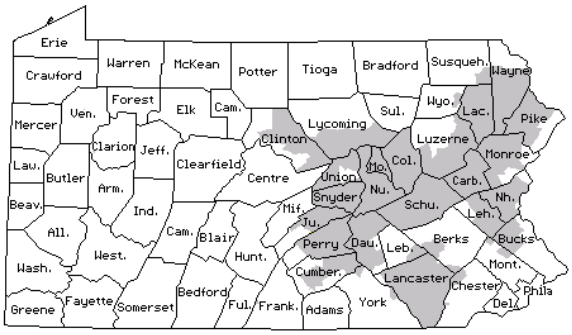


Figure 18 PECO Energy Company peak load (MW)



PPL Electric Utilities Corporation



PPL Electric Utilities Corporation (PPL), a subsidiary of PPL Corporation, provides service to 1,402,058 homes and businesses over a 10,000-square-mile area in all or portions of 29 counties in Central Eastern Pennsylvania. In 2011, PPL had energy sales totaling 37,002 GWh—up 0.22 percent from 2010. Residential sales continued to dominate PPL's market with 38.8 percent of the total sales, followed by commercial (38.32 percent) and industrial (22.9 percent). These figures reflect a reclassification of commercial and industrial (C&I) customers. The commercial class now includes small C&I (non-residential secondary voltage), and the industrial class includes large C&I (primary and transmission voltage).

The current 5-year projection of average growth in energy demand is 0.13 percent. Albeit a projected negative growth rate of -3.2% percent for residential end-users, commercial growth is projected at 4 percent and industrial is projected grow at 1.6 percent (based on the redefined rate groups). See Figure 19 below.

PPL's summer peak load, occurring on July 22, 2011, was 7,527 MW compared to the previous summer's peak of 7,214 MW, or a 4.3 percent increase. The 2011-12 winter peak load was 7,527 MW, representing an increase of 2.2 percent from last year's winter peak of 7,365 MW. The actual average annual peak load growth rate over the past 15 years was 1.8 percent. PPL's five-year winter peak load forecast scenario shows the peak load decreasing from 7,527 MW in 2011 to 7,331 MW in 2012 and then increasing to 7,806 MW in 2016, resulting in an average annual rate of 0.74 percent over the five year period. The current forecast for 2012 has been revised up 2.7% from the forecast last year. It is noted that PPL is normally winter peaking, but in some years the summer peak has exceeded the previous winter peak; the current forecast represents the *annual* peak load. See Figure 20 below.

Tables A17-A20 in Appendix A provide PPL's forecasts of peak load and residential, commercial and industrial energy demand, filed with the Commission in years 2002 through 2012.

Figure 19 PPL Electric Utilities Corporation energy demand (GWh)

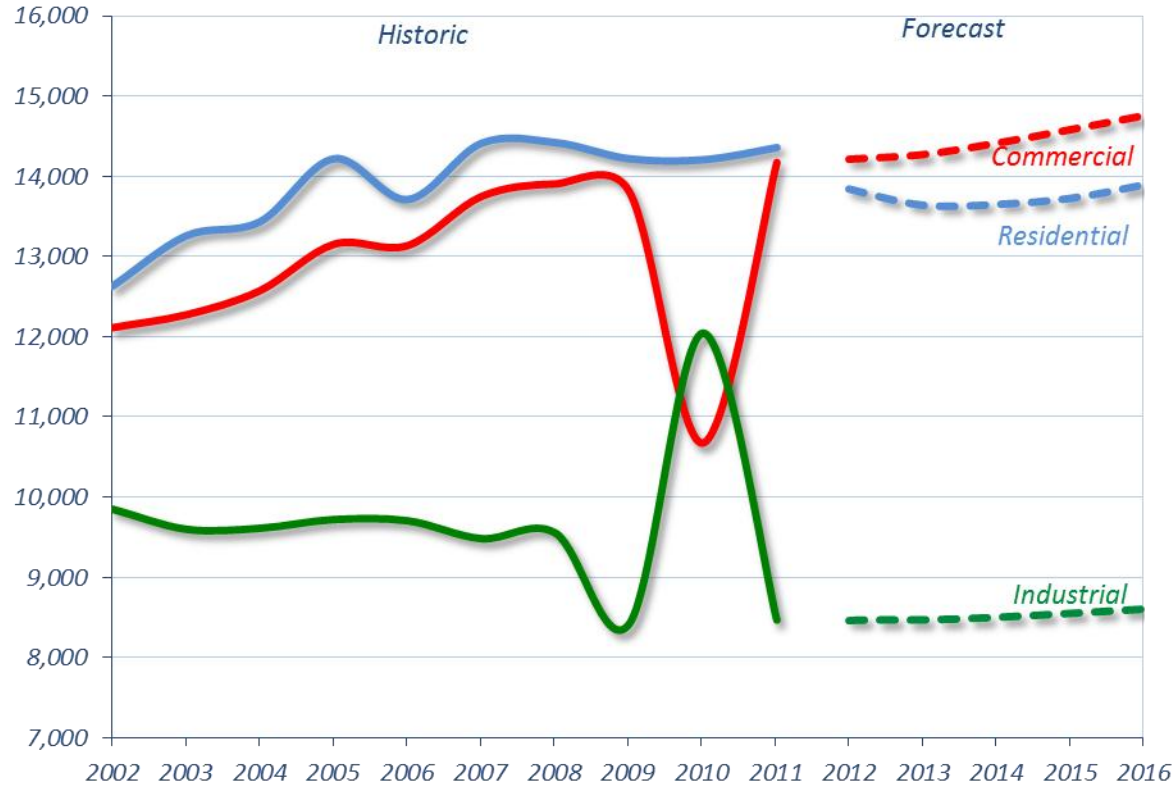
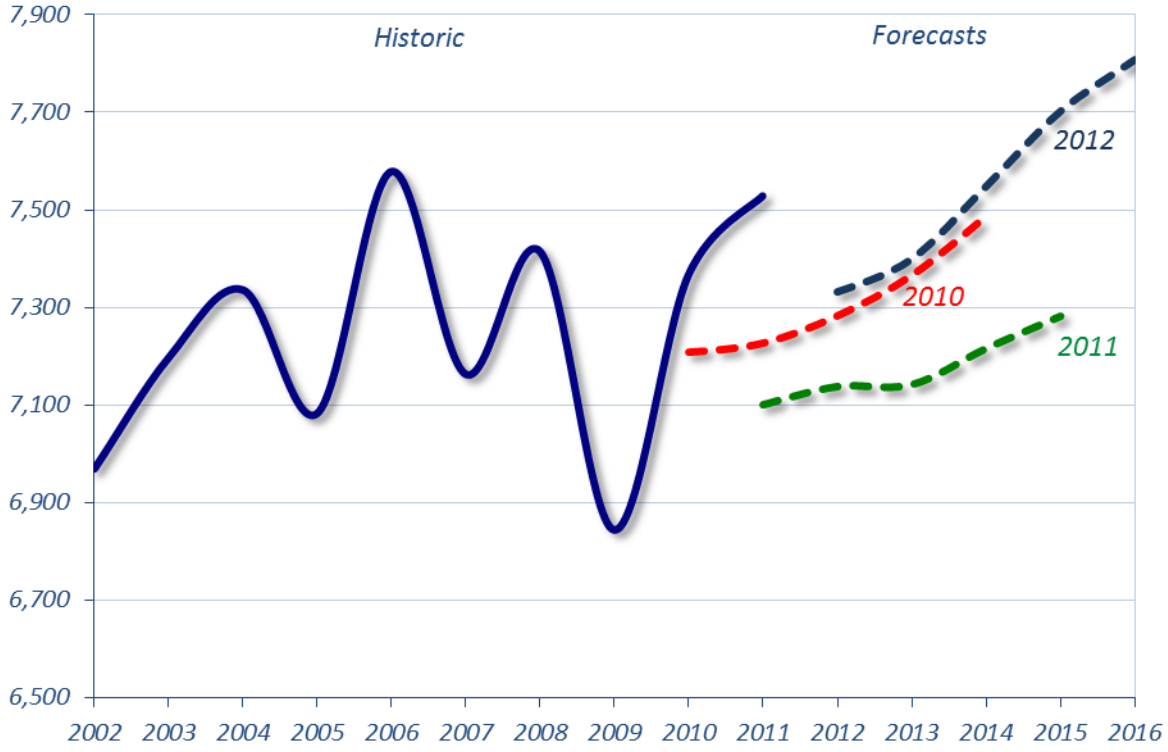
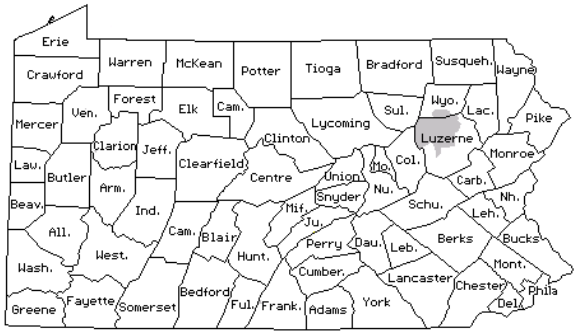


Figure 20 PPL Electric Utilities Corporation peak load (MW)



UGI Utilities Inc.—Electric Division

The Electric Division of UGI Utilities Inc. (UGI), a subsidiary of UGI Corporation, provides electric service to 62,003 customers in Northwestern Luzerne and Southern Wyoming counties in Pennsylvania. In 2011, UGI had energy sales totaling 988 GWh—up 0.7 percent from 2010. Residential sales continued to dominate with the majority of UGI's market as 54.9 percent of the total sales, followed by commercial (33.4 percent) and industrial (11.0 percent).



Over the 5-year planning horizon, UGI expects total energy demand to drop at an average annual rate of -1.0 percent. This includes an average annual decrease in residential sales of -1.8 percent. Commercial and Industrial sales are expected to remain flat through 2016. See Figure 21 below.

UGI is normally a winter peaking utility, although the winter/summer differential is inconsequential because one or 2 MWs typically separates the two seasonal peaks. This year, peak load on the UGI system occurred on July 22, 2011, and totaled 216 MW, or 9.0 percent above the 2010-11 winter peak load of 198 MW. The 2011-12 winter peak load was 190 MW. The actual average annual peak load growth rate over the past 10 years was 0 .75 percent. The five-year forecast indicates an average decrease in peak load of -0.6 percent. See Figure 22 below.

Figure 21 UGI Utilities Inc. energy demand (GWh)

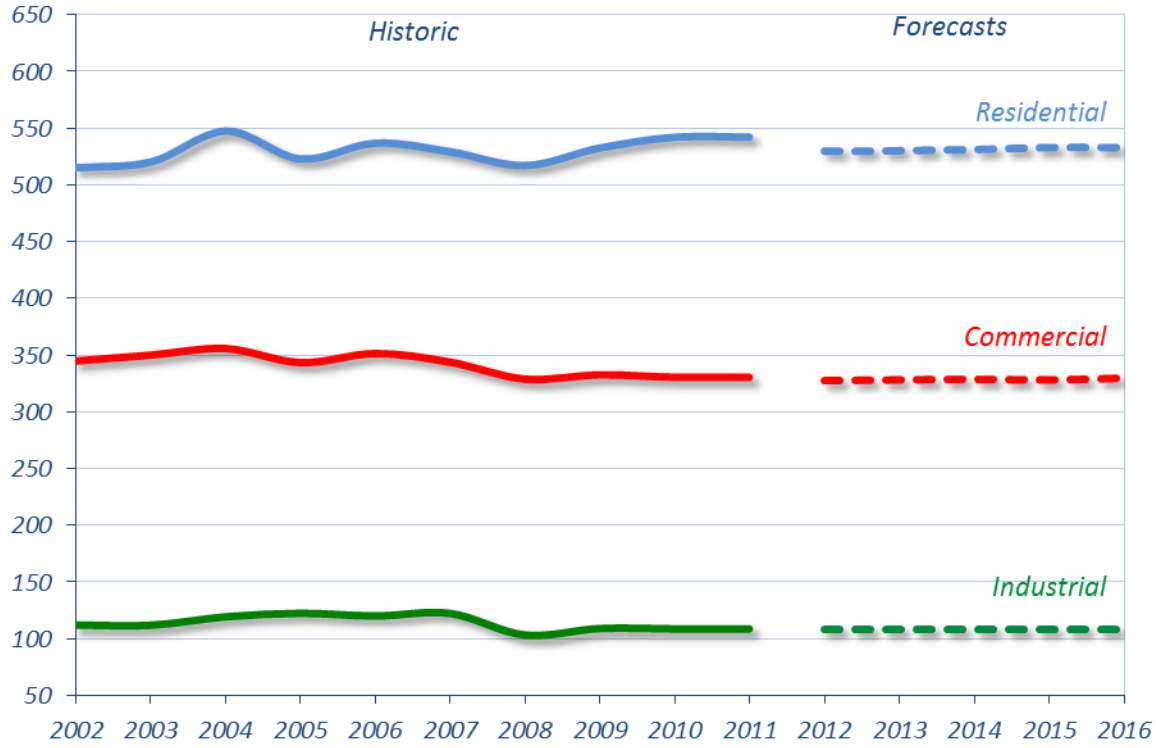
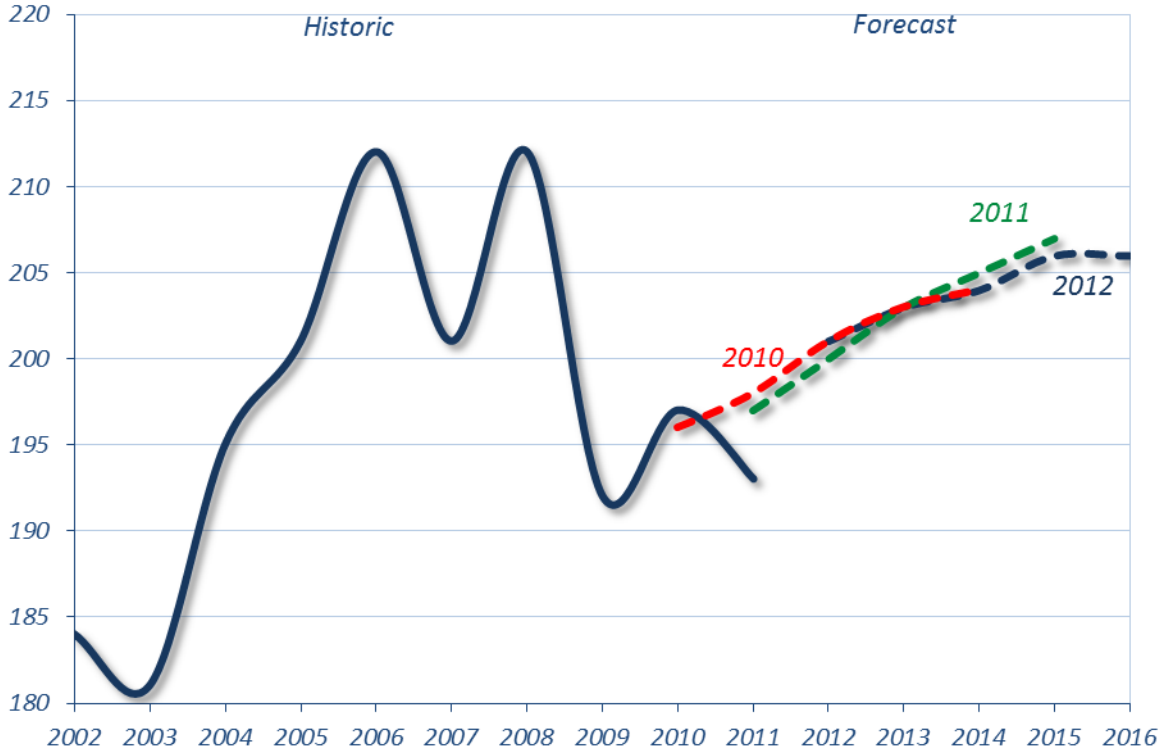
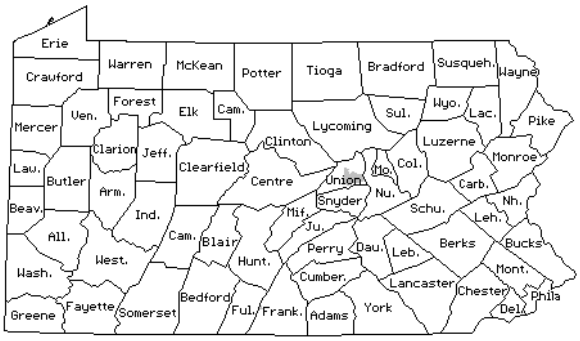


Figure 22 UGI Utilities Inc. peak load (MW)



Summary of EDC Data – three smallest EDCs

Citizens' Electric Company



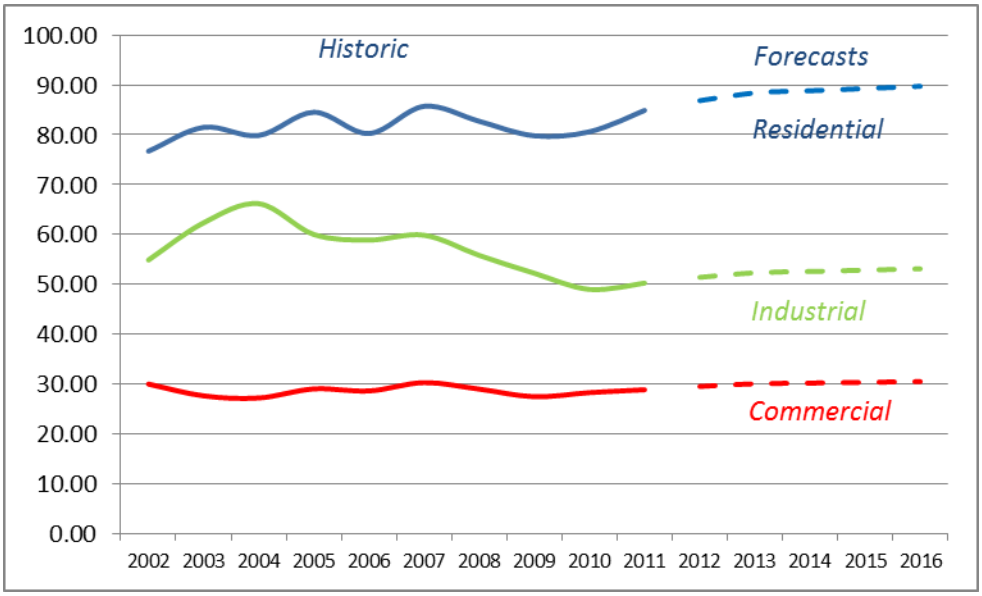
Citizens' Electric Company (Citizens') provides service to 6,823 customers in Union County, Pennsylvania. In 2011, Citizens' had retail energy sales totaling 164 GWh, up 3.0 percent from 2010. Residential sales accounted for 54.9 percent of Citizens' total sales, followed by commercial (33.4 percent) and (11.0 percent).

Over the next five years, Citizens' expects total energy demand to decrease at an annual rate of -0.2 percent. Residential demand is forecasted to decrease at an annual rate of -0.37 percent. Commercial and Industrial demand are forecasted to remain at current levels. See Figure 23 below.

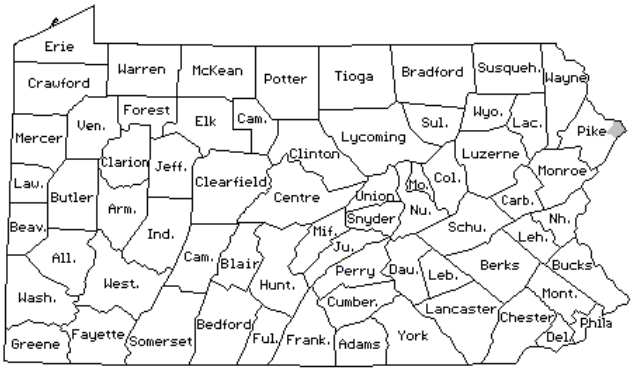
Citizens' 2011-12 winter peak load, occurring on Jan. 4, 2012, was 39.9 MW, a 13.6 percent decrease from the winter peak of 2010. The 2011 summer peak load was 37.8 MW, a 5.6 percent increase. Peak load growth is projected to grow at an average annual rate of 4.8 percent over the next five years.

The extent of the company's resource planning is to assure sufficient line and substation capacity to accommodate, in a reliable and economical manner, present requirements and future growth. Citizens' is a small distribution company and does not own any generation facilities.

Figure 23 Citizens' Electric Company energy demand (GWh)



Pike County Light & Power Company

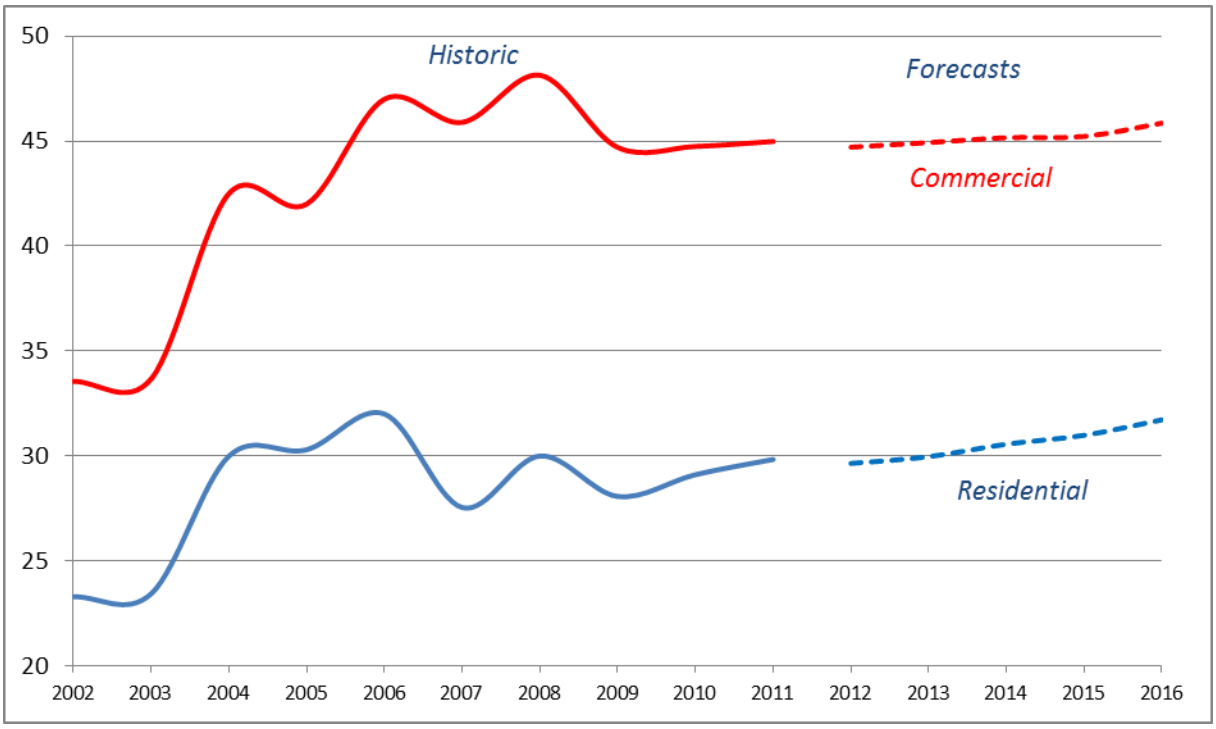


Pike County Light & Power Company (Pike), a subsidiary of Orange & Rockland Utilities Inc. (O&R), provides service to 4,662 customers in Eastern Pike County, Northeastern Pennsylvania. In 2011, Pike's retail energy sales totaled 75.2 GWh, an increase of 1.2 percent from 2010 sales. Commercial sales continued to dominate Pike's market with 59.8 percent of the total sales, followed by residential with 39.7 percent. Pike has no industrial customers. Over the next five years, total energy demand is projected to increase at an average annual rate of 0.73 percent, which includes an annual residential growth rate of 1.3 percent and a commercial growth rate of 0.4 percent. See Figure 24 below.

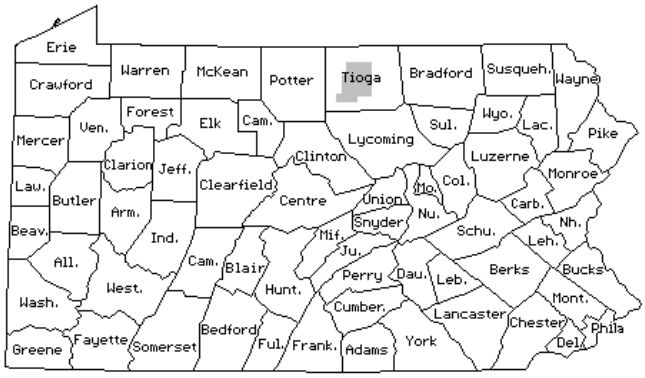
Pike's summer peak load, occurring on July 6, 2011, was 18.4 MW, a 2.8 percent increase from the summer peak of 2010. The 2011-12 winter peak load was 12.2 MW, a 2.8 percent decrease. Over the next five years, Pike projects its system peak load to increase from 18.4 MW in summer 2011 to 19.5 MW in 2016, or an average annual increase of 1.2 percent.

For the purpose of regulation, Pike is a small distribution company with no generating capability. O&R does not own any generating facilities.

Figure 24 Pike County Light & Power energy demand (GWh



Wellsboro Electric Company



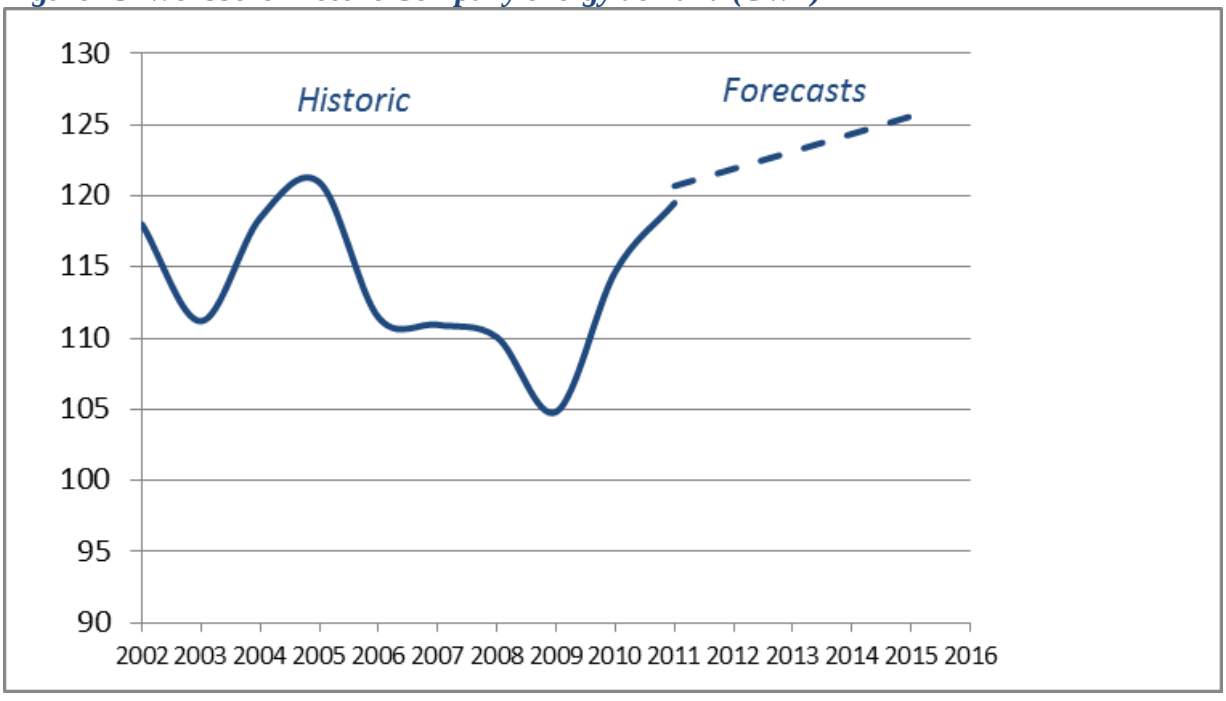
Wellsboro Electric Company (Wellsboro) provides electric service to 6,152 customers in Tioga County, North Central Pennsylvania. In 2011, Wellsboro's energy sales totaled 120 GWh, up 4.3 percent from 2010. Residential sales accounted for 37.3 percent of the total, followed by industrial (36.9 percent) and commercial (25.6 percent).

Over the next five years, Wellsboro expects total energy consumption to grow at an average annual rate of 0.98 percent. This includes a residential growth rate of 1.0 percent, a commercial rate of 1.0 percent, and an industrial rate of 1.0 percent. See Figure 25.

Wellsboro's summer peak load is projected to grow from 23 MW in 2011 to 24 MW by the year 2015, or an annual growth rate of 0.9 percent.

Wellsboro is a small distribution company and does not own any generation facilities. Wellsboro has no shopping customers.

Figure 25 Wellsboro Electric Company energy demand (GWh)



Section 3 – Regional Reliability

Regional Reliability Assessments

This section summarizes the regional reliability assessments of NERC, RFC and PJM for generation and transmission capability.

The *reliability* of the interconnected bulk power system is defined by EIA as follows: A measure of the ability of the system to continue operation while some lines or generators are out of service. Reliability deals with the performance of the system under stress. *Adequacy* is the ability of the electric system to supply the aggregate electrical demand and energy requirements of the end-use customers at all times, taking into account scheduled and reasonably expected unscheduled outages of system elements. *Reserve margin* (operating) is the amount of unused available capability of an electric power system (at peak load for a utility system) as a percentage of total capability.[50]

North American Electric Reliability Corporation

The NERC's mission is to ensure the reliability of the bulk power system in North America. To achieve this objective, NERC develops and enforces reliability standards; monitors the bulk power system; assesses and reports on future transmission and generation adequacy; and offers education and certification programs to industry personnel.

Reliability Assessment

The *2011 Long-Term Reliability Assessment*[51] represents NERC's independent judgment of the reliability and adequacy of the bulk power system in North America for the coming 10 years. NERC's primary purpose in preparing this assessment is to identify areas of concern regarding the reliability of the North American bulk power system and to make recommendations for their remedy. NERC provided information regarding the entire North American bulk power system and also provided specific review of the PJM RTO.

In its 2011 assessment, NERC identified the following key issues for the North American bulk power system:

- Reserve margins – A decrease in generation resources may lead to declining reserve margins in some areas.

[50] EIA Glossary, http://www.eia.gov/tools/glossary/.
[51] NERC, *2011 Long-Term Reliability Assessment*, November 2011, http://www.nerc.com/files/2011%20LTRA_Final.pdf

- Environmental regulations – Existing and proposed environmental regulations may significantly affect reliability depending on the scope and time of the rule implementation.

- Gas-electric interdependency – The growing dependence on natural gas as a primary fuel source of on-peak capacity must be considered in planning; operational measures must be in place to minimize risks.

- Variable generation – Significant growth in wind and solar generation is projected.

- Demand-side management – significant increases continue to offset future resource needs.

- Transmission – transmission growth is responding to increased renewable generation, on pace with projections.

NERC provided a reliability assessment of PJM that concludes PJM will meet its reserve margin requirements in 2012 (15.3 percent) and is projected to be less than 1 percent deficient (approximately 800 MW) in 2021. The 2021 deficiency is largely due to the time period being further out than any proposed capacity is currently planned. PJM has several transmission lines going into service during the analysis period (to 2021) and no additional transmission reliability concerns have been identified. NERC also stated that PJM has addressed the potential retirements of generation in the RTEP process.

*Reliability*First *Corporation*

Reliability*First* Corporation (RFC) is one of eight regional reliability councils within NERC. The two main control areas within the RFC footprint are the PJM RTO and MISO. Two-thirds of the RFC load is in PJM. The reliability of these two RTOs determines the reliability of the RFC region. The reliability assessment summarized herein reflects the resource adequacy of each RTO based on their individual reserve margin requirements.[52]

Reliability Assessment

Analyses were conducted by PJM and MISO to determine the reserve margins that were equivalent to the RFC Loss of Load Expectation (LOLE) criterion of not exceeding one occurrence in 10 years (0.1 day/year) on an annual basis for their planning area. The PJM reserve margin target was 15.5 percent for 2012 and varies between 15.3 and 15.4 percent for 2013 through 2021. The MISO reserve margin target for 2012 is 17.4 percent, and varies from a low of 17.2 percent in 2015 to 18.2 percent in 2021. The Resource Assessment Subcommittee of RFC believes that when RFC has determined that each RTO is projected to have sufficient resources to satisfy their respective reserve margin requirement, the RFC area is projected to have adequate resources.[53]

Summer reserve margin of available resources for PJM is 26.0 percent in 2012 and for summer 2021 is 17.7 percent. Both of these are in excess of the required reserve margin. The summer reserve margin for MISO for summer 2012 is 23.1 percent and for summer 2021 is 16.0 percent. The projected reserve margins in 2018 and 2019 are close to the target reserve margins and are below the reserve margin targets for 2020 and 2021. In short, both PJM and MISO have adequate planned or existing capacity to provide reserve margins above their required targets through 2021.

Studies by the Eastern Interconnection Reliability Assessment Group of RFC indicate that there is more than 4,000 MW of transfer capability between the two RTOs. PJM and MISO are projected to have sufficient resource to satisfy their respective reserve margin requirement through 2019. Due to additional resources that may be available, additional transfer capability than may be available and a surplus in PJM with only a 2,200 MW (92.2 percent) MISO deficit in 2021, RFC expects the regional area reserve margins to be adequate through 2021.[54]

[52] NERC, *2011 Long-Term Reliability Assessment*, November 2011, http://www.nerc.com/files/2011%20LTRA_Final.pdf

[53] RFC, *Long Term Resource Assessment 2012-2021*, September 2011, https://rfirst.org/reliability/Documents/RFC%202011%20Assessment-Long%20Term%20Resource.pdf

[54] RFC, *Long Term Resource Assessment 2012-2021*, September 2011, https://rfirst.org/reliability/Documents/RFC%202011%20Assessment-Long%20Term%20Resource.pdf

PJM Pennsylvania Regional Transmission Expansion Plan Overview

The Pennsylvania electric power outlook generally reflects the projections of RFC, which are based on projections of PJM and MISO. Since transmission and generation are not regulated by this Commission, and since the bulk electric system is planned on a regional rather than a state basis, we must look to regional entities for data concerning the current and future condition of the bulk electric system. While we can determine the aggregate load for the state's consumers, we do not know, with complete certainty, what generating facilities will be available to serve these consumers.

Planning the enhancement and expansion of transmission capability on a regional basis is one of the primary functions of regional transmission organizations. PJM implements this function pursuant to the Regional Transmission Expansion Planning Protocol set forth in Schedule 6 of the PJM Operating Agreement. A key part of this regional planning protocol is the evaluation of both generation interconnection and merchant transmission interconnection requests, the procedures for which are codified under Part IV of the PJM Open Access Transmission Tariff. Although transmission planning is performed on a regional basis, most transmission additions and upgrades in Pennsylvania are planned to support the local delivery system and new generating facilities.

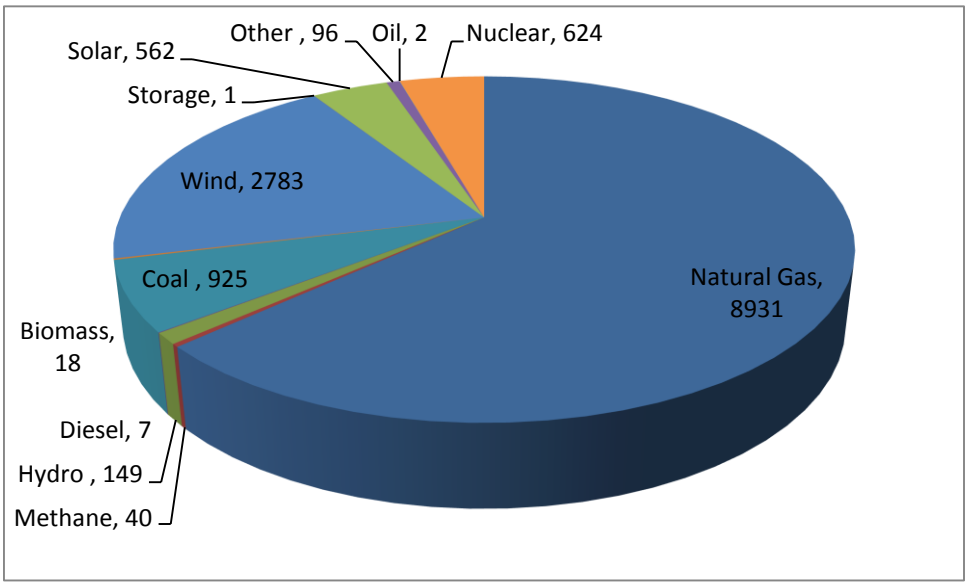
Load-serving entities acquire capacity resources by entering into bilateral agreements, participating in the PJM-operated capacity market, owning generation, and/or pursuing load management options. The PJM generator interconnection process ensures that new capacity resources satisfy LSE requirements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

All new generation, which 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. These requests are placed in queues for the performance of feasibility studies and other technical reviews.

Proposed new generating plants and increased capacity of existing plants located in Pennsylvania total 14,138 MW. These facilities are under active study. Natural gas projects make up over 8,900 MW of this queued capacity. This additional capacity may be used to serve Pennsylvania customers or out-of-state customers. See Figure 29.[55] Appendix B lists the current PJM interconnection requests for new generating resources located in Pennsylvania.

[55] *PJM 2011 RTEP, http://pjm.com/documents/reports/rtep-documents/2011-rtep.aspx.*

Figure 26 PJM queued generating capacity in Pennsylvania by fuel type- MW as of January 1, 2012



The existing generating capacity located in Pennsylvania totals 46,956 MW.[56] As stated earlier, the output of some of these facilities may serve loads outside of Pennsylvania. Appendix C lists the existing generation facilities located in Pennsylvania.

Peak summer load growth rates for the Transmission Owner zones within Pennsylvania are expected to range from 1.0 percent to 1.9 percent over ten years through 2021. Peak winter load growth rates are expected to range between 0.6 and 1.9 percent on average over 10 years through 2020/21. Forecasted summer peak loads are modeled in power flow studies used in PJM's 2011 RTEP studies. PJM's RTEP includes baseline transmission upgrades in Pennsylvania to meet expected near-term 2016 peak load conditions. RTEP studies also assess anticipated needs for additional transmission expansion plans to meet long-term load growth requirements out through 2026 as well.[57]

PJM has received a number of generation deactivation requests due to potential closures as a result of pending EPA rules for coal plants and other reasons. The PJM RTEP identifies system upgrades that will be needed due to plant closures as an ongoing process. PJM cannot compel a generator to operate, but can make financial arrangements with the generator to continue operating for reliability. For the 2011 RTEP, PJM modeled several generation deactivation requests and identified needed upgrades. If an upgrade is not completed before a deactivation occurs, PJM operators will develop operating procedures to manage any constraints in real time. From the 2011 RTEP, it appears as if there are no upgrades required in PA to meet any issues caused by deactivations in PA at this time.[58]

[56] Electric Power Generation Association, email received May 2, 2012, from Sharon Barbour, EPGA.
[57] PJM 2011 RTEP, http://pjm.com/documents/reports/rtep-documents/2011-rtep.aspx.
[58] PJM 2011 RTEP, http://pjm.com/documents/reports/rtep-documents/2011-rtep.aspx.

In 2012, through its Reliability Pricing Model auctions, PJM acquired 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. [59]

[59] PJM 2011-2012 BRA Results News Release, http://www.pjm.com/~/media/markets-ops/rpm/rpm-auction-info/20080515-2011-2012-bra-report.ashx

Section 4 - Conclusions

Pennsylvania continues to benefit from a high level of electric service reliability. The Pennsylvania outlook reflects the regional assessment of RFC and the planning efforts of PJM.

Regional generation adequacy and reserve margins of the Mid-Atlantic will be satisfied through 2021, provided that planned generation and transmission projects will be forthcoming in a timely manner. As per NERC, summer reserve margins are projected to range from 26 percent in 2012 to 17.7 percent in 2021 for PJM.

The current average aggregate five-year projection of growth in energy demand is 3.5 percent per year. This includes a residential growth rate of 1.97 percent, a commercial rate of 4.5 percent and an industrial rate of 4.3 percent for the entire five-year period. (These growth rates reflect revised data based on improved economic outlook – earlier estimates had proven too low.) Each EDC has individual annual growth rates that are comparable to the PJM has forecast average 1.4 percent annual growth rate for the Mid-Atlantic region in its annual load forecast report, except where the EDC underestimated 2011 usage and had to revise predictions upwards to correct this issue.

The aggregate non-coincident peak load for the major EDCs increased at an average rate of 5.68 percent percent from 2010 to 2011. Going forward, the peak load is expected to increase at an average annual growth rate of 1.0 percent.

The Commission continues to promote the development of alternative energy resources and pursue demand-side management, energy efficiency, and load management programs and technologies to address ways to encourage customers to reduce their demand. These efforts include the implementation of the AEPS and the EE&C program. In the long term, these initiatives will improve overall energy efficiency, expand energy markets and maintain system reliability. Through demand-side measures and overall improvements in energy efficiency, EDCs and all customer classes will benefit.

* * * * *

Appendix A – Data Tables

The following tables provide actual and projected peak load and residential, commercial and industrial energy demand. Actual data covers years 2002 through 2011. Five-year projections are those filed with the Commission in years 2002 through 2012.

For Met-Ed, Penelec, Penn Power and PPL, the 2010 and 2011 actual and the 2012-16 forecast of commercial and industrial (C&I) sales reflect a redefinition of C&I customers; i.e., the commercial class now includes small C&I customers, and the industrial class includes large C&I customers.

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

		Projected Peak Load Requirments (Year Forecast Was Filed)										
Year	**Actual**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
2002	2886	2850										
2003	2686	2884	2822									
2004	2646	2912	2841	2719								
2005	2884	2934	2855	2740	2722							
2006	3053	2953	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								3191	2850	2860	3000	2935
2013									2890	2917	3053	2980
2014										2960	3088	3045
2015											3125	3102
2016												3132

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

		Projected Residential Energy Demand (Year Forecast Was Filed)										
Year	**Actual**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
2002	3924	3671										
2003	3759	3726	3697									
2004	3886	3772	3721	3811								
2005	4134	3810	3744	3832	3941							
2006	3991	3846	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								4527	4171	4267	4275	4350
2013									4197	4352	4332	4436
2014										4448	4402	4509
2015											4474	4579
2016												4676

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

		Projected Commercial Energy Demand (Year Forecast Was Filed)										
Year	**Actual**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
2002	6458	6324										
2003	6346	6467	6436									
2004	6454	6570	6505	6428								
2005	6566	6653	6570	6479	6568							
2006	6474	6729	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								6952	6533	6585	6782	6682
2013									6527	6666	6854	6749
2014										6742	6957	6842
2015											7056	6929
2016												7017

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

		Projected Industrial Energy Demand (Year Forecast Was Filed)										
Year	**Actual**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
2002	3328	3315										
2003	3189	3382	3349									
2004	3229	3445	3415	3031								
2005	3128	3491	3437	2990	3347							
2006	3182	3530	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								3141	2777	2395	2846	3185
2013									2726	2385	2815	3226
2014										2359	2770	3252
2015											2724	3272
2016												3289

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

		Projected Peak Load Requirements (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	2616	2503										
2003	2438	2554	2527									
2004	2468	2611	2584	2570								
2005	2752	2668	2639	2634	2625							
2006	2884	2725	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								3032	3085	2630	2775	2911
2013									3158	2668	2815	2928
2014										2731	2872	2962
2015											2952	2995
2016												3028

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

		Projected Residential Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	4721	4607										
2003	4895	4708	4846									
2004	5071	4804	4860	4885								
2005	5399	4892	4980	4977	5097							
2006	5287	4988	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								6341	6109	5577	5226	5201
2013									6232	5682	5386	5184
2014										5799	5547	5183
2015											5650	5212
2016												5210

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

		Projected Commercial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	3985	3976										
2003	4018	4096	4057									
2004	4251	4216	4144	4170								
2005	4491	4336	4258	4281	4310							
2006	4509	4456	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								5375	5291	4783	2959	2871
2013									5421	4887	3019	2909
2014										4963	3090	2948
2015											3158	2997
2016												2995

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

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

		Projected Industrial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	4012	4263										
2003	3986	4341	3954									
2004	4042	4419	3989	4080								
2005	4083	4498	4010	4136	4077							
2006	4008	4577	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								4209	4047	3528	5545	5434
2013									4048	3731	5589	5652
2014										4021	5610	5765
2015											5625	5851
2016												5847

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

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

		Projected Peak Load Requirements (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	2693	2337										
2003	2308	2375	2410									
2004	2425	2405	2456	2438								
2005	2531	2437	2505	2481	2511							
2006	2696	2465	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								2789	2688	2458	2544	2938
2013									2715	2496	2579	2942
2014										2531	2625	2987
2015											2662	3039
2016												3081

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

		Projected Residential Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	4167	4043										
2003	4187	4089	4194									
2004	4249	4134	4162	4135								
2005	4457	4180	4203	4186	4295							
2006	4381	4226	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								4793	4721	4443	4304	4257
2013									4776	4442	4387	4164
2014										4486	4539	4145
2015											4653	4157
2016												4156

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

		Projected Commercial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	4697	4613										
2003	4727	4730	4782									
2004	4792	4846	4874	4825								
2005	5010	4962	4976	4912	4928							
2006	4961	5078	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								5436	5320	5257	3526	3512
2013									5364	5343	3593	3535
2014										5424	3650	3510
2015											3698	3503
2016												3503

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

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

		Projected Industrial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	4315	4670										
2003	4391	4783	4492									
2004	4589	4846	4708	4561								
2005	4729	4887	4749	4666	4527							
2006	4678	4928	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								5043	4889	4370	6175	5883
2013									4922	4607	6266	5993
2014										4674	6304	6062
2015											6325	6133
2016												6130

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

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

		Projected Peak Load Requirements (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	869	918										
2003	855	947	891									
2004	898	983	923	865								
2005	1021	1022	958	884	952							
2006	984	1058	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								994	981	899	947	1010
2013									995	930	983	1001
2014										977	1002	1003
2015											1010	1006
2016												1010

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

		Projected Residential Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	1533	1447										
2003	1513	1483	1512									
2004	1545	1520	1523	1542								
2005	1664	1558	1552	1571	1612							
2006	1611	1597	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								1821	1860	1721	1624	1590
2013									1904	1714	1638	1588
2014										1739	1664	1582
2015											1684	1589
2016												1588

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

		Projected Commercial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	1268	1270										
2003	1291	1327	1279									
2004	1296	1387	1310	1309								
2005	1367	1449	1342	1339	1353							
2006	1359	1514	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								1569	1491	1449	1267	1291
2013									1535	1500	1272	1297
2014										1535	1277	1314
2015											1278	1335
2016												1334

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

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

		Projected Industrial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	1505	1514										
2003	1481	1516	1521									
2004	1554	1517	1507	1529								
2005	1629	1519	1500	1555	1582							
2006	1708	1520	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								1755	1694	1238	1652	1513
2013									1700	1370	1705	1483
2014										1596	1725	1486
2015											1738	1490
2016												1490

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

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

		Projected Peak Load Requirements (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	6970	7000										
2003	7197	7070	6790									
2004	7335	7040	6860	7200								
2005	7083	7120	7000	7300	7200							
2006	7577	7200	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	7527						7480	7580	7320	7227	7101	
2012								7680	7360	7283	7138	7331
2013									7450	7366	7142	7400
2014										7487	7216	7548
2015											7282	7701
2016												7806

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

		Projected Residential Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	12640	12391										
2003	13266	12514	12868									
2004	13441	12650	13062	13308								
2005	14218	12803	13259	13505	13950							
2006	13714	12955	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								14770	14350	14226	14120	13848
2013									14443	14164	14005	13658
2014										14325	14161	13667
2015											14335	13738
2016												13896

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

		Projected Commercial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	12117	11850										
2003	12273	12033	12212									
2004	12576	12219	12507	13275								
2005	13157	12411	12757	13601	12967							
2006	13140	12602	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								14907	14926	14907	10860	14217
2013									15228	15295	11022	14270
2014										15827	11251	14411
2015											11499	14580
2016												14755

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

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

		Projected Industrial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	9853	10780										
2003	9599	11135	10355									
2004	9611	11425	10503	9938								
2005	9720	11702	10641	10035	9750							
2006	9704	11970	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								9009	8866	8211	12116	8475
2013									8864	8110	12269	8468
2014										8054	12450	8501
2015											12686	8550
2016												8603

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

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

		Projected Peak Load Requirements (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	8164	8012										
2003	7696	8076	8229									
2004	7567	8140	8295	8129								
2005	8626	8205	8362	8320	8320							
2006	8932	8271	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								9210	9365	8359	8770	8926
2013									9506	8485	8842	8956
2014										8612	8916	8987
2015											8991	9018
2016												9049

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

		Projected Residential Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	12335	11634										
2003	12259	11733	12020									
2004	12507	11855	11905	12250								
2005	13469	11957	11981	12385	12385							
2006	12797	12059	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								14891	14415	13683	14037	13669
2013									14703	13956	14317	13806
2014										14235	14604	13944
2015											14896	14083
2016												14224

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

		Projected Commercial* Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	8019	7732										
2003	8077	7963	8135									
2004	8414	8099	8233	8140								
2005	8520	8265	8434	8349	8349							
2006	8857	8436	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								9817	9417	8918	8705	8360
2013									9606	9097	8879	8443
2014										9279	9057	8528
2015											9238	8613
2016												8699

* Small Commercial & Industrial

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

		Projected Industrial* Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	15323	15324										
2003	15518	15417	15130									
2004	15741	15429	14959	15477								
2005	15774	15442	14980	15448	15449							
2006	15821	15458	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								18308	17897	16861	16153	15755
2013									18254	17199	16476	15912
2014										17543	16806	16071
2015											17142	16232
2016												16394

* Large Commercial & Industrial

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

		Projected Peak Load Requirements (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	3582	3458										
2003	3455	3505	3535									
2004	3407	3542	3572	3621								
2005	3752	3586	3610	3670	3702							
2006	3926	3622	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								4123	4084	3771	3754	3758
2013									4120	3809	3786	3771
2014										3951	3879	3840
2015											3928	3903
2016												3964

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

		Projected Residential Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	6459	6374										
2003	6641	6471	6486									
2004	6724	6596	6599	6818								
2005	7088	6680	6671	6890	6923							
2006	7133	6775	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								7965	7248	7085	7122	7121
2013									7102	6952	7047	7149
2014										7008	7073	7188
2015											7148	7231
2016												7281

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

		Projected Commercial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	4497	4458										
2003	4529	4543	4577									
2004	4691	4624	4653	4701								
2005	4892	4684	4695	4780	4791							
2006	4959	4749	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								5462	5353	5059	4931	4819
2013									5450	5169	4979	4930
2014										5307	5091	5083
2015											5229	5229
2016												5343

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

		Projected Industrial Energy Demand (Year Forecast Was Filed)										
Year	Actual	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
2002	7957	8006										
2003	7747	8116	7885									
2004	8039	8188	7973	7814								
2005	8051	8230	8023	7913	8027							
2006	8144	8290	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								8844	9093	7936	8025	8029
2013									9246	8105	8146	8172
2014										8214	8264	8334
2015											8346	8487
2016												8608

Appendix B – Plant Additions and Upgrades

The following data represents PJM interconnection requests for new generating resources located in Pennsylvania. As of Jan. 31, 2012, PJM has received 610 interconnection requests for new generating resources or incremental additions to existing resources since 2002, totaling 113,117 MW. Of this total, 14,410 MW were placed in service. Projects withdrawn totaled 84,536 MW, representing 349 projects. New capacity under construction amounts to 1,456 MW.

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 2011 RTEP, http://pjm.com/documents/reports/rtep-documents/2011-rtep.aspx.

Status of Pennsylvania's Plant Additions and Upgrades

Queue	PJM Substation	MW	MWC	In Service	FuelType	TransmissionOwner	County
O36	Honey Brook 12kV	2	s	2011 Q2	methane	PPL	Chester
U1-067	Honey Brook	3	1.6	2011 Q2	methane	PPL	Lancaster
V3-044	Glendon 34.5kV	5	4.8	2011 Q2	methane	ME	Northampton
S103	Warren 115kV	57	57	2011 Q2	natural gas	PENELEC	Warren
T117	Hunlock Creek 69kV	126	126	2011 Q2	natural gas	UGI	Luzerne
W1-108	Grays Ferry 230kV	163	13	2011 Q2	natural gas	PECO	Philadelphia
V1-026	Limerick	1213	20	2011 Q2	nuclear	PECO	Montgomery
V1-027	Limerick	1213	20	2011 Q2	nuclear	PECO	Montgomery
V4-076	Carlisle Pike 23kV	5	2	2011 Q2	solar	PENELEC	Cumberland
W4-085	Grays Ferry	2	0	2011 Q2	storage	PECO	Philadelphia
N36	Gold-Sabinsville 115kV	50	10	2011 Q2	wind	PENELEC	Potter
Q34	Garrett 115kV	100	20	2011 Q2	wind	PENELEC	Somerset
Q53	Summit-West Fall 115kV	38	7.6	2011 Q2	wind	PENELEC	Blair
S29B	Somerset 23kV	7	5.7	2011 Q3	methane	PENELEC	Somerset
V4-052	West Reading	10	6	2011 Q3	natural gas	ME	Berks
M12	Susquehanna #2	2520	107	2011 Q3	nuclear	PPL	Luzerne
W1-045	Roxbury 23 kV	14	5.13	2011 Q3	solar	PENELEC	Franklin
V3-041	Daleville	4	3.2	2011 Q4	methane	PECO	Chester
W1-054	South Akron-Prince	11	11.4	2011 Q4	methane	PPL	Lancaster
X3-056	Susquehanna (Unit #1)	1310	0	2011 Q4	nuclear	PPL	Luzerne
X3-057	Susquehanna (Unit #2)	1310	0	2011 Q4	nuclear	PPL	Luzerne
V3-062	McConnellsburg-Guilford	20	7.6	2011 Q4	solar	APS	Franklin
W1-104	Bellefonte 12kV	1	0.25	2011 Q4	solar	APS	Centre
W1-107	Grove City road 12kV	2	0.74	2011 Q4	solar	APS	Butler
N32	Gans 138kV	50	10.1	2011 Q4	wind	APS	Fayette
P01	Westover-Madera 115kV	65	13	2011 Q4	wind	PENELEC	Cambria
Q36	Philipsburg - Tyrone North	50	10	2011 Q4	wind	PENELEC	Centre
R32	Salix - Claysburg 115kV	75	15	2011 Q4	wind	PENELEC	Cambria
G06	Martins Creek #4	850	30	2012 Q1	coal	PPL	Northampton
V4-075	Warwick 12kV	2	0.76	2012 Q1	solar	PPL	Lancaster
O60	Berlin 23 kV	5	1.08	2012 Q1	wind	PENELEC	Somerset
X4-032	Zach	10	4	2012 Q2	diesel	PECO	Montgomery
W2-028	Limerick #1	1218	5	2012 Q2	nuclear	PECO	Montgomery
V4-077	Montgomery Avenue 12.4	13	4.9	2012 Q2	solar	PENELEC	Mifflin
W2-094	Straban 13.2 kV	3	1.1	2012 Q2	solar	ME	Adams
X4-045	Southwark 13kV	1	0.07	2012 Q2	storage	PECO	Philadelphia
Y1-057	Barbadoes 34kV	2	0.1	2012 Q2	storage	PECO	Montgomery
R43	Frackville - Hauto #3	20	4	2012 Q2	wind	PPL	Schuylkill

MW - Maximum facility output after interconnection request.

MWC - Capacity interconnection request for the queue position (net summer).

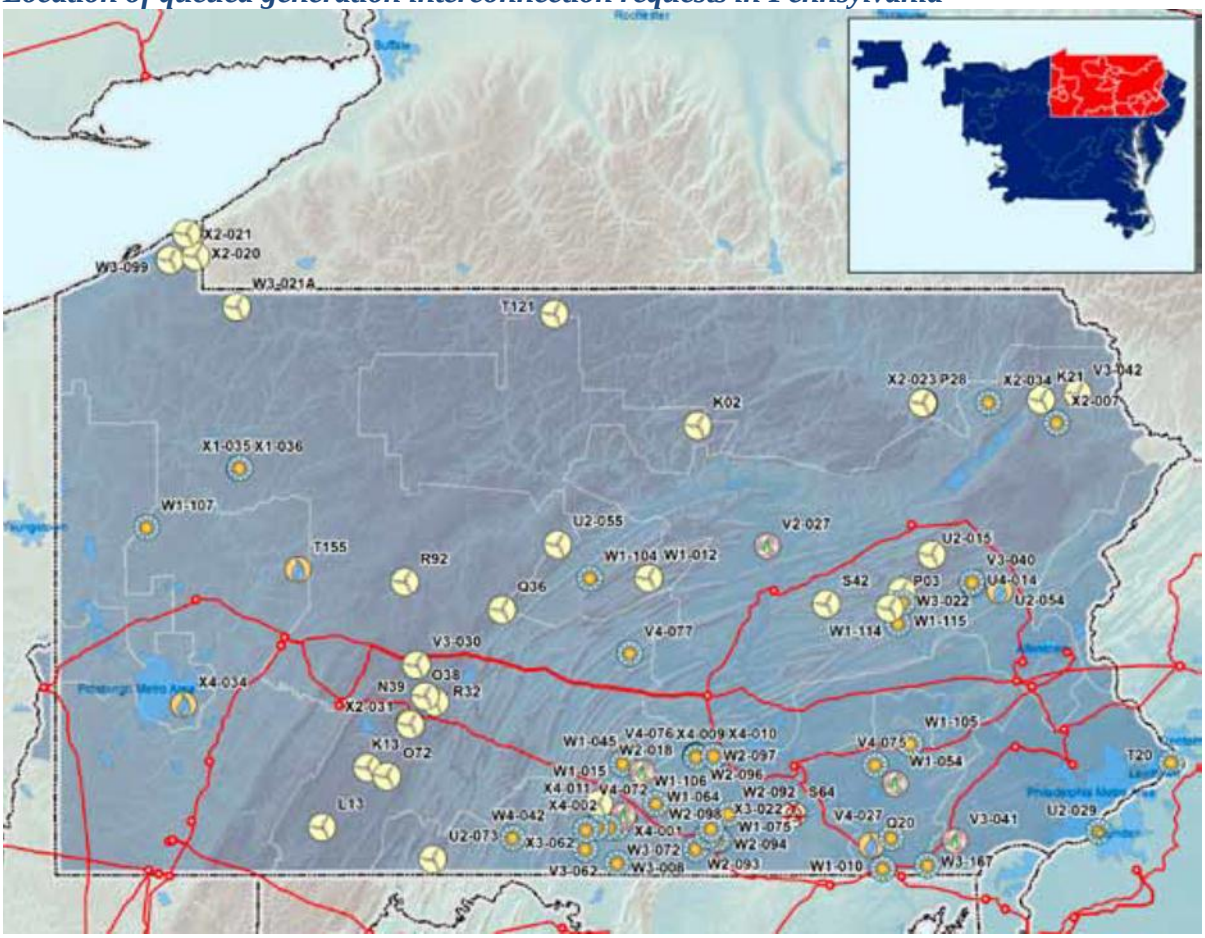
Source: PJM

Generation Deactivations in Pennsylvania July 1, 2011 through June 30, 2012

Unit	Capacity (MW)	Transmission Zone	Age (Years)	Req. 'd Deactivation Date	Deactivation Date	Status
Cromby 2	201	PE	54	5/31/2011	12/31/2011	Reliability analysis completed -- Necessary upgrades completed
Viking Energy NUG	16	PPL	21	7/2/2011	3/1/2012	Reliability Analysis Completed - No Issues
Eddystone 2	309	PE	49	12/2/2009	5/31/2011	Reliability analysis completed -- Results Posted
Elrama 1	93	DUQ	59	6/1/2012	6/1/2012	Reliability analysis completed - Issues identified - Upgrades scheduled
Elrama 2	93	DUQ	59	6/1/2012	6/1/2012	Reliability analysis completed - Issues identified - Upgrades scheduled
Elrama 3	103	DUQ	57	6/1/2012	6/1/2012	Reliability analysis completed - Issues identified - Upgrades scheduled

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

Location of queued generation interconnection requests in Pennsylvania



Source: PJM 2011 Regional Transmission Expansion Plan, http://pjm.com/documents/reports/rtep-documents/2011-rtep.aspx.

Appendix C – Existing Generating Facilities

The following represents the most recently available data on existing generating facilities located in Pennsylvania.[60] Below is a summary of generating capacity by fuel type, and the distribution of electric generation by fuel type for 2010.

PJM Supply Mix for 2010 & 2011[61]

The following distribution of energy resources was used to generate electricity in the PJM region: :

	2011 Capacity	2010 Generation	2011 Generation
Coal	42.00%	49.30%	46.90%
Nuclear	18.20%	34.60%	34.20%
Natural Gas	28.30%	11.70%	14.10%
Hydro, Wind & Other	5.20%	4.00%	4.50%
Oil	6.30%	0.40%	0.30%

[60] Electric Power Generation Association, email received May 2, 2012, from Sharon Barbour, EPGA.
[61] State of the Market Report, Monitoring Analytics, http://monitoringanalytics.com/reports/PJM_State_of_the_Market/2011/2011-som-pjm-volume2-sec2.pdf

Pennsylvania's Existing Electric Generating Facilities

Company Name	Plant Name	Fuel Type	Alternate Fuel Type	Tech. Type	MW
A/C Power-Colver Operations (75% owned in 2011)	AES Ironwood LLC	Gas	Oil/WSTH	CC	771.00
Access Energy LLC	Allegheny Lock & Dam 5 & 6	Water		HY	13.00
AES Corporation	Allegheny Lock & Dam No. 8	Water		HY	13.00
AES Corporation (negotiating w/PPL for sale)	Allegheny Lock & Dam No. 9	Water		HY	17.40
AES Wind Generation	Allegheny Ridge Wind Farm	Wind		WTG	80.00
Allegheny Electric Cooperative*	Allentown Generating Station	Oil		GT	64.00
American Consumer Industries Inc (ACI)	Archbald Power Station	Gas	LGAS	GT/ST	79.20
Babcock & Brown Wind Partners*	Armenia Mountain	Wind		WTG	100.50
Babcock & Wilcox Partnership (ESI Energy, Inc.)	Armstrong Energy LLC	Gas		GT	688.00
Bear Creek Wind Power Project Partners*	Armstrong Generating Station	Coal		ST	356.00
Brookfield Renewable Power, Inc.	Bear Creek Wind Farm	Wind		WTG	24.00
Bucknell University	Beaver Valley	Coal	None	ST/S	120.00
Calpine Corp.	Beaver Valley Power Station	Nuclear		ST-PWR	1815.00
Calpine Corp.	Bethlehem Energy Center	Gas	WSTH	CC	1037.00
Calypso Energy Holdings	Blossburg Plant (Mothball Pending)	Gas		GT	19.00
Chambersburg Borough Electric Dept	Bradford (PA) Plant	Coal	Liq	ST	52.00
Cogentrix Energy LLC*	Bristol	Oil		ST	1.50
Community Energy, Inc.*	Broad Mountain Power Station	Other		IC	11.00
Consolidated Rail Corporation	Bruce Mansfield Plant	Coal		ST	2490.00
Constellation Energy Group (10.6%)	Brunot Island Generating Station	Natural Gas	Oil	CC/GT	289.00
Constellation Energy Group (20.99%)	Bucknell Cogeneration Plant	Gas	Oil	GT/S	7.00
Constellation Generation Group*	Cambria County Cogen	Waste Coal		ST-S	98.00
Constellation Power Group (CPG)	Casselman Wind Project	Wind		WTG	34.50
Constellation Power Inc. (50% owner w/partners)	Chambersburg Power Plant	Gas	Oil	IC	30.50
Corona Power, LLC	Chester Cogeneration Plant	Coal	Coke	ST-S	59.00
Covanta Energy Corp.	Chester Peaking Plant	Oil		GT	39.00
Covanta Energy Corp.	Cheswick Generating Station	Coal	Diesel	ST	565.00
Covanta Energy Corp. for Harrisburg Authority	Clairton USX B Plant	COG	Gas	GT/S/ST/S	219.75
Covanta Energy Corporation	Colmac Clarion Inc	Waste Coal	None	ST	32.00
Covanta Energy Corporation	Colver Power Project	Waste Coal		ST-S	76.50
Covanta Energy Corporation	Colver Power Project	Waste Coal		ST-S	25.50
Dominion Generation (DEI)	Conemaugh Generating Station	Coal		ST	183.80
Duke Energy	Conemaugh Generating Station	Coal	Gas/Oil	IC/ST	69.00
Duke Energy Ohio Inc.	Conemaugh Generating Station	Coal		ST	352.00
Duquesne Conemaugh LLC (4.26%)	Conemaugh Generating Station	Coal	Gas/Oil	IC/ST	65.00
Duquesne Keystone LLC (2.97%)	Conemaugh Generating Station	Coal	Gas/Oil	IC/ST	279.00
Duquesne University	Conemaugh Generating Station	Coal	Gas/Oil	IC/ST	102.00
Dynegy Midwest Generation Inc.	Conemaugh Power Plant	Coal		IC/ST	385.00
E.On Climate and Renewables	Conemaugh Power Plant	Coal	Oil	IC/ST	281.00
Ebensburg Power Co.* (Partnership)	Conemaugh Saltsburg	Water		HY	15.00
Edison Mission Group	Corrstack Cogeneration Plantg	Wood		ST-S	33.00
Edison Mission Group	Covanta Plymouth Renewable Energy Ltd.	Other		ST	32.13
EquiPower Resources Corp.	Crayola Solar Park	Sun		PV	1.90
Evergreen Community Power LLC	Croydon Peaking Plant	Oil		GT	391.00
EverPower Renewables	Cumberland County Landfill	LGAS		IC	6.40
Exelon Nuclear*	Delaware Peaking Plant	Oil		GT	56.00
Exelon Nuclear*	Delaware Peaking Plant	Oil		IC/Diesel	3.00
Exelon Nuclear* (50%)	Delaware Valley Resource Recovery Facility	Other		ST-S	90.00
Exelon Power Generation Co. LLC*	Duquesne Uniersity Cogeneration Plant	Gas		GT/ST	4.75
Exelon Power Generation Co. LLC* (25% in 2011)	Ebensburg Power Co	Waste Coal		ST-S	48.50
Exelon Power Generation Co. LLC* (20.72%)	Ebensburg Power Co	Waste Coal		ST-S	48.50
Exelon Power Generation Co. LLC*	Eddystone Generating Station 3 & 4	Natural Gas	Oil	ST	760.00
Exelon Power Generation Co. LLC*	Eddystone Peaking Plant	Oil		ST	60.00
Exelon Power Generation Co. LLC*	Elrama Generating Station	Coal		ST	460.00
Exelon Power Generation Co. LLC*	Erie Works Plant	Coal		**ST**	36.00
Exelon Power Generation Co. LLC*	Exelon-Conergy Solar Energy Center	Other		PV	3.00
Exelon Power Generation Co. LLC*	Fairless Energy LLC	Gas		CC	1200.00
Exelon Power Generation Co. LLC*	Fairless Hills Generating (Peaking)	Other		ST-S	60.00
Exelon Power Generation Co. LLC*	Falls Twp Peaking Station	Oil		GT	51.00
Exelon Power Generation Co. LLC* (20.91%)	Fayette County Energy Facility	Gas		CC	677.00

Pennsylvania's Existing Electric Generating Facilities

Company Name	Plant Name	Fuel Type	Alternate Fuel Type	Tech. Type	MW
Exelon Power Generation Co. LLC*	Fishbach Generating Station	Oil		GT	37.20
Exelon Power Generation Co. LLC*	Forward Wind Farm	Wind		WTG	29.40
Exelon Power Generation Co. LLC*	Frey Farm Landfill	LGAS		IC	3.20
Exelon Power Generation Co. LLC*	Glendon Green Energy Park - Chrin Plant	Other		IC	3.20
Exelon Power Generation Co. LLC*	Grays Ferry Power Plant	Gas		CC	174.60
Exelon Power Generation Co. LLC*	Greater Lebanon Refuse Authority (2007)	LGAS		IC	3.20
Exelon Power Generation Co. LLC*	Green Mountain Wind Energy Center	Wind		WTG	10.40
Exelon Power Generation Co. LLC*	Grove City Plant	Oil		GT	10.60
FirstEnergy Corp.* eff 2/25/11	GSK York RDC Solar Facility	Other		PV	3.00
FirstEnergy Corp.*	Hamilton Generating Station	Oil		GT	20.00
FirstEnergy Corp.*	Handsome Lake Plant	Gas		SC	267.50
FirstEnergy Corp.* eff 2/25/11	Harrisburg Generating Station	Oil		GT	64.00
FirstEnergy Corp.* eff 2/25/11	Harrisburg WTE Plant	Other	Gas	ST-S	24.10
FirstEnergy Corp.* eff 2/25/11	Harwood (PA) Generation Station	Oil		GT	32.00
FirstEnergy Corp.* eff 2/25/11	Hatfield's Ferry Power Station	Coal		ST	1710.00
FirstEnergy Generation Corp.*	Highland Wind Project	Wind		WTG	62.50
FirstEnergy Generation Corp.*	Homer City (EME) Generation	Coal		ST	2012.00
FirstEnergy Nuclear Operating Co.*	Humboldt Industrial Park	Wind		WTG	0.13
General Electric Co.	Hunlock Creek Power Station	Gas		GT	45.00
General Electric Co.	Hunlock Power Station	Gas			125.00
GenOn Energy, Inc.*	Hunterstown Generating Station	Gas	Diesel	CC	60.00
GenOn Energy, Inc.*	Hunterstown Generating Station CCGT	Gas		CC	810.00
GenOn Energy, Inc.*	Jenkins Generating Station	Oil		GT	32.00
GenOn Energy, Inc.*	John B Rich Memorial Power Station	Waste Coal		ST-S	80.00
GenOn Energy, Inc.*	Juniata Locomotive Shop	Coal		ST-H	4.00
GenOn Energy, Inc.*	Keystone Generating Station	Coal	Oil	IC/ST	50.82
GenOn Energy, Inc.*	Keystone Generating Station	Coal	Oil	IC/ST	71.86
GenOn Energy, Inc.*	Keystone Generating Station	Coal	Oil	IC/ST	65.00
GenOn Energy, Inc.*	Keystone Generating Station	Coal	Oil	IC/ST	212.00
GenOn Energy, Inc.*	Keystone Generating Station	Coal	Oil	IC/ST	391.00
GenOn Energy, Inc.*	Keystone Generating Station	Coal		ST	357.00
GenOn Energy, Inc.*	Keystone Generating Station	Coal	Oil	IC/ST	284.00
GenOn Energy, Inc.* (16%)	Keystone Gwenerating Station	Coal		ST	363.40
GenOn Energy, Inc.* (16.25%)	Koppers Montgomery Cogeneration Plant	Other		ST-S	10.00
GenOn Energy, Inc.* (Expected deactivation 1/2015)	Lake Lynn Hydroelectric Project	Water		HY	52.00
GenOn Energy, Inc.* (Expected deactivation 4/2015)	Lake View Landfill	LGAS	None	IC	6.10
GenOn Energy, Inc.* (Expected deactivation 4/2015)	Lakeside Hazelton LLC	Gas	Oil	GT	171.50
GenOn Energy, Inc.* (Expected deactivation 4/2015)	Lancaster County Resource Recovery Facility	Other		ST	35.70
GenOn Energy, Inc.* (Expected deactivation 6/2012)	Liberty Electric Power LLC	Gas		CC	610.00
Gilberton Power Co.	Limerick Nuclear Gen. Station, Units 1&2	Nuclear		ST-BWR	2345.00
GlaxoSmith Kline	Lock Haven Generating Station	Oil		GT	18.60
Iberdrola Renewables, LLC	Locust Ridge II	Wind		WTG	102.00
Iberdrola Renewables, LLC	Locust Ridge Wind Farm	Wind		WTG	26.00
Iberdrola Renewables, LLC	Locust Ridge Wind Farm I	Wind	None	WTG	128.00
Indiana University of Pennsylvania*	Lookout Windpower Wind Farm	Wind		WTG	37.80
Ingenco	Lower Mt. Bethel Energy LLC	Gas		CC	623.00
Integrys Energy Services, Inc.*	Lycoming County Landfill	Lgas		IC/H	1.00
IPR GDF Suez Energy Generation NA, Inc.*	Marcus Hook Cogen Power Plant	Other		GT-S	50.00
IPR GDF Suez Energy Generation NA, Inc.*	Marcus Hook Energy Center	Gas		CC	750.00
IPR GDF SUEZ North America (ANP)*	Mehoopany Plant	Gas		GT-S	53.00
Keystone Power, LLC (4.2%)	Meyersdale Wind Power Project	Wind		WTG	30.00
Kimberly Clark Corp	Mill Run Wind	Wind		WTG	15.00
Koppers, Inc.	Mitchell Generating Station	Coal	Oil	ST	370.00
Lakeside Energy, LLC	Modern Landfill	LGAS	None	IC	9,00
LS Power purchased from PPL 3/2011*	Montenay Montgomery LP	Other		ST	32.13
Lycoming County Resource Management Services	Moser Peaking Station	Oil		GT	51.00
Merck & Co., Inc.	Mount Carmel Cogeneration, Inc.	Waste Coal		ST-S	46.50
Midwest Generation LLC (GE to assume)	Mountain Generating Station	Gas	Oil	GT	40.00
Morris Energy Group LLC (MEG)	Mountain View Landfill	Other	Oil	IC	16.00
Mount Carmel Cogeneration, Inc.	Muddy Run HydroElectric Plant	Water		HY	1070.00
NAES Corp	NEPCO-Northeastern Power Co.	Waste Coal		ST	59.00
NextEra Energy Resources (formerly FPL)*	New Castle Generating Station	Coal	Oil	ST/IC	330.00

Pennsylvania's Existing Electric Generating Facilities

Company Name	Plant Name	Fuel Type	Alternate Fuel Type	Tech. Type	MW
NextEra Energy Resources (formerly FPL)*	North Allegheny Wind Farm	Wind		WTG	70.00
NextEra Energy Resources (formerly FPL)*	North East Cogeneration Plant	Gas	LPG/WSTH	CC	81.80
NextEra Energy Resources (formerly FPL)*	Northern Tier Landfill	LGAS		IC	1.60
NextEra Energy Resources (formerly FPL)*	Northhampton Generating Station	Waste Coal	Tires	ST-S	134.00
NextEra Energy Resources (formerly FPL)*	Northumberland Cogeneration Facility	Other	NG	GT	20.00
NextEra Energy Resources (formerly FPL)*	NRG Energy Paxton LLC	Gas	Oil	ST-S	12.60
Northern Star Generation Services Co.	Ontelaunee Energy Center	Gas	WSTH	CCGT	545.00
NRG Energy* (3.7%)	Orrtanna Generating Station	Oil		GT	20.00
NRG Energy* (3.7%)	Panther Creek Partners Energy Facility	Waste Coal		ST-S	95.00
NRG Thermal, LLC	Peach Bottom Atomic Power St., Units 2&3	Nuclear		ST-BWR	1182.00
Olympus Power LLC/York Haven Power CO. LLC	Peach Bottom Atomic Power St., Units 2&3	Nuclear		ST-BWR	1182.00
PEI Power Corp.	Pennsbury Peaking Station	Other		GT	6.00
Pennsylvania Renewable Resources Assoc.	Philadelphia Container Plant	Oil		ST/S	10.00
Pennsylvania Wind Energy	Philadelphia Refinery Power Plant	RGAS		ST/S	30.00
PH Glatfelter Co.	Piney Dam (PA) Hydroelectric Plant	Water		HY	28.80
PPL Generation LLC*	Pioneer Crossing Landfill Plant	Lgas		IC	6.40
PPL Generation LLC*	Portland Generating Station	Coal	Gas	GT/ST	570.00
PPL Generation LLC*	Pottstown Plant	Other		GT	6.40
PPL Generation LLC*	PPL Brunner Island	Coal		ST	1490.00
PPL Generation LLC*	PPL Holtwood, LLC	Water		HY	109.00
PPL Generation LLC*	PPL Martins Creek	Oil	Natural Gas	GT/ST	1690.00
PPL Generation LLC*	PPL Montour LLC	Coal		ST	1515.00
PPL Generation LLC*	PPL Susquehanna LLC	Nuclear-BWR		ST	2528.00
PPL Generation LLC*	PPL Wallenpaupack LLC	Water		HY	44.00
PPL Generation LLC*	Richmond Peaking Station	Oil		GT	96.00
PPL Generation LLC*	Safe Harbor Hydroelectric Plant (33.3% owned)	Water		HY	140.00
PPL Generation LLC*	Safe Harbor Hydroelectric Plant (66.7% owner)	Water		HY	278.00
PPL Generation LLC*	Schuylkill Generating Station	Oil		GT-S	166.00
PPL Generation LLC*	Schuylkill Peaking Station	Oil		GT	30.00
PPL Generation LLC*	Schuylkill Peaking Station	Oil		IC/Diesel	3.00
PPL Generation LLC*	Scrubgrass Generating Plant	Waste Coal		ST	83.00
PPL Montour, LLC* (16.25%)	Seneca Pumped Storage Plant	Water		HY	451.00
PPL Montour, LLC* (12.34%)	Seward Generating Station	Waste Coal		ST	525.00
PPL Renewable Energy*	Shawnee Generating Station	Oil		GT	20.00
PPL Renewable Energy*	Shawville Generating Station	Coal	Oil	ST	603.00
PPL Renewable Energy*	Somerset Wind Farm	Wind		WTG	9.00
PPL Renewable Energy*	Southwark Peaking Station	Oil		GT	52.00
PPL Renewable Energy*	Spring Grove Glatfelter Cogeneration Plant	Coal		ST-S	67.25
PPL Renewable Energy*/Chrin Brothers, Inc.	Springdale, Units 1,2,3,4 & 5	Gas		CC/GT	638.00
Procter & Gamble	St Nicholas Cogeneration Plant	Waste Coal		ST-S	100.00
PSEG Fossil* (22.5%)	Stony Creek Wind Farm	Wind		WTG	52.50
PSEG Fossil* (22.84%)	Suburban Generation Station c/o Martins Creek	Oil		GT	29.00
PSEG Power (50%)	Sunbury Generation LP	Coal	Oil	ST/GT/IC	462.50
Republic Services, Inc.	SW Jack Cogeneration Plant	Gas	Oil	IC-H	24.40
Rock-Tenn Co.	Temple Univ. Standby Electric Gen. Facility	Gas		IC-H	16.00
Rohm and Haas Co.	The Hill at Whitemarsh	Natural Gas		GT/H	1.60
Sapphire Power Partners, LLC eff. Oct. 2011	Three Mile Island	Nuclear		ST-PWR	837.00
Schuylkill Energy Resources	Titus Generating Station	Coal	Gas	ST/GT	274.00
Sithe Global LLC.	Tolna Station	Oil		GT	39.00
Sithe Global LLC.	Warren Generating Station	Gas	Oil	GT	57.00
Sunoco, Inc.	Waymart Wind Farm	Wind		WTG	64.50
Temple University	West Point (PA) Merck Plant	Gas	Oil	GT/ST	30.25
UGI Development Co.* (5.97%)	West Shore Generating Station	Oil		GT	37.20
UGI Energy Services	Wheelabrator Falls, Inc.	Other		ST	53.00
UGI Energy Services	Wheelabrator Frackville Energy Co.	Waste Coal		ST-S	48.00
UGI Energy Services	William F Matson Hydroelectric Plant	Water		HY	21.70
United States Steel Corp.	Williamsport Generating Station	Oil		GT	32.00
Veolia Energy North America, Inc.	WPS Westwood Generation	Waste Coal		ST	30.00
Weyerhaeuser Co (WEYCO)	York County Resource Recovery Plant	Other		ST	36.50
Wheelabrator Technologies Inc. (WTI)	York Energy Center	Natural Gas	Oil	CCG	565.00
Wheelabrator Technologies Inc. (WTI)	York Haven Hydro Station	Water	None	HY	22.60
WM Renewable Energy LLC (WM)	York Solar Plant	Gas	Oil/WSTH	CC	52.20
WM Renewable Energy LLC (WM)	York Solar Plant	Gas		CC	52.20

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